EVERGLADES NATIONAL PARK
DRY TORTUGAS NATIONAL PARK

SUPERINTENDENT'S ANNUAL REPORT
FISCAL YEAR 2005

Dry Tortugas National Park 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.

Fiscal year 2005 was another active hurricane year for both parks. Hurricane Katrina hit both Everglades and Dry Tortugas on August 25gh causing significant damage to docks and backcountry chickees, and concession facilities. In addition, an unexpected shift in direction that caused Katrina to head south to Flamingo instead of west to Fort Myers caught the park with equipment in Flamingo that normally would have been moved to the missile base for safe keeping. As a result the four foot storm surge flooded Flamingo damaging structures and ten government vehicles. At Dry Tortugas National Park, structural damage to Fort Jefferson occurred; a boat was damaged as were docks, employee quarters, the communications tower and park utilities.

Katrina was followed by Hurricane Wilma on October 24 with its 8-9 foot storm surge. Between the two storms the parks incurred over $13 million in damage. The concession lodging operation and restaurant were closed; with the cost to repair damage to the lodge and cottages exceeding the cost of building new facilities, the decision was made not to repair either the lodge or the cottages. Supporting this decision was the fact that Monroe County code would not permit rebuilding on the ground level in a coastal high hazard zone. Due to multiple hurricanes park facilities at Flamingo, including the lodge and visitor center, were closed for over a month during FY 05.

Resource Management and Science

Modif*ied Water Deliveries Project (MWD):*

The Everglades National Park Protection and Expansion Act of 1989 authorized the addition of 109,600 acres of Northeast Shark River Slough to the park. The Act directed the US Army Corp of Engineers (COE) to improve water deliveries to Everglades National Park and, to the extent practicable, take steps to restore the natural hydrologic conditions in the park. COE recommended increased conveyance of water from water conservation areas south into the park's largest drainage basin, the Shark River Slough. Northeast Shark Slough is critical for restoration of water flow to the park. Restored water flow will bring significant benefits to park plant and animal life and may be critical to the survival of several endangered species, including the Cape Sable Seaside Sparrow. The project consists of four general components: 8.5 Square Mile Area Flood Mitigation, Conveyance/Seepage Control features, Tamiami Trail (U.S. 41) modifications, and Osceola Camp.

Due to changes in the scope of the project as well as unforeseen increases in market prices for real estate and construction materials in January 2005, OMB approved a baseline cost change from $190 Million to $398 million.

Status of the 8.5 Square Mile Area Component. The COE original 1992 General Design Memorandum (GDM) for the MWD Project provided for the construction of a mitigation canal and levee, with land acquisition only to meet the needs of constructing

these project features. Subsequently, the COE, with the USFWS and NPS participating as cooperating agencies, completed a General Reevaluation Report (GRR) and Supplemental Environmental Impact Statement (SEIS). Based on the new GRR/SEIS, the COE also signed a Record of Decision (ROD) in December 2000 on the new federally selected flood mitigation plan for the area. This plan (Alternative 6D) uses a combination of land acquisition and flowage easements, coupled with structural features to accomplish the required mitigation. In addition, pump station S-357; designed to remove seepage water from the 8.5 SMA, has been relocated on the south side of the area in lieu of its previous position on the north side. This will allow for the seepage water to now be discharged into the C-111 Project, where a Storm water Treatment Area (STA) will be constructed.

Benefits to the ecosystem through the implementation of the modifications to the 1992 GDM flood mitigation plan for the 8.5 SMA are substantial. Based on the hydrologic analyses conducted by the NPS and USFWS, ecological performance was significantly improved in more than 20,000 acres in Northeast Shark Slough (NESS) with the revised mitigation plan when compared to the original design.

Land acquisition was initiated in FY 2004 and is currently 78% complete. The remaining tracks are either in the process of condemnation (82 tracts) or are public, utility, or roadway Right-of-Way tracts (107 tracks). For the latter, Miami Dade County will transfer the titles to roads in the project area when titles to all other project lands are held by the government. Florida Power and Light is coordinating with the COE on the transfer the utility corridor tracts.

The construction contract for pump station S-357 was issued in September 2005 and the Notice to Proceed issued on November 2005. Pre-construction and mobilization activities were completed in January 2006. The contract options for the levee/seepage canal and the flow-way/storm water treatment area will be awarded no later than May 2006. It is estimated that the construction will be completed in February 2007.

Status of Conveyance and Seepage Control Component*.* Subsequent to the completion of the 1992 GDM, additional scientific and engineering data analyses, in conjunction with improved hydrologic and ecologic modeling, indicate modifications to the selected project features are warranted in order to meet better the original objectives of the project. The structures identified in the 1992 GDM for restoring the hydrologic connection between Water Conservation Area (WCA)-3A, WCA-3B, and NESS were analyzed subsequently through detailed hydrologic modeling that occurred in an inter-agency evaluation process over approximately a one-year period during 1999 and 2000. As a result of this process, the COE completed a Value Engineering (VE) Study in January 2001 that recommends replacing the original 1992 design conveyance features in the L-67A levee (S-345's and S-349's) and constructing three additional weirs in the L-29 levee to augment the flow of the existing L-29 conveyance structures, S-355A and S-355B. The VE Study also recommended eliminating the L-67C canal and levee. A re-evaluation of the conveyance features subsequent to the decision in the 2003 GRR for the Tamiami Trail will be required to fully assess the benefits and potential impacts in order to identify a final recommended plan and complete the required NEPA documents for these components. These analyses will be conducted as part of the Combined Structural and Operational Plan (CSOP), a project currently underway that will identify the final configuration of the structural and operational features of the MWD Project and a sister project, the C-111.

ENP "Combined Structural and Operational Plan" Report. The Combined Structural and Operational Plan (CSOP) is an integrated structural and operational plan for two modifications of the Central & Southern Florida (C&SF) project – the Modified Water Deliveries (MWD) project and the C-111 canal project. The purpose of CSOP is to define the operations for the C-111 and Modified Water Deliveries projects consistent with their respective project purposes as defined by the authorizing legislation and further refined by subsequent general design memoranda (GDM) and general reevaluation reports (GRR). The selection of the recommended plan CSOP is to be completed in early 2007; however, the SFNRC technical staff has been working on this project for all of 2005 and will complete our technical recommendations for this project in 2006.

This technical report by the SFNRC will provide a thorough and comprehensive assessment of the alternatives developed as part of the CSOP, authorized to restore water deliveries and hydrological/ecological conditions to Everglades National Park. This report will be submitted to the COE and the U.S. Fish and Wildlife Service to support their individual federal requirements associated with the implementation of CSOP.

Status of the Tamiami Trail Component. The Tamiami Trail (U.S. 41) provides a vital transportation link from Miami-Dade County west to Monroe County and Collier County, Florida. Under the 1992 GDM, increased flows from WCA-3B to NESS are assumed to pass through the existing culverts beneath the road and only a small portion of the main roadway along Tamiami Trail is elevated. As additional scientific and engineering data have become available and incorporated into hydrologic models, it has been recognized that the original plan may not be the most optimal solution for providing the increased conveyance capacity and connectivity required to meet the goals and objectives of the MWD Project. Based on the MWD project's proposed modifications to the upstream conveyance features within the WCAs as well as the increased conveyance requirements associated with CERP implementation, the quantity of water ultimately discharged under Tamiami Trail will be increased substantially over the quantities originally anticipated in 1992. Additionally, these increased flows required for restoration of NESS will result in higher water levels in the Tamiami Canal (L-29), immediately north of the roadway. The resulting high-water condition will periodically saturate the roadway sub-base and under extreme conditions might overtop the roadway in some locations. There is now a high degree of certainty that the current elevation of the 10.7-mile portion of Tamiami Trail between the S-334 and S-333 structures must be increased. The COE completed a GRR and SEIS in December 2003. This document underwent the required review periods and was published in the Federal Register. The 2003 GRR Recommended Plan (Alternative 7A) specifies building a 3,000 foot bridge and raising the remaining portion of the road surface. Concerns with the plan were expressed by Florida Department of Transportation (FDOT), based on safety, and by the National Park Service, based on environmental performance. Based on these concerns, DOI and the COE reconsidered the 2003 GRR Recommended Plan. A thorough evaluation of the benefits and impacts of the DOI recommended plan for Tamiami Trail was documented in the revised GRR and the Fish and Wildlife Service Coordination Act Report.

The Final Revised General Reevaluation Report and Second Supplemental Environmental Impact Statement were completed on January 9, 2006. Public comments were considered and addressed and a Record of Decision was signed on January 25, 2006. The alternative chosen features a 2-mile bridge west and 1-mile bridge east. Both

bridges will be constructed to the south of the existing roadway to maintain two-way traffic flow during construction. The unbridged sections of the 10.7-mile project area would be raised about 2 ft and widened. After bridge construction has been completed, the adjacent existing Tamiami trail roadway embankment will be removed to provide natural water flow under the bridge.

Status of the Osceola Camp Component. The Osceola Camp is a Miccosukee Indian village located on the south side of Tamiami Trail within the NESS portion of ENP. The area is occupied by approximately a dozen family members residing in trailers and using customary tribal facilities constructed on an area of raised fill material to prevent flooding of these facilities under the current (pre-project) hydrologic conditions. It is anticipated that the increases in water levels associated with the implementation of the MWD Project will increase the risk of flooding of these facilities. A detailed topographic survey was completed to establish the current elevation of the fill material, with the expectation that the MWD Project would raise the camp to mitigate for the increased flood risk. Based on this information and the expectation that water levels within the area could increase by more than two feet during extreme events, ENP, in collaboration with the COE, has initiated the studies and consultation needed to fulfill NEPA and permitting requirements to raise the camp. As part of completing the NEPA requirements, consultation with the tribal residents has been initiated but no formal agreement has been reached. Should an agreement with the Osceola family members not be completed in a timely manner, construction of the mitigation features could be delayed and also delay the ability to introduce the additional water into NESS needed to accomplish the goals of the MWD Project.

The Comprehensive Everglades Restoration Plan (CERP):

The park, through the South Florida Natural Resources Center, supports National Park Service involvement in the Comprehensive Everglades Restoration Plan (CERP). The NPS is a major partner in this combined state and federal effort to restore Florida's Everglades, including Everglades National Park, Biscayne National Park, and the Big Cypress National Preserve. The Comprehensive Everglades Restoration Plan proposes large-scale modifications to the water management infrastructure of south Florida, with implementation led by the COE and the South Florida Water Management District. CERP has a targeted completion date of 2038, estimated cost exceeding $8.6 billion; projects affecting NPS lands and waters are subcomponents spread throughout the implementation timetable. Critical factors affecting completion dates are funding streams approved by Congress and the Florida Legislature, land acquisition, project sequencing, and technological uncertainties.

The NPS role in the planning and design of CERP has focused on projects that are essential to restoration of Federal interest lands in south Florida. The State of Florida "Acceler8" program created a $1.6 billion bonding program to speed up implementation of several CERP project components. The National Park Service is aligning its efforts to support restoration efforts by actively participating in the associated CERP project development teams. Additionally, the NPS, in cooperation with other Federal, State, and local partners, is implementing a Monitoring and Assessment Plan for CERP, which will provide the information to determine the ecological effects and overall restoration success of CERP projects. Finally, the NPS participates in RECOVER (REstoration COordination and VERification), an inter-agency scientific group charged with system-wide assessments of planned and completed projects as well as with programmatic level activities.

With respect to CERP implementation, in FY 2005, the NPS:

- Contributed to the completion of the Guidance Memoranda and Interim Goals and Targets specified in the Programmatic Regulations, including a draft version of the Interim Goals and Targets agreement;
- Supported NPS participation in ecosystem restoration projects such as the Biscayne Bay Coastal Wetlands Project, L-31N Seepage Management, the C-111 Spreader Canal, Decompartmentalization, DECOMP Adaptive Management Project (DAMP), and Florida Bay and Florida Keys Feasibility Study;
- Supported monitoring network for water levels; flows; rainfall; salinities; wading birds; alligators; deer; periphyton; fish and aquatic communities; and vegetation;
- Participated in leadership role in RECOVER, including participation in Leadership Group, technical team chairs, development of Interim Goals, and evaluation the system-level effects of project alternatives.

CERP Interim Goals and Targets.
ENP staff continued to participate as part of the CERP Restoration, Coordination, and Verification (RECOVER) team in the process of developing recommended Interim Goals and Targets for the CERP. The CERP Programmatic Regulations require the establishment of an Interim Goals Agreement "to facilitate interagency planning, monitoring and assessment so as to achieve the overarching objectives of the Plan." ENP staff focused primarily on the Interim Goals, which are related to ecosystem restoration. Interim Targets are related to the flood protection and water supply aspects of CERP. In April, 2005, the Interim Goals team completed a final report entitled: *The Recover Team's Recommendations for Interim Goals and Interim Targets for the Comprehensive Everglades Restoration Plan.* ENP staff coordinated the ecological modeling for multiple Interim Goals indicators and authored several sections of the final report.

A final external peer review panel was convened in July, 2005 to review and comment on the final recommendations for Interim Goals and Targets document. The experts were drawn from a number of universities and government agencies that have participated in large-scale restoration projects in other areas of the country. Reviewer's comments were generally positive and they specifically noted many improvements in the document since the first peer review session.

ENP staff worked with DOI, COE, and State agencies to assist in interpreting the results from the Interim Goals and Interim Targets documents for use in an Interim Goals agreement. Staff continued to advance the principle that the aspiration of full ecological restoration is critical to the interpretation of Interim Goals as measures of CERP success and adaptive management. A draft version of the Interim Goals and Interim Targets agreement was in preparation during late 2005.

Water Quality:

In June, 2005, the federal judge overseeing the Everglades water quality lawsuit found that the state of Florida had violated the terms of the 1992 Consent Decree issued as a result of the Everglades water quality litigation settlement. The judge's finding was in response to motions filed in federal court by the Miccosukee Tribe of Indians of Florida in response to exceedances of water quality levels in the A.R.M. Loxahatchee National Wildlife Refuge. The judge ordered a series of hearings to determine causation of the violation, and to recommend to him specific remedies and timelines for those remedies

to be implemented. Park representatives to the Consent Decree's Technical Oversight Committee have worked with other federal parties to take part in these hearings.

Analysis of the interim water quality limits established for the park in the 1992 Consent Decree indicated that the park just achieved its target inflow total phosphorus concentrations for the 12 month period ending in September 30, 2005. The actual average concentration of 9.4 ppb was equal to the interim limit of 9.4 ppb established for that year. The actual concentration of 9.4 ppb also was well above the long-term limit, which will come into effect as of December 31, 2006. These results mean that while the park's water quality technically was in compliance, concerns remain about the ability of the State of Florida to achieve long-term compliance.

Research conducted via a cooperative agreement with Florida International University revealed the very early stages of nutrient enrichment just west of water detention areas built on the east side of the park. These detention areas, designed to prevent over-drainage of the eastern side of the park, may represent a future area of concern with respect to nutrient enrichment within the park's boundaries.

The Critical Ecosystems Studies Initiative (CESI):

As in the previous three years, the FY2005 CESI budget was $4 million. The FY 2005 Programmatic Plan (PMP) had the goal of reviewing the results of the implementation in FY 2004 of key recommendations made by National Academy of Sciences. Lessons learned from the new protocols, both what worked and what did not, were used to refine the long-term plan for how CESI as a program will be administered and how individual projects will be managed. In order to focus on this assessment, while incorporating the need to address priority science areas emerging from accelerated CERP projects, no new CESI proposals were solicited. CESI funds were instead directed toward completing existing projects. The Broad Agency Announcement process used for soliciting proposals was, however, refined and simplified for use in FY 2006.

The CESI PMP also provided for increased coordination with the management of other CERP science funding programs, including the RECOVER Monitoring and Assessment Plan, FWS Multi-species Recovery Plan, and USGS Priority Ecosystems Studies. Over the fiscal year, the DOI Science Team, formed in 2004 to develop the DOI Science Plan, met frequently to update the science needs of DOI restoration assessment. This process included merging science projects where duplication of effort existed, determining links between projects that could be used to communicate and collaborate more effectively on related goals, and identifying gaps in science that need priority funding – including long-term monitoring and decision support tools. CESI funds were divided between Basic Research, Monitoring, Simulation Modeling, and Assessments.

Land and Water Conservation Fund:

Congress authorized the Department of the Interior to reprogram approximately $10.5 million in FY 2004 Land and Water Conservation Funds to support NPS needs and USFWS requirements. These reprogrammed funds were used to address remaining FY 2004 science needs and complemented CESI funding. As intended, the reprogrammed funds were distributed to specific science needs that were not being addressed by any other funding source.

A major area of focus for the reprogrammed funds is water quality. A 2003 GAO report to Congress indicated that contaminants in the Everglades, other than nutrients and mercury, have not been adequately addressed. Lack of funding support in this critical area has the potential to hinder the availability of adaptive management tools required for restoration of south Florida ecosystems. Information available to assess CERP project designs largely consists of hydrological and ecological data and analyses, not water quality data. For this reason, one third of the projects funded by the reprogrammed dollars address water quality and contaminant issues.

Other research areas supported with reprogrammed funds include the removal of exotic plants in the East Everglades, avian species restoration in the pine rockland areas of Everglades National Park, and determination of the hydrologic requirements of aquatic slough vegetation.

In FY04 and FY05 approximately $5.05 million was used to fund about ten 3-year research projects, for which agreements have been executed and work is currently underway. In general, the projects are directed towards establishing water quality and ecological baselines from which to compare future trends resulting from restoration efforts. Specifically, the funding has been invested in research and monitoring toward understanding the impacts of nutrient enrichment on the ecosystem and the origin and fate of contaminants; assessing the current and continuing responses of the Everglades wetlands to nutrient inputs from cultural eutrophication; determining maximum levels of nutrients that will not cause imbalances in natural populations of aquatic flora and fauna; and determining acute and chronic effects in fish and invertebrates from pesticides and trace metals, as a probabilistic risk assessment.

Wildlife Management and Monitoring:

Wading Bird Colony Surveys: January – June 2005.
Aerial colony surveys were conducted monthly (January through June) by one or two observers using a Cessna 182 fixed-wing aircraft (~22 person hours). Traditional colony sites as well as the new colonies discovered during the previous season were surveyed. Survey dates were: January 10 & 24 (SRF flights – no colonies were seen), February 15, March 30, April 8, April 29, May 12, May 26, June 3, and June 13.

Wading birds in Everglades National Park formed colonies and initiated nesting later this year than in previous years. Timing for the nesting season was similar to the 2004 season. Nesting was not initiated until well into February and March at most sites. Most colonies had fledged all young by the end of May; however, several colonies were still active in early June.

The overall number of nests initiated was comparable to previous seasons; however, partial or total nest failures resulted in a less successful nesting season compared to previous seasons. The relatively small and transient (mostly Great Egret) colonies that usually appear at the eastern and western sides of Shark River Slough did not form this year. This may have been due to drought conditions that drastically reduced the water levels in the slough. Recent rains have since raised water levels in all areas. The increased water levels may result in starvation of fledglings. We will watch for this as we continue to monitor the active colonies.

2003 = 2345 nests within 14 colonies, incl. Frank Key

2004 = 3890 nests within 23 colonies, incl. Frank Key
2005 = 2278 nests within 13 active colonies, incl. Frank Key

Otter Creek (renamed from “2004 New Colony8”)
Like the previous season, this colony contained a mix of species but with fewer nests than the previous season (450 nests this year compared to 650 nests in 2004.) It consisted of mostly White Ibis, Snowy Egrets, and Great Egrets. Wood Storks were not seen nesting here this season but Roseate Spoonbills may have been nesting as they were observed flying in and out of the mangroves.

Broad River (renamed from “2004 New Colony7”)
This colony increased slightly in size from 80 nests in the previous season to 150 nests this season. It consisted of mostly Great Egrets, Snowy Egrets and White Ibis, but a few Roseate Spoonbills also nested in this colony. Some of the spoonbill nests can be seen in photos. During the March flight, 30 Great Egret nests and a few young were seen and can also be seen in photos. On April 8, there were 80 nests (50 in one area of the colony and 30 in another), but no young birds were seen. On June 3, Great Egrets were observed roosting with only 4-5 flapping young seen during the flight.

Rookery Branch (renamed from “2004 New Colony9”)
It appears that this colony was active, but was initiated later than the Otter Creek and Broad River colonies. It was not active when checked earlier in the season. Approximately 300 White Ibis, Snowy Egrets, and Great Egrets, plus some fledged young, were seen during a flight on June 13. Some nests remained but the birds had already evacuated (empty nests can be seen in photos). In addition, many nests may have fallen apart by the June flight, so an accurate count for this colony is not possible. Photos were taken to document the site, nests, and roosting birds.

Alligator Bay (renamed from “2004 New Colony13”)
This colony had approximately 110 nest starts from Great Egrets, White Ibises, and Snowy Egrets, but it did not remain active.

Tamiami West
This colony was active but few Great Egrets and Wood Storks successfully nested here this season. Approximately 110 Wood Stork nests were initiated, but most of these were later abandoned. Only about 35 Wood Stork nests had large nestlings and fledglings when checked later in the season. Great Egrets had approximately 75 nests started, but most abandoned and fledged young were not seen during later flights. The colony was still active when checked on June 13, but it only consisted of White Ibis. Ibis seemed to be successful, as juvenile birds were seen flapping at the top of the colony and making short flights back and forth across the tree tops.

Rodgers River
Eight Wood Stork nests and 50 Great Egret nests were active by April 8. At least three stork nests had small young (less than half-sized), but at some point between April 8 and May 4 (checked during bird SRF flight), the colony failed completely.

Cuthbert Lake
40 Wood Stork nests and 80 Great Egret nests were built by 30 March and the count remained the same through 12 May when large young were seen standing on nests. On 13 June young storks were roosting on and off nests and Great Egret fledglings were

flapping in the mangrove tops. Three vultures were also seen flying low over the colony and 2 landed inside the trees. This colony will be rechecked later to see if any dead young can be seen.

Paurotis Pond
Wood Storks initiated nesting at Paurotis before the other three stork colonies. On February 15, there were eight nests. By March 30, the numbers increased to 75. At some point between March 30 and April 8, the count of active nests was down to about 55, and abandoned nests were observed. By April 29, the count decreased to 30, but half-sized young were seen in most of these remaining nests. The count remained the same during the May 12 flight and on May 26 (checked by helicopter) when large fledglings were seen on and off the nests.

Great Egrets had 100 active nests by March 30, but most were abandoned and only 40 nests were still active by April 29. It appears that few Great Egret nests produced young; only 20 nests still had large young when checked by helicopter on May 26, and on June 3 birds were roosting off nests and no flapping young were seen in the colony.

White Ibis and Snowy Egrets were difficult to estimate as most were inside the center island and below the tree canopy. There were at least 250 nests and probably more. They appeared to be successful as many fledged young were seen flying around as well as making trips back and forth from the island to mangroves at the edge of the pond.

Grossman Ridge
Great Egrets had 60 nest starts on February 15, but all had been abandoned when checked again on March 30.

Frank Key
Sixty nests were seen on both March 22 and April 29. After checking photos from April, a few nests appeared to have small young, but small young are again seen in the June 13 photos. Fledged, or even large Great Egret young, have not yet been seen in this colony.

White Ibis nests were estimated at 200 and Snowy Egrets had about 150 nests. Young ibises and egrets have not been seen in the colony and were not visible in the photos. Another colony flight will be needed to determine the outcome.

East River
This colony again consisted of only 20 Great Egret nests. It appears that their nests were successful, as flapping young were seen later in the season.

Tamiami East colonies "1 & 2"
Both of these small Great Egret colonies failed. Between the two colonies, only about 11 Great Egrets attempted to nest this season.

Wading Bird Abundance (Foraging and Nesting).
Systematic reconnaissance flights (SRF's) were performed monthly between December 2004 and May 2005. Flights were conducted over three to four consecutive days using a fixed-wing Cessna 182 at an altitude of 60 m. The area covered included Everglades National Park and the southern region of Big Cypress National Preserve. The area was surveyed using transects oriented east to west and separated by 2 km. Wading birds

were counted, identified, and geographically located using GPS units. Changes in surface water patterns (hydro patterns) were also recorded. Five categories were used to describe the hydro patterns (DD - absence of surface water and no groundwater visible in solution holes or ponds; WD - absence of surface water but groundwater present in solution holes or ponds; DT - ground surface area mostly dry but small scattered pools of surface water present and groundwater visible in solution holes or ponds; WT - ground surface area mostly wet but small scattered dry areas; and WW - continuous surface water over the area).

Data obtained during each SRF were compiled into a database, which contains the information collected since 1985 to the present. During this period, SRF surveys were not conducted during December 1984, December 1987 and January 1998. Missing data for those months were estimated using years with complete sets of data. From those years, the overall percentage of increase or decrease from month to month was calculated in order to estimate missing values. Densities of birds were estimated using a 2X2 km grid. The number of birds counted inside the 300 m stripe width was extrapolated to the rest of the 4 km^2 cell, dividing the number of birds observed by 0.15 for surveys where data from two observers were available. In cases where only data from one observer were available the number of birds inside the 150 m stripe was extrapolated to the rest of the cell by dividing the birds observed by 0.075.

During the survey period (December 2004 – May 2005), an increase of 15% in the abundance of wading birds was observed, for all the species combined, in comparison to the previous year. This increase in the number of birds observed in 2005 just adds more positive slope to the overall increasing trend observed from 1985 to the present, when a linear regression model is used to fit the data.

The numbers of each of the nine species of birds increased in relation to those observed in 2004. Glossy Ibis (GLIB) increased 70%, Wood Stork (WOST) 56%, Small Dark Heron (SMDH) 46%, Small White Heron (SMWH) 35%, Great White Heron (GWHE) 27%, Great Blue Heron (GBHE) 11%, White Ibis (WHIB) 8%, Great Egret (GREG) 7% and Roseate Spoonbill (ROSP) with 6% increase. Once again, linear regression models were use to determine the general trend in number of birds by species from 1985 to the present. A tendency for number of birds to increase was estimated for GREG, GBHE, GLIB and WHIB was observed. Some species such as ROSP, WOST, and SMWH showed a stable trend, while only two species (SMDH and GWHE), showed tendencies to decrease. Although this type of analysis can provide with an idea of the general trends observed for each species or groups of birds through those years, additional studies and data analysis will be necessary in order to evaluate the significance of these observations and its relevance to the wading bird populations at the Everglades National Park.

The maximum density of birds occurred this year during the month of March. It was also during this month that the greatest numbers of WHIB, WOST and SMWH were observed. Other species such as GREG and GLIB reached their maximum numbers in January, while ROSP and GWHE peaks were in May. December was the month where more GBHE were observed, while January was the one for SMDH. The month of April had the least number of birds. It was during this month that the lowest numbers of birds occurred for all the species but for WHIB, which showed the minimum number of birds in May.

The distribution and abundance of wading birds in the different drainage basins in what could be considered a year with normal precipitation was examined throughout the survey season. Shark Slough (SS) had the most birds (27%), followed by Shark Slough Mangrove Estuary (SSME) with 17% and East Slough (ES) with 12%. These three basins combined, made up 56% of the total number of birds observed during the entire season.

In contrast, the basins with the lower number of birds were Northern Taylor Slough (NTS) with less than 1%, Eastern Panhandle Mangrove Estuary (EPME) with less than 2% and Eastern Panhandle with a little more than 2%. Most birds were concentrated in Cape Sable (CS) and SSME during December. By January, as the water receded, a great increase in the number of birds in the SS basin was noticed, despite the fact that SSME still had the largest number of birds. In February, as water continued receding, a large number of birds moved to the SS basin where they remained until the end of the season.

Considerable changes in hydro patterns and birds distribution were observed throughout the season. From December to May, a gradual reduction in surface water covered by the WW category was observed (except in April). Despite the reduction in surface water, the hydro pattern WT, which experienced a reduction in the area covered from December to January, stayed almost unchanged until the end of the season. Most of the changes in areas covered by the different hydro patterns took place at the extreme categories (either WW or DD), while modest changes occurred in the intermediate ones.

From December to January, the highest densities of birds were observed in WT or DT areas, where water depth was suitable for them to forage successfully. As water depth decreased during the following months, densities at the WT and DT areas began to decrease while densities at WW gradually increased. By February, the highest densities of birds were observed in WW areas. Despite the fact that WW areas were covered completely by water, low water levels made these new territories accessible to foraging birds.

American Alligator Nesting Effort and Success 2005.

American Alligators are useful in monitoring the impacts of experimental water deliveries into Everglades National Park (ENP), in part because of their ecological importance, as well as the measurable impact from water management on both short and long-term population parameters. In 1985, the first Systematic Reconnaissance Flights (SRF's) were initiated in ENP to assess nesting effort and nesting success in Shark Slough (SS) and Northeast Shark Slough (NESS), two regions that would be impacted by modified water deliveries. This year marks the 20^{th} year of annual SRF monitoring of nesting effort and success of the alligator.

We counted a total of 86 American Alligator nests on 25 variable length transects (within the 500 m transect boundary), within ENP. In the last twenty years, 1993 had the greatest number of nest counts, followed by 1996, 1998, 2005, 1992, and 2002. We found that both total rainfall from January to June and mean annual water level were positively related to nesting effort (Total Nests = Rainfall Jan-June x1+Mean Waterlevelx2, $p < 0.001$, Adj. $R^2=0.58$).

We attempted to visit 70 nests; however, only 62 were actually visited, since some were not found again, were difficult to access, or had very aggressive females. Upon visiting

these 62 nests, 57 were found to be true nests (not false or old nests). We monitored these 57 nests from July 18 through September 7, 2005. Of these 57 nests, only eight (14%) showed signs of hatching and 49 (86%) failed due to flooding. This was the lowest success rate in 20 years of sampling.

During Nest Visit 1 (July 18-Aug 4), we found 17 of 57 nests (30%) were either partially, or totally flooded. At nest visit 2 (Aug 15-17), 24 of 57 nests (42%) were flooded, and at Nest Visit 3 (Sept 6-7), 49 of 57 were (86%) flooded. Most of the 2005 nests (25 or 44%) were, therefore, flooded between the Visit 2 and 3. It was during this time period that Hurricane Katrina made its way through Shark Slough.

This year had the highest rate of flooding in 20 years. The 2005 wet season was very active, with hurricanes Dennis and Katrina producing abundant rainfall in Shark Slough, the region of Everglades National Park with the most nests. Both storms took place during the egg incubation period (July 9 and August 25 respectively). In August 2005, the stage gauges in East Slough (NP205) and Shark Slough (NP 203) recorded the highest average stage in 20 years period. The year with the next highest nest failure due to flooding is 2004 (68%), followed by 1995 (65 %). It is not clear at this point why there was such a high nest failure rate in 2004. Both 1995 and 2005 were very similar in terms of water levels throughout the nesting season. Both years had the highest recorded stage levels in 20 years for August and July; however, in 1995 the nesting season started with relatively high water. Females may have placed nests on higher ground or deposited clutches higher within the nests.

In summary, flooding continues to be a major cause of mortality to Alligator nests in ENP. This year had the lowest annual nest success rate since 1985 (14%), which was the first year of SRF long-term monitoring. Since 2001, over 50% of the visited nests have been flooded either partially or entirely at any of the three visits throughout the incubation period. Although 2005, was a very active wet season, with abundant rainfall occurring in July and August, flooding in other years may be a result of water management. Maximum stage level during incubation, in addition to rate of increase in water levels, is mostly responsible for nest mortality. We continue to examine these relationships.

American crocodile*:*
A total of 36 nests were located and confirmed in 2005, in ENP. In the greater Flamingo and Cape Sable area, 20 nests were successful and four were depredated by raccoons. In northeast Florida Bay seven nests were successful and five were depredated. In addition, 21 nests were thought to be present but were unable to be confirmed since most of these nest sites were washed away by hurricanes.

Following the loss of nest sites to reconstruction of the East Cape Plug, crocodiles began nesting along the banks of East Cape Canal, north of the plug. Several hundred meters of berm with marl soil and adequate elevation for nests compose this area. In addition, there has been an increase in the number and size of crocodiles observed in the East Cape Canal and surrounding creek areas, as well as an increase in nesting activity observed in the East Cape Canal past the plug.

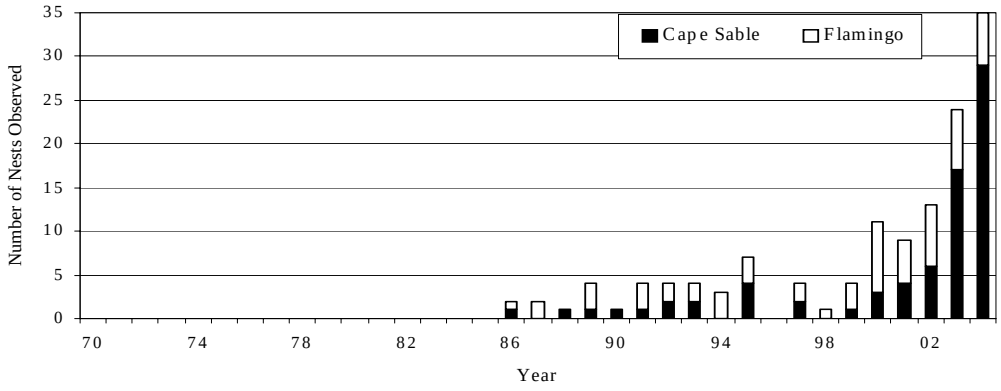
The increase in crocodile and nesting activity has been observed both during surveys for crocodiles and during patrols by rangers. There has also been an increase in nesting at beach locations. Mazzotti and Cherkiss propose a possible explanation for the recent

increase in both number of crocodiles and nests in this area are associated with the maturing of hatchlings from this area's earlier successful nests.

Mortality of hatchling crocodiles has been associated with the distance that hatchlings have to disperse to find nursery habitat. Nursery habitat can be defined as areas that are protected from wind and wave action, have a low to intermediate salinity regime, abundant food, and refugia from predators. In Florida, estuarine creeks, natural and man-made ponds, and canals meet these habitat requirements.

In ENP, most hatchlings are marked from shoreline nests that can be kilometers from nursery habitat. Mazzotti and Cherkiss hypothesize that greater dispersal distance primarily increases the risk to predation and it may also expose a hatchling crocodile to harsher environmental conditions during transit. For a hatchling crocodile, the best way to avoid the threat of predation is to outgrow it.

In northeastern Florida Bay, ENP, lower aquatic productivity has been associated with elevated salinities caused by the diversion of freshwater for drainage and flood control. Although faster growth decreases exposure to the threat of predation by non-crocodilian predators, it also shortens the time it takes a crocodile to become a sub adult, and hence, a threat to adult crocodiles. When a population of crocodiles has good nest success and adequate hatchling survival, mortality and dispersal of older juveniles and sub adults become the most likely factors to limit population numbers.



Summary of nesting effort from the Cape Sable/Flamingo area of Everglades National Park from 1970 through 2004. No data were collected in 1996.

The hypothesis for response of the American crocodile as part of restoration of Greater Everglades Ecosystems is based on the notion that the distribution and abundance of crocodiles in mangrove estuaries is dependent on natural patterns of salinity and water levels. Specific responses to improved management of salinity patterns are: (1) an increase in relative density followed by an, (2) increase in nesting activity, followed by, (3) good growth and survival of hatchling crocodiles emerging from nests, and leading to a (4) dramatic increase in nesting activity, as hatchlings from early nests grow, survive, and enter the breeding population.

In the Cape Sable/Flamingo area of ENP, restoring natural patterns of salinity and water levels is a matter of restoring freshwater flow and preventing salt water intrusion. During

the first part of the 20th Century a series of canals and ditches (for example, Buttonwood, Homestead, and East Cape canals, and House and Slagle ditches) were cut from Florida Bay into the interior of Cape Sable and to Whitewater Bay. The purpose of these canals was navigation and access. However, theses canals and ditches immediately drained freshwater out of interior marshes and allowed saltwater to intrude inland, forever changing the ecological character of the region.

In recognition of this damage, several poorly documented attempts were made to plug the canals and ditches affecting Cape Sable culminating in the 1980's when the NPS and COE plugged Buttonwood, East Cape, and Homestead canals, using what was thought to be a more permanent design. Corresponding with these simple acts of ecosystem restoration, the American crocodile responded exactly as predicted. Because of a lack of any control over this natural experiment we do not assume a direct cause and effect relationship but we do propose that these data strongly confirm existing hypotheses for crocodile responses to ecosystem restoration. We further hypothesize that the particularly dramatic increase in nesting in the Cape Sable area was the result of good nursery conditions for hatchling crocodiles with relatively short dispersal distance form nests. The time span between initiation of nesting in this area and the rapid increase is very close to the time it takes crocodiles to reach sexual maturity in Florida (8-15 years).

Although, the plug in Buttonwood Canal has been permanent, the plug in East Cape Canal has been breached to the point of compromising the complex interaction between water levels and salinities that benefits crocodiles (and spoonbills as well). Freshwater drains out quicker and saltwater intrudes faster resulting in higher salinities. Higher salinities make habitat less suitable for crocodiles and should diminish their growth and survival. Crocodile biologists urgently recommend a timely response to the current situation to avoid further degradation of an area of crocodile habitat that has been critical to recovery of this endangered species.

Manatees:
In 2005, several activities focused on manatees in Everglades National Park (ENP). In January, the park participated in the statewide manatee synoptic survey. Aerial surveys over park waters counted 176 manatee adults, seven manatee calves, and 52 dolphins. The flight conditions were nearly excellent but with some stirred up and murky water.

In 2005, park staff supported a USGS project of major importance to the recovery of the manatee population in Southwestern Florida. The USGS project focuses on West Indian manatee (*Trichechus manatus latirostris*) habitat use and movement patterns to better understand the role of manatees in the ecology of the Everglades, and to assist managers in developing sound management practices in the region. While previous work focused on the Ten Thousand Islands (TTI) area, this effort focuses on tagging manatees in the southern portion of ENP, with anticipated tracking in Whitewater Bay and the associated rivers of the southern Everglades.

Telemetry data, field observations and environmental data collected during this study are critical to understanding manatee activity patterns in the southern ENP, such as the extent of migrations and scale of local movement patterns. Research and observations of manatees in the TTI and ENP region has shown that manatees make frequent movements up tidal creeks to obtain freshwater for drinking and to find thermal refuges during cold weather. Alteration of the freshwater and estuarine ecosystems associated

with restoration of the Everglades is likely to affect this manatee population. In addition, because manatees feed primarily on submerged aquatic vegetation (SAV) in estuarine and near-offshore areas, they are excellent barometers of the health of these communities. By providing baseline data on these communities, this research will be important to future monitoring of the Everglades ecosystem. Telemetry data from tagged manatees provide a valuable means of documenting the response of manatees to fluctuations in freshwater inflow and changes in distribution, abundance, and type of SAV.

These data will be utilized by several agencies and research efforts including (1) the USGS development of a spatially-explicit, individual-based ATLSS model that will predict manatee response to different restoration scenarios, (2) comprehensive assessment of ENP manatee use for the park's General Management Plan, and (3) manatee over-wintering strategies and dynamics of passive thermal refuges. This research will augment studies conducted by the USGS and enable a combined field efforts over a 7-year period, which will constitute the first comprehensive manatee movement and related ecological resource assessment for the entire Everglades region.

During two capture efforts in 2005, five manatees were captured and radio tagged using permitted manatee capture methods. Health data and biological samples were collected from each manatee handled for tagging. These samples have been processed for evaluation of animal health, archived and processed as part of USGS studies on manatee genetics, and provided to permit-holding cooperators involved in manatee health/physiology studies.

Among the five tagged manatees, we acquired 23 tracking months (673 days) of location data in 2005. All manatees newly-tagged in 2005 were captured in Whitewater and Coot Bays within the southern portion of ENP. Tracking data have documented local movements within eastern Whitewater Bay. One adult male moved around Cape Sable to Joe Bay, northern Florida Bay. Another adult male traveled to the TTI, with periodic trips back to Whitewater Bay. One adult female gave birth in the Hells Bay region, and then moved to the inland portion of Lostmans River. Further analyses to determine high-use areas and migratory moves will be determined based on GPS location data acquired by the tags as relayed by Service Argos or downloaded following tag recovery. Location data are formatted in SAS for error checking, analyses, and display in Arc View. Databases are correlated with temperature, salinity, and tidal data collected throughout the region. This project is on-going, with plans for instrumenting additional manatees in ENP during 2006.

In 2005, ENP worked with and funded the USGS to compile and evaluate existing datasets on manatees for ENP for use in the park's General Management Planning (GMP) effort. The manatee databases analyzed include: aerial surveys, radio telemetry data, and carcass recovery data. The analyses and summaries of datasets describe how manatees make use of the waters of ENP. Management-related issues are discussed about the relative importance of different areas to manatees within the park. Qualitative evaluations are made on how these areas might be affected by ecosystem management, park operations and management, and park visitor use. Gaps in available information are identified and recommendations are made for future research to better address these gaps. The final draft report was received for park comment in November 2005, and the final product is expected in late spring 2006.

Native Plants for Butterflies

Everglades National Park (ENP) scientists began a native plant restoration project at three developed areas at Flamingo. Lapsed funding was allocated for this project in response to concerns from visitors about spraying herbicides at Eco Pond. That treatment killed some balloon vine – the caterpillar host plant of the silver-banded hairstreak, a rare butterfly that was first reported in ENP in late 2003. In addition to finding a solution to that immediate problem, we are also seeking to reduce mowing and to restore native vegetation on lawn areas for the enhancement of butterflies and other wildlife.

We planted small trees and shrubs in areas south of the lodge, north of the amphitheater, and on an old roadbed that linked Eco Pond and the campground. All plantings were doing well until they were destroyed by the storm surges from Hurricanes Katrina and Wilma. We hope to replant native vegetation for butterflies in higher elevation lawn areas at Flamingo after a management plan has been completed for that region. Although balloon vine probably sustained significant short-term damage by the hurricanes, we have had one sighting of a silver-banded hairstreak in ENP since the hurricanes (on the mound behind the Beard Center on March 11, 2006).

Freshwater Fisheries Monitoring

Everglades National Park (ENP) has a history of project specific freshwater fisheries monitoring efforts dating back to the 1960's. Much of what is known about the freshwater fishes of the southern Everglades has been collected from the *Eleocharis* spp.-dominated wet prairies of Shark River and Taylor sloughs. Since 1999, we have expanded sampling efforts into the shorter hydro period wetlands of the Rocky Glades to examine the patterns in fish assemblage dynamics and to relate characteristics of the fish assemblage to patterns of hydrology. Understanding the influence of habitat and hydrology on fish assemblages will help provide the knowledge needed to guide restoration programs in ENP.

Through our fisheries monitoring, we have begun to detect a pattern of hydrological influence on the assemblages that recolonize the Rocky Glades in the early wet season. We also track the introduction, establishment, and range expansion of several new exotic species into ENP. Minimum water levels in Shark River Slough appear to influence fish assemblage composition that recolonizes the Rocky Glades during the early wet season more than minimum water levels in the Rocky Glades. This suggests many fish recolonize the Rocky Glades from Shark River Slough upon rewetting. We have also conducted a park-wide sampling effort to assess the distribution of exotic species within ENP waters.

Since 2000, six new species of exotic fish have been observed or collected within park waters. All of these species were established within South Florida canals outside of park boundaries prior to the observations in ENP. The increased rate of introductions corresponds with recent changes in water management beginning in 2000. Although not all of these six species are considered established in ENP, a few of the new species were more common in 2005 than in previous years. One species in particular, the African jewelfish (*Hemichromis letourneuxi*) has continued to rapidly expand its range and in some areas is the dominant fish collected. Spotfinned spinyeel (*Macrognathus siamensis*), the most recent fish introduction (2004), appears to be increasing its range as noted from visual observations and occasional collections. The exotic channeled apple snail (*Pomacea canaliculata*) was also found to have a reproducing population

within the Old Tamiami Canal at the entrance of Shark Valley. The impact of the channeled apple snail on natural marshes is not known; however, we are trying to assess the distribution of this species, determine if there are opportunities for population control, and track its spread in ENP.

Monitoring is important to understanding the status and trends of the freshwater fisheries in ENP. The Everglades fish assemblage is proving to be a useful indicator of changes in hydrologic conditions. A robust monitoring plan may be used as a tool to track the progress of restoration programs. The recent increased rate of invasion by exotic species emphasizes the need to develop a monitoring program that provides both the early detection of and the ability to track the establishment of exotic species. These data would further our understanding of the exotic fishes within ENP and provide information that may be used to help prevent new introductions. We plan to further develop and establish the freshwater fisheries monitoring in ENP.

Marine Fisheries

Fishing activity and harvest of marine game fish from Everglades National Park (ENP) have been monitored nearly continuously since 1958. The effort is reportedly the longest on-going survey of its kind in the world. The monitoring is conducted by interviewing anglers at the conclusion of their weekend fishing trips. The objectives of the marine fisheries monitoring project in ENP are to estimate the catch/harvest per unit effort, (CPUE/HPUE also known as catch/harvest rate), relative abundance, age structure, total catch/harvest, total estimated catch/harvest, and boating and fishing activity. This monitoring program was initiated because of concern over increased fishing pressure resulting from the construction of a highway, marina facilities, and an access canal to Whitewater Bay in 1958.

Currently, ENP port samplers are involved in a collaborative effort with the Florida Fish and Wildlife Conservation Commission (FWC) to assess the condition of snook stocks throughout south Florida. ENP personnel interview anglers to determine snook size (released and/or harvested) and to take biological samples (otoliths, gonads, and fin clips) in order to determine snook stock condition. Size estimates of released fish will help determine the size of snook that remain in park waters. A five-year status report on these activities was completed by FWC biologists Robert Muller and Ronald Taylor on January 31, 2006 and entitled “The 2005 Stock Assessment Update of Common Snook, *Centropomus undecimalis*”.

The trends suggest that snook stocks are stable and/or increasing in some areas of the state. Other collaborative interagency (NOAA/NMFS) activities involve developing standardized catch rates for species of special concern, i.e., Goliath grouper (formerly known as jewfish), and for the first federally endangered fully marine species, the smalltooth sawfish. The data was presented at the 2005 SEDAR shark workshop by John Carlson. A publication is forthcoming, entitled “Monitoring the recovery of smalltooth sawfish, *Pristis pectinata* using standardized indices of relative abundance”. Park waters serve as centers of abundance for monitoring of recovery activities for both of these species of special concern. In addition, the development of CERP southern estuaries performance measures to monitor the long-term recovery/restoration of key recreational species using park survey data is underway for feasibility studies planned in Florida Bay and the Ten Thousand Islands.

ENP is a multi-species fishery and we have seen individual species trends that have fluctuated overtime. Overall, however, status and trends based partially on our survey results (presented in our Annual Fisheries Reports) as well as collaborative research and monitoring reports, suggest the park fishery is strong and is able to withstand increased recreational and guided fishing pressure. Our monitoring program thus provides valuable information to use in assessing the status of marine game fishes within ENP for years to come.

Despite the impact from Hurricanes Katrina and Wilma, the fish stocks appear to be strong and not greatly affected by the storms. Since the park (and access to Florida Bay and Whitewater Bay via Flamingo) was closed during these hurricane cleanup operations, the creel survey was not completed at Flamingo, where the most damage occurred in the park. Creel surveys at Chokoloskee/Everglades City were only interrupted by a week or two. Despite the lack of data collected at Flamingo during the latter part of the year, we will analyze the information that was collected during the remainder of the year.

Avian Restoration in Everglades National Park:
The goals of this 3-year project are to: (1) evaluate the upland avian restoration program in Everglades National Park (ENP), (2) determine if additional translocations are needed, (3) investigate the relationships between ecological factors (e.g., fire, hydrology, vegetation) and avian populations, and (4) provide recommendations aimed at the restoration and long-term management of the pineland avifauna. The project has two components: (1) population size and demographic monitoring of Brown-headed Nuthatches, Eastern Bluebirds, and Wild Turkeys in Long Pine Key, ENP; and (2) community-wide avian monitoring in ENP and Big Cypress National Preserve (BCNP) during the breeding and non-breeding season using point count methodologies. The following summary of results from Year One was provided by the Ecostudies Institute, under contract to ENP.

Population and demographic monitoring.
Brown-headed Nuthatch. In 2005, we located 37 Brown-headed Nuthatch territories, up from 21 territories in 2003. We estimated an adult population size of 85 adults. Breeding occurred in 31 territories, of which 20 were successful and produced 59 juveniles. In addition to increasing in size, the nuthatch population has expanded its geographic extent, colonizing new territories in Blocks B, D, E, G, and H. We expect the nuthatch population to increase in size in 2006. Sustained population growth and stable reproductive measures support previous assessments that the nuthatch reintroduction effort has been a success. At this time there is no need to consider additional translocations.

Eastern Bluebird. In 2005, we located 38 bluebird adults on 18 territories, the same number of territories located in 2003. Breeding was observed in 15 of 18 (83%) territories, but only seven juveniles were produced and productivity (0.47 ± 0.16 juveniles/ breeding territory) was the lowest recorded during any year of the reintroduction program. The bluebird population has remained relatively stable since 2000. However, there are two reasons we are concerned about the status of the reintroduced population. First, reproduