

# EVERGLADES NATIONAL PARK

***“Not often in these demanding days are we able to lay aside the problems of the time, and turn to a project whose great value lies in the enrichment of the human spirit. Today we make the achievement of another great conservation victory. We have permanently safeguarded an irreplaceable primitive area. We have assembled to dedicate to the use of all people for all time, the Everglades National Park.”***

***President Harry S Truman, Address at the Dedication of Everglades National Park, December 6, 1947***



# DRY TORTUGAS NATIONAL

***The Tortugas were first discovered by Ponce de Leon in 1513. Abundant sea turtles or “tortugas” provisioned his ships with fresh meat, but there was no fresh water-the tortugas were dry. Since the days of Spanish exploration, the reefs and shoals of the Dry Tortugas have been a serious hazard to navigation and the site of hundreds of shipwrecks.***

SUPERINTENDENT'S ANNUAL REPORT  
FISCAL YEAR 2008

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## **BACKGROUND**

### **Everglades A Biologic Park**

Practically without exception, areas that have been turned over to the National Park Service (Service) as national parks have been of superlative value with existing features so outstanding that if the Service were able to merely retain the status quo, the job was a success. This will not be true of the Everglades National Park. The reasons for even considering the lower tip of Florida as a national park are 90 percent biological ones, and hence highly perishable. Primitive conditions have been changed by the hand of man, abundant wildlife resources exploited, woodland and prairie burned and reburned, water levels altered, and all the attendant, less obvious ecological conditions disturbed. (Daniel B. Beard Wildlife Reconnaissance: Everglades National Park Project, 1938)

There are no other Everglades in the world. They are, they have always been, one of the unique regions of the earth, remote, n wholly known. Nothing anywhere else is like them; their vast glittering openness, wider than the enormous visible round of the horizon, the racing free saltiness and sweetness of their massive winds, under the dazzling blue heights of space. They are unique also in the simplicity, the diversity, the related harmony of the forms of life they enclose. The miracle of the light pours over the green and brown expanse of saw grass and of water, shining and slow-moving below, the grass and water that is the meaning and the central fact of the Everglades of Florida. It is a river of grass. -- -- Marjory Stoneman Douglas, The Everglades-River of Grass 1947

Everglades National Park is a public Park for the benefit of the people. It is set aside as a permanent wilderness, preserving essential primitive conditions including the natural abundance, diversity, behavior, and ecological integrity of the unique flora and fauna. It is the first national park dedicated for its biologic diversity as opposed to its scenic vistas.

### **Dry Tortugas a Unique Marine and Cultural Resource**

Dry Tortugas National Park (DRTO) is managed by the Superintendent of Everglades National Park. The management team at Everglades NP assists the staff at Dry Tortugas in all areas of park management. Concessions, contracting & procurement, budget, personnel, safety resource's management, interpretation, visitor & resource management and maintenance planning and design are all areas where assistance is provided. The staffing and operation of Motor Vessel Fort Jefferson, the supply boat for Dry Tortugas NP is funding by Everglades National Park. Since the accomplishments of Everglades and Dry Tortugas National Parks are so intertwined, the Annual Reports of both parks are combined into one.

The Tortugas were first discovered by Ponce de Leon in 1513. Abundant sea turtles or "tortugas" provisioned his ships with fresh meat, but there was no fresh water-the tortugas were dry. Since the days of Spanish exploration, the reefs and shoals of the Dry Tortugas have been a serious hazard to navigation and the site of hundreds of shipwrecks.

U.S. military attention was drawn to the keys in the early 1800's due to their strategic location in the Florida Straits. Plans were made for a massive fortress and construction began in 1846, but the fort was n completed. The invention of the rifled cannon made it

obsolete. As the military value of Fort Jefferson waned, its pristine reefs, abundant sea life and impressive numbers of birds grew in value. In 1935, President Franklin Roosevelt set aside Fort Jefferson and the surrounding waters as a national monument. The area was redesignated as Dry Tortugas National Park in 1992 to protect both the historical and natural features.

### ***2007.1.1. Superintendent's Office - Major issues faced by park management***

***Weather Events*** Fiscal year 2008 was an inactive hurricane year for both parks. Both parks continue to grapple with funding repair of damages delivered in 2005 from Hurricanes Katrina and Wilma that hit both Everglades and Dry Tortugas causing significant damage to docks and backcountry chickees, and concession facilities. The Flamingo area of concession lodging operation and restaurant remain closed and condemned buildings removed this year as the cost to repair damage to the lodge and cottages exceeding the cost of building new facilities.

***Planning efforts*** Staff continued to make progress on the Everglades National Park General Management Plan (GMP) in 2008, including refining new draft alternatives for the park's marine areas and maps to prepare for park SERO and WASO review/approval. In addition, a major public involvement effort in 2008 took place, with 7 public meetings and numerous other stakeholder meetings to discuss and receive feedback on the new Marine Alternatives.

In light of the hurricane damage to the Flamingo area in 2005 and the tremendous public interest in this part of the park, the Flamingo Commercial Services Plan continued to proceed concurrently but separately from the GMP. There was a two day ULI workshop held to develop implementation strategies for the Final Plan that was approved in 2008.

***Personnel*** The Interpretive Ranger for DRTO position was filled in addition to several changes in staffing on the island that had posed a significant management challenge at this remote park. Everglades Resource and Visitor protection has struggled to keep positions filled due to a number of transfers this year. Due to budget constraints a number of positions remain and will continue to be left vacant. Centennial resources have improved the ability of Interpretation, Resource Protection, and Maintenance to improve visitor services through centennial seasonal staff. The Safety Officer duties have been added to an existing part time employee's portfolio of duties to maximize the employee's opportunities at the park as a full time employee.

***Invasive Exotics Species in the park*** Public interest in invasive exotic species in the park continued to escalate in 2008, primarily, due to the continued media coverage of the Burmese Population in the park. A number of articles and interviews were published or broadcast on various venues including: the New Yorker, New York Times, local networks, and other daily newspapers. Congressional attention has also been focused on the species to be covered under the Lacy Act and increased the intense interest from reporters around the world. The PIO fielded requests for interviews and tours from many international as well as national reporters, along with those in the local area. Science staff developed a myriad of partnerships with other jurisdictional governments faced with the same challenge to address this increasingly difficult problem. The state of Florida passed a law that changed owners' responsibilities and the work to have the species included as injurious under the Lacy Act continues.

**Safety** The Safety Officer left the Park Service in August 2008; and the Deputy Superintendent assumed the position of safety manager for the remainder of the year. 40 accidents were documented in SMIS, all involving either boats, poison wood or maintenance equipment. There were no incidents involving serious injury or fatality that were reported during the year.

**Congressional** The Superintendent hosted a number of congressional and agency VIP visits to both Dry Tortugas and Everglades including Senators Nelson and Martinez, Congressional Representatives Klein, Mario Diaz Balart First Lady Laura Bush and others throughout the year, cooperating with the south Florida Water Management district and other public agencies on transportation logistics such as helicopters and airboats to provide an overview of both parks that are difficult to access or view without this type of access. The PIO continued to maintain and develop relationships with the Florida delegation and local elected officials' staffs.

**Dignitary and International Visitors** Everglades and Dry Tortugas garner a great deal of attention from high level national and international leaders, both elected and appointed, due to the complex restoration program in place along with its unique biologic properties and management challenges that go along with a park the size of Everglades and as remote as the Dry Tortugas. The park PIO is the staff charged with responding to these various requests and organized a number of congressional and Secretary level visits to view the Everglades Ecosystem and to the Dry Tortugas. In addition to U. S. leaders the PIO has organized special briefings and tours for international dignitaries through the State Department and local international liaison organizations. Generally these are international leaders in environment, natural resource protection, park management, and other natural area management agencies interested in NPS policies and programs in Florida. This year there were representatives who visited from New Zealand, Germany, Amsterdam, China, Japan, Indonesia, Brazil, multinational biodiversity representatives, Korea, Brazil's Pantanal, Poland, and others

**Adjacent Land use concerns** continued to take up park staff time and effort; the SFNRC adjacent lands staff person hired last year left toward the end of this fiscal year and this position is not yet filled. It is an important one as this staff person tracks the many development pressures experienced by the park. The park staff commented on various developments proposed in the area, particularly those proposing to move the Urban Development Boundary further west and closer to the park. Everglades and Biscayne National park are following the potential impacts of proposed changes to nuclear capacity at Turkey Point, very near the park.

**Filming** in both parks has required dedicating a full time staff person to managing the regular requests to use the park as backdrop for everything from five star movies to documentaries to student research efforts. New guidelines on fees charged by national parks for this effort posed a number of dilemmas through the year as different parks in the Service implemented new rules differently. In response to the news organizations that include print and television expanding their coverage to the internet Everglades and Dry Tortugas are developing a more up to date and focused protocol having all news organizations film requests funneled through the PIO and the others to the Special Use Permit Manager.

**Media coverage** The PIO responds to multiple requests for information from electronic and print media around the world interested in Everglades and Dry Tortugas National Parks. There are hundreds of requests each year managed by the Public Information Office. This fiscal year there was a great deal of interest in the general management

plan and restoration of the resources. The PIO coordinates these visits and coordinates participation from other divisions in the appropriate responses. Pictured is Park planner being interviewed for the daily newspaper and their internet reports.



**Climate Change** Climate change and how it relates to the management of public lands continues to be a significant topic of interest to the general public and to the media as more and more studies and documents are published related to this issue. The impact of potential sea rise to the state of Florida, particularly the southern tip has been the subject of many magazine and newspaper articles. The Superintendent continues to be a significant participant in the Florida Climate Change Task Force as they meet and discuss strategies that should be put in place now to reduce potential impacts of sea level rise in the future.

**International Designations** There was a great deal of media and community focus on Everglades National Park when at an international meeting the park was taken off the endangered list of World Heritage sites. There is currently discussion of this decision being modified and the park being placed back on the endangered list. Generally the park is supportive of this and continues to develop documentation to inform this decision making process. The concern was that this would not help in the work to gain support for restoration, as the park has not yet recovered in the three areas identified as problematic when it was put on the endangered list.

**CERP and Science** Everglades ecosystem restoration continues to take up a significant amount of the Superintendent and the South Florida Natural Resource Center's time, and at times that of other staff throughout the park. The Superintendent was elected to fill the federal co-chair position for the South Florida Ecosystem Restoration (SFERTF) Working Group and the Director of the SFNRC regularly participates in the SFERTF Science Group. The restoration program is evolving and coordination with the many federal and state partners requires a significant commitment of resources.

**DRTO Research Natural Area** - The Research Natural Area, or RNA, added a new layer of protection for the marine resources of Dry Tortugas National Park. The RNA is a 46 square-mile no-take ecological preserve that provides a sanctuary for species affected by fishing and loss of habitat in this region of the Gulf. The RNA also provides opportunities for boaters, divers, snorkelers, and researchers to explore and study the significant marine environment protected within Dry Tortugas National Park. Park staff is

working towards implementing a science plan completed in 2007 that will provide an assessment of how the RNA has helped the resources in this area that will inform the state review of this arrangement due in 2011.

**Migrant Landings at DRTO and Everglades** Not too many National Parks are so significantly impacted by a federal immigration policy. Due to the large Cuban population in Florida and many years of migration issues the federal government passed a wet foot/dry foot policy some years back that became an issue for DRTO and Everglades when enforcement of border patrols around Key West escalated after the 9-11 attacks on the United States. The very limited park staff available at DRTO has to respond to multiple migrant landings in “chugs” (handmade boats of all types) during the year. As this type of activity is not normally the responsibility of park service staff, meeting the needs of multiple groups of immigrants that would land on the remote island or along the remote coastal areas of Everglades continues to stress already limited resources.

**Communications and housing at DRTO** The remote island park is a beautiful and unique resource that requires a staff presence to perform protective, facilities management, and interpretive park service duties. Due to the remoteness communication with staff on the island, coordination of visitor access, and housing of staff needed on the island pose numerous fiscal and logistical challenges. In addition, the escalating land costs in south Florida exacerbate housing at Key West for staff when off island. All of these factors affect the ability of the park to recruit staff. Communications and housing are a significant challenge for park management and staff.

### ***2008.2.1 Planning & General Management Plan - Planning and Compliance Branch***

The Planning and Compliance branch is responsible for providing planning and environmental compliance services for EVER and DRTO. These responsibilities are accomplished through the planning and compliance programs.

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## Planning Program

**Overview** The planning program focuses on activities to support park legislative and policy requirements, mission goals, and long-term goals, and is designed to provide the framework for management actions and decision-making that take place in the parks.

In FY08 the planning program was involved in a wide-range of short and long-term planning efforts that enhanced park resource management and visitor use goals, and strived to improve relationships between the park and neighboring communities on issues of mutual interest. Highest priority project work this year included:

- completion of the Flamingo Commercial Services Plan/Environmental Assessment, which included two rounds of public review and comment on the draft plan and preferred alternative
- advancing the Everglades National Park General Management Plan through the development of critical science and visitor use projects related to management of the park's marine waters, and drafting revised preliminary alternatives for the management of these park resources
- completion of a draft plan and feasibility study for the Biscayne – Everglades Greenway
- In addition, the program was involved in a number of projects related to the long term management of the park including:
- assisting in organizing the Flamingo CSP Technical Assistance Plan, a two-day workshop involving the Urban Land Institute, National Parks Conservation Association, South Florida National Parks Trust, and park stakeholders
- working with the NPS air resources division/soundscape management program to conduct field work and assessments in Everglades and Dry Tortugas National Parks to understand soundscape issues and opportunities to enhance natural sounds conditions in both parks
- reviewing and advising on River of Grass Greenway initiative to the Naples Pathway Coalition for an NPS RTCA grant for a feasibility study for a hike/bike trail in proximity to the Tamiami Trail corridor

- reviewing and advising on the FPL Environmental Report for a potential land exchange in the East Everglades Expansion Area
- reviewing and advising on 2008 Visitor Study Project for Everglades National Park, conducted by University of Idaho

Through a broad range of projects the planning program has served to help focus park managers, staff, community leaders, and cooperating organizations, on the critical challenges associated with:

- better protecting the parks' unique natural and cultural resources,
- providing higher-quality visitor experiences,
- improving the quality of facilities and operational functions, and
- establishing the parks as more meaningful components of the South Florida community.

**Program Capacity and Consequences Staff** responsibilities for the park planning program in 2008 largely fell to three employees, only one of which is dedicated to park planning on a full-time basis. The increasing workload coupled with continued budget constraints and reductions of FTEs throughout the park (including the Planning and Compliance Branch) has created a situation that can be characterized as one of constant catch-up and crisis or reactive management to an ever-expanding workload and set of high priority issues. Since the park planning program relies so much on the involvement of staff from across all other divisions and programs, the competition for gaining the necessary staff involvement in a timely manner is a constant challenge

The recently updated OFS request identifies a need for 2 additional park planning positions (1 park planner, 1 community planner) to meet the needs in upcoming years for projects within the park and those developed involving resources outside, but impacting the park and those that are developed in partnership with other community interests. Some examples where the shortfall in staff resources has been apparent are in the areas of gateway/community planning and at DRTO, where GMP implementation has been hampered due to limited staffing and funds, as well as the substantial workload at Everglades NP. In some cases, limited resources create situations where certain work could not be accomplished.

FY08 Planning Project Major Accomplishments; Anticipated work in FY09		
Plans and Projects	FY08 Accomplishments	Major activities in FY09
<p><b>General Management Plan/EIS</b></p>  	<p>Completed science and visitor use studies (see last two project write-ups below) to support revised preliminary alternatives for park marine areas</p> <p>Drafted public involvement strategy to be used to successfully carry out public involvement as part of revised preliminary alternatives for park marine areas process</p> <p>Coordinated involvement with park staff and managers to develop well-reasoned revised preliminary alternatives for park marine areas</p> <p>Drafted sections of revised preliminary alternatives newsletter</p>	<p>Finalize newsletter with revised preliminary alternatives for park marine areas; work on SERO and WASO support/clearance to print/go public</p> <p>Conduct public and stakeholder involvement following newsletter release</p> <p>Assist in public comment analysis and application to development of draft preferred alternative and GMP/EEWS/EIS</p> <p>Conduct workshops for GMP carrying capacity and selection of draft preferred alternative</p> <p>Continue preparation of draft GMP/EEWS/EIS</p>

**FY08 Planning Project Major Accomplishments; Anticipated work in FY09**

Plans and Projects	FY08 Accomplishments	Major activities in FY09
<p><b>Flamingo Commercial Services Plan / EA</b></p> 	<p>As project manager developing the draft Flamingo Commercial Services Plan (CSP) /EA, coordinated all park involvement, public involvement and writing/reviewing/editing CSP/EA and related documents.</p> <p>The Flamingo Commercial Services Plan/EA Finding of No Significant Impact was approved by Regional Director Vela in July 2008.</p>	<p>Assist in CSP implementation efforts including helping to establish park implementation team</p> <p>Identify strategy to conduct site planning on preferred alternative to get major implementation components "shovel ready"</p> <p>Integrate preferred alternative into Draft GMP/EEWS/EIS</p>
<p><b>Biscayne – Everglades Greenway</b></p> 	<p>Served on team that completed draft plan and feasibility study</p>	<p>Finalize Plan and Feasibility Study</p> <p>Identify options to secure funds to hire staff to serve as point of contact for greenway implementation</p> <p>Pursue funds for implementation</p>
<p><b>East Everglades Airboat Trail Inventory and Assessment</b></p> 	<p>Worked with project cooperator to finalize project report</p>	<p>Integrate project results into development of draft preferred alternative and draft GMP/EEWS/EIS</p>
<p><b>Florida Bay Aerial Survey of Boating &amp; Fishing Activity</b></p> 	<p>Concluded field work on the study (85 flights)</p> <p>Coordinated review/comments on draft and final report</p>	<p>Complete study and closeout project</p> <p>Integrate results and related public input on revised preliminary alternatives into the development of draft preferred alternative and draft GMP/EEWS/EIS</p>
<p><b>Florida Bay Seagrass Assessment</b></p> 	<p>Co-authored draft and final report and project fact sheet identifying study purpose, methods, results and recommendations</p> <p>Integrate results into revised preliminary marine areas alternatives</p>	<p>Integrate results and related public input on revised preliminary alternatives into the development of draft preferred alternative and draft GMP/EEWS/EIS</p>

## Environmental Compliance Program

**Overview** The compliance program is responsible for ensuring that the requirements of environmental laws and regulations are completed prior to implementing actions that may impact park resources and visitor use. Activities include leading interdisciplinary teams; determining NEPA pathway; coordinating public involvement; consulting with agencies and tribes; analyzing project impacts; preparing categorical exclusions, environmental assessments and environmental impact statements; maintaining administrative records and reviewing actions proposed by others that may affect the two parks. Results include better coordination between the parks, the public and elected representatives; better-informed decisions; and implementation of programs needed to protect resources, enhance visitor services and benefit surrounding communities.

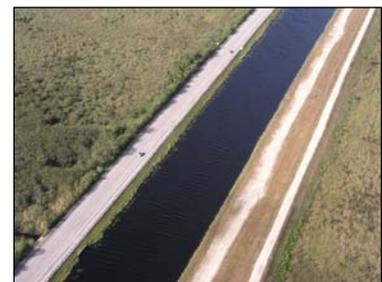
In FY 08, branch staff contributed significantly to completion of the Tamiami Trail Modifications Limited Reevaluation Report / Environmental Assessment (EA) and the Tamiami Trail Pilot Spreader Swales EA. Staff made progress on three other EA's, completed documented categorical exclusions for 30 projects, coordinated National Historic Preservation Act compliance for 35 projects and participated in 12 wilderness minimum tool determinations.

**Program Capacity and Consequences** The parks' ability to complete compliance and thus accomplish projects is limited by current funding and staffing levels. FY08 compliance staffing consisted of one full-time compliance specialist supplemented by one part-time student intern and 70% of the branch chief's time. The existing and anticipated compliance workload far exceeds staff capacity to accomplish in a timely manner. This has resulted in a backlog of compliance projects and implementation of some programs without fulfilling compliance requirements. The branch OFS request identifies a need to base-fund 2 additional compliance specialist positions and an administrative assistant. Failure to meet planning and compliance requirements risks potential resource damage, project delays and costly litigation. The branch budget request to enhance planning and compliance capacity is currently the parks' #2 OFS priority.

## Compliance Projects

### **Modified Water Deliveries to Everglades National Park, Tamiami Trail Modifications Limited Reevaluation Report / Environmental Assessment**

The Modified Water Deliveries Project was authorized by Congress as part of the 1989 Everglades National Park Protection and Expansion Act which authorized the park to acquire lands in the Northeast Shark River Slough. The project was designed to improve water deliveries through structural and operational modifications to the Central and South Florida (CS&F) project. When completed, the MWD project components will improve the conveyance of water to the park from the watershed north of the park, provide for flood mitigation in adjacent urban and agricultural areas, and provide improved connectivity of the Everglades marsh ecosystem adversely affected by the features of the C&SF project. The Tamiami Trail Modifications (TTM) has proven to be one of the most contentious and costly components of the MWD Project. The 2005 Revised General Reevaluation Report and Environmental Impact Statement for TTM recommended a plan that would have resulted in full restoration of the Northeast Shark Slough at a cost more than \$500 million. Concerned about escalating project costs, Congress directed the U.S. Army Corps of



Engineers to reevaluate less costly plans for modifying Tamiami Trail and to prepare a report to Congress by July 1, 2008.

The park worked closely with the Corps of Engineers to complete the LRR/EA on a very aggressive schedule. The Corps' Jacksonville District commander signed a Finding of No Significant Impact (FONSI) for the LRR/EA on June 20, 2008. The NPS Southeast Regional Director signed an NPS FONSI for the LRR/EA on July 22, 2008. The Assistant Secretary of the Army for Civil Works approved the Recommended Plan on August 1, 2008. The NPS was a cooperating agency under NEPA in the development of the LRR/EA. The branch's role included coordinating park and regional staff involvement in preparing the EA, working with the Corps in an effort to assure the LRR/EA would meet NPS standards and coauthoring the NPS FONSI. Three lawsuits were filed by the Miccosukee Tribe challenging the LRR/EA. One is still pending. Upon completion of the FONSI, the branch coordinated fast-track completion of Special Use Permits for a temporary construction easement and for construction of a flow way beneath the one-mile bridge.

**Tamiami Trail Pilot Spreader Swales Environmental Assessment**



In 2007, The U.S Army Corps of Engineers and the South Florida Water Management District proposed the construction of spreader swales in the park south of Tamiami Trail to enhance the flow of water under the Trail into NE Shark River Slough. Due to disagreements over the potential benefits of swales, the NPS initiated an environmental assessment in April 2008 to analyze the potential environmental effects of the proposed swales. The branch participated in all aspects of the project including recommending that NPS be the lead agency for NEPA, coauthoring the Scope of Work for

the EA, contractor evaluation and selection, coordinating staff involvement in internal and public scoping, coauthoring the newsletter, initiating consultation with agencies, tribes and elected officials, analyzing public comments and in writing and reviewing the draft EA. This controversial project is proceeding on an aggressive schedule toward a projected March 2009 Finding of No Significant Impact (FONSI) decision document.

**Cape Sable Canals Dam Restoration Environmental Assessment**

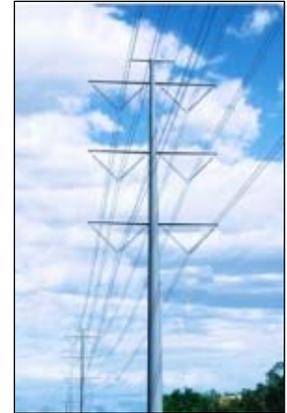


In June 2008, the park decided to prepare an environmental assessment of options for repairing or replacing the failed dams on the East Cape and Homestead Canals. Branch staff participated in all aspects of the project including contractor evaluation and selection, coordinating staff involvement in internal and public scoping, writing the scoping newsletter, newspaper ads and press release, completing media and public notifications, initiating consultation with agencies, tribes, and elected officials, and participating in the public scoping

workshop. This project is proceeding on an aggressive schedule toward a projected August 2009 FONSI decision document.

### **Proposed Relocation of Florida Power and Light Corridor Environmental Report**

In 2007, the NPS, the Department of the Interior and Florida Power and Light Co. (FPL) began discussions regarding a potential exchange and relocation of a corridor of FPL property in the Everglades National Park Expansion Area. FPL acquired this corridor in the 1960s and early 1970s in anticipation of the future need for electrical facilities to serve electrical load growth in southeast Florida. The seven-mile-long, 330- to 370-foot wide corridor, through lands that became part of the ENP Expansion Area in 1989, is a portion of a contiguous forty mile corridor connecting FPL's Turkey Point generating stations and the Levee Substation. The parties identified property at the edge of the park that may have substantially less impact on park resources, if utilized for an electrical transmission corridor. FPL is willing to relocate its corridor to this alternative alignment. Relocation would help to fulfill the purposes of the ENP Expansion Area, including restoration efforts associated with the Modified Water Deliveries Project. Congressional legislation would be necessary to accomplish the proposed relocation. In April 2008, FPL hired Parsons, Inc. to prepare an Environmental Report in support of the exchange. The branch coordinated park involvement in the report and prepared consolidated park comments on the draft and final reports in June 2008. Legislation to authorize an exchange was introduced in Congress in August 2008 and was pending at year end. Final action on the exchange legislation is anticipated in 2009.



### **Flamingo Seawalls Rehabilitation Environmental Assessment**

Funding was obtained in Aug. 2007 to begin planning and compliance for the rehabilitation of deteriorating seawalls at Flamingo. The branch worked with SERO compliance to accomplish contracting for the EA and complete internal scoping in November 2008. This project was put on hold pending completion of required cultural resource studies and subsequent funding issues. Resumption of the EA process is anticipated in late FY 2009 or FY 2010.



### **South Florida and Caribbean Parks Exotic Plant Management Plan / Environmental Impact Statement**

Park resource management and compliance staff played a key role in the development of this multi-park exotic vegetation management plan and EIS. The project was put on hold after completion of the draft EIS in 1996. The park is working with the WASO Environmental Quality Division on a strategy to complete the plan/EIS and a record of decision in late FY 2009 or FY 2010.



**Fire Management Plan / Environmental Assessment** Funding was obtained and contracting completed to resume work on the FMP/EA. A kick-off meeting with the consultant was scheduled for October 2008. A FONSI is anticipated in late FY 2009 or early FY 2010.



**Manatee Area of Inadequate Protection (AIP)** Branch staff participated in AIP public meetings in January and March of 2008. The branch is working with the South Florida Natural Resources Center, Park Management Team and Gulf Coast District Management Team to complete planning and compliance for lifting the AIP in FY 2009.



## NEPA Categorical Exclusion Projects

Compliance staff led interdisciplinary teams to determine the appropriate level of compliance with the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), Endangered Species Act, Wilderness Act and other legal standards; and to complete compliance requirements prior to project implementation. In FY 2008, 30 projects completed NEPA compliance as Categorical Exclusions with documentation, 4 were completed as Categorical Exclusions without documentation, and 3 were completed at the Memo-to-File level. Each project was screened by an interdisciplinary team and many required a site visit and consultation with regulatory agencies. The diversity of these projects is reflected in the table below. Thirty-five active projects rolled over into FY 2009.



## Wilderness Projects

Everglades National Park has 1,296,500 acres of designated wilderness, out of 1,509,000 total acres within the park. In compliance with the Wilderness Act and Director's Order 41, the park's Wilderness Committee screens proposals to install structures or use motorized vehicles or mechanized equipment in designated or potential wilderness areas to determine the minimum tools to accomplish the project. Compliance staff participated in Minimum Tool Determinations for 12 projects in FY 2008. Three branch staff completed the Interagency Regional Wilderness Stewardship Training Course.



## National Historic Preservation Act Projects

Compliance staff coordinated NHPA review with the Chief of Cultural Resources within the context of the NEPA process. In FY 2008, 35 projects completed compliance with Section 106 of the NHPA (see table below). Eight projects required consultation with the State Historic Preservation Office.

### Completed NHPA & NEPA Categorical Exclusion / Memo to File Projects - FY 2008

Project #	Project Name	NEPA Completion Date	NHPA Completion Date
<b>Categorical Exclusions with documentation</b>			
1	FY08-005 DRTO USCG Install AC and Generator	10/25/07	PE 10/25/07
2	FY07-057 Install "Thank you for Visiting" Signs	11/02/07	PE 11/02/07
3	FY07-037 Demolish Flamingo Lodge and Motels	11/13/07	SC 05/03/07
4	FY07-040 EVER DRTO FY08 Exotic Veg Mgmt Program	11/19/07	SC 02/23/05
5	FY08-013 Mangrove Trimming on Halfway Creek	12/14/07	PE 12/14/07
6	FY08-011 Repair Raulerson Brothers Canal Plug, Phase I	12/17/07	PE 12/17/07
7	FY08-006 DBC Roof Repair	01/10/08	PE 01/10/08
8	FY07-043 Install Signs and Buoys in Florida Bay	01/23/08	PE 01/23/08

9	FY08-010	Repair Guy Bradley Trail	02/04/08	PE 02/04/08
10	FY08-008	DRTO Consolidate Internet and TV satellite dishes	02/07/08	SC 01/18/08
11	FY08-012	Repair Raulerson Brothers Canal Plug, Phase II	03/07/08	PE 03/07/08
12	FY08-009	DBC Python Behavioral Arena	03/07/08	SC 01/23/08
13	FY07-059	DRTO Install USCG Mooring Systems at Loggerhead Key	03/20/08	PE 03/20/08
14	FY08-016	Replace Boundary Markers in Florida Bay	04/10/08	PE 04/10/08
15	FY08-022	Miccosukee Burn Plan	04/15/08	PE 04/15/08
16	FY08-023	Replace Dan Beard Center Water Line	05/02/08	PE 05/02/08
17	FY06-023	DRTO Repair Finger Piers in Garden Key	05/20/08	PE 05/20/08 SC 10/25/06
18	FY07-021	Replace Rest Rooms & Fee Booth and Implement Parking Lot Improvements at Shark Valley (SV)	05/27/08	PE 05/27/08
19	FY08-033	Replace Shade Structures at SV and Everglades City	05/29/08	PE 05/29/08
20	FY08-030	Relocate Above Ground Storage Tanks at Flamingo	05/30/08	PE 05/30/08
21	FY06-001	Demolish and Replace Whitewater Bay Docks	06/02/08	PE 06/02/08
22	FY08-035	DRTO Weatherproof Loggerhead Lighthouse	06/10/08	PE 06/10/08
23	FY08-039	Rehabilitate Restrooms at Dan Beard Center & Robertson Building	07/29/08	PE 07/29/08
24	FY07-053	Dr. Brock Research Permit	08/01/08	PE 08/01/08
25	FY06-017	DRTO Dredging	08/01/08	PE 08/01/08
26	FY07-036	Restoration of Garden Key Harbor Light	08/05/08	SC 06/13/08
27	FY08-027	Tamiami Trail Swales Topographic Survey	08/07/08	PE 08/07/08
28	FY08-029	Osceola Camp Special Use Permit	08/15/08	SC 08/12/08
29	FY08-017	FY08/09 Hazardous Wildland Fuels Treatment	09/12/08	PE 09/12/08
30	FY08-045	FY08/09 Exotics Prescribed Fire Projects	09/25/08	PE 09/25/08
<b>Categorical Exclusions without documentation</b>				
31	FY08-002	Dr. Rivera-Monroy Research Permit (RP)	01/07/08	PE 01/07/08
32	FY07-054	Gordon Anderson Hydrological Stations RP	01/08/08	PE 01/08/08
33	FY08-020	DRTO USGS ATRIS Survey	04/10/08	PE 04/10/08
34	FY08-037	Deb Willard Research Permit	07/22/08	PE 07/22/08
<b>Memos to File</b>				
35	FY07-	DRTO Repair Counterscarp	07/01/08	SC

	063			05/07/08
36	FY08-043	Tamiami Trail Modifications Temporary Construction Easement/Special Use Permit	08/11/08	N/A
37	FY08-046	Tamiami Trail Modcs Channel & Flowage Easement SUP	09/11/08	N/A

## **2008.2.2 Cultural Resource Stewardship**

### **Cultural Resource Stewardship**

The year 2008 was the second year of existence for the EVER/DRTO/SFCMC integrated Cultural Resource program. With the support of the SE Regional Office, the CESU, institutional and individual park partners, several initiatives were undertaken to address cultural resource themes and resources that had not been inventoried or assessed in the past. In addition to inventory, program priorities were also to educate Park employees and the Public about the Cultural Resources and the management of them in the two parks. With the identification of these “new” resources, there was extensive cooperation from other divisions managing and interpreting the Cultural Resources in the Park.

Permanent Cultural Resource Division employees in 2008 were Melissa Memory, Chief, and Nancy Russell, Curator. Kelly Clark, Exhibit Specialist worked closely and was the lead for historic structure preservation activities at DRTO.

### **Archeological Resources**

#### **DRTO:**

- Charles Lawson of the Southeast Archeological Center completed and finalized a Ground Penetrating Radar Survey of Fort Jefferson. This study provided a non invasive report that identified two archeological management zones at Garden Key.
- A partnership with Dr. Dave Zawada of the USGS was established for a submerged cultural resource documentation project at DRTO, resulting in \$50,000 of in kind support. Three submerged cultural resources were documented with high resolution rectified photo mosaics using the USGS ATRIS System originally developed for Coral Reef mapping.
- Worked with Submerged Resources Center to develop project for GIS of submerged sites at DRTO

#### **EVER:**

- Margo Schwadron of the Southeast Archeological Center continued her work on 10,000 Island National Historic Landmark Mapping of Shell Works sites, including work with the Archeological and Historical Conservancy.
- The Southeast Archeological Center conducted ASMIS condition assessments of 52 Significant Archeological Sites in EVER coordinating with EVER Cultural Resource staff.
- Margo Schwadron of the Southeast Archeological Center conducted the first ever Burned Area Emergency Rehabilitation assessments of cultural resources impacted by the large wildland Mustang Corner fire.

## **Cultural Landscapes**

### ***DRTO***

SERO landscape architect Susan Hitchcock continued work on DRTO Cultural Landscape Report for Garden Key

### ***EVER***

Awarded contract to Wiss Janey and Elstner and Associates to conduct a Cultural Landscape Inventory of the Mission 66 Flamingo Development.

## **Ethnographic Resources**

- Consultants New South and Associated from Army COE for ethnographic study of "Gladesmen" culture
- Secured funding from the Regional Ethnographer to contract Dr. Laura Ogden of Florida International University to prepare an Ethnographic Overview of the Park under the CESU

## **Historic Structures**

### **DRTO**

***Preserve Fort Jefferson Phase 2***, Contract # C5010070905 demobilized from Year 1 work in June of 2008 and then mobilized for Year 2 work in November 2008. This contract was awarded to Enola Contracting Inc. of Chipley, FL and has been underway since November of 2007. The work being completed during the second year continues to be of a high caliber and park staff is pleased with the finished results. In mid-December 2008 an Unforeseen Condition was brought to the attention of the team. Behind the scarp wall on the interior areas of Front 4 many of the infill arches had completely separated from the substructure. This condition was something that had to be addressed in order to maintain the structural integrity of the structure. An official letter for Requests for Proposals to repair these failures was sent to the contractors at the end of February 2009. At the end of April 2009 a final price for the unforeseen condition was submitted by Enola Contracting Inc. In order to complete these repairs to park needed more funding. In May the park was approved for 2.2 million dollars in ARRA funding to help offset these additional costs associated with the unforeseen condition. With the additional money secured the contractors were able to continue working on the original bid items in the contract as well as this new condition. The current total contract amount for Preserve Fort Jefferson Phase II is \$6,170,314.00. This does not include the ARRA funding which will be monitored and tracked separately from the LIC funds.

It is anticipated that the Year 2 work season will continue through the month of June and will get all contract bid items completed for all of Bastion 3, Front 4, Bastion 4, and the north face of Bastion 5. The NPS project team believes there will be enough funding for the contractors to return next year for the regularly scheduled third year of work and be able to complete about 70% of the originally contracted bid items on the remainder of Bastion 5, Front 6, and Bastion 6.

The contracted employees continued to live within the fort walls and have been very easy to work with and cooperative incorporating into the small, close community on site at DRTO.

In June-July, 2008 repairs were made to the counterscarp wall in several areas. This work was completed with money received for Hurricane damage sustained in 2005. The

repair work included replacing fill brick, face brick, and a rubber joint sealant between the coping bricks and the concrete walkway. In all there were 6 different areas worked. Missing fill bricks were replaced with red paving bricks on site at DRTO. Face brick and coping bricks were replaced with salvaged historic bricks that were also on-site at DRTO. The mortar used was a natural cement/local sand mix and matches the original in color, hardness, and texture. This work was completed by three preservationists from the Intermountain Region Historic Preservation Projects Division located at Bandelier National Monument, New Mexico. The total cost of this project was \$77,050.75 which included the purchase of tube scaffolding that is now park property and the preparation of thorough Completion Report.

***Garden Key Harbor Light*** A contract was awarded to Pine Tree Builders of Fort Lauderdale for \$43,148.00 to fabricate 10 historically accurate casement shutters and two sets of double doors for the Garden Key Harbor Light. Fabrication of shutters and doors is set for June 2009. Installation will take place under a separate agreement using the Historic Preservation Projects group from IMR-BAND. Installation is scheduled for July 6-24, 2009.

A contract was awarded to Enola Contracting Inc. of Chipley, FL in October of 2008 to replace the roof structure on the Loggerhead Lighthouse, clean, prime, paint and reinstall all metal framing and window components, and install new hurricane glass on all windows in the lens room. Work on this project was successfully carried out until completion in March of 2009. The cost of this project was \$332,081.00.

***Loggerhead Light Historic Structure*** Worked with SERO/Coast Guard/SHPO to develop scope of work and contract Loggerhead Light Historic Structure Report Wrote scope of work and worked with SERO to contract Flamingo Cultural Landscape Inventory/DOE

#### **EVER**

- Brian Coffey of the SERO continued documentation of Flamingo Mission 66 resources (in progress)
- Developed MOA with the Florida SHPO to mitigate impacts to the Tamiami Trail from Modified Water Delivery Restoration Project.

### **National Historic Preservation Act (NHPA)**

#### ***EVER & DRTO***

- Participated, wrote and reviewed portions of Tamiami Trail LRR, Swales Demo, Flamingo Commercial Services Plan, Long Range Interpretive Plan, Cape Sable Canals, DRTO Buoy Plan, Flamingo Bulkhead
- Conducted Cultural Resource assessments of Tower and Black sites, and Jewel Key, completed field work on 46 Acre Restoration Site, and wrote and coordinated work on Ingraham Highway Cultural Resource Assessment
- Consulted SHPO on Tamiami Trail, Osceola Camp, Fort Jefferson Projects, Missile Base Projects, Flamingo Projects
- Worked with Navy, Coast Guard and FAA on compliance issues for proposed DRTO projects
- Worked with SERO to coordinate South Florida Tribal Consultation of National Section 106 PA with SHPOs/THPOs
- Served on interagency task force for CERP cultural resource management

## **Native American Graves Protection and Repatriation Act (NAGPRA) and Tribal Consultation**

### **EVER**

- Completed draft of NAGPRA Plan of Action for Everglades with FIU. Reviewed by Park NAGPRA, SERO, and sent to Tribes, now considered a working document.
- Consulted with Tribes on projects affecting archeological sites.
- Met with Seminole THPO to discuss National PA as well as NAGPRA POA.
- Consulted with Buena Vista Rancheria on NAGPRA request.

### **Cultural Resources Outreach**

- Worked with interpretation to scope Missile Base interpretive potential
- Planned and organized cultural resource seminar for 60th anniversary of Everglades at the Art South Facility in Downtown Homestead, with Speakers Margo Schwadron of the Southeast Archeological Center on the Archeology of the Everglades, Dr. Ryan Wheeler, State Archeologist and Chief of the Bureau of Archaeological Resources, Florida Division of Historical Resources on the Mud Lake Canal National Historic Landmark, Dr. Laura Ogden, Assistant Professor of Anthropology at Florida International University on the Ethnographic History of Paradise Key, Dr. Jessica Barrella, Adjunct Professor of History at Florida International University on Cold War Landscapes, and Dr. Gregory Bush, Professor of History at the University of Miami on 20th Century History of Everglades National Park.
- Collaborated with the Dade Heritage Trust and the Florida Public Archeology Network to promote Dade Heritage Days and Florida Archeology Month by hosting two events in Everglades, a lecture on the archeology of the Everglades by Melissa Memory and a tour of the Bear Lake Trail with Melissa Memory and Dr. Michelle Williams of the Florida Public Archeology Network.
- Gave presentations to the Florida Lighthouse Society, Archeology Days at the Everglades Outpost, the Archeological Society of South Florida and represented the Park at the Florida Anthropological Society Meeting, the Preserving Coastal Fortifications Workshop, and became part of the Florida Coastal Everglades Long Term Ecological Research Social Science working group

### **Collections Management**

**Multi-Park Support:** Everglades and Dry Tortugas National Parks continue to support our sister parks (BICY, BISC, and DESO) through operation of the South Florida Collections Management Center. The multi-park repository continues to function under the charter approved by the superintendents, regional curator, and regional director in 2005.

**Planning Efforts:** The South Florida Parks Collections Management Plan was approved in December 2008. The final plan included an update to the recommendations, indicating the progress that has been made since the 2004 site visits. Copies of the CMP were distributed to all SFCMC parks.

In October 2007, an archives collection condition survey was conducted by Walter Newman of the Northeast Documents Conservation Center. The survey included a site

visit to review conditions and examine specific documents. The survey included documents at the SFCMC from all five parks. The SFCMC curator and staff reviewed and commented on the draft report, which was received in December 2007. The final report was received and accepted in FY2008. Recommendations from the report were incorporated into the SFCMC Archives Processing Manual where appropriate.

Funding was received to contract for preparation of an Integrated Pest Management Plan. Barbara Cumberland, a conservator with Harpers Ferry Center, was hired to complete the plan. A site visit was conducted in July 2008. The IPM plan is expected to be finalized in FY2009.

**Collection Growth & Accountability:** Both the EVER and DRTO museum collections continued to grow in FY2008. This growth is documented below.

<b>Museum collection Growth for DRTO and EVER – FY 2008</b>				
<b>Park Unit</b>	<b>FY07 Total</b>	<b>FY08 Total</b>	<b>FY08 Increase</b>	<b>% Increase</b>
DRTO	211,228	217,968	6,740	0.03%
EVER	2,407,449	2,462,892	55,443	0.02%

*Everglades received 112 new accessions, while Dry Tortugas had 34.*

Examples of significant new acquisitions for DRTO include: donation of historic 1960s photographs; tern project data and records retrieved from Dr. Bill Robertson's house; pin and bushing from a Totten shutter; digital images of the park from 1994-2007 taken by Eloise Pratt; US Coast Guard records from the Loggerhead Light Station; and specimens and associated records from permitted research projects undertaken in the park.

Examples of significant new acquisitions for EVER include: donation of a 100+ year old Florida panther; several donations of park-related memorabilia; donation of 75 *Liguus fasciatus* specimens collected by Cecil Curry Sr.; several oral history interviews, including one completed with Joe Browder about the history of EVER, BISC, and BICY; donation of artwork belonging to the park's first superintendent Daniel Beard; administrative history documents; several caiman specimens; and specimens and associated records from permitted research projects undertaken in the park.

In addition to the required Annual Inventory of Museum Property, museum staff completed the multi-year 100% inventory of the museum collection in FY2008. The inventory of the museum objects and specimens were completed as part of the museum move project and staff completed an inventory of the museum archives on the compactor storage units at the Robertson Building in FY2008. This inventory, together with the FY2005 photograph inventory and the FY2007 inventory of the map room, completes the archives inventory as well. This is the first 100% inventory every completed for the parks' museum collections.

**Backlog Cataloging:** Both EVER and DRTO received backlog cataloging funds to help reduce the backlog of uncataloged museum collections. Museum staff worked to exceed the cataloging goals. A total of 12, 269 objects, specimens and archival documents were cataloged for DRTO and 244,854 items (principally archival documents) were cataloged for EVER. This greatly exceeded the goal of 98,198 items for the two parks, helping to ensure that the SER would meet backlog cataloging goal as a whole.

**Annual Reporting:** Museum staff worked to complete the required annual reporting for both parks. As a result, the collection management reports (CMRs), Museum Collection Protection and Preservation Program (MCPPP) checklist, the Annual Inventory of

Museum Property, and the National Catalog submission were all completed and submitted in a timely manner.

**Preventive Conservation:** Ongoing routine preventive conservation continues to ensure the preservation of the museum collection. These efforts include monitoring for temperature, relative humidity, visible light, and UV radiation, conducting Integrated Pest Management, and maintaining a rigorous museum housekeeping schedule for museum storage facilities.

Efforts were made in FY2008 to improve the number of professional standards met on each park unit's Museum Collection Protection and Preservation (MCPPP) Checklist. Work in FY2008 focused on completing the museum storage rehabilitation and associated storage upgrades at the Beard Center storage area, which improved collection storage and preservation for the collections from all five parks. In addition, an Integrated Pest Management Plan was drafted for EVER.

**Storage Improvements:** The major focus of the museum program in FY2008 was to complete a complete renovation of the Beard Center museum storage area. This project was funded via Repair/Rehab and resulted in the complete renovation of the Beard Center museum storage and work areas. The project required a considerable amount of staff time, both for planning and implementation. The project required packing and moving the entire collection from the storage area prior to the renovation and moving and unpacking the collection following the renovation. As part of this project, two compactor storage units were installed to improve collection storage and to provide additional storage space within the constraints of the available space.

Also in FY2008, a compactor storage unit was installed in the map room at the museum archives in the Robertson Building. Installation of the compactor storage allowed for an additional 30 map drawers, providing space for at least another 600 maps, plans and drawings.

**Conservation Treatment** In FY2008, collections catalogued the only surviving piece of a top carriage for a gun carriage from Fort Jefferson. A contract was awarded to the Maryland Archeological and Conservation Center to treat the object. In addition, the collections division was able to provide resources to treat a catwalk brace from Fort Jefferson and a rudder from a Cuban chug. These three artifacts were sent to the lab in December 2008 and treatment will occur in FY2009.

Conservation treatment of mold-stained and water damaged slides from the fire ecology slide collection was conducted through a contract awarded to Tram Vo Art Conservation and the slides were sent for treatment late in FY2008. The slides will be treated and returned by March 2009.

**Collection Access and Use:** Research requests for access to information and objects contained in the museum collections continues to increase. Over 265 research requests were received in FY2008, as follows:

**Other Projects:** A Collections volunteer continued to make progress on the long term image scanning project in FY2008. The entire collection of individually cataloged photographs for DRTO was completed.

Another special project involved retrieval of archives from the former residence of Dr. Bill Robertson. When he died in 2000, Dr. Robertson had data and other records at his residence of interest to the museum, including approximately 25 boxes of data and records from the DRTO tern study, the eagle and osprey monitoring, and other projects.

## **2008 3.1 Administration - Major budget and personnel issues, concessions, contracting, and volunteer program**

This section summarizes the major budget and personnel issues that came up over 2008, in addition to a discussion of concession, contracting, and volunteer program activities.

### **Personnel**

#### **Everglades**

##### **Recruitment and Placement:**

- 41 vacancy announcements prepared by the Everglades National Park (ENP) Servicing Personnel
- 8 vacancy announcements prepared by the National Park Service (NPS) Denver Franchise Office
- 4 vacancy announcements prepared by the Office of Personnel Management (OPM)

Total: 53 vacancy announcements prepared

##### **Hires:**

- Permanent – 70
- Temporary (appointment between 1 day to a year) – 29
- Term (appointment between 13 months to 4 years) - 15
- Seasonal (appointment limited to 1039 hours) – 55

Total hires FY 2008 = 169

##### **Training:**

- 2008 Information Technology (IT) Security Awareness Training
- National Park Service (NPS) 2008 IT Security & Responsibilities for Computer Use
- 2008 Orientation to Privacy and Records Management Course – all employees received
- Everglades National Park (ENP) sponsored Writing Smart Performance
- ENP sponsored Assistance Agreements training

##### **Awards:**

- 59 employees received monetary awards to total \$62,014.
- 3 employees received a Quality Step Increase (QSI).
- 40 employees received time-off awards to total 1046 hours.

#### **Dry Tortugas**

##### **Recruitment and Placement:**

- 4 vacancy announcements prepared by the Everglades National Park (ENP) Servicing Personnel

##### **Hires:**

- Permanent – 6
- Temporary (appointment between 1 day to a year) – 7

- Seasonal (appointment limited to 1039 hours) – 3  
Total = 16

**Training:**

- 2008 Information Technology (IT) Security Awareness Training
- National Park Service (NPS) 2008 IT Security & Responsibilities for Computer Use
- 2008 Orientation to Privacy and Records Management Course

**Awards:**

None

**Budget**

**EVER FINANCIAL SUMMARY FY 2008**

<b>ONPS BUDGET</b>	
Park Management	1,933,200
Administration	2,147,400
Interpretation	1,867,800
Visitor Protection	3,073,100
Maintenance	4,282,800
Research	2,611,600
<b>Initial Allotment</b>	<b>16,464,100</b>
<b>Other Funding:</b>	
CESI	3,849,000
CERP	4,657,000
Task Force	1,303,500
VIP	17,000
ELEDP	2,600
Training	3,000
Cyclic	97,600
Haz Mat	189,096
Air Quality	10,500
Cultural Cyclic	69,000
Collections Management	192,900
Return Partial WASO Assess	54,400
Donations	218,253
Emerg/Storm Damage ERFO	2,145,279
Misc Program Centennial	258,918
LIC Contingency	2,557,382
<b>Total ONPS Other</b>	<b>15,625,428</b>

<b>Fees Collected in Fiscal Year 2008</b>	
IBP's	64,747
Commercial Film	3,904
Park Specific	54,360
Campground Fees	113,368
Daily Admission	1,012,730
Commercial Tours	11,545

Interagency Senior Pass	36,652
Boat Launching	44,317
Special Interpretative Fees	8,099
Backcountry Fees	41,687
Contractor Campground Sales	100,677
Park Interagency Annual Pass	41,120
Location Fee	6,150
<b>Cost Recover Related to</b>	
Commercial Filming	10,879
Concession Fees	111,423
<b>Total Fees Collected</b>	<b>1,661,658</b>

<b>FTE Actual</b>	
Park Management	22.99
Administration	21.86
Interpretation	31.85
SF Task Force	13.12
Visitor Protection	65.81
Maintenance	47.96
Research	61.35
<b>Total FTE Usage</b>	<b>264.94</b>

**DRTO FINANCIAL SUMMARY FY 2008**

Park Management	32,180
Ranger Admin	69,595
Interpretation	98,184
Centennial Seasonal Interp	47,000
Rangers	265,548
Maintenance – Bldg	202,247
FOJE Stabilization1	187,462
Maintenance OPN Support	85,536
Maintenance OPN Utilities	80,192
Maintenance OPN Waterways	15,793
Operations – Bldg	8,523
Operations – Grounds	27,880
OPNS Centennial Seasonal	25,000
Operations – Support	5,196
Operations – Sanitization	5,121
Operations – Utilities	12,201
Operations – Waterways	11,052
Operations – Admin & Support	58,254
NR Mgmt – Healthy Ecosystem	165,775
Administration	44,519
Change of Stations	44,142
<b>Initial Allotment</b>	<b>1,491,400</b>
<b>Other Funding:</b>	
Cyclic	49,000

Collection	11,000
VIP	4,600
Partial WASO Assessment	13,800
Emergency/Storm Damage	294,442
Misc Centennial Dams	5,940
Equip Replacement	170,100
LIC Cont	2,557,382
<b>Total Other Funding</b>	<b>3,106,264</b>

<b>Fee Collected in Fiscal Year 2008:</b>	
IBP's	7,250
Commercial Film	450
Campground Fees	13,303
Daily Admissions	206,989
Senior Pass	120
Interagency Annual Pass	865
Location Fee	300
<b>Cost Recover Related to</b>	
Commercial Filming	1,050
<b>Total Fees Collected</b>	<b>230,327</b>

<b>FTE Actual</b>	
Administration	2.27
Interpretation	1.17
Rangers	3.41
Maintenance	4.59
Research	
<b>Total Usage</b>	<b>11.44</b>

### ***Contracting***

- Total Quantity of Awards (includes: Contracts, Purchase Orders, Delivery Orders & Task Orders): 234
- Total Dollars of Awards (includes: Contracts, Purchase Orders, Delivery Orders & Task Orders) : \$5,515,924.57
- Total Quantity of Assistance Agreements: 26
- Total Dollars of Assistance Agreements: \$1,976,590.43
- Total Quantity of all awards (including agreements): 260
- Total Dollars of all awards (including agreements): \$7,492,515.00

### **Information Management**

#### ***Promoted the Implementation and Enhanced Information Technology Management System within EVER & DRTO.***

- Act on NPS Director's Order to convert the entire organization to the newly assigned IP Schema. Review conducted in FY 09.
- Support information technology initiatives to increase information access by implementing the organizational review conducted in FY 08 – FY 09.

- Seek opportunities to improve the information technology

***Improve Information Infrastructure for Everglades and Dry Tortugas.*** Over the past year, significant strides have been made in improving the information technology infrastructure for Everglades and Dry Tortugas National Parks. The most important development was the IP Conversion from Fish & Wildlife's address space to EVER's newly assigned range. Moreover, the implementation of the Voice over IP (VoIP) infrastructure was a major under-taking throughout Everglades & Dry Tortugas National Parks. This was accomplished throughout the wide area network and all offices were connected with 4-digit dialing capability. These integrated infrastructures will enable more efficient work processes throughout the dispersed organization. Additionally, an upgraded video teleconferencing system implemented will enable timely and effective communication with DOI/NPS in Washington and our partners in the CERP effort, while reducing travel costs.

In order to distribute data and information to agencies involved in the CERP effort, scientists involved in CESI, and the public, an NPS FTP web site was initiated this year. Development of this site continued during the past year with the addition of more information. To help enhance communication within Everglades and Dry Tortugas, a SER SharePoint Extranet web site was implemented. This site provides useful and timely information to the employees of both parks.

Another great achievement was utilizing Xerox DocuShare document management system for storing documents related to CERP, CESI, Modified Water Deliveries, and other restoration-related projects. This year DocuShare was upgraded to a new server where thirty-six thousand documents are being stored into the system in order to provide an electronic repository of this information. This repository provides a secure and centralized location for storage, as well as an efficient means for document searching and retrieval.

**Additional milestones:**

- Moving Telecommunications Under IT in accordance with NPS organizational structure
- Align all IT Equipment and services under IT's property control
- Successfully passed Certification & Accreditation
- Fully staffed IT Branch with well qualified supervisors & technicians
- Upgraded circuit between HQ's and Krome from a 45 Mbs to 200 full duplex Tsunami System
- Replaced 95% of Park's Automated Information Systems
- Replaced 10% of Cisco Networking Equipment
- Decommissioned 20 % of legacy Information Systems, such as SUN 260R's, and Oracle Database MS
- Upgraded Storage Capacity by 400%

***2008 4.1 Facility Management, and Professional Services***

**Facility Management, Operations and Engineering**

The Division of Facility Management is responsible for the condition and operation of the built environment of the park. These include:

82 miles of surfaced roads, 156 miles of trails (including canoe trails), 5 miles of surface trails, and 3 miles of elevated boardwalk trails; responsibilities also include 2 campgrounds (Long Pine Key, 108 sites and Flamingo, 235 drive-in and 60 walk-in tent sites); 48 designated backcountry campsites (accessible by boat); 280 buildings (5 visitor centers, park headquarters, maintenance and utility buildings, research facilities, and two environmental education centers). The division operates two central wastewater treatment plants, 14 water treatment systems; maintains a four-park radio communications network and over 180 vehicles, boats and special purpose equipment. Also included are fee collection stations and 3 areas of concessions assigned assets (at Flamingo, Shark Valley and Everglades City):

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

Selected examples of the Division's significant accomplishments during FY 2008 include the following:

### **Facility Management**

This office provided oversight for park operations, maintenance and engineering with a combined annual budget of \$5,023,100.

Requested and received additional project funding through SER program managers or other sources

- DRTO sand dredging - \$504,000
- Flamingo fuel station - \$25,000
- Whitewater Bay Docks - \$325,000
- Purchase four travel trailers - \$119,000
- USCG transfer for Loggerhead - \$500,000

### **Budget and Finance**

- Established and maintained a operating budget
- Developed and maintained a network database to track all expenditures/ procurement logs, fuel charges, payroll reporting/work order tracking and other shared documents
- Expended non personal services funds within budgetary requirements and directed resources to core activities
- Returned unexpended lapsed personal service funding for reprogramming
- Committed special funding for all programs, returning less than \$70,000 to SER, the majority of which was for a project which was not needed at this point in time

### **Housing Management**

- Completed draft DRTO Housing Management Plan
- Contracted seasonal housing cleaning resulting in improved employee relations
- Completed detailed condition assessment of all housing in early 2008

- Completed new construction of five DRTO houses and complete rehabilitation of two Poinciana quarters
- Completed Habitability Survey and annual update of QMIS data
- Provided friendly, results oriented administrative services for housing
- Expended \$225,000 in carry over accounts for housing rehabilitation

***Human Capital related issues:***

- Hired new Construction Representative, Flamingo Maintenance Supervisor, Electrician, eight seasonal positions, four maintenance workers, two Utility Systems Operators, and three special projects positions.
- Developed Civil Engineer, centennial seasonal and back-country seasonal position descriptions.
- Developed new, detailed Employee Performance Appraisal for all permanent staff and conducted mid term performance reviews
- Counseled individual staff on performance and conduct issues including one work suspension, three written warnings and two counseling letters.
- Initiated Star awards and days off awards for special achievements and acting assignments
- Conducted monthly safety meetings for all districts and offices
- On the job accidents/injuries were reported to HR/OWCP and park safety officer, supervisors followed up with investigations and mitigation action items to prevent reoccurrence
- Developed electronic employee time card which mirrors FPPS form and includes customized standing and special work order codes for labor tracking in FMSS
- Provided mandatory training for all required staff and developmental training related to FMSS, PMIS, equipment operation, computer/software use, COR, housing management, FM program management and professional licensing
- Supported alternative work schedules and telecommute to the mutual benefit of the government and employee

***Partnerships***

- Coordinating use of marine contract services with NPCA to install to install sign posts and chickee piles in Florida Bay
- Requested and received donation from South Florida National Parks Trust to purchase trail maintenance vehicle and tools
- Continued discussions with FAA, USN, USCG and Harris Corp staff for the installation of communications equipment at DRTO which would benefit migrant interdiction efforts, flight following and provide redundancy for all communications at DRTO
- Continued to use single source and multiple large groups of volunteers to support park operations, maintenance and individual projects
- Provided voice/data and RF technical support to staff at Loxahatchee, Biscayne NP and WASO
- Maintenance staff participated on multiple service-wide work groups, pilot and development programs

- Facility Management Leadership Program
  - FMSS special asset working group
  - SER PAMP team
  - FMSS trail tool/mobile FMSS pilot park
  - SER EMS audit team
  - SER Maintenance Advisory Group
  - FMSS project bridge tool testing
  - Construction Estimating Software System evaluation team
  - Participated in Habitability Survey pilot program
  - FMSS training instructor

### **Safety**

- Each supervisor or office conducted weekly or monthly safety meetings
- Arranged for a equipment operators certification training workshop in conjunction with BICY, Mather TC and DRTO
- Scheduled training for communications staff to maintain certification in tower climbing
- All water and wastewater treatment staff maintained CEU's and attained new licenses for Class C water and wastewater treatment, distribution and back flow certification
- All park facilities have received walk through inspections for potential health and safety issues, i.e.; rodents/insects, mold, electrical, mechanical and structural
- Completed numerous repairs to buildings, equipment, energized systems, boardwalks, chickees, navigational aids, lightening and surge protection to mitigate hazards
- Developed park operators training/certification for use of ATV trail equipment

### **Professional Services**

The park achieved all milestones for the implementation of FMSS. The modification of the FMSS work order system to track labor was rolled out October, to better track asset costs and simplify reporting. Design work was completed for Plans were completed for the replacement of the Shark Valley comfort station and shade structure. Documents were generated for more than thirty major projects. The staff met the 2008 SCC deadline for project funding requests, documenting millions of dollars in deferred and cyclic maintenance needs which are supported in the FMSS.

Specific tasks related to the accomplishments of the Professional Services Branch include;

- Organized the electronic Professional Services Office filing system, standardizing and centralizing files on the Maintenance Division network drive resulting in improved office and division efficiency, and permitting easy access by all maintenance staff.
- Primary folders contain auto cadd drawings, photographs and project files, arranged geographically for all facilities and recent and ongoing projects at EVER & DRTO.

- Secondary folders contain EVER/DRTO files including:
  - Hazmat Surveys
  - Geotechnical/Soil Surveys
  - Land Surveys
  - Fuel Storage Systems
  - FMSS
  - NEPA/Permitting Records
  - Historic Contractor History/Listing

With assistance from park volunteer, organized existing hardcopy project files dating as far back as 1996, and established an office standard operating procedure for file numbering and filing.

***MAINTENANCE DIVISION PROJECTS:***

**191A** Flamingo wastewater treatment plant: Continued coordination/facilitation of ongoing warranty and pending plant modification work to accommodate low flows. Arranged (thru DSC) the contracted renewal of the plant operating permit; additional permit revisions are still underway.

**191C** Pine Island wastewater treatment plant: Final inspection for this multi-year project conducted; continued coordination of ongoing warranty issues and DERM permit complications.

**191RO** Flamingo water treatment plant: Coordinated/facilitated remaining warranty issues.

**Dan Beard/Bill Robertson Center Water System Upgrades** Developed contract documents (in earlier FY), and managed and inspected project to completion. Developed and executed contract modification to add propane-powered emergency generator at Dan Beard Center. (Contract \$177,875)

**DRTO Finger Pier Repair (Hurricane Wilma)** Developed contract documents and negotiated the project to \$121,436 (another onsite contractor's quote had been for \$188,000). Design revisions made during negotiations to improve finished product.

**DRTO Modular Housing and Supt Quarters** Brought this contract to a close, bringing more than 3 years of design and construction difficulties to an end. The remoteness of the site, multiple contractor project managers, multiple subcontractors, miscommunications and misunderstandings between all those players, and the contractor's general lack of understanding of project complexity tested the will of all persons involved in the project. (Contract \$608,000)

**DRTO Modular Housing Interior Finish Work** Developed contract documents, and managed this project, which was completed using (mostly) materials supplied by the Modular Housing contractor (KCon). Inventory and coordination between the two projects was extremely challenging, especially considering that the Finish Work contract was underway prior to completion of the Modular Hsg Unit construction contract. The remoteness of the site added additional difficulty to the multitude of material shortages. Negotiated the cost of the work down from the contractor-proposed amount of \$125K+ to the awarded amount of \$84,993.

**Whitewater Bay Dock Replacement** Developed construction documents to secure permits, demolish existing dock facilities, and install new floating and fixed docks systems. Initial contractor proposal of \$1,373,619 negotiated down to approx. \$782,000.

Price was reduced by contractor price concessions, intercession with dock manufacturer, and encouragement to use local subcontractor familiar with site. Facilitated/obtained sub & material quotes for contractor's use.

**Flamingo Marina Store UST Removal & AST Relocation** Negotiated an emergency contract to accomplish this work through sole source contractor. Negotiated modification to remove additional/excess ASTs from the park, and add concrete work. Managing project through COTR

**DRTO Removal of Sand Accumulations** Developed construction documents to secure permits and dredge sand from the dock shoreline, the fuel dock area, and from within the moat. A dredging contract was awarded for \$24,000 less than available funding. (Contract \$480,570)

**DRTO Fuel Dock (Hurricane Ike) Replacement** Currently developing construction documents for the replacement of the fuel dock. (Expected Funding \$80,000)

**Everglades City Shoreline Repair** Developing construction documents for the restoration and repair of riprap shorelines at Everglades City. (Funded \$200,000)

**Flamingo Maint Office & Boat Shop Projects** Conducted and coordinated detailed design reviews for A/E (HDR) designs to construct a combined facility in Flamingo. Due to funding constraints, project shifted to conversion of an existing park facility to be partially designed & constructed by contract, along with some in-house park design & construction effort. Ultimately, due to continuing funding constraints, all work was shifted to in-house design and construction, with certain construction work (e.g. roof replacement) to be contracted out. (Funded \$821,425 + \$383,493 = \$1,204,918)

**Flamingo Marina Store Contaminated Groundwater Monitoring** Scoped and continue to manage the ongoing quarterly monitoring of contaminated groundwater at the Marina Store site. (2008 cost: \$10,800)

**Flamingo Lodge Demolition** Conducted (multiple) detailed design reviews of A/E plans & specs; identified significant number of design errors needing correction. Facilitated and coordinated FPL site investigation for needed elec. work in demo contract. Continue to facilitate/coordinate ongoing demolition work (DSC contracted/inspected) – presently in initial stages of work. (Funded \$643,840)

**Flamingo Trailer Replacement, Hurricane Wilma** Conducted and coordinated multiple design reviews of A/E plans & specs. Participated in Value Assessment. Continue to facilitate/coordinate project on behalf of the park (DSC contracted/inspected). (Funded \$1,394,706)

**Overlay Paving Main Park Road, Flamingo Parking & VC Area, and Royal Palm Road** Coordinating/facilitating SERO & FHWA ongoing efforts to investigate, design and construct pavement resurfacing of identified roads. (Funded \$7,951,300 + \$447,000 + \$541,843 = \$8,940,986; total current constr estimate = \$27,600,000)

**Cape Sable Canal Plug Repairs** Continue to participate in the ongoing EA, and contracted A/E schematic design.

**Replace Flamingo Bulkheads-** Participated in Internal Scoping/NEPA process for this project, which I had scoped, estimated and drafted a PMIS statement (Est. \$5,247,000)

**Rehabilitated Historic Flamingo Boat Shed** Scoped, estimated and drafted PMIS statement for the repair of the Boat Shed. (Est. Cost \$439,373)

**Provided design and construction guidance** review of design work, and assisted in planning & coordination for numerous projects including:

- Flamingo Amphitheater
- Flamingo Fee Booth
- Flamingo Shop Warehouse Roof Replacement
- Poinciana Housing Renovations
- Demo & Relocation of Everglades City Canoe Launch
- Pine Island Exterior Cyclic Repairs

### ***District Maintenance Operations***

- Operations accomplished efficiently (mission based prioritization) Standardized W/O system throughout park – tracks, prioritizes, and assigns responsibility
- General condition of grounds, restrooms, signs, trails and other visitor facilities have improved resulting in few complaints during FY 2008
- Reduced mowing cycles along the main park road to promote vegetation and insect populations and reallocation of resources to other activities
- Completed inspection of all major visitor facilities in conjunction with district maintenance supervisors and developed work order priorities
- Installation and replacement of all park signs is 85 percent complete
- Completed comprehensive condition assessment on 60 buildings with API 70

### **Work In Progress**

- The completion of district assigned special projects and deferred maintenance remains an overwhelming challenge
  - Boardwalk repairs
  - Vista clearing
  - Sign replacement
  - General building maintenance
  - Effective custodial operations (recent hire of four MW's will help improvement)
  - Heavy equipment preventive maintenance
  - HVAC preventive maintenance
  - Marine fleet management
  - Capturing complete costs in asset management program
  - Monthly invoicing to GSA for shop repairs and fuel reimbursement
  - Minimal accomplishment in EMS program
  - Need more emphasis on development of JHA's for all operations

### ***Hurricane Repairs***

Numerous contracts were completed to repair assets throughout both parks. Common repairs signs. Park staff continued to make repairs to housing and administrative facilities in Flamingo. Dredging of the Florida Bay boat basin and site restoration was completed, as was the replacement of the Key Largo dock facility.

- Day Labor Projects\_– Special Projects Team
  - Rehabilitate former Xanterra warehouse into marine/maintenance shop
  - Repair and paint former Flamingo carpentry shop, West Lake restroom building and Flamingo warehouse
  - Paint and repair interior and exterior of Flamingo housing units
  - Assist in plugging Raulerson Canal
  - Begin demolition of former maintenance office and shops
  - Begin clearing of Flamingo hiking trails
  - Begin replacement of Flamingo campground amphitheater

### ***Telecommunications***

- Relocated the Direct Way satellite dish and installed a wireless network for data and television in every house. Resulted in the replacement of nine dish antennas with three and low cost services for staff at Dry Tortugas.
- Engineered, installed and tested a Microwave system at Biscayne National Park. The wireless system connects Convoy Point to two remote locations, Elliott Key and Adams Key. This system allows telephone and internet for these remote locations.
- Installed fiber optic between Bill Roberts building a fire cache garage. This allows connection to the Cisco telephone system and internet for the building
- Repaired lightening and surge protection on four office buildings to protect expensive voice and data systems
- Provided temporary repair for Tsunami microwave link between HQ and Krome Center
- Provided on-going training to DRTO/EVER staff in the use of digital radio equipment and encryption
- Completed programming 95 percent of LE radios to implement encryption in December
- Site visit to Loxahatchee to troubleshoot the grounding and lightning protection system. Contracted to install a surge protector for all incoming power and a lightning protection system for the new office building.
- Engineered a new D4 channel bank for all communication between dispatch and Pine Island Radio building. The new system will allow fiber optic connections between these two locations
- Provided temporary repair for Tsunami microwave link between Krome Center and the park

### ***2008 4.2.2 Motor Vessel Fort Jefferson***

***Background*** The 110' National Park Service R/V Fort Jefferson was designed and built to support supply, research and educational missions. She has the ability to carry up to 49 passengers and a crew of 3 for day trips. She also can carry out missions for up to 8 live-aboard passengers and a crew of 3. She has twin 65kw gensets either of which can handles all electrical needs. Her RO unit can produce up to 400 gallons of fresh water per day. The Fort Jefferson can carry up to 66,000#'s of deck cargo. Her onboard crane can lift 2,000#. She has a dive platform and boarding ladder at her stern. She carries a 14' tender with a 25hp outboard motor. Weather permitting; the Fort Jefferson can tow

small vessels if needed to and from the desired site. The NPS allows the use of the Fort Jefferson by other agencies for the mutual benefit of all parties.

**Staff:** Personnel currently supporting the operation of this vessel include a 1<sup>st</sup> officer/Captain, 2<sup>nd</sup> Officer, and a 3<sup>rd</sup> officer. DRTO personnel being transported off and on island provide some additional support as needed. This new staffing is slightly increased from prior years that had a Captain, mate and a deckhand as if the Captain was not available it crippled the entire operation. Currently all staff are licensed to pilot this vessel.

**Current Operations:** In prior years the vessel would make 48 trips a year to DRTO often not at capacity, given the cost of fuel and personnel time the new Captain has expanded the use of the vessel and refined operational practices.

Fuel conservation has been improved by reducing the number of supply trips to 24. This alone cut fuel costs by 50%. Fewer trips were made, but the loads (weight of cargo and number of personnel) carried per trip greatly increased. A total of 36 trips, including research trips, carried 750 people or roughly 20.8 per trip. In order to reduce fuel cost even more the vessel is now operated using a fuel conservation schedule. The net result is a savings of 468 gallons of diesel per round trip. This amounts to 11,232 gallons over 24 trips, which at today's prices equals a savings of \$50,207. These cost reductions allowed the hiring of a third permanent crew.

The reduction in dedicated supply trips had another positive impact in that it opened time slots for support of research and educational trips. During the fiscal year the R/V Fort Jefferson supported 6 weeks of research. This defers operational costs to the research teams; consequently 6 weeks of research use reduced operational expense by 12%. Current operational goal is to handle 12 research trips per year to reduce annual

operational expenses 23%. An additional benefit of vessel use for research is increased DRTO supply trips through added cargo for the park on all research trips. This has been done with other agencies as well. The USGS has used the vessel for support 4 times as of this date.

**Disposal of migrant vessels** The R/V Fort Jefferson has

reduced costs to DRTO by providing an alternative to remove many of the vessels that Cuban migrants have arrived in. In the past DRTO paid a private contractor \$600 per vessel for disposal. Now the migrant vessels, "aka chugs" are carried by the FJ. In Key West the chugs are picked up by a disposal truck reducing the removal cost to \$125 per vessel.



Motor Vehicle the Fort Jefferson, 2007

**Cultural Resource Support** The stabilization project for Loggerhead lighthouse utilized the MV Fort Jefferson for logistical support resulting in project cost reduction. For the second year the MV Fort Jefferson handled all logistical needs for this project for canon restoration efforts at the fort.

**Maintenance/Upgrades** The vessels annual haulout was done in March. Props/shafts/cutlass bearings were inspected and found to be sound.

**Future goals** The full implementation of the FMSS is a high priority. The crew worked to update all PMIS projects into the system. In addition, a future goal is to take on the maintenance of buoys associated with the RNA at DRT0. This will require an additional member for crew. As mentioned above vessels of this size generally have a crew of 5-6. The R/V Fort Jefferson has completed quite a bit with limited crew in a relatively short period of time.

### **2008.5.1.1 Everglades National Park Natural Resource Stewardship**

**Everglades National Park World Heritage Site Status** Everglades National Park was removed from the World Heritage In-Danger List in 2007 prior to achieving the benchmarks that were jointly developed by the National Park Service (NPS) and the International Union for the Conservation of Nature (IUCN). In January 2008, the National Park Service Park submitted its annual State of Conservation Report to the World Heritage Committee. The report recognized that little progress has been made on the nine corrective measures, due to delays in the restoration projects that would benefit the southern Everglades. In addition, the report noted that threats to the universal values of Everglades National Park continue to be serious.

In response to this report the World Heritage Committee requested that the National Park Service submit a more detailed State of Conservation report by February 2010 that provides specific information on the status of the universal values for which the property was inscribed. This report will include detailed information on the status of the species and ecosystems of the park, a summary of our progress in implementing the agreed upon corrective measures, and a description of the desired state of conservation. This information will then be reviewed by the World Heritage Committee at its 34th session in 2010.

While this review is not yet complete, our expectation is that the Department of Interior will likely request that Everglades National Park be placed back on the World Heritage In-Danger List for a relatively short period of time, to allow the initial set of southern Everglades restoration projects to be fully operational. This approach would allow us to evaluate the on-the-ground improvements of these foundation projects to the universal values of the park. Our goal with this limited re-listing would be to remove the primary threats that were identified in the 1993 In-Danger listing, while we continue to pursue our longer-term restoration goals that will benefit the greater Everglades ecosystem.

### **Wildlife Monitoring and Management**

**Wading Bird Abundance** In 2008, total wading bird abundance and the abundance of most individual wading bird species decreased by approximately 30% compared to the 2007 survey. Seven of the nine species showed a decrease in numbers from the 2007 to 2008 survey. The Great White Heron decreased by 58% was followed in rank order by

small dark herons (42% decrease), Great Egret (32% decrease), White Ibis (33% decrease), Wood Stork (28% decrease), Glossy Ibis (25% decrease), and small white heron (12% decrease). Two species, the Great Blue Heron and Roseate Spoonbill, increased in abundance by 13% and 8% respectively. This year represents the first decline in abundance for all species combined following three consecutive years of increasing abundance. Despite the 30% reduction in the number of birds observed this year, the estimated number is still above average and the overall trend from 1985 to 2008 continues to show a significant, though weak, trend toward increase ( $R^2=0.234$ ,  $P=0.017$ ).

When analyzed by species, a significant increase in abundance over the time period was observed only for Great Egrets ( $R^2=0.411$ ,  $P=0.001$ ). 2008 is the first year that a decline in the number of Great Egrets was observed after five consecutive years of increasing numbers. The Great Blue Heron is the only species that has shown continuous increase since 2004. In contrast, the great white heron is the only species that displayed an overall significant decline in the number of individuals observed ( $R^2=0.353$ ,  $P=0.002$ ) over the study period, despite increases during the previous two years (2006, 2007).

The numbers of White Ibis, small white herons, and Wood Stork, which have shown successive increases since 2005, also declined this year. Three species, Roseate Spoonbill, Glossy Ibis, and small dark herons have remained more or less constant throughout the study period. Despite these overall tendencies, the estimated numbers of small dark herons have declined during the past four years, while numbers of glossy ibis have decline for the past three years. Roseate Spoonbill numbers, which declined during the last couple of years, showed an increase this year.

**Wading Bird Nesting Success** We monitor wading bird (Ciconiiformes) nesting colonies in Everglades National Park as part of a regional monitoring effort to track wading bird nesting effort and success throughout the Greater Everglades Ecosystem. This is a combined effort of federal, state and local agencies, as well as non-governmental organizations. Data collected during our colony monitoring flights and ground checks are used to track populations of wading birds and help guide ongoing ecosystem restoration projects. This summary report addresses colony monitoring within the mainland slough and estuarine areas of Everglades National Park using data collected during the 2008 nesting season.

In the mid-1990s, the "Annual South Florida Wading Bird Report" was established as a way for all participating agencies in Florida to report and share data collectively, as well as track seasonal variations of nesting. Group reporting from all geographic areas where wading birds nest allows biologists to monitor long-term trends for the Florida regional wading bird population as a whole. In order to better understand all the possible associations between different species of birds, their prey, and the aspects of their foraging and breeding habitat (e.g., hydrology, weather, vegetation, fire) analysis of combined long-term datasets is needed. Colony monitoring flights conducted by Everglades National Park biologists continue to be an important part of this cooperative wading bird reporting effort. These data are used to evaluate Everglades ecosystem restoration and are a crucial component of this ongoing process.

**The long-term monitoring objectives for wading bird nesting colonies in EVER are:**

- Collect data on wading bird nesting effort, locations and numbers of colonies, and timing of colony nesting.

- Compile and share data with the South Florida Wading Bird Monitoring Group.

**Methods** A Cessna 182 fixed-wing aircraft is most often used; however a Bell Jet Ranger helicopter is sometimes utilized if a better view is needed of a particular colony. Species monitored include the Great Egret (*Ardea alba*), Wood Stork (*Mycteria americana*), White Ibis (*Eudocimus albus*), Snowy Egret (*Egretta thula*), Roseate Spoonbill (*Ajaia ajaja*), Tri-colored Heron (*Egretta tricolor*), Little Blue Heron (*Egretta caerulea*), Cattle Egret (*Bubulcus ibis*), and Black-Crowned Night Heron (*Nycticorax nycticorax*). Other colony nesting species such as the Great White Heron (*Ardea herodias*), Anhinga (*Anhinga anhinga*), Brown Pelican (*Pelecanus occidentalis*), and Double-Crested Cormorant (*Phalacrocorax auritus*) are noted as well. In addition to numbers of nests recorded by species, the nesting stage for each species is noted. Remarks on stage of nesting can include nest-building, incubating or brooding behavior by adult birds, and nest disturbance and abandonment. Eggs and newly hatched young birds can sometimes be seen in the nests and are recorded. Older young are generally easy to see if nests are not hidden by vegetation or shade. Size estimates are recorded for any young seen.

**Results** During the 2008 nesting season we observed very little nesting activity within the mainland colonies of Everglades National Park (EVER) compared to previous seasons. Only 7 colonies were active and just 2 of these, Paurotis Pond and Alligator Bay, appeared to have successfully fledged young birds. Compared to the 2007 nesting season, nest number estimates for all species combined were down by 71%. Wood Stork, Great Egret, White Ibis, and Snowy Egret nest numbers were down by 57%, 84%, 62%, and 32% respectively.

Wood Storks did not have any successful nests in EVER during the 2008 season. They attempted to nest at only 2 colonies: Paurotis Pond and Cuthbert Lake. At Paurotis Pond, Wood Storks had a few nest starts when checked on 20 February. When checked again on 3 March, there were 70 pairs with nest starts. On 17 March, 125 nests were seen. Most birds were still standing at their nests, however, 40-50 adults were seen incubating. Storks were still in the colony on 14 April but had completely abandoned the colony when checked again on 25 April.

Cuthbert Lake Island had very little Wood Stork activity. The few storks that gathered on the island were not observed until 17 March. On that date approximately 20 pairs had visible nest starts. All Cuthbert storks abandoned their nests after several significant rain events in April. No storks were seen in the colony when checked on 25 April.

The Tamiami West and Rodgers River colony sites (where storks have been nesting for many years) had no stork activity at all this season. Tamiami West appeared to be completely empty of nesting birds this season. Beginning 1 July, the Rodgers River Island colony site was active with approximately 30 nesting Great Egrets. Fewer birds were seen nesting on the island when checked on 1 August. All other colony sites were empty.

We did not find any new colonies while flying systematic surveys over Shark and Taylor Sloughs. We plan to continue these flights next season, however, and anticipate that new colonies will be found when conditions are more favorable for nesting birds. In addition to systematic surveys, we will also conduct earlier site checks (starting in October) of known Roseate Spoonbill nesting colonies (Paurotis Pond and headwaters colonies.)

Compared to the highly successful 2006 season, the reduced nesting activity observed during 2008 appeared to be a result of severe drought conditions leading into and prevailing throughout the nesting season. The drought combined with several rain events in April, which resulted in a sudden increase in surface water levels, probably led to colony abandonment by Wood Storks and fewer nest numbers for Great Egrets, Snowy Egrets, and White Ibis.

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**Estimated Number of Wading Bird Nests in Everglades National Park  
by Species and Year.**

<b>YEAR</b>	<b>Great Egret</b>	<b>Wood Stork</b>	<b>White Ibis</b>	<b>Snowy Egret</b>	<b>TOTAL</b>
2006	2629	1124	4430	1755	9958
2007	1259	340	1458	74	3131
2008	205	145	550	50	950

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**American Alligator Nesting Effort and Success.** The American alligator (*Alligator mississippiensis*) is a keystone species which once occupied all wetland habitats in south Florida, from sinkholes in pinelands to mangrove estuaries during periods of freshwater discharge. Alligators are top predators formerly abundant in the pre-drainage Everglades and are considered ecosystem engineers which (directly or indirectly) influence nearly all aquatic life in the Everglades.

Systematic Reconnaissance Flights (SRFs) and subsequent nest checks have been used from 1985-2008 to monitor nesting effort and nesting success of the American alligator in Everglades National Park (EVER).

**Key objectives of this long term monitoring include:**

- Continue to document annual patterns of alligator nesting effort, success, and distribution throughout Everglades National Park.
- Provide quantitative long-term alligator nesting data for hypothesis testing, model verification, restoration success evaluation, and species population viability monitoring.
- Identify and examine factors that influence alligator nesting effort, success, density, and distribution and relate these findings to restoration objectives, particularly spatial and temporal changes in EVER hydrology.

SRF flights were flown along 26 established transects during six survey days beginning July 10<sup>th</sup> and concluding July 23<sup>rd</sup>. Eighty-nine nests were located, seventy-three of which were confirmed inside SRF transect boundaries, resulting in an EVER-wide estimated minimum of 292 nests. Shark Slough (SS) contained 63% (n=46) of nests, 18% (n=13) were in East Slough (ES), 11% (n=8) in North East Shark Slough (NES), 5% (n=4) in Taylor Slough (TS), and 3% (n=2) in Rocky Glades (RG). Fifty-eight nests (estimated minimum \* 0.2) were initially selected for continued monitoring/nest visits.

Nests were visited a maximum of 5 times between July 25th and October 1st. First nest visits occurred from July 25-31, 2008. During visit one, 48% (n=27) of nests were high and intact, 23% (n=13) were partially flooded, 9% (n=5) were completely flooded, 11% (n=6) were false nests and 4% (n=2) were old. 1102 eggs were found in the 44 nests for which a total could be determined, clutch size ranged from 5 to 40, with a mean of 25 eggs.

Nest flooding accounts for most egg mortality in EVER. Flooding was high and nest success low in 2008. Ninety-five percent (n=35) of total failures were due to flooding and five percent (n=2) to predation and unknown causes combined. Ultimately, 23% (n=11) of the nests containing eggs were successful (at least one egg hatched), 77% (n=37) failed (no eggs hatched). Of nests containing eggs, 71% (n=35) flooded completely.

## ***Threatened and Endangered Species***

**Cape Sable Seaside Sparrow** Counts of Cape Sable Seaside Sparrows conducted during the 2008 breeding season produced a total population estimate of 3,056 birds in comparison with the 3,184 estimated in 2007 (Table 1); suggesting that the population continues to be relatively stable. Note: Subpopulation B was not surveyed in 2008 because of the relative stability of this subpopulation in recent years. A subpopulation estimate equal to that of 2007 (2,512 birds) is assumed. The total population estimate includes this assumed Subpopulation B estimate.

Of those surveyed, Subpopulation E was the only subpopulation to decline in 2008. The number of birds in this subpopulation declined 34%, from 560 birds in 2007 to 368 in 2008. The reason for this decline is not known at this time.

No changes were observed in Subpopulation C and 16 individuals were estimated to exist in Subpopulation D after two previous years of no birds being detected. Finally, Subpopulation A showed an increase of 43% in the number of individuals estimated this year in comparison with the 2007 estimate, increasing from 64 to 112 birds.

Nonetheless, all subpopulations surveyed this year are considerably below their average size estimation; including Subpopulation A, despite the sizeable increase observed in this subpopulation in 2008.

***Table 1. Number of birds counted and estimated for each subpopulation per year.***

\*Note: In 2008, Subpopulation B was not surveyed because of the relative stability of the subpopulation in recent years. A population estimate equal to that of 2007 is assumed for this subpopulation. The total population estimate includes this assumed Subpopulation B estimate.

NS = Not Surveyed

<b>Population Year</b>	<b>A</b>		<b>B</b>		<b>C</b>		<b>D</b>		<b>E</b>		<b>F</b>		<b>Total</b>	
	<b>BC</b>	<b>Est</b>	<b>BC</b>	<b>Est</b>										
<b>1981</b>	168	2,688	147	2,352	27	432	25	400	42	672	7	112	416	6,656
<b>1992</b>	163	2,608	199	3,184	3	48	7	112	37	592	2	32	411	6,576
<b>1993</b>	27	432	154	2,464	0	0	6	96	20	320	0	0	207	3,312
<b>1994</b>	5	80	139	2,224	NS	NS	NS	NS	7	112	NS	NS	151	2,416
<b>1995</b>	15	240	133	2,128	0	0	0	0	22	352	0	0	170	2,720
<b>1996</b>	24	384	118	1,888	3	48	5	80	13	208	1	16	164	2,624
<b>1997</b>	17	272	177	2,832	3	48	3	48	52	832	1	16	253	4,048
<b>1998</b>	12	192	113	1,808	5	80	3	48	57	912	1	16	191	3,056
<b>1999a</b>	25	400	128	2,048	9	144	11	176	48	768	1	16	222	3,552
<b>1999b</b>	12	192	171	2,736	4	64	NS	NS	60	960	0	0	247	3,952
<b>2000a</b>	28	448	114	1,824	7	112	4	64	65	1,040	0	0	218	3,488
<b>2000b</b>	25	400	153	2,448	4	64	1	16	44	704	7	112	234	3,744
<b>2001</b>	8	128	133	2,128	6	96	2	32	53	848	2	32	204	3,264
<b>2002</b>	6	96	119	1,904	7	112	0	0	36	576	1	16	169	2,704
<b>2003</b>	8	128	148	2,368	6	96	0	0	37	592	2	32	201	3,216
<b>2004</b>	1	16	174	2,784	8	128	0	0	40	640	1	16	224	3,584

<b>2005</b>	5	80	142	2,272	5	80	3	48	36	576	2	32	193	3,088
<b>2006</b>	7	112	130	2,080	10	160	0	0	44	704	2	32	193	3,088
<b>2007</b>	4	64	157	2,512	3	48	0	0	35	560	0	0	199	3,184
<b>2008</b>	7	112	NS	2,512*	3	48	1	16	23	368	0	0	---	3,056

**Patterns of Propeller Scarring of Seagrass in Florida Bay** Everglades National Park encompasses over 500,000 acres of marine environments. All of its marine waters were federally designated as submerged marine wilderness in 1978 (Public Law 95-625) and are part of the Marjory Stoneman Douglas Wilderness. Florida Bay supports seagrass beds that provide important habitat for many species of fish and other marine animals. Florida Bay is heavily used by recreational boaters for, among other things, access to productive fishing areas. The bay is a complex system of mud banks, flats, and shallow basins, so boaters can easily damage the bay’s sensitive bottom resources. Boat propellers can churn up sediment and bury or scar seagrass. Damage to the park’s vast seagrass beds from motorboat propellers has been a problem for decades, but the extent and severity of the problem had not been well understood or described. The need to better understand seagrass scarring patterns and trends was identified during the General Management Plan development process.

To learn more about the problem of seagrass scarring by motorboat propellers and potential ways to address the problem, the park conducted a seagrass scarring mapping project in 2008. This study, using 2004 digital imagery that covered all of Florida Bay, found that Florida Bay seagrass scarring is widespread, with dense scarring found in shallow depths, near all navigational channels, and around areas most heavily used by recreational boats. Dense scarring is more common near marked and unmarked channels and shorelines. Substantially more scarring was identified in the study than in a previous statewide study conducted in 1995, and scarring may be increasing at specific Florida Bay sites. If higher resolution imagery had been available for all of Florida Bay, instead of for just Snake and Garfield bights, more scarring probably would have been documented.

Because the seagrass scarring problem is not improving and may be worsening over time, the study suggests that new management strategies are needed to protect seagrass beds as part of an overall ecosystem management approach in Florida Bay. Potential management strategies to minimize damage caused by propeller scarring could include a mandatory education program, improved navigation aids, pole/troll zones, idle and speed zones, limits on motorized access by watercraft characteristics, and area-specific seasonal access limits or closures in highly impacted locations. The complete peer-reviewed study, titled, “Patterns of Propeller Scarring of Seagrass in Florida Bay: Associations with Visitor Use Factors and Implications for Natural Resource Management” and related fact sheets are available via links from the park’s home page at [www.nps.gov/ever](http://www.nps.gov/ever). (Click on the "General Management Plan" and "GMP Documents" links.)

### ***Exotic Animal Management***

**Exotic Burmese Pythons and other Invasive Wildlife in South Florida** The Burmese python (*Python molurus bivittatus*), an invasive snake that can obtain a length of greater than 20 feet, has become established in the Everglades. This non-venomous species, native to Asia, is common in the exotic pet trade. Burmese pythons subdue prey by biting followed by constriction. While attacks on humans are rare in the native range,

most fatal attacks on snake keepers by giant constrictors in the U.S. are by Burmese pythons.

Until 2000, only about a dozen pythons had been documented in Everglades National Park. From 2003 to 2008, over 850 pythons were removed from the Park and adjacent lands. Animals exceeding 16 ft (4.9 m) have been captured in the park. Only a small fraction (0.1-5%) of pythons present in the park are detected: estimates of population size range from 5,400 to 140,000. Breeding in the natural Everglades has been established conclusively. Pythons eat a wide variety of prey, and pose a risk to many resources, including threatened and endangered species. Preliminary information suggests the range of pythons could notably increase in Florida and the southern U.S., posing additional threats in the future.

The U.S. Fish and Wildlife Service (FWS), National Park Service (NPS), and U.S. Geological Survey (USGS) are working with many state partners and NGOs to address this concern; however, available funding is limited. FWS and NPS have cost shared an agreement with USGS to complete a biological synopsis and risk assessment to help define the nature of the threat. The risk assessment will contain information that has broad application for the control of pythons and other large exotic constrictors in the U.S.

Research to understand the habits of these species in its new environment is critical to develop effective management/eradication strategies. Current research is underfunded but includes trap development, trap deployment at the entrance to the Florida Keys, and research on python behavior and ecology in the Everglades. Outreach activities are also crucial and include a reporting hotline, educational programs with the pet industry and potential owners, signage (release is a crime), and public and school education campaigns.

The State of Florida recently enacted regulations that require python owners to pay an annual \$100 fee and microchip pythons >2 inches in diameter. The State has also hosted several Pet Amnesty Days, during which owners of exotic pets can turn in unwanted animals, no questions asked.

The U.S. FWS received a request in June 2006 from the South Florida Water Management District to list pythons as an injurious species under the Lacey Act. Such listing would prohibit importation and interstate transport. The Lacey Act designation has not yet been completed, though Congressman Alcee Hastings and Senator Bill Nelson have written the FWS to support this action. Lacey Act designation does not prohibit intrastate transport or possession of the snakes within States, and would not help with the eradication, control, or management of already established populations. As a result, addressing the threat posed by pythons will require a range of different strategies.

The DOI lands of south Florida are threatened by a number of exotic animal species that are present on adjacent lands and in adjacent waters. To address these threats, and prevent new invasions, broad partnerships and substantial resources will be required.

#### **Challenges Ahead for Exotic Animal Management:**

There has been considerable news coverage and education regarding the Burmese python, which has served to bring the issue of invasive exotic animals to the attention of both the general public and decision-makers. However, dedicated effort and funding is needed in the following areas, if the threat of pythons is to be controlled and the potential for invasion of additional exotic species is to be reduced:

- Legislative arena: DOI supports the general intent of pending legislation (HR 669) that could change the federal role in prevention, providing the FWS with authorization and resources to screen wildlife imports for invasive species. On April 23, 2009, a subcommittee hearing was held on HR 669.
- Coordinated actions with the State of Florida: Facilitate and support state-wide responsible pet ownership and disposal (hotlines/website); support statewide early detection network and rapid response teams. Eradicate incipient populations of animal invaders (such as Sacred Ibis, Nile monitors, and black and white tegus).
- Coordination with the pet industry: NPS has recently signed an MOU to fully implement Habitattitude, a program for responsible pet ownership and disposal. However, the NPS needs funding to fully implement the program in Parks.
- Investments in research: conduct risk assessments for species; study invasive species ecology to find weaknesses and exploit them for control; support research, development, and implementation of control programs for priority species (Burmese pythons, Nile monitors, and Purple Swamp Hens).

## **Invasive Exotic Fishes in Everglades National Park**

The introduction of exotic fish species into Everglades National Park (EVER) is a significant resources management challenge. A recent increase in the number of exotic fishes violates the mandates of and indicates adverse conditions for the restoration of Everglades National Park.

Everglades National Park was established to preserve “intact...the unique flora and fauna...in this area” (1934 Everglades Establishment Act) and to “maintain natural abundance, diversity, and ecological integrity of native plants and animals” (1989 Everglades National Park Protection and Expansion Act). The introduction, deliberate or accidental, of exotic species into the park ecosystem is in direct conflict with these mandates.

Prior to 2000, a total of 9 exotic fish species were found in Everglades National Park. Since 2000, seven new exotic fish species have been collected within EVER. The canal systems of south Florida are the likely source for most of these species: 15 of the 16 exotic fish species in Everglades National Park were known to have been established in the canal system adjacent to park boundaries prior to their collection inside the park. Several of the species found since 2000 have established reproductive populations, and continue to expand their range and increase in abundance within EVER. Natural Everglades marshes in close proximity to canals are often found to have higher populations of exotic fish than do natural marshes in the interior of the park.

### **Challenges Ahead for Management of Invasive Exotic Fishes:**

- Modifications to the Park’s Water Delivery System: Everglades restoration projects are engaged in modification of the water management system adjacent to the park, with the goal of restoring natural hydrologic characteristics to the area. Some proposed water management actions, particularly those which may cause a direct connection of surface waters from canals to Everglades National Park marshes, pose the threat of additional introductions of exotic fish. Park staff is engaged in the restoration process to ensure that restoration project designs consider potential impacts on the spread of exotic species into Everglades marshes.

- **Gaining Consensus among State and Federal Agencies Regarding Management Actions is a Challenge:** The state of Florida manages a state-wide fishery that includes exotic species. State mandates and objectives regarding exotic fishes contrast with those of the National Park Service for management of wilderness in Everglades National Park. Management of exotic fishes in the more confined artificial water bodies outside of Everglades National Park (canals, borrow pits) is more feasible than attempting control efforts within the natural marshes of the park; however, these areas do form part of the Florida freshwater fishery. Increased cooperation and consensus is needed to meet the management goals of Everglades National Park.
- **CISMA - A New Partnership of State and Federal Agencies Formed to Coordinate Management Actions for Invasive Exotic Species in Florida:** the Everglades Cooperative Invasive Species Management Area (CISMA) is a formal partnership of state and federal agencies that coordinate management actions, science, and funding for control of invasive exotic species. Although still in its infancy (formed in 2007), this group may provide the needed forum for reaching consensus among management agencies.

## **Exotic Vegetation Management**

**Everglades National Park Exotic Vegetation Management Program** Everglades National Park encompasses 1.5 million acres of which 1.3 million is designated as the only subtropical wilderness in the continental United States. Non-native (exotic) plants are a significant threat to the native plant communities of Everglades National Park. Approximately 1,000 plant species have been recorded in the park. Of these, over 200 species are non-native. Due to limited funding only a small number of these exotic plant species are targeted for treatment. Systematic treatments address 10 to 15 species. The most commonly targeted exotics are Brazilian pepper (*Schinus terebinthifolius*), melaleuca (*Melaleuca quinquenervia*), Australian pine (*Casuarina equisetifolia*), seaside mahoe (*Thespesia polpunea*), latherleaf (*Colubrina asiatica*) and Old World climbing fern (*Lygodium microphyllum*). Brazilian pepper is estimated to affect over 125,000 gross infested acres. Melaleuca and Australian pine are each estimated to affect 7,000 gross infested acres. Latherleaf is estimated to affect over 5,000 gross infested acres and lygodium is estimated to affect more than 10,000 acres. Overall, exotic species are estimated to affect 200,000 to 250,000 acres of the park.

Over the last 19 years, funds for the park's exotic vegetation management program have come from state, county and other federal agencies, including the South Florida Water Management District, Florida Department of Environmental Protection, Miami-Dade County Department of Environmental Resource Management, and the U.S. Army Corps of Engineers. Everglades National Park has provided funding when possible. Since 1998, the National Park Service Florida and Caribbean Exotic Plant Management Team has also provided funds. Thanks to these partners, Everglades National Park's exotic vegetation management program has been able to conduct initial treatment on over 102,000 acres in the East Everglades Expansion Area. However, funding for re-treatment efforts is not guaranteed and is crucially important in order to ensure restoration success. In order to not lose the progress made to this point, dedicated park funding for the exotic vegetation program is essential.

In FY2008 Everglades National Park's Exotic Vegetation Management Program obtained funding for treatment of exotic plants from; the South Florida Water Management District (SFWMD), the Miami-Dade County's Wetland Mitigation Trust

Fund (managed by the Special Area Management Planning Committee (SAMP)), the Florida Department of Environmental Protection (FDEP), the National Park Service Exotic Plant Management Team (EPMT), and through the Cooperative Invasive Species Management Area (CISMA) (funding provided to the CISMA by a grant from BASF). However, since there was not an exotic plant management contract in place for most of FY2008, some of the funds could not be expended in FY2008. The unused funds are expected to be used in FY2009. Table 1 provides a summary of the agency donations and the districts where funds were used.

**Table 1.** Summary of agencies providing funding for exotics treatment in Everglades National Park in fiscal year 2008.

Project Location	Agency	Gross Infested Acres Treated	Costs
East Everglades (Re-treatment)	ECISMA-BASF	375	\$27,000
East Everglades (Re-treatment)	SAMP*	0	\$54,752*
East Everglades (initial treatment)	NPS-EPMT*	0	\$100,000*
Flamingo-Lygodium Aerial	FDEP/SFWMD	840	\$199,000
Total		1,215	\$226,000 used \$154,752 unused*

\* Not used in FY2008, because there was no NPS exotic vegetation contract in place.

Federal Sources

National Park Service's Exotic Plant Management Team (NPS-EPMT)  
 United States Army Corps of Engineers (ACOE)  
 Department of the Interior Cooperative Conservation Initiative Fund (CCI)  
 Department of the Interior Land and Water Conservation Fund (LWCF)  
 South Florida Natural Resource Center (SFNRC)

Non-Federal Sources

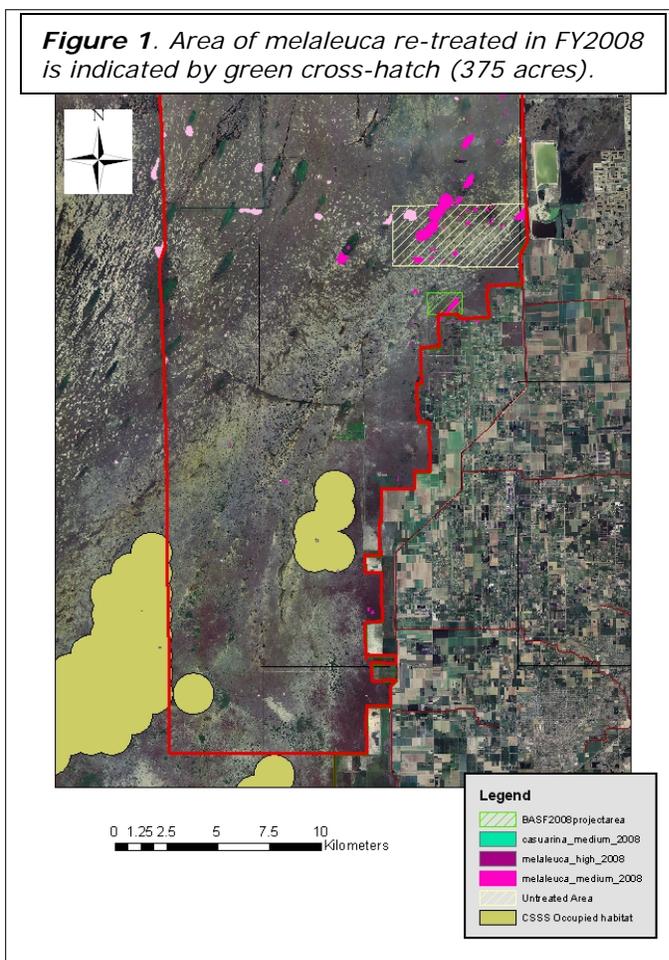
Florida Department of Environmental Protection (FDEP)  
 South Florida Water Management District (SFWMD)  
 Miami-Dade Department of Environmental Resource Management (DERM/SAMP)  
 Miami-Dade Department of Environmental Resource Management (DERM/ACOE)  
 BASF- BASF Invasive Species Matching Grant Program  
 ECISMA-Everglades Cooperative Invasive Species Management Area

**East Everglades Expansion Area.** Everglades National Park acquired the East Everglades Expansion Area (EEEA) in 1989. Australian pine and melaleuca were already present at that time. Both species had colonized the short hydroperiod wetlands (rocky glades) comprised mostly of muhly grass (*Muhlenbergia capillaries*) and sawgrass (*Cladium jamaicencse*). Melaleuca had also established in the (relatively longer hydroperiod) tall sawgrass prairies of Shark River Slough. Brazilian pepper was abundant but scattered, primarily restricted to bayheads, tree islands, and disturbed sites. Treatment efforts to control these exotics (particularly melaleuca) have been ongoing since the area was acquired. Consequently melaleuca has not been able to establish widely outside of the EEEA because a quarantine strategy was typically applied to the treatment of melaleuca. Treating target species systematically from west to east removes them from the areas of least concentration in the western portions of Everglades National Park towards the higher concentrations nearer the eastern park boundary. This approach quickly restores the relatively undisturbed western habitat and allows for a focused effort to suppress the denser concentration of exotics along the eastern park boundary. Historically funding was not commensurate to the magnitude of

the problem in the EEEA. Since 2002, EVER has received funds sufficient to complete the systematic initial treatment of approximately 95% (102,000 acres) of the roughly 107,652 acres in the EEEA. However, funding for re-treatment efforts is not guaranteed and is crucially important in order to ensure restoration success. In order to not lose the progress made to this point, dedicated funding for the exotic vegetation program is essential.

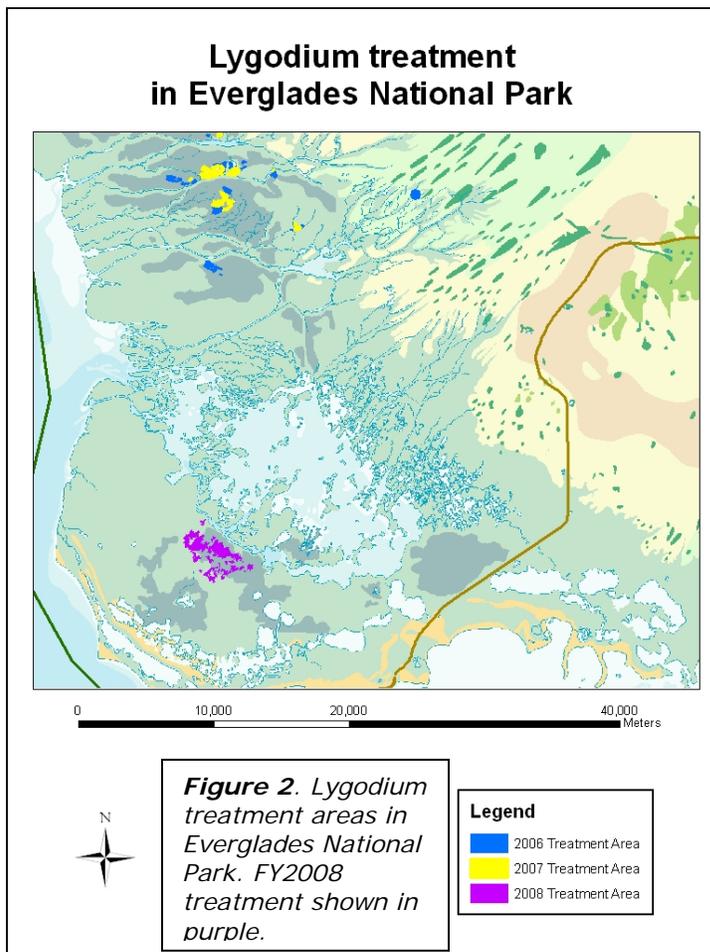
For fiscal year 2008 funding through the Everglades Cooperative Invasive Species Management Area (ECISMA) from BASF for \$27,000 was used to re-treat 375 gross infested acres of melaleuca (Figure 1). Applied Aquatic Management Inc. was contracted by BASF. They began treating melaleuca on July 14, 2008 and concluded work on July 22, 2008, working for a total of 6 days, 10 hours each day. Crew size ranged from 15 to 22 individuals. The contractor treated melaleuca using a tank-mix of herbicide at 10% Habitat, 40% Rodeo, and 50% water. Crews used an average 15 gallons of mixed herbicide per day. The total amount of mixed herbicide used was 90 gallons. (Everglades National Park supplied Applied Aquatic Management Inc. with 9 gallons of Habitat and 36 gallons of Rodeo. For the BASF project these herbicides were mixed with 45 gallons of water, totaling 90 gallons of mixed herbicide).

### East Everglades Treatment Area FY2008



**Lygodium Treatment in Everglades National Park** Lygodium grows predominantly in the western coastal marsh areas of Everglades National Park in both the Flamingo and Gulf Coast Districts ranging from Cape Sable to Everglades City. It is most commonly found scattered in the sawgrass (*Cladium jamaicense*), spartina (*Spartina bakeri*) and juncus (*Juncus roemerianus*) prairies along the west coast. Lygodium in the East Everglades Expansion Area is generally not abundant (<1% cover ) but has become widely distributed. Mitchell’s Hammock is the exception. In Mitchell’s Hammock, lygodium was found growing on the dead melaleuca stands at 3-5% cover. Lygodium was also found growing in the vegetation plumes of the culverts along Tamiami Trail. Up to this point, the treatment of lygodium in the EEEA was accomplished with funds that were primarily intended to target melaleuca and Australian pine. However, funds specifically to locate and treat lygodium in the EEEA may now be necessary in order to keep it from reaching harmful density levels.

The funding for treating lygodium was provided by the Florida Department of Environmental Protection (FDEP) and the South Florida Water Management District (SFWMD). A total of \$199,000 was provided; the Florida Department of Environmental Protection provided \$114,000 and the South Florida Water Management District provided \$85,000. A total of 1,300 gross acres were sprayed (1,250 canopy acres were sprayed) by Helicopter Applicator’s. The aerial spray GIS patterns provided by Helicopter Applicator’s were converted into polygon shapes and the estimate total acres treated was 840 acres (Figure 2). The inconsistency between the spray tracks and the polygons is thought to be because the helicopter may have overlapped some of their spray patterns.



The contractor staged out of Flamingo to treat the lygodium sites located on Cape Sable. Helicopter Applicator’s began work on June 24, 2008 and concluded work on June 29, 2008. They worked a total of 6 days. Weather conditions dictated the amount of time the helicopter could fly each day. The number of acres sprayed each day varied from 167.5 gross acres to 312.5 gross acres.

**Other Exotic Plant Management Activities.** In addition to the projects accomplished by the contractors mentioned above; volunteers, Student Conservation Association (SCA) Interns, and park staff treated exotic vegetation along the Main Park Road, Shark Valley, Chekika, Royal

Palm, Pine Island, Everglades City, Key Largo, Flamingo, and in scattered isolated remote areas in FY2008. Exotic plant species targeted by volunteers, SCA Interns, and park staff include; Brazilian pepper (*Schinus terebinthifolius*), melaleuca (*Melaleuca quinquenervia*), arrowhead vine (*Syngonium podophyllum*), pothos (*Epipremnum pinnatum*), Old World climbing fern (*Lygodium microphyllum*), lather leaf (*Colubrina asiatica*), and seaside mahoe (*Thespesia populnae*).

**Tamiami Trail Exotic Plant and Vista Management Project** Everglades National Park (EVER) plans to remove exotic vegetation and improve the vista along approximately 10 miles of the eastern half of Tamiami Trail. Funding is not available for the project, so EVER resource managers are working with the U.S. Army Corps of Engineers, the South Florida Water Management District, and the Florida Department of Transportation to explore funding options.

The northern boundary of EVER abuts a highway called the Tamiami Trail (U.S. 41). The eastern half of Tamiami Trail (U.S. 41) stretches 10.7 miles from EVER's eastern boundary to the L-67 extension canal. Invasive exotic plants, primarily Brazilian pepper, are found just south of the Tamiami Trail, all along EVER's northern boundary. Higher densities of plants are concentrated around 19 sets of culverts that are distributed along the roadway. Both native and invasive exotic vegetation block the public's view of EVER from the Tamiami Trail.

In an effort to control invasive exotic vegetation and improve the vista into EVER's natural wetlands, EVER proposed a project to remove exotic vegetation at Tamiami Trail culverts and to remove vegetation that blocks the vista.

Removal of exotic vegetation within 150 acres near culverts and removal of 70 acres of vegetation along the road for vista improvements is expected to cost \$800,000.

The project will benefit EVER and the public by removing exotic vegetation and enhancing wetland quality and opening a vista for the public to see and enjoy EVER. There is broad endorsement of the project by EVER's partners, including the U.S. Army Corps of Engineers, the South Florida Water Management District, the Miccosukee Tribe, and the Florida Department of Transportation.

#### **Challenges Ahead for the Tamiami Trail Exotic Plant and Vista Management Project:**

- The project is currently not funded. Obtaining funding for the project will require identification of funding sources and willing partners.
- The Florida Department of Transportation is interested in partially funding the project as mitigation for impacts associated with a nearby roadway construction project. However, proposed methods are not consistent with NPS management policies, so additional negotiations are necessary.
- The U.S. Army Corps of Engineers has provided a tentative commitment to partially fund the project using Stimulus funding. A firm commitment is pending a site visit and additional discussion.

**Cape Sable Canals Dam Restoration Project** Everglades National Park plans to repair or replace two failed sheet-pile dams on the East Cape Extension and Homestead Canals, Cape Sable. These two canals were dug in the 1920s and first plugged about 1960 but the dams have failed and now transport marine water into formally fresh to brackish marshes and flush freshwater to the sea. Canal banks are eroding rapidly, the remnant dams are a safety hazard for boaters, and the open canals allow motor-boaters to illegally enter a wilderness area.

Several canals were constructed in the Cape Sable area between 1900 and the 1930s, prior to the establishment of the park. The purpose of these canals was to drain water and make the area useful for agriculture and commerce. Saltwater intrusions through these canals and sea level rise have hastened the conversion of freshwater marshes north of Lake Ingraham to shallow marine habitat. Tidal flushing has eroded the canals and deposited significant amounts of sediment in Lake Ingraham. The smaller interior Homestead and East Cape Extension Canals were plugged with earthen dams to minimize these impacts and restrict access to the non-motorized wilderness area. However, these dams failed during the early 1990s and were replaced by sheet-piling dams in 1997. The sheet-pile plugs in turn failed within a few years.

The canals and the failed dams appear to have influenced general ecological conditions, including critical wildlife populations such as American crocodiles, a federally listed threatened species, and wading birds. Collapse of freshwater marshes in the Cape Sable area was observed by University of Miami and Everglades National Park staff in 2005, a change which is likely related to salt water intrusion from the Cape Sable canals and sea level rise. Drainage of freshwater through the canals has accelerated the change from freshwater wetlands to a marine ecosystem. The breach of the sheet-pile dams has also allowed illegal access to designated wilderness in Everglades National Park by fishers and others using motorized watercraft. The failed sheet-pile dams have also created conditions that are unsafe for canoeists and other boaters, especially during periods of high tide. Everglades and Denver Service Center staffs are currently working with a contractor to complete an Environmental Assessment for the project. American Recovery and Reinvestment Act (ARRA) funding for the project has been approved.

**Challenges Ahead for Cape Sable Canals Dam Restoration Project:**

- Complete Environmental Assessment and issue FONSI in mid-July 2009.
- Contract design and construction – Denver Service Center.
- Complete construction by March 2011.

***2008 5.1.2 Dry Tortugas National Park Natural Resource Stewardship***

**Research Natural Area Science Plan** The goal of the Dry Tortugas National Park (DRTO) Research Natural Area (RNA) Science Plan is to assess the conservation efficacy of the RNA. The plan is organized into six topic areas:

1. Quantify changes in the abundance and size-structure of gamefish species within the RNA relative to adjacent areas.
2. Monitor the immigration and emigration of targeted gamefish species in the RNA.
3. Monitor changes in species composition and catch rates of reef fishery species throughout the surrounding region.
4. Evaluate the effects of RNA implementation on marine benthic biological communities.
5. Assess reproductive potential of reef gamefish species by evaluating egg production and larval dispersal.
6. Incorporate social sciences into the research and monitoring program.

The science actions under each topic are prioritized into “essential activities,” high priority actions deemed necessary to assess the conservation efficacy of the RNA, and “supplement activities,” lower priority RNA science actions. 2008 accomplishments and 2009 planned actions for the essential activities are described here.

In 2008, 15 science projects were conducted addressing 11 plan science activities. These projects were performed by three NPS units and five other agencies and universities. Four scientific reports and publications on RNA Science Plan topics were produced in 2008. Data collected by the 2008 projects will be analyzed in 2009 and several project reports will be produced. All but one of these projects will continue in 2009. Seven more projects covering an additional six science activities will be initiated in 2009.

The pre-RNA implementation baseline conditions for reef gamefish abundance within and outside the RNA have been established. Park-wide assessments determined that seven of eight reef gamefish species that could be analyzed, including red and black groupers, did not exhibit statistically significant change in abundance from 1999-2000 to 2006; mutton snapper increased significantly in abundance. Total and size class abundances for most reef sport fishes were similar inside and outside the RNA during the 1999-2006 baseline period. A smaller-scale study focusing on deeper reef edge habitat found that gamefish abundance increased in the RNA and DRTO open fishing zones from 2001 to 2005.

The RNA was closed to fishing in January 2007. The first park-wide post-RNA implementation gamefish assessment was conducted in 2008. The smaller-scale deeper water surveys were performed in 2007 and 2008. These data are currently being analyzed. These surveys will be conducted again in 2009.

The RNA no anchoring regulation has not been implemented yet. Multi-year (2005-2008) baseline data have been collected inside and outside the RNA to evaluate the effects of creating this no anchor zone on seagrass meadows. No evidence of anchor damage at any RNA monitoring site (all around Loggerhead Key, the most visited RNA location surrounded by seagrass beds) has been observed in four years of surveys. The RNA no anchoring regulation probably will commence in 2009.

**Coral Reef Benthic Community Assessment** Coral reefs are the most important natural resource in Dry Tortugas National Park. Stony coral abundance in DRTO has been monitored periodically since the mid-1970s using multiple methods. There has been a substantial decrease in stony corals over the last 30 years, especially of the *Acropora* spp. which were the major reef forming corals in DRTO but are now federally listed threatened species. There were 479 hectares of *Acropora* dominated reefs (mostly *A. cervicornis*) in the park in 1976; but, there is currently less than one hectare of live *Acropora* thickets, a > 99% loss. Furthermore, *Acropora* live cover is <7% on these existing reefs. Reef forming *Montastrea*, *Siderastrea*, and *Colpophyllia* coral species also have declined in abundance. Mean total stony coral cover at a long term monitoring site dominated by *Montastrea* spp. and *Colpophyllia* decreased from 45% in 1975 to 11% in 2007. Stony coral abundance declined 25% at seven monitoring sites from 2005 to 2006, based on pooled means (6.3% cover in 2005 and 4.7% in 2006).

Most coral loss in the 1970s and 1980s was caused by hypothermic events (strong cold fronts) and disease. More recent coral loss has been due to disease and bleaching, as well as due to the occurrence of five hurricanes in a 14 month period in 2004 and 2005, unprecedented in the 130 year history of Tortugas science. Coral decline is the most significant and challenging DRTO resource stewardship issue. In 2008, the DRTO

marine ecologist and our cooperators with the Florida Fish and Wildlife Research Institute presented this information in a paper titled "Dry Tortugas National Park Stony Coral Status and Trends: 1975 to 2007" at the International Coral Reef Symposium, held only once every four years.

**Seagrass Communities** Annual monitoring for the DRTO Seagrass and Associated Benthic Communities Assessment Project was performed in July 2008. Data were collected only at shallow (< 3 meters deep) sites around major islands because of insufficient funding and logistical support. In a 14 month period in 2004 and 2005 DRTO was affected by five hurricanes and a tropical storm, an unprecedented event in the 130 year history of Tortugas science. These storms caused substantial seagrass loss. At some sites seagrass beds are recovering from the 2004-2005 hurricanes. However, at some sites around Loggerhead Key seagrass loss continues at bed edges with due to erosional conditions created by the hurricanes and subsequent non-tropical storms. A park wide assessment of the effects of 2004-2005 hurricanes on seagrass meadows using satellite photograph was initiated late in FY08. This project will be completed in FY09.

**Vegetation Monitoring on Loggerhead Key** Long term monitoring transects were resampled in May 2008 by vegetation management staff as well as staff from the Florida Caribbean Network Inventory and Monitoring Program. These transects were originally established to track recovery of native plant communities following control of exotic Australian pine (*Casuarina equisetifolia*) trees and sisal hemp (*Agave sisalana*). Both species have now been eradicated from the island and plant communities are once again primarily comprised of native plant species. Monitoring of these transects has continued in an effort to study effects of hurricanes and other stochastic events on the plant communities of DRTO. Data from the 2008 monitoring effort were entered and analysis of plant community succession conducted.

**Exotic Vegetation Management** Hand pulling of crowfoot grass (*Dactyloctenium aegyptium*) was conducted on Bush and Long Keys in October 2008. Hundreds of crowfoot grass plants were treated and follow-up treatment and monitoring will be needed. This project was conducted by National Park Service staff.

Loggerhead Key was surveyed for crowfoot grass in October 2008. No crowfoot grass plants were found at this time. Loggerhead will need to be monitored each year for crowfoot grass.

### ***2008.5.1.3- Everglades Restoration and Supporting Science***

#### **Foundation Projects**

A series of restoration projects that predate the Comprehensive Everglades Restoration Plan (CERP) have been underway since the early 1990s. The restoration benefits of the later CERP projects are dependent on the successful completion of these foundation projects. Three of these pre-CERP projects are most critical to NPS managed resources in south Florida: (1) the Everglades Construction Project - improving the quality of water flows entering the northern Everglades, through the construction of Stormwater Treatment Areas (STAs), (2) the Modified Water Deliveries Project - restoring more natural water flows through the central Everglades and Shark Slough watershed of Everglades National Park (EVER), and (3) the C-111 South Dade Project - restoring water flows to the Taylor Slough and eastern Florida Bay regions of EVER.

**Water Quality: Everglades Consent Decree Compliance.** The 1992 Consent Decree resulting from the Everglades water quality lawsuit established interim and long-term (December 31, 2006) total phosphorus levels and limits for the A.R.M. Loxahatchee National Wildlife Refuge and Everglades National Park. Interim levels for the refuge have not been met several times since 1999 – some at a frequency sufficient to be a violation – but long-term levels have been met to this point. Long-term limits for the park have been met according to the State, although presently there is a disagreement between the state and federal parties over the compliance calculations for Water Year 2008; the federal parties believe that the long-term limits were not met.

Settlement of the Everglades water quality lawsuit in 1991 resulted in a Consent Decree issued in 1992. The Department of Justice represents the United States, and a federal judge and special master oversee this Consent Decree. The Decree required implementation of agricultural best management practices, phosphorus load reductions for the refuge and entire Everglades, and the creation of more than 45,000 acres of constructed wetlands called Stormwater Treatment Areas (STAs) to remove nutrients from agricultural runoff before discharge into the Everglades. The Decree established interim and long-term phosphorus requirements for the refuge and park.

For the refuge, water samples are collected monthly from fourteen interior marsh stations, and the geometric mean of total phosphorus is calculated. This geometric mean is compared to a target long-term level for that month which varies depending on water depth. If the mean is greater than the long-term level for that month, that is termed an excursion. If there are two or more excursions within twelve consecutive sampling events that are termed an exceedance. An exceedance is a violation of the Consent Decree unless the Technical Oversight Committee (with one member from each of the five settling parties) determines the exceedance was due to error and/or extraordinary natural phenomena.

Most recently, the refuge experienced excursions in November, 2008, and October, 2007. Because these excursions were thirteen months apart, they did not constitute an exceedance. The refuge's expanded water quality monitoring program documented intrusion of canal water into the refuge marsh from August through November, 2008. Since STAs discharging into the refuge have been functioning for some time, these continued excursions are of concern. There have been previous exceedances of the interim levels, and one such exceedance was ruled a violation by the federal judge overseeing the Consent Decree. Excursion frequencies have decreased in the past few years, but additional analyses are needed to determine whether these decreases reflect long-term improvement.

For the park, water samples are collected monthly at structures and/or pumps that discharge into the park. Mean total phosphorus concentrations are calculated from these samples and are compared to a long-term limit which varies depending on hydrology. Although tracked monthly, the Consent Decree requires that only the rolling average total phosphorus concentrations for a twelve-month period ending September 30th are evaluated for Consent Decree compliance.

According to the State of Florida for the most recent water year (Water Year 2008) ending September 30, 2008, the calculated mean equaled the long-term limit, which did not constitute an exceedance. However, there is a disagreement between the federal and state parties regarding this calculation. There was a quality control issue with one of the monthly samples, but the South Florida Water Management District chose to include that set of samples in the annual calculation. If that sample set had been excluded

according to state quality control procedures, the calculated mean would have exceeded the long-term limit as of September 30th. This disagreement remains under discussion in the Technical Oversight Committee. Regardless of the outcome of this discussion, there is a concern that concentrations entering the park are higher than anticipated under the Consent Decree given that a number of phosphorus removal projects have been completed and are in operation.

Actual twelve-month rolling averages hover around the 90<sup>th</sup> percentile of the Consent Decree defined desired concentrations. If inflows were meeting expectations, these expected averages should be around the 50<sup>th</sup> percentile of the Consent Decree defined desired concentrations. Phosphorus concentrations are lower over the past 2 years, and it is hoped that this decrease signals a desirable long-term trend.

In addition to total phosphorus levels and limits, the Consent Decree also established phosphorus load reduction targets for the refuge and the entire Everglades Protection Area (the refuge, Water Conservation Areas 2 and 3, and the park). In the most recent water year, these targets were met in the Everglades Protection Area, most likely because of the drought and decreased amounts of water entering the Everglades. In recent years, these phosphorus loading targets were not met for the refuge.

#### **Challenges Ahead for Consent Decree Compliance:**

- Improving agricultural best management practices to reduce the inflow nutrient loads to STAs, thereby increasing their nutrient-removal performance.
- Optimizing and/or increasing the treatment area in STAs to insure that their waters discharged to the Everglades are in compliance with the Consent Decree without decreasing the amount of water flowing into the Everglades.

**Water Quality: Status in the Everglades Protection Area.** Notable progress has been made in reducing total phosphorus and other nutrient inputs into the Everglades Protection Area. Despite this progress, additional work is needed to provide water of sufficient quality to prevent harm to Everglades plants and animals. In particular, it is likely that additional Stormwater Treatment Area acreage and improved agricultural best management practices are needed.

The Everglades ecosystem developed as an oligotrophic (nutrient-poor) ecosystem with surface waters low in nutrients and other substances. Today, the Everglades ecosystem is about one-half of its original size, but is the most ecologically important subtropical wetland in the United States. Pre-development Everglades plants and animals were adapted to extremely low concentrations of soil and water phosphorus -- an essential nutrient. The ecosystem changes dramatically with very small increases in this and other nutrients. Years of scientific research and regulatory consideration has concluded that water containing more than 10 parts-per-billion (ppb) total phosphorus in the Everglades has been associated with altered ecosystem structure and function, including conversion of sawgrass stands to dense cattail.

The State of Florida classifies the Everglades Protection Area (A.R.M. Loxahatchee National Wildlife Refuge, Water Conservations Areas 2 and 3, and Everglades National park) as Class III waters with water quality standards established to protect recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife. These standards include a total phosphorus concentration criterion of 10 ppb. The refuge and park also are classified as Outstanding Florida Waters. In addition to the requirements of Class III water quality standards for these areas, no degradation of water quality beyond what existed during a base period from 1978-1979 is allowed.

To improve the quality of water discharged into the Everglades, the State of Florida built five constructed wetlands called Stormwater Treatment Areas (STAs), and the U.S. Army Corps of Engineers constructed one. To date, the STAs have removed a significant amount of nutrients from surface water discharges into the Everglades. During a drought throughout the 2008 Florida water year (WY2008, May 1, 2007 - April 30, 2008), less water and phosphorus were delivered to the Everglades Protection Area than during previous years. As a consequence, STA discharges to the refuge were lower in WY2008 than in previous years. Four of the six STAs had outflow concentrations ranging from 20 to 38 ppb total phosphorus in WY2008, which were lower than observed over their entire period of operation, probably due to the low inflow volume entering them. The outflow total phosphorus concentrations from two of the six STAs were greater than 50 ppb for WY2008, and thus performed poorer than their original design. The total phosphorus outflow concentration during WY2008 of all STAs (26.0 ppb) was lower than the period-of-record performance (43.0 ppb). However, the outflows from three STAs (STA-1W, STA-5, and STA-6) did not achieve the Everglades Forever Act Technology-Based Effluent Limit (TBEL) permit criterion, and STA-5 and STA-6 did not achieve the more stringent National Pollutant Discharge Elimination System TBEL permit criterion.

The State also promulgated a regulatory rule that established best management practices by farmers in the Everglades Agricultural Area. To date, this program has removed a significant amount of nutrients, thereby decreasing the amount of phosphorus that must be removed by STAs. However, the combination of best management practices and nutrient removal in STAs has not reduced phosphorus concentrations low enough to prevent downstream impacts to Everglades plants and animals.

Two other water quality compliance requirements include compliance with the Class III total phosphorus standard in the Everglades Protection Area, and compliance with the federal Consent Decree resulting from the Everglades water quality litigation. Class III standard compliance for total phosphorus is determined by using a four-part test. This evaluation is applied to all impacted and unimpacted areas, as defined by the Florida Department of Environmental Protection. In WY2008 -- the first year of compliance -- all unimpacted areas of the Everglades were in compliance with this four-part test. The Class III criterion for dissolved oxygen was not met in several areas of the Everglades, possibly reflecting nutrient enrichment.

#### **Challenges Ahead for Water Quality in the Everglades Protection Area:**

- Optimizing and/or increasing the treatment area in STAs to insure that their waters discharged to the Everglades meet the 10 ppb criterion needed to protect Everglades plants and animals.
- Improving agricultural best management practices to reduce the inflow nutrient loads to STAs, thereby increasing their nutrient-removal performance.

**Modified Water Deliveries to Everglades National Park Project** The U.S. Army Corps of Engineers was directed by Congress in the 1989 Everglades National Park Protection and Expansion Act to modify the Central and Southern Florida (C&SF) Project to improve water deliveries to EVER and, to the extent practicable, take steps to restore the park's natural hydrologic conditions. The Project consists of three major structural components: (a) 8.5 Square Mile Area (SMA) Flood Mitigation component, (b) Conveyance and Seepage Control (C&SC) component, and (3) Tamiami Trail (TT) Component.

**The current status of each component is described below:**

**8.5 Square Mile Area** The purpose of the 8.5 SMA component is to provide flood mitigation to an agricultural and urban area adjacent to EVER due to the higher water levels in the area expected to result from the construction of the project restoration features. This component includes a perimeter levee, an internal canal and levee system, a pump station and storm water treatment area and the acquisition of lands adjacent to the EVER boundary and west of the perimeter levee. In FY 2010, the focus will be on completing the construction of the structural features and initiation of an interim operational plan.

**Conveyance and Seepage Control Component (C&SC)** The purpose of the C&SC component is to convey water through reservoirs upstream of EVER into the Shark Slough drainage basin of EVER to be more consistent with historic hydrologic conditions. In addition, these project features will return project-induced increased seepage from the project area in order to maintain flood protection to adjacent areas. Some of the features of this project component have been completed: the S-356 pump station, back-filling of the lower 4 miles of the L-67 extension canal, and construction of the S-355 structures in the L-29 levee. FY 2010 activities will focus on completing the necessary NEPA documents for the L-67 A/C structural features as well as the remainder of the construction needed to back-fill the L-67 extension canal.

**Tamiami Trail (TT).** The purpose of the TT component is to modify the existing highway in a manner consistent with the increased water flows and levels resulting from the conveyance components of the project. In addition, these modifications must be designed to be consistent with Florida Department of Transportation road safety requirements. The Army Corps of Engineers, in conjunction with EVER, completed the 2008 Limited Reevaluation Report and Environmental Assessment (LRR/EA), which specified the implementation of a 1-mile bridge within the affected 10.7 mile highway corridor and the raising of the remainder of the highway section. EVER is also in the process of investigating the efficacy of improved getaway channels from culverts under the existing highway.

**Challenges Ahead for the Modified Water Deliveries Project:**

**8.5 SMA Component**

- The major obstacles to the implementation of the 8.5 SMA component have been overcome but resulted in a significant increase in the cost of the project due to land acquisition requirements associated with the selected plan. Total project costs for the component are now approximately \$170 million.
- The only significant challenge ahead is to develop the final operating criteria for the 8.5 SMA features when the remainder of the MWD features are identified and implemented.

**Conveyance and Seepage Control Component**

- The C&SC component features are scheduled for alternative evaluations beginning in 2009. The selected plan should include the required modifications to the internal canal and levee systems, including the L-67A/C, L-67 extension.
- Implementation of these features is likely to be delayed by litigation. The Miccosukee Tribe has indicated their intention to litigate operation of the S356 pump, due to concerns with the effects of pump operation on tribal and natural resources in Water Conservation Area 3A.

## **Tamiami Trail Component**

- The TT component presents the most significant obstacle to implementation. In 2003 and again in 2005, the Corps of Engineers (COE) completed reports identifying modifications to TT. Recommendations included in both of these reports were rejected for either being insufficient in their design (2003) or too costly (2005).
- The 2008 LRR/EA was delivered to Congress in October 2008. Implementation of the selected plan was scheduled to begin in December 2008 but has been stalled due to a legal injunction imposed by the courts following suit by the Miccosukee Tribe of Indians for alleged National Environmental Policy Act (NEPA) deficiencies with the EA.
- The 2009 Omnibus Appropriations Act directed the USACOE to immediately implement the LRR/EA selected plan. The USACOE is currently filing motions with the court for dismissal of the suit to comply with this congressional directive.

**C-111 South Dade Project** Construction work continued on the C-111 South Dade Project in 2008 and early 2009 towards the objective of interconnecting the existing detention areas. This construction project has significantly increased the total area of the detention basins and also provides for a fully connected detention system from S332B to S332D. The larger detention areas will result in lower operational depths which will significantly decrease the potential for direct overflow of surface water into EVER. In addition, the completed detention area will now be able to provide a continuous hydraulic ridge along the eastern boundary of EVER. The hydraulic ridge will reduce seepage losses from the park and is expected to enhance hydropatterns in the Rocky Glades and Taylor Slough

## ***Comprehensive Everglades Restoration Plan (CERP)***

**CERP History** The CERP was authorized in the Water Resources Development Act of 2000, and is still in the planning and design phase for all but a few projects. To date, the only CERP project to move forward in the southern Everglades region, near the four south Florida NPS units, is the C-111 South Dade Conveyance Project. The C-111 Spreader Canal project has been re-oriented and phased to take into account the fact that the C-111 South Dade Conveyance Project is not complete. The Decomp project has the potential for major restoration benefits for both EVER & BICY, however Decomp, dependent on improvements to Tamiami Trail, a component of the Modified Water Deliveries project, is still delayed.

Since 2000 long-term funding constraints within the Army Corps of Engineers have led to major CERP project delays. At the same time, land acquisition, and construction costs have risen sharply in south Florida. These changes have prompted the development of a new Integrated Delivery Schedule to improve project integration and revise the timelines on the full suite of Everglades restoration programs.

In 2000, when Congress authorized the Comprehensive Everglades Restoration Plan (CERP), the full suite of Everglades restoration projects was estimated to cost \$15.4, to achieve the overarching goal of restoring the greater Everglades ecosystem, while meeting the needs of an expanding south Florida population. In a 2007 GAO review report, the overall restoration cost estimates had increased to approximately \$19.7 billion. Since the 2000 WRDA authorization and the CERP conceptual plan, each of the 60 project components have begun to undergo detailed assessments to select the recommended combination of structural and operational features. The Army Corps has

established a series of interagency Project Development Teams (PDTs) to develop these required detailed plans. The EVER South Florida Natural Resources Center coordinates NPS involvement on these PDT efforts, as well as our involvement on CERP programmatic activities. This effort has three key components: (1) technical staff participation in CERP project teams to develop detailed restoration targets and model/evaluate alternatives to recommend environmentally preferred plans, (2) technical staff participation on interagency programmatic activities to develop system wide monitoring plans, natural system water supply assurances, and interim goals to track restoration progress, and (3) the integration of DOI funded applied science projects managed through the Critical Ecosystems Studies Initiative (CESI).

**National Academy of Sciences Review of the Comprehensive Everglades Restoration Plan** The Water Resources Development Act of 2000 authorized the Comprehensive Everglades Restoration Plan (CERP) and included a provision for independent scientific oversight on progress in restoring the natural system. The National Academy of Sciences has been charged with this review. The most recent NAS committee to review the CERP is the Committee on Independent Scientific Review of Everglades Restoration Progress (CISRERP) which produced reports in 2006 and 2008.

In 2006, the Committee's report concluded that the interagency scientific program accompanying the restoration efforts "has been of high quality and comprehensive." Important scientific questions still remain to be addressed; however, the Committee concluded that scientific understanding was sufficiently advanced so that "no significant scientific uncertainty should stand in the way of restoration progress." Positive comments in the 2006 report centered on progress shown by the State of Florida in the Kissimmee River restoration, in reducing phosphorus loads by constructing water treatment wetlands and in moving forward a subset of the CERP projects, termed Acceler8.

The Committee was concerned about lack of progress and serious schedule delays on projects that are central to restoring the fundamental characteristics of the ecosystem (sheetflow), such as Modified Water Deliveries and the WCA Decompartmentalization Project. The Committee called for the attention of senior managers and policy makers to problems with the level of federal funding and issues with the planning process. They noted that restrictions in federal funding mean that federal interests are unlikely to be addressed in a timely way, and that the restoration planning process is easily stalled by unresolved scientific uncertainties. Also noted was the fragile nature of the stakeholder consensus holding the CERP plan together.

The conclusions of the 2008 report are best presented by the following quote from the report, pages 12-13:

*"If the sweeping vision of environmental restoration of the Everglades is to be realized, demonstrable progress needs to come soon. Even though the science and engineering that support the restoration program have been of high quality, to date, the CERP has not been effective in halting the decline of the South Florida ecosystem. Instead, the CERP is currently mired in a complex federal planning and approval process, while project costs continue to rise and development threatens to foreclose some restoration options, and funding limitations are likely to add further delays in the years ahead. To do nothing is to do harm. If the CERP continues on its present course, at its current pace, the system will continue to lose some of its vital parts, and more importantly, the restoration effort will lose the support of the public at large. Clear funding*

*priorities, modifications to project planning, authorization, and funding process, and strong political leadership are needed to support system-wide restoration and to begin to reverse the decades of decline.”*

### **Challenges Ahead for CERP:**

The CISRERP Committee is in the process of planning and information acquisition for their 2010 report, and is holding a meeting on June 8-9, 2009. The implementing agencies (US Army Corps of Engineers and the South Florida Water Management District) and the Department of the Interior are participating in the committee meetings to answer questions and provide the technical and planning information requested by the committee.

**Critical Ecosystem Science Initiative (CESI)** The Critical Ecosystem Studies Initiative (CESI) was established in 1997 as the primary investment by DOI to provide scientific information to advise restoration decision making, and to guide its own land management responsibilities for south Florida ecosystem restoration. CESI funding has focused on: (1) understanding how the original natural system functioned, (2) identifying ways it is now impaired, and (3) defining viable options for ecosystem restoration.

In 2003, the National Research Council (NRC) reviewed the CESI program and concluded that “The CESI program has been an important resource to help address the immense science information needs of the Everglades restoration.” In particular, the NRC concluded that:

CESI research on the linkage between ecological and hydrological processes provides a strong scientific foundation for future decision making so that scientists and planners can respond to new and emerging concerns.

CESI’s gap-filling approach represents an effective strategy to meet complex and changing science needs.

The fundamental purposes and objectives of the CESI research program should remain intact (emphasis on ecosystem research, model development, and environmental assessments).

Within the interagency restoration process, the Army Corps of Engineers and the South Florida Water Management District are relying on DOI to track restoration success on DOI lands. The Monitoring Plan for the Comprehensive Everglades Restoration Plan specifically incorporates CESI-sponsored monitoring of DOI lands and resources. Additionally, the Corps and South Florida Water Management District are relying on DOI (CESI funding) to monitor restoration benefits related to ongoing restoration projects such as the Modified Water Deliveries and the C-111 Projects.

CESI is also a primary source of funding for water quality research and monitoring activities related to compliance with the federal Consent Degree entered in United States vs. South Florida Water Management District. The CESI program supports work related to setting of water quality standards and determining compliance within Everglades National Park and the A.R.M. Loxahatchee National Wildlife Refuge.

CESI funding also supports multiple ecosystem restoration and coordination activities in support of the South Florida Ecosystem Restoration Task Force (Office of the Executive Director). These program funds include work on comprehensive exotics control strategies, restoration planning, National Academy of Sciences peer review, and support for south Florida science symposia and workshops.

The largest portion of CESI funds have been used to support research through universities and external contractors, to bring outside expertise into the restoration process. In addition, the USGS has received over 1/3 of all CESI funding for science related to south Florida ecosystem restoration, through cooperative research projects that are funded jointly with their \$8.5 million Place-Based Initiative in south Florida.

The NPS, as the principal manager of federal lands in south Florida, has worked in close cooperation with other federal and state agencies to focus CESI funds on the most important monitoring, assessment, and research projects that are directly related to ongoing restoration needs. The NPS role in managing CESI funding is tied to our responsibility as the manager of approximately 2.5 million acres of federal-interest lands in south Florida, as well as a primary recipient of the environmental benefits provided by CERP and related restoration projects.

#### **Challenges Ahead for CESI:**

- Ecosystem restoration projects within the Comprehensive Everglades Restoration Plan are not static: their design and scope responds to new science, to funding challenges from the implementing agencies, and to new initiatives such as the River of Grass Acquisition by the State of Florida. Thus, the ongoing need for CESI-funded applied science projects that link ecosystem science to management decision making does not diminish over the lifetime of the plan.
- In addition, CESI funding within the Everglades Restoration and Research budget needs to be expanded due primarily to increasing needs to address the following: 1) exotic invasive species, 2) water quality monitoring and science in critical DOI units in South Florida, 3) the linkage of climate change science to ecosystem restoration and DOI natural resources management.
- Thus far the CESI program has been very successful in coordinating funding with other agencies to acquire needed science for restoration. Anticipated funding cuts for science and monitoring at other state and federal agencies in south Florida will have an effect on this strategy.

#### ***2008.5.1.4 South Florida Natural Resources Center at Everglades National Park***

The South Florida Natural Resources Center (SFNRC) is the natural resources management division at Everglades (EVER) and Dry Tortugas (DRTO) National Parks. In addition to traditional inventory and monitoring and natural resources management activities, the SFNRC is responsible for National Park Service scientific and technical participation in Everglades restoration activities. The SFNRC, while administratively located at EVER, provides support to Biscayne National Park and to Big Cypress National Preserve on Everglades restoration projects.

The SFNRC has a total staff of 75, including biological scientists and physical scientists in a wide variety of fields, GIS specialists, project managers and administrative support staff. Offices are located inside Everglades National Park (mostly field staff), Key Largo (Florida Bay and DRTO biologists), City of Homestead (Everglades restoration staff), and Loxahatchee National Wildlife Refuge (water quality staff).

SFNRC technical activities are organized into four program areas. Our Inventory and Monitoring Program tracks the status and trends of key natural resources: hydrology and climate, vegetation, aquatic resources, and important indicator species of wildlife (e.g., wading birds, alligators, Florida panther, Bald Eagle). The Natural Resources

Management Program includes activities to control exotic species and to restore areas that were altered by development prior to park establishment (e.g., Hole in the Donut project – see additional briefing). The Applied Science Program includes both in-house and external funded-science activities to address information gaps for Everglades restoration, and is funded primarily via the Critical Ecosystems Studies Initiative (see additional briefing). Our Restoration Assessments program includes participation on interagency restoration project design teams, and scientific and technical contributions to restoration projects and programs. Technical activities include development and use of hydrologic and ecological models and development of numeric hydrologic and ecological performance measures to quantify the effects of alternative restoration designs.

Funding for SFNRC science and restoration activities comes from the Everglades Restoration and Research budget line. Further description of SFNRC activities, as well as technical reports and other publications, is available at [www.nps.gov/ever/naturescience/](http://www.nps.gov/ever/naturescience/)

#### **Challenges Ahead for the SFNRC:**

- **Inventory and Monitoring:** The number of base funded (ONPS) staff to carry out standard physical and biological monitoring activities is too low. The data obtained by the I&M program are the foundation of all work in Natural Resources Management and Restoration.
- **Natural Resources Management:** The proximity of Everglades National Park to the large urban area of Miami produces numerous and changing natural resources management issues, the most pressing of which is invasive exotic plants and animals.
- **DRTO faces challenges in the implementation of a recently completed Science Plan,** which addresses the science needs of the recently authorized DRTO Research Natural Area (RNA).
- **Funding of the science component of the Everglades Restoration and Research budget needs to be expanded due primarily to increasing needs to address the following:** 1) exotic invasive species, 2) water quality monitoring and science in critical DOI units in South Florida, 3) the linkage of climate change science to ecosystem restoration and DOI natural resources management. *See related briefing on the Critical Ecosystem Studies Initiative (CESI).*

Science projects carried out by cooperators face challenges due to delays in the NPS contracting process.

## ***2008 6.1 Resource protection, law enforcement, visitor safety and security, fire and aviation management, fee collection***

### **EVER - Resource and Visitor Protection**

#### **OVERVIEW**

The Division of Resource & Visitor Protection (R&VP) is responsible for the protection of the park's visitors, employees and resources. These responsibilities are divided among 4 different programmatic areas within the division. These programs are; law enforcement, fire and aviation management, fee management, and special park uses.

Although the primary objective of the law enforcement program is the detection, apprehension and deterrence of criminal violators and activity, park rangers at EVER are

trained in and respond to medical emergencies, search and rescues, visitor assists and resource management incidents. The law enforcement program is also responsible for the operation of the Communication's Center which supports 24/7 dispatch services for the areas 4 national park service units. In FY 2008, 25 of the authorized 33 permanent full-time law enforcement ranger positions were filled. The remaining positions continue to be unfunded/vacant. All 6 permanent full-time dispatcher positions were filled and 6 seasonal rangers were hired from December 2007 through April 2008; 5 of these positions were funded through the centennial initiative program.

The park's fire and aviation management program is one of the largest and most active in the service. The program supports a proactive prescribed fire program as well as a qualified, response-ready suppression staff. The staff actively supports the national fire plan by providing human resources at all levels of incident management. In addition to fire management, the aviation branch provided year-round support to parkwide programs including; research and resources management projects, VIP tours, search and rescue efforts and law enforcement patrols. In FY 2008, there were approximately 30 permanent employees in the fire and aviation branch.

The fee program consists of a permanent full-time fee program manager, who supervises 7 permanent VUA's (entrance station fee collectors) and approximately 8 seasonal VUA campground fee collectors. The campgrounds are staffed

The special park uses program expanded in 2008 with the creation of a Special Park Uses Program Manager. This position oversees the issuance of film and special use permits, as well as commercial use authorizations.

The R&VP staff supports other divisional and park-wide projects including resource management's control and removal of invasive & exotic species, backcountry waterway and trail maintenance, coordinating and chairing the park's wilderness committee, and critical assignments on the park's hurricane incident team.

## **ACCOMPLISHMENTS**

**Fee Management** Visitation through fee revenue increased in FY 2008 with the revenue totaling \$1,464,042. This was a \$47,623 increase over FY 2007. Cost of collection decreased from 48% to 42% in FY08. This was due to a reduction in operating hours of the park's main entrance station from a 24/7 operation to 16 hours per day. The 16 hour schedule was established to receive fees from the recreational and guide fishermen who usually enter the park around 5 a.m. and regular visitation until sunset.

<u>Park passes sold in 2008</u>		<u>compared to 2007</u>
Senior	4700	2600
Access	400	300
Interagency	1150	1150
EVER annual	3000	2500
Boat	200	400

**Law Enforcement Despite** the continued challenges of being short-staffed, the Division continued to support other law enforcement and fire management jurisdictions by participating in numerous out-of-park fire assignments and several law enforcement details. The park's Communications Center continued to provide 24 hour/7day-a-week dispatch services for, DRTO, BICY and BISC.



**Significant incidents/activities** In FY08, the park made tremendous strides in resolving the “Area of Inadequate Protection” in the Chokoloskee Island area of the park. This designation was the result of a 2001 lawsuit filed by the Save the Manatee Club against the USF&WS for inadequate manatee protection. The park held 2 public meetings in January and March 2008. A citizen-based group designed and submitted an alternative proposal for speed zones/manatee protection. This alternative was overwhelmingly supported that it ended up being the park’s preferred alternative. The NEPA compliance is expected to be completed in FY2009 with implementation completed in FY 2010.

On January 3, 2008, Flamingo Rangers were notified of a missing man believed to be in the park. The parent’s of the subject told rangers that they received a suicide note from their son stating he had terminal cancer and did not wish to live. The subject’s vehicle was found in the park at the Whitewater Bay ramp and a search was initiated. The search was started using air and water resources and was later expanded to land when a canoe belonging to the subject was located. The search continued for three more days utilizing personnel from Park Service Law Enforcement, Fire, and Research. The search was suspended on Jan. 9<sup>th</sup> due to a diminishing possibility that the subject would be found in the area and lack of further evidence. The subject’s parents were notified and took possession of his belongings. The case remains unsolved.

The invasion of exotic Burmese Python continued to be a headliner in 2008. In January, a park visitor reported a python wrapped around his vehicle’s engine block. Rangers, park wildlife biologists and firefighters responded. Park rangers unsuccessfully attempted to use a TASER on the snake. After 2 hours of removing engine parts trying to get the snake from the engine, the snake relaxed. Rangers and biologists were able to unwind the snake and remove it from the engine. Rangers spent the next 2 hours rebuilding the engine.



In March 2008, a Native American, Cecil Osceola, showed up at the park's Shark Valley entrance in a large bulldozer declaring he wanted to reclaim his land to build a home.

Park Rangers responded and talked to Osceola until Superintendent Dan Kimball arrived to negotiate with him. The superintendent assured Osceola that he would look into the situation and get back with him with some resolutions. The 4 hour stand-off ended peacefully with Osceola leaving the way he arrived....in his bulldozer. A few weeks later, Superintendent Kimball met with Osceola and provided several alternatives. The park has not heard from Mr. Osceola since this incident.

In June 2008, Rangers responded to a report of a Cuban migrant landing on Cape



Sable. While mobilizing, rangers observed and subsequently detained 10 individuals entering the Flamingo marina suspected of human smuggling. Rangers turned the 10 individuals, 3 vessels, 3 trucks and 27 migrants over to the Border Patrol. (In January

2009, rangers testified in immigration court on this incident. The judge found the 2 primary suspects guilty of human smuggling and ordered them deported.

On September 07, 2008, while preparing the park for impacts from Hurricane Ike, rangers received a report of a downed helicopter in Florida Bay. Rangers responded to Nine Mile Bank to find a Robinson R-44 helicopter floating upside down in approximately 2 feet of water. The ship was reported missing on Saturday after taking off from Tamiami Airport. All four people onboard spent the night in the bay and were found, uninjured, on Sunday morning. They were rescued by the Miami Dade Air Rescue helicopter. Due to high winds and sea conditions moving into the area, rangers anchored the helicopter in place and will coordinate recovery efforts after the storm passes. NTSB is investigating the cause of the crash.



The Law Enforcement staff hosted 2 law enforcement in-service training courses assuring all LE rangers met annual refresher qualifications. Semi-annual firearms qualifications were also met by the entire staff. Several park rangers completed their basic LE training at FLETC during this time.

The Division also coordinated and hosted one Emergency Medical Technician refresher, one Motorboat Operators Certification Course (MOCC) and one Motorboat Operator Instructor Certification Course (MOICC).

**Other Law Enforcement Statistics include**

- 25 search and rescue incidents in the park, 1 unconfirmed suicide
- 21 emergency medical incidents, including 9 trauma, 7 medical, 1 cardiac life support and 4 first aid.
- A total of 7 Part I Offenses (7 citations/arrests for larceny/theft)
- A total of 230 Part II Offenses included: 10 DUI's, 15 liquor law violations, 65 disorderly conduct violations, 123 weapons violations, and 7 drug violations
- 2615 boating and 874 traffic incidents
- No documented violations of the Archeological Resources Protection Act (ARPA), Antiquities Act or other statutes protecting archeological resources.

**Special Park Uses** In FY 08 a Special Park Used program manager position was created and filled. This position, supervised by the Chief Ranger, oversees the processing and issuance of all commercial use authorizations (CUA), film and special use permits for both EVER and DRTO. This program also implemented a cost-recovery fee schedule to recoup the costs of administering and managing this program.

For fiscal year 08, 332 CUA's were issued for guide fishing, 42 CUA's for other tours (i.e. Birdwatching, Canoeing/Kayaking Tours, Eco-tours, etc). In addition, 34 film permits and 45 special use permits. The special use permits included a variety of activities, including; non-profit educational activities, land use/right-of-ways, first amendment, aircraft recovery, and bike events.



In DRTO, the CUA's process was modified to limit the number of CUA's issued. A competitive process was established to determine who would be awarded the 30 CUA's. Based on previous use, 14 CUA's were awarded for guide fishing, 9 for wildlife viewing, 2 for sailing, 4 for diving/snorkeling and 1 reserved for a one-time use. The CUA's are valid for 2 years and will be renewed for 2010. Five special use permits were issued and 4 film permits.

## Fire and Aviation Management

The Mustang Corner Fire one of the largest wildfires of the last two decades burned over 39,465 acres. In total 44,484.1 acres burned inside the park in 27 separate incidents. Park fire management personnel responded to an additional 22 fires within the Mutual Response Zone adjacent to the Park boundary totaling 126.5 acres burned, and made 7 assists on prescribed fires conducted by our partners outside the park.

Unplanned Ignitions	Planned Ignitions	Wildland Fire Use
Total: 49 fires	1 fire inside ENP	2 inside ENP
27 inside ENP for 43,484.1 acres	285 acres	544 acres
22 in MRA for 126.5 acres		

**Mustang Corner** On May 14 at 0815 smoke was detected near Mustang Corner, south of the Chekika Recreation Area on the eastern boundary of the Park. Fire Dispatch was notified and a Type 3 Engine from the Fire Cache and two Type 6 Engines from the East Everglades Station responded. When the initial resources arrived on scene the fire was approximately 100 acres. The sawgrass prairies were extremely dry, going on 30 days with no rain, and Energy Release Components and Burning Indices were in 97<sup>th</sup> percentile. Extreme fire behavior with rates of spread of 30 to 50 ch/hr was observed. Additional resources were ordered including an Incident Commander Type 3, Single Engine Air Tanker (SEAT), Type 3 Helicopter and 2 Bombardiers from FL-DOF. Special values at risk included occupied Cape Sable Seaside Sparrow (CSSS) habitat and cultural resources.



**Everglades Fire Personnel working fire with a flapper.**  
Photo by Sergio Martinez, NPS, Everglades NP



**A SEAT dropping on the fire.**  
Photo by Sergio Martinez, NPS, Everglades NP

The ICT3 took command at 0951. Tactics included working both flanks of the fire with the SEAT, helicopters, bombardiers, and squads. At 1038 the fire had burned approximately 300 acres, and progressed rapidly to 3,424 acres by 1556. An additional SEAT along with additional helicopters and crews were ordered. By 1900, acreage burned was 11,866. Throughout the day rates of spread increased significantly and were observed at times to be over 100 ch/hr.

Over the next several days, command of the fire transitioned to a Type 3 team and eventually to the Southern Area Blue Team (Type 1, Quisenberry), and additional resources continued to arrive. Primarily a wind-driven fire, with limited access, and extreme fire behavior made control efforts difficult for ground crews. Aerial resources along with the ground crews made good progress, but the fire spread rapidly.

On May 16, control of the north flank was lost due to a wind shift from the south-southwest. This shift pushed the fire towards 237<sup>th</sup> Avenue and the structures around East Everglades Station and Chekika. The 2007 Population F Buffer Prescribed Burn, which had the objective of keeping wildfires from entering as well as the exiting the park east of 237<sup>th</sup> Avenue out of the CSSS occupied habitat, as well as the community to the east of our boundary. As the fire hooked back around toward the south end of the road, the burn area slowed and stopped the fire, with only a few fingers reaching the road. The crews on the road were able to hold the fire and catch two spots across the road and keep them small (less than 0.1 acres). This stop prevented the fire from leaving the park boundary and possibly impacting the homes and state lands in the 8 ½ Mile Area. Eventually the fire's spread required a burnout around Chekika, the East Everglades Station, the Hernandez House, and along SW 237<sup>th</sup> Avenue. The 2007 U-Road Prescribed Fire also provided a buffer to the north during the burnout, which allowed crews an anchor point to successfully complete this operation. Structure protection during these operations was supported by Miami-Dade Fire Rescue.

The fire was 21,436 acres when Quisenberry's Type 1 Southern Area Incident Management Team took over on May 17 at 0630. A staging area was established at Homestead General Airport. Resources on scene included three Type 6 engines, one Type 3 Engine, three FL-DOF Bombardiers, one Type 1 Handcrew, one Type 2 Handcrew, three Type 3 Helicopters, and three SEATS. At 1900 acreage burned was 32,820 acres, with the additional acreage being to the northeast, and to the east where fire came out of one of the hammocks on the south flank and made a run to the east.

For the next several days the lingering fire in the hammocks on the perimeter became the major concern. The fire made several runs into the prairies from these hammocks.

Extensive work was done on the fire from Mitchell hammock using aviation resources, a Hotshot Crews, and a bombardier. The barrier provided by decreased vegetation that resulted from the 2006 Airboat Wildfire and The U-Road Prescribed Fire eventually helped to slow the fire's progress to the northeast. Park Superintendent Dan Kimball successfully negotiated with the Army Corps of Engineers release of water into the area in an innovative attempt to hydrate this portion of the park. Additionally, a retardant drop was authorized to slow fire spread toward US 41 by Dan Kimball which assisted in the control of the fire northern advancement.

On May 25, the fire was transitioned from the Blue Team to a Type 3 Team (Sanders). Work continued on hammocks on the west and south sides of the fire. On May 26 fire came out of two hammocks and was attacked with SEATs and helicopters. Less than 10 additional acres burned.

On May 30, the fire was transitioned from Sanders back to the Park ICT3 (Ledbetter). Over the next few days suppression efforts continued on some of the hammocks still showing smokes. The fire was monitored twice a day by air. The fire was called 100% contained on June 4. The fire continued to be monitored daily by air, and was called controlled and out on June 14. A BAER team came to the park to assess damage to archeological and cultural sites. Existing monitoring plots will be used by Park fire effects staff to study the recovery of this area.



Mustang Corner-May 14, 2008 Photo by Hillary Cooley,



Mustang Corner-October 15, 2008  
Photo by Hillary Cooley, NPS, Everglades NP

**West Camp** The West Camp Fire began on June 22 caused by a lightning strike from a late afternoon thunderstorm. At 1843 smoke was spotted west of Chekika, however fire resources were unable to conduct aerial recon due to adverse weather conditions (thunderstorms and lightning). At 2030 E-605 departed East Everglades Station in route to the Miccosukee Reserve Area (MRA). On arrival it was determined that there was no threat to the MRA or HWY 41. The glow from the fire was visible until 0230 on June 23.

On the morning of June 23 firefighters were able to conduct aerial recon of the fire. At that time the fire had burned north of the slough in CSSS population A, in the area of West Camp. Mechanical fuel treatment around the camp conducted by fire management personnel in early April saved the camp from burning. Interior hammocks along with six hammocks on the fire's perimeter held heat and had potential for escape. Resources were flown in to the fire and suppressed the only remaining smokes. The fire was declared controlled on June 26.



West Camp after fuel break slowed and stopped fire around the structure.  
Photo by Robert Trincado, NPS, Everglades NP

**Loop Road** The Loop Road Fire was reported  $\frac{3}{4}$  of a mile south of Loop Road at 1630 on July 3. There were 3 structures on the MRA potentially threatened, as well as several culturally sensitive hammocks in this area. E606 departed the East Ever station and arrived at a lookout location on Loop Road at 1720. Helicopter 1RL with the crew from E-604 departed from the Beard Center and gave a size up of the fire from the air. The crew was then dropped off and began suppressing the north flank of the fire. 1RL then picked up the E-606 crew at Loop Road and transported them to the fire to suppress the south flank. After the second crew was dropped off, 1RL hooked up a bucket and began dropping water on the fire. At 1838 the fire was contained. A recon flight was made on July 4 and the fire was declared out. The fire was contained to the prairie and did not enter any of the sensitive hammocks.

**Miccosukee Rx** The Miccosukee Prescribed Burn took place on April 16, and was the culmination of over five months of planning and coordination between Everglades National Park, the Miccosukee Tribe of Indians of Florida, and the Florida Department of Forestry. The location of this burn was just south of HWY 41 on the northern boundary of Everglades National Park. South of the burn area is occupied CSSS habitat. The goal of this burn was to safely reduce the fuels between the MRA and the CSSS habitat to help protect both areas from wildfires originating on the opposite side. The burn was conducted with north winds to reduce smoke impacts on the MRA and Highway 41. Personnel and

resources from the NPS Southeast Regional Office, Big Cypress National Preserve, the Miccosukee Tribe of Indians of Florida, the Seminole Tribe of Florida, and the Florida Department of Forestry assisted Park fire management staff in completing this fuels treatment.

**National Fire Plan Incident Assistance and Outreach** For FY2008 ENP Fire and Aviation Management staff had 33 mobilizations outside ENP. These included assistance for wildland fires, disaster relief, prescribed fires.

Fire education and prevention outreach activities included several school presentations. Both in classroom and hands on presentations were given. Also, a variety of programs were given in the park. Fire education manned a booth and the Miami Dade Fair in conjunction with Florida Department of Forestry.

The most noteworthy accomplishment was the formation of the Fire and Aviation Communications Team. The team consists of 3 Fire and Aviation staff members and is overseen by 3 senior staff members. The team was formed to coordinate better outreach in the surrounding communities. The team had the opportunity to give a presentation at Yellowstone National Park during the "The '88 Fires: Yellowstone and Beyond" conference. During their time at Yellowstone the team gave presentations promoting the Fire and Aviation Communications team.

**Staffing** The majority of ENP Fire and Aviation positions were staffed throughout FY2008. There were limited vacancies for a portion of the year in suppression, aviation, prescribed fire and fire effects. When needed additional resources were brought in from other parts of the country to meet staffing and severity requirements along with staff from other ENP divisions. Interns and volunteers were used to assist the Fire Effects staff.

**Training** 24 fire and aviation training courses attended by 299 students were held in ENP in FY2008. Courses included Prescribed Fire Burn Boss (Rx-300), Incident Leadership (L-381), Helicopter Crewmember (S-271), several CPR/First Aid classes, First Responder, and several others. Attendees included staff from Everglades, Biscayne and Big Cypress, cooperators and other interagency participants.

The Fire Management Officer, Rick Anderson instructed RX-510, Advanced Applied Fire Effects at the National Advanced Fire Resource Institute in Tucson Arizona.

Fire and Aviation staff members also attended 32 courses sponsored outside ENP. These courses included various disciplines for both line and overhead positions.

**Taskbooks** 44 position taskbooks were initiated during FY2008. These taskbooks included Division/Group Supervisor, Incident Commander Type 3, Prescribed Fire Burn Boss Type 2, Helicopter Crew Member, Public Information Officer, Resource Unit Leader, Firing Boss and several other line and overhead positions.

24 taskbooks were completed and certified by staff members in FY2008. They included Helicopter Crew Member, Incident Commander Type 5, Engine Boss, Firefighter Type 1, Engine Operator, Public Information Officer, Helicopter Manager/Boss and Expanded Dispatch Recorder

**Aviation** During FY2008 ENP flew 495 helicopter hours and 531 fixed wing hours. There were 3 SAFECOMs filed during FY2008. 2 were during the Mustang Fire and one was a result of no flight following. None of these SAFECOMs resulted in injuries or damage to the aircraft or park property. New protocols have been developed for Flight Following in ENP and an additional flight following position is being created to alleviate the work load of 784 dispatch and Fire Dispatch.

The Raulerson Canal Project was completed in one day with out incident. The project included moving almost 64,000lbs of supplies via 150' long line from Flamingo to the project area. A Type 1 helicopter from Brainerd Helicopter was hired to complete the job. The project included ENP staff from Fire and Aviation, Law Enforcement, Maintenance, and Research staff.



**Raulerson Canal Project - March 11, 2008**  
Photo by Al Mercado, NPS, Everglades NP



**Raulerson Canal Project - March 11, 2008**  
Photo by Katie Budzinski, NPS, Everglades NP

**Fire Effects Monitoring and Fire Ecology** The Everglades fire effects monitoring program was able to successfully transition the fire effects monitoring database from FEAT (Fire Ecology Assessment Tool) to FFI (FEAT Firemon Integrated) in 2008. The crew continued to read plots and refine methodology for fire effects monitoring and data management in both Everglades National Park and Canaveral National Seashore. In the Pine Rocklands, candidate species butterfly host plant and rare herbaceous plant monitoring studies continued.

Everglades fire effects staff continued to assist and collaborate with other organizations. Our fire effects monitors served as advisors to the Pine Rockland Working Group, an international, multi-agency effort which effectively makes recommendations and takes action to protect this imperiled ecosystem. Aerin Land represented Everglades and Biscayne National Parks on the Imperiled Butterfly Working group and was appointed co-chair of the Habitat Assessment and Management sub-committee. In February, 2008, fire effects monitors assisted with organizing and facilitating the biannual 2008 Pine Rockland Conference. In December, 2008, fire effects monitors organized and facilitated the 8<sup>th</sup> annual 2008 Cape Sable Seaside Sparrow symposium (Fire Management Strategy of Occupied Cape Sable Seaside Sparrow Habitat). The Everglades fire effects team continued to work with the Big Cypress prescribed fire crew. A South Florida Inter-Agency meeting was held at Panther National Wildlife Refuge to share objectives, protocols and foster communication between agencies and researchers conducting fire effects monitoring in South Florida. The Everglades fire ecology / fire effects staff provided input and expertise to National Key Deer Refuge managers in the development of their Fire Management Plan and monitoring program. They also provided input and expertise to the South Florida and Caribbean Inventory and Monitoring staff for the development and selection of Everglades monitoring sites. Maya Vaidya served as a peer reviewer on the panel for Joint Fire Science proposals and Aerin Land provided Everglades monitoring data and input during the development and inaugural meeting of the Imperiled Butterfly Working Group. Maya Vaidya and Aerin Land traveled to eight National Forests in the Southeast Region to serve as facilitators for the National Fuels Assessment project.

Crew members presented fire effects data at various venues, including the Pine Rockland Working Group Conference, the annual Entomological Society of America conference, and the annual Everglades National Park Fire Management After Action Review. Aerin Land and Maya Vaidya represented Everglades National Park at the Pine Rockland conference, Miami FL in February 2008 and the Pine Rockland Working Group workshop in the Andros, Bahamas. Aerin Land presented current data regarding fire effects on the candidate butterfly species for the federally endangered species list and their host plants and Maya Vaidya presented current data and new methods to assess snag populations in the Pine Rocklands.

The fire effects staff was involved with a number of outreach events in 2008. The Everglades Fire Communication Team (FCT) was created in March, 2008. Katie Budzinski served on the committee as a co-chair and the fire ecology representative. The FCT developed and presented the 50<sup>th</sup> Anniversary of Prescribed Fire in Everglades National Park. Katie Budzinski, along with other FCT members, presented this information at Everglades National Park, Homestead, FL and the '88 Fires: Yellowstone and Beyond Conference in Jackson Hole, WY. Intern Naomi Kibe worked part time with the Environmental Education staff and created a detailed presentation on the role of fire in the Pine Rocklands. She presented the program multiple times to the public during the spring of 2008. Maya Vaidya was interviewed for a report with local channel 6 news on the after effects of the Mustang Corner Fire. The fire effects staff presented fire ecology information at family and school events. Fire ecology presentations and field trips were conducted for University of Florida students and the Everglades Interpretation staff.

The fire effects staff worked on prescribed fires and wildland fires, including the ~49,000ac Mustang Corner Fire, assisted with staffing needs for severity and preparedness, and assisted with three hurricane shut-down and re-opening operations.

<b>Fire Effects Plot Workload FY 2008</b>							
<b>Park</b>	<b>Monitoring Unit</b>	<b>Number of Plots</b>	<b>Type of Plot (FMH, photo point, other)</b>	<b>Pre-burn</b>	<b>Immed. Post</b>	<b>Postburn (1-20 yrs)</b>	<b>Total</b>
<b>Everglades</b>	Pine Rockland	27	FMH Forest plot	0	0	21	<b>21</b>
	Short Hydro-period Prairie	28	FMH grass plot	0	8	16	<b>24</b>
	Long Hydro-period Prairie	11	FMH grass plot	0	0	1	<b>1</b>
	Coastal Prairie	18	FMH grass plot	0	0	2	<b>2</b>
	Butterfly Host plant Monitoring	2	Host-plant monitoring	N/A	0	20	<b>20</b>
	Phenology Monitoring	8	Phenology monitoring	N/A	0	6	<b>6</b>
	Shrub Monitoring	6	Tagged individual shrub monitoring plot	0	0	6	<b>6</b>

<b>Canaveral</b>	Insect Monitoring	6	Insect Monitoring plot	N/A	0	6	<b>6</b>
	1970's photo-point relocation plots	225 (26 relocated)	Photo Point	N/A	0	0	<b>0</b>
	Slash Pine Flatwoods (Pinus elliottii)	11	FMH Forest plot	0	0	3	<b>3</b>
	Coastal Scrub	18	Photo Point	18	17	0	<b>35</b>
<b>Total</b>		161		18	26	80	<b>124</b>

**Fire Effects Plot Workload 2008** The fire effects crew monitored 51 FMH plots this year, 48 in Everglades National Park and 3 in Cape Canaveral National Seashore. The crew also monitored 2 Butterfly Host Plant plots on a monthly basis, recording phenology of *Croton linearis* (Pineland Croton) and presence of *Strymon acis bartrami* (Bartrams Hairstreak) and *Anaea troglodyta floridaalis* (Florida Leafwing) herbivory or life stages. Insect diversity monitoring in the pinelands was wrapped up this year, with each of the 6 plots being visited a final time. Shrub phenology monitoring continued in the single plot that burned the previous year and final height and crown areas were collected in all 6 of the shrub plots. The study initiated to monitor effects of fire on individual shrub growth, resprouting, and phenology was concluded after 1 year of monitoring.

## DRTO RESOURCE AND VISITOR PROTECTION

Rangers documented 120 case incidents. 36 of these were for emergency medical services, which included 2 fatalities. One was result of Diver Error and the other of natural causes while asleep while aboard a boat. There was one non-fatal case where a patient suffered spinal injury as a result of a fall from the second tier of the fort. All cases were conducted at the basic life support level of care (BLS) by emergency medical technician basic (EMT-B) several patients would have benefitted from a higher level of care especially considering the long helicopter response time needed to get a patient to definitive care. Several of the cases were for marine injuries including cuts, falls, and stings from jellyfish, sea urchin spines and fish/shark bites.

DRTO responded to 12 Type I offenses and 22 Type II offenses. 14 of the Type II offenses (60%) were for resource violations such as entering closed special protection zones, overboard discharge, wildlife violations, and groundings. Other Part II offenses involved disorderly conduct, possession of controlled substances, Interference with an agency function and vandalism.

Type one offenses constituted 11% of the total offenses. 12 of these involved illegal immigration and human smuggling. The other case involved a warrant without extradition. Rangers arrested no violators.

Rangers performed 8 marine search and rescue missions. DRTO has strong currents that take a victim out to sea. A turned over sea kayak or even a disabled motor boat poses a grave risk without ranger intervention.

**DRTO Research Natural Area - Major Case** DRTO rangers working with Special Agents from the United States Fish and Wildlife Service were responsible for one of the largest poaching cases ever prosecuted in Florida.

Rangers received information from a confidential informant through our partnership with an EVER research biologist. The informant stated that Rob Hammer, one of DRTO's CUA holders was taking many species such as red grouper over the catch limit and selling the fish in Miami.

At the time Regional Director Sam Hamilton of the United States Fish and Wildlife Service (USFWS) Southeast Region 4, was holding his staff retreat at DRTO. The SE Region 4 Special Agent in Charge Jim Gale took an interest in the case knowing the values at risk and the impacts this activity could have in a protected area such as the RNA. Special Agent Dave Pharo was assigned to the case.

Surveillance was conducted at DRTO and from Key West to Miami over a period of several months where it was determined that Hammer was involved in several illegal fishing activities including the selling of his catch from the park commercially. During surveillance, Hammer was overheard bragging about lobster poaching in the keys. This led to a search warrant and the subsequent arrest of six people including two prominent charter boat captains. Six thousand lobsters taken outside the park were recovered. Hammer has pled guilty to Lacey Act charges for his activities inside DRTO. It was determined Haammer sold more than \$60,000 worth of fish, many taken from DRTO. He will be sentenced next week.

**Migrant Landings at DRTO** Not too many National Parks are so significantly impacted by a federal immigration policy. Due to the large Cuban population in Florida and many years of migration issues the federal government passed a wet foot/dry foot policy some years back that became an issue for DRTO when enforcement of border patrols around Key West escalated after the 9-11 attacks on the United States. The very limited park staff available at DRTO has to respond to multiple migrant landings in "chugs" (handmade boats of all types) during the year. As this type of activity is not normally the responsibility of park service staff, meeting the needs of multiple groups of immigrants that would land on the remote island until another agency could take over continues to stress already limited resources. DRTO rangers and staff detained, transported, provided emergency medical care, as well as basic humanitarian aid to 54 illegal, primarily Cuban immigrants in fiscal year 2009 to date. The illegal immigrants made 3 separate landings. DRTO expended 153.95 man hours on the landings and expended \$8,814.37. The number of illegal migration incidents has dropped over the past 6 months. The reason is unknown but there is speculation that it could be due to the following reasons:

- The changing political situation in Cuba
- The disruption of smuggling organization by the aggressive arrest and convictions of fast boat smugglers by the AUSA.
- Hurricanes that devastated the Caribbean last year has depleted the materials needed for chugs.
- Improved interdiction techniques employed by the USCG.

The pattern and frequency of landings over the years is unpredictable and is difficult to program. Tomorrow the landing frequency could significantly increase and overwhelm DRTO's limited law enforcement resources. It is anticipated that diplomatic positions with Cuba will soften. This realistically would lead to the elimination of the "wet foot dry foot policy". The mechanism to naturalize Cuban migrants would disappear, and as a result the law enforcement profile for these incidents would need to significantly increase.

While some illegal immigrants used homemade boats called "chugs", many were transported by human smugglers using fast boats.

Fast boat smuggling is becoming more prevalent. This method of smuggling has more inherent dangers to migrants and rescue personnel, as these vessels travel at high rates of speed, at night, without lights, with minimal electronic navigation, no radar and are significantly overloaded. They are also inclined to dump their passengers in the water rather than coming into shore.

Rangers worked closely with the United States Coast Guard, Customs and Border Protection (C&BP), and Immigration and Customs Enforcement to resolve the illegal landings. Currently, DRTO has an agreement with the Department of Homeland Security C&BP for reimbursement costs relating to transportation and security. Unfortunately, this does not cover the other inherent costs such as chug disposal, medical supplies, food, clothing, garbage disposal, and fuel cleanup which are a part of every landing.

Protection rangers took custody of the refugees and provided for basic needs such as food, water, medical treatment and dry clothing until the refugees could be transferred to the U.S. Coast Guard (USCG) or the U.S. Border Patrol (USBP). One group had their vessel engine blow up spraying the occupants with scalding fluids. Several immigrants had third degree burns with major tissue sloughing on faces, backs and legs.

Refugees typically arrive under cover of darkness. Protection rangers provided many hours of overnight supervision in addition to regular duty hours. This resulted in hundreds of hours of overtime and often exceeded daily hour work caps. This placed a strain on daily operations.

Transportation of refugees was made by U.S. Coast Guard cutter when available. This resource is frequently unavailable requiring rangers to escort the refugees to Key West aboard the commercial ferry or seaplane service for transfer to USBP. These escort details strip the park of emergency service providers for 20 hours leaving visitors with no emergency medical services and no law enforcement protection.

DRTO staff makes every effort to remove refugee boats from Loggerhead Key and other sensitive areas as soon as possible to decrease natural resource destruction within the park. Typical damage resulting from illegal immigration incidents included: vessel grounding, vessel sinking, discharge of fuels into park waters, discharge of human waste into park waters, littering of beaches, human waste on beaches, medical waste on beaches, illegal campfires, destruction of endangered plants, wildlife disturbance and damage to government property.

Abandoned refugee vessels were relocated to Garden Key for disposal by salvage ship. Each vessel costs the park over \$600 for disposal. Efforts are made to cordon off refugee vessels to protect the visiting public from the hazards of these vessels. Hazards include spilled fuel, blood other bio hazards, sharp metal, unknown liquids in unmarked bottles, drugs and needles.

**Staffing** DRTO protection division was minimally staffed throughout the year and was dependent on Centennial Seasonal and seasonal ranger staff for backfill to provide basic emergency services. This was the result of several circumstances including:

- Two rangers were transferred in Dec. of 2008.
- One of the permanent protection rangers was away at FLETC and the Field Training and Evaluation Program (FTEP) for approximately 9 months.

The net staffing level for much of the fiscal year was one protection ranger on each day with the Site Manager or a seasonal ranger for backup when available.

Generally four rangers are needed to provide minimal emergency services staffing of two rangers a day. During Fiscal year 2008 Resource Protection staff went through a transition losing two permanent law enforcement staff to another park that left a gap in services for part of the year. Protection rangers at Dry Tortugas National Park are often the sole source of assistance and emergency services in this remote location in the Gulf of Mexico. Protection staff must provide a full range of all-risk services, broadly including law enforcement, emergency medical services, as well as search and rescue in both terrestrial and marine environments. Protection staff ensures the safety of park visitors and protect the cultural and natural resources within the park.

It is the intention of the Chief Ranger to increase law enforcement boat patrols within the park and especially the RNA. The intention of these patrols is to increase law enforcement visibility in detect resource and other violations of the law. Effective vessel boarding is imperative to preventing and detecting violations. In order to safely board a vessel three rangers should be present. With current staffing levels this is difficult at best. One additional permanent GS-0025-09 Protection (Law Enforcement) Ranger is needed.

***Training***

Number of Rangers	Training	Hours	Total
1	FLETC	920 hours	920
1	FTEP	440 hours	440
2	Dive Training	40 hours	80
2	EMT	160 hours	320
1	DAN	8 hours	8
4	Law Enforcement Refresher	40 hours	160
8	Firearms Qualifications	8 hours	64
2	EMT refresher	24 hours	48
2	MOCC	40 hours	80
<b>Grand Total</b>			<b>2120</b>

***2008 7.1 Interpretation, education, outreach and partnerships***

**Everglades**

The Division of Interpretation and Visitor Services is responsible for creating opportunities for people to make intellectual and emotional connections to park resources, enhance understanding of the park, and foster an ethic of stewardship. The division operates five visitor centers and has the primary responsibility of developing and presenting informational and educational materials, publications, exhibits and interpretive programs for park visitors, surrounding communities, area schools, local and national media. Division staff also provides support and direction for Interpretive services at Dry Tortugas National Park

In 2008, the division of interpretation contacted 4,568,687 people including 434,181 visitors at the five visitor centers; 49,283 visitors attended 2497 interpretive programs; 55,601 students participated in 459 curriculum based education programs; 17,149 people were contacted through 80 community outreach programs; and 105,165 publications were distributed.

The division of Interpretation is proud to report that it was accident free for the entire year—another indicator of the resilience and professionalism of the permanent and temporary staff alike.

**Personnel** In 2008, 6.00 FTE in the Division of Interpretation and Visitor Services remained vacant due to budgetary constraints. Two GS-11 Supervisory Park Rangers, three GS-9 Park Rangers, and one GS-5 Bilingual Park Guide positions were partially backfilled by temporary staff. 14 temporary employees were hired, trained, coached, and evaluated. Ten employee submissions were certified by the national NPS Interpretive Development Program. One GS-5 Bilingual Park Guide position was filled with a SCEP employee.

An additional 5.1 FTE of the Division's 24 FTE was funded from non-ONPS sources. These FTE supported 80% of the curriculum-based education program, 16% of visitor center staffing, 3% formal interpretation programming, 10% informal interpretive programs, and 63% of community outreach programs. In addition, 48% of non-personal services, publications and media, were supported by alternate funding sources. The curriculum-based education program reached 55,601 students, parents, and chaperons with only 20% of program funding coming from ONPS funds.

**Centennial Seasonals** As a result of centennial funding the park offered 706 additional facilitated programs that contacted 180,905 additional visitors. Six new programs were developed and offered including; junior ranger programs, guided walks, family fun days, bird walks and canoe trips. In Environmental Education centennial staff presented 30 day-programs to 1700 children, and 14 three-day camp programs to 350 students. At Shark Valley centennial staff presented tram tours and short talks contacting 3510 visitors. They also offered ranger-led bird walks for the first time in a number of years, as well as daily tram tours, short talks, full moon bicycle tours, and a Sunday afternoon program in Spanish. At Flamingo centennial staff presented special programs to the Miami-Dade Firefighters that culminated in 18 new Jr. Rangers. Centennial seasonals staff provided orientation to thousands of park visitors at four visitor centers.

**Volunteer Support** In 2008, 64 volunteers worked for the Division of Interpretation contributing 12,751 hours, or 33% of overall park volunteer hours. Volunteers assisted in staffing 4 visitor centers, orienting visitors to park resources, roving trails, leading guided walks and talks, presenting community outreach programs, assisting in developing a library and video collection. Four volunteers at the two environmental education camps provided assistance to students, teachers and park staff throughout the school year. Eight volunteers were Artists in Residents.

**Education Program** In 2008, the Park's Environmental Education Program successfully continued its core programming of day and camping programs, teacher workshops, and the Miccosukee program. The day and camping programs saw a surge in number of scheduled programs and especially in the number of participants. Numbers were the highest since FY 2001. Education staff conducted a total of 143 day programs for 6826 participants and 32 camps for 913 participants. We also certified 170 teachers at the in-park teacher workshops for participating in our programs.

The Creating Future Park Stewards Centennial Challenge project reached a total of 88,901 participants. Personal contacts with students, teachers, chaperones, and parents comprised 17,757 of those, while 64,171 were reached through alternative programming such as loan materials and online or broadcasted programs. Out of 125 day program evaluations, 99% of responses scored the highest rating. This project was supported by a total of 18 staff members, 15 of those were supported by a Toyota USA Foundation grant,

and three were paid for with ONPS funds. The total cost of this grant project was \$210,200 supplemented by an additional \$242,902 from ONPS.

**Diversity** Participants in the Everglades Education program reflect the full diversity of the multi-cultural South Florida community: Hispanic 68 %, White 14 %, African American 13 %, Haitian American 3 %, Other 1 %, and Native American <1 %.

**Outreach to Underserved Communities** Grant funding was used to support one seasonal park ranger whose duty was to schedule and participate in community outreach activities. Between October 2007 and May 2008, the community outreach ranger successfully reached 17,149 people through 80 scheduled activities. National Park Service banners and vehicle mounted logos were also seen by more than 100,000 people, and nearly one million people were reached through 11 media outlets. Outreach to Spanish and Haitian communities was presented in those languages.

Outreach activities included library lectures, school programs, community organization meetings, boat shows, festivals, parades, career fairs, celebrations and teacher workshops. Media outlets included radio, television and newspaper interviews, magazine articles, exhibit displays, and publications distribution to 27 local businesses. The Outreach Ranger also facilitated two in-park events; the March for Parks at Biscayne National Park, and the Retired Peace Corp Volunteers Annual Everglades Outing in Everglades National Park.

**Recognition** The *Don't Let It Loose!* community education program received the "Keeper of the Light Award" for excellence in interpretation and education for the National Park Service's Southeast Region. The park received this prestigious award for the category of Educational Outreach.

**Partnerships** The park entered into an agreement with Fairchild Tropical Botanical Garden to cooperate on outreach, science and education programs. The park entered into an agreement with the World Heritage Alliance to cooperate on outreach and education programs. The Park worked with partners such as the Florida Keys National Marine Sanctuary, Fish and Wildlife Service, and the South Florida Water Management District to operate the Florida Keys Eco-Discovery Center in Key West.

**Partnership with Toyota** Funding for the Environmental Education program was provided by a three-year grant received from Toyota USA Foundation in June, 2007. They FY 2008 piece was for \$210,200. In the fall, Toyota contacted the park about additional funds available from Toyota Motor North America, their corporate division. The park submitted a second proposal for \$375,000 and received the funds. This money is for additional projects and personnel for the Everglades Education Program. The park will start using the additional funds in FY09.

On May 6, 2008, Everglades National Park hosted a media event with Toyota and the South Florida National Parks Trust to announce the donation of five million dollars to the National Park Service. Dan Sieger from Toyota Motor North America presented a check and car keys to Everglades National Park Superintendent Dan Kimball representing the \$1,014,550 and 5 vehicles designated for the Everglades Education Program. Superintendent Kimball also highlighted the fact that Toyota's donation would be matched through the Centennial Challenge Initiative for the current fiscal year. The event was held at Shark Valley and featured a class from Cypress Elementary participating in the Shark Valley Day Program.

**Centennial Challenge Initiative** Everglades National Park along with Dry Tortugas NP, Biscayne NP, and Big Cypress National Preserve submitted a joint three-year proposal for

the environmental education programs as a project for the Centennial Challenge. The project was approved for only 2008. The Everglades Education program received \$105,100 to meet the matching \$105,100 from the Toyota grant through the South Florida National Parks Trust. The Centennial Challenge federal match has extended the Toyota grant by another one-half year.

**Media/Planning** Ten *Waterways* television shows were initiated or completed in partnership with NOAA & EPA. Five audio and video podcasts were developed and posted on the parks website and iTunes. Through grant funded outreach activities, over 8500 people heard about the south Florida parks. Over 1 million people were reached through various media outlets. An additional 5200 people were reached through outreach programs presented by existing staff due to effective and efficient staff schedules. Staff participated in over 25 local/regional festivals and events, and offered interpretive programs in Spanish.

**New Technology** - On Earth Day, Everglades National Park hosted an electronic field trip called "Turn Over a New Leaf" about native versus invasive species, with a focus on plants. An estimated 35,000 students and teachers tuned in to the shows.

**GPRA Goals** In March 2008 Four hundred Visitor Survey Cards were distributed to a random sample of visitors; Goal IIa1: Visitor Satisfaction = 88%, the park fell short of its internal goal by 5%. Goal IIb1: Visitor Understanding of Park Significance = 93%, the park exceeded its goal by 7%.

### **Dry Tortugas**

The Division of Visitor Services and Interpretation is responsible for creating opportunities for people to make intellectual and emotional connections to park resources, enhance understanding of the park, and foster an ethic of stewardship. For FY 08 the division began recording visitation at the Florida Keys Eco-Discovery Center as part of the overall visitation for DRTO. This increased the numbers of Visitor Centers operated by the Interpretive division to two. The primary responsibilities of developing and presenting informational and educational materials, publications, exhibits and interpretive programs for park visitors, surrounding communities, area schools, local and national media was greatly enhanced by this addition

The Division of Interpretation reached 130,529 people including 86,029 visitors at the two visitor centers, 11,350 visitors attending formal programs and demonstrations, 30,000 visitors reached through informal interpretation, and 300 participants in the Junior Ranger program. 45,000 visitors viewed the park film, and 2,800 people were reached through community outreach programs and special events.

A new Lead Interpretive Park Ranger was hired in mid-September 2008 after the position had been vacant for nearly a year. The majority of projects reported here will be new to FY 09 and the arrival of the new Lead Interpretive Ranger. The Interpretive focus of the new Ranger for FY 09 was two-fold; 1) provide personal services increasing visitor satisfaction and experience at the park through increased interactions, 2) explore new technologies and techniques to carry the story of the remote Dry Tortugas to a broader audience.

Personal services were addressed with increased day to day activities and NPS presence with cooperating associations' personnel and daily ferry visitors. This has resulted in a dramatic increase in Ranger contacts and formal and informal interpretive talks. This has also resulted in a marked improvement in the quality and accuracy of tours provided by ferry personnel.

In order to proliferate the story of the Dry Tortugas and their amazing cultural and natural resources, two new projects involving the latest internet technologies are being field tested for their practicality. Both projects rely upon using the wireless internet service utilized and paid for by park personnel for private use. The first is a partnership with a non-for-profit academic group, Teens4Oceans. The partnership is based around the operation of a wireless underwater camera, furnished by Teens4Oceans, that will be placed under the main dock at Ft. Jefferson. The project is designed to study the markings Goliath Grouper in an attempt to determine if they are unique to a particular member of that species. The camera will capture underwater images every few seconds and post them to a website for public viewing. Based upon the annual number of visitors that visit a similar Teens4Oceans camera at Bahia Honda State Park, Dry Tortugas can expect thousands of hits per year to view the web cam.

Working in conjuncture with this project is a wireless interactive Roving Ranger capability. Beginning in late fall of FY 09 the Interpretive program began discussions with Susan Teel Director of California Mediterranean Research Learning Center. That organization specializes in using streaming interactive web-casts to connect remote parks to schools and organizations around the world. A field test of this technology was completed and found to be viable. As testing continues, this project could eventually connect the Interpretation of the Dry Tortugas to schools and partners all around the globe.

#### ***Other Significant projects***

- Serving as the Subject Matter Expert and Workgroup Lead for a WASO PFMD FMSS Unique Asset Workgroup developing inspection criteria and equipment feature lists for NPS fortifications. This work is developing guidance and inspection policies for all 7300 fortification assets throughout the NPS. This has resulted in WASO provided travel to various other parks to assist in condition assessments, assist contractors in the CAC's, and meetings in Denver and WASO to develop and plan the implementation of the new FMSS guidance. Further travel will be likely in late FY 09 and early FY 10.
- Partnered with the Florida Keys Save-A-Turtle organization for the creation of a new display for the Visitor Center at Ft. Jefferson. The new display will be funded and donated by the Save-A-Turtle Hospital and will be a cut away scene of turtle nesting site along with interpretive text relevant to sea turtles at the Dry Tortugas.
- Edited and assisted in the creation of the DRTO/EVER Dive Team Safe Practices Manual and other dive related documents. Appointed to serve as the Assistant Park Dive Officer for DRTO with responsibilities including compressor operation, team leader for dive operations at DRTO, and general assist in the operation of the Dive Team at DRTO.
- Attended MOICC class to provide additional onsite MOCC instructor capability at DRTO.
- Hired two Centennial Seasonals and one SCA for the staffing of the Florida Keys Eco-Discovery Center and the Ft. Jefferson Visitor Center. This NPS staffing is the only available personnel for the Center.
- Served as the NPS liaison with the Florida Keys Eco-Discovery Center and supervisor to NPS staff employed there. This major visitor facility now provides the only mainland based visitor contact station for Dry Tortugas National Park. Park staff worked with the Florida Keys National Marine Sanctuary, Fish & Wildlife Service, and the South Florida Water Management District to open and

operate facility. The role at this facility has increased with its reliance upon NPS staff for daily operations. Strategic scoping is currently underway to help continue development of this valuable resource.

**DRTO GPRA Goals** As a result of a shipping error, DRTO did not receive its 400 visitor survey cards. This oversight did not allow the park to conduct visitor use surveys. Therefore no data is available for this section for FY 08.

### **2008.7.2 Partnership programs, community involvement, cooperative activities**

**Everglades Association** The Association is a National Park Service Cooperating Association working in cooperation with the four south Florida national park areas to assist visitors and increase public understanding of the natural and historical values of the parks. 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. Due to poor business management the Association provided less than \$2,000 in cash aid to the four south Florida parks in 2008. However orientation and information assistance provided by Association staff was valued at approximately \$60,000.

**South Florida National Parks Trust** The South Florida National Parks Trust (Trust) was originally chartered through the National Park Foundation. In 2008 the Trust became independent of the National Park Foundation and signed a new formal fundraising agreement with the park. The mission of the Trust is to advance, through private and non-profit sectors, the interests and missions of the parks and in securing financial and other resources to support and enhance the park's efforts. In 2008, the Trust awarded seven grants to Everglades National Park totaling \$103,651 to fund a community outreach specialist, a SCA intern, junior ranger book reprint, Podcast program support, to develop signage for the EVER-BISC Greenway project, and to translate the park brochure into Spanish.

The Trust also serves as a fiscal agent holding other funds donated to the park. In 2005, through the Trust the National Parks Conservation Association gave a \$580,200 donation to the park to support enhanced law enforcement, research, and visitor outreach and education for Florida Bay. These funds continued to support these efforts in 2008. Working with the Trust, the Park received a \$639,550 grant from the Toyota USA Foundation for the Everglades Education program, FY08-10. In FY08 this was increased by \$375,000, bringing the total grant to \$1,014,550. Other donations totaled some \$47,400 for projects such as e-field trips, exotic pet signage, trails maintenance at Flamingo, waysides ahead signs, waysides, and supplies for Cuban migrants. We partnered with the four south Florida parks and Trust to submit a Centennial Challenge Project Grant.

A grant by the Edith and Curtis Munson Foundation through the Trust provided \$30,000. A portion of this was used to fund a Florida Outreach & Education employee who presented 23 teacher workshops contacting 271 teachers. The Everglades Junior Ranger program was translated and published in Spanish and Haitian Creole. This project was funded by a Challenge Grant from the National Park Foundation and Unilever and matched by the Trust. A *Don't Let It Loose* e-field trip was developed with funding provided by the Blank Family Foundation through the Trust. The Trust is also holding a \$25,000 grant in reserve to support reconstruction efforts at Flamingo

## Volunteers in Parks

***EVER Volunteer in Park Program*** Prior to 2008, the park's volunteer coordinator position was a 20% collateral duty of one GS-9 Park Ranger. As a result of centennial funding the park volunteer coordinator duties increased to 0.8 FTE, allowing for expanded recruitment and a subsequent increase in volunteerism. Total volunteers increased 37% to 815, and volunteer hours increased 14% to 50,185 hours, or 24.1 FTE, valued at \$805,477.

Volunteers provided critical supported for park operations including; 4 visitor centers, 2 developed campgrounds, 48 backcountry sites and a curriculum based environmental education program. Their accomplishments go a very long way in increasing visitor enjoyment of park resources. Volunteers helped reduce resource impacts by assisting in the maintenance of 82 miles of surfaced roads, 156 miles of trails and 7 miles of interpretive trails and 6 creeks and channels in Florida Bay. Volunteers assisted in research projects pertaining to park hydrology, aquatic biology, fire management and the monitoring and reintroduction of threatened and endangered animal and plant species. Individual volunteers and volunteer groups participated in a large scale pineland and wetland prairie restoration projects; assisted in efforts to eradicate invasive plant species, worked in the recycling center, and completed a variety of facility and trail maintenance projects. The Artist in Residence in Everglades (AIRIE) program hosting eight artists. In Florida Bay a team of VIPs constructed and installed markers in highly used boat channels to prevent continued loss of resources.

Additionally, 23 local area groups brought 477 volunteers into the park, an increase of 11 groups and 290 volunteers. 11 non-local area groups brought 180 volunteers. From May to September, increased time was spent recruiting locally. In this time, a partnership was created with South Florida Workforce, which places clients into employment and volunteer positions so they may acquire job skills and experience. A relationship was established with the Southern District of Florida Probation Office, which places clients into court required community service opportunities. We advertised the program at a Senior Center. We attended three college recruitment fairs, allowing us to compile an email list of students interested in joining VIP group projects to complete their service hours. The Artist in Residence Program had been discontinued due to lack of staff. The Volunteer Coordinator is now managing this program.

***DRTO Volunteer in Park Program*** The Volunteers In Parks program had another successful year at Dry Tortugas National Park. Volunteers are integral to the daily operation of the park, and their contributions have made lasting improvements to the visitor experience. The park welcomed 23 volunteers who contributed a total of 5,859 hours of service in FY 08; 688 hours in interpretation, 3,386 hours in maintenance, 249 hours in resource management, 334 hours in General Management, 840 hours in campground hosting, 113 hours in training, 88 hours in Administration, and 161 hours in Protection/Operations/Law Enforcement. Through the Garden Key Host program, volunteers provide campground orientations, campground maintenance, and general education and assistance to the visiting public. Many of these volunteers also share specialized skills to assist with maintenance projects in the park. Garden Key Hosts have been instrumental in the continued operation of the park bookstore in absence of an Everglades Association employee. Volunteers participating in the Loggerhead Key Keeper program perform all tasks associated with the daily maintenance of Loggerhead Key. These volunteers also greet visitors to the island and maintain daily watches for incoming Cuban refugees.

## **2007. 8. 1 Concessions Management and Visitor Services**

### **Everglades Commercial Visitor Services**

Flamingo continued to provide a challenge for both the Concessionaire (Xanterra) and NPS. NPS and Xanterra executed two amendments during the fiscal year. The first amendment continued the contract between NPS and Xanterra through December 31, 2008 in return for certain considerations provided by NPS. These considerations included NPS agreeing to take over certain maintenance activities, not charging Xanterra for water and sewer usage, and NPS assuming the basic cost of telephone service (not including long distance charges). The second contract amendment provided that Xanterra be relieved of its insurance obligations resulting from the 2005 hurricanes in consideration for Xanterra releasing its rights for possessory interest for the employee dorms they constructed in 1991 and also transferring its property to NPS at no additional cost. This amendment was necessary in order for a new concession contract to be financially viable.

A prospectus for visitor services at both the Flamingo and Gulf Coast locations was issued in FY 2007; however, a preferred offer had not yet been selected by the end of the fiscal year.

The staffing situation within the branch was partially alleviated with the hiring of a part time term commercial visitor services specialist (24 hours per week) in December 2006.

Staffing continued to be a challenge, with the division operating with only the Chief of Concessions Management (the GS-9 concessions specialist having left the park for a job at SERO November 2002). The Park developed a PMIS project late in 2006 to hire a part time (24 hours per week) term position to assist the Chief with concessions duties, including the development of the Flamingo Commercial Services Plan. The PMIS project still needed to be approved by SERO and WASO at the end of 2006.

### **Dry Tortugas Commercial Visitor Services**

The prospectus for ferry service from Key West to Dry Tortugas National Park was finally released to the public during April 2007. The offer packages had not yet been evaluated at the end of FY 2007.

Chief Rangers Office staff, Commercial Visitor Services staff, and the Deputy Superintendent developed a competitive selection process, approved by the Regional Solicitors Office, to determine which operators would receive one of the 30 Commercial Use Authorizations (CUAs) allowed for Dry Tortugas National Park. CUA Selections were made before the end of calendar year 2007.

Staffing for commercial visitor services at DRTO continues to be provided by EVER staff.

### **2008.9.1 Conclusions**

As outlined in the reports of each park division at Everglades and Dry Tortugas National Parks, that have been synthesized into one report, both parks continue to grapple with a myriad of diverse and challenging issues and building on opportunities to manage these significant and unique natural resources.

Everglades strives to coordinate and cooperate with the significant intergovernmental program for overall ecosystem restoration that they are a significant part of while also addressing the day to day demands of managing a park of this size and working to meet visitor expectations.

The management team and park staff has been creative in acquiring outside resources to enhance the visitor service, cultural resource, and natural resource programs in the park. Various grants, the Centennial program and park partners support this past year has made a significant difference in the ability for the park to improve these program areas.

The limited resources dedicated to Dry Tortugas have this park relying on additional support from Everglades. DRTO staff strives to make the visitor experience to this unique park one to remember, while at the same time protecting cultural and historic assets. Given the remoteness of this island park along with staff and communication challenges outlined in this report there are a number of areas posing unique and significant management challenges for this park. .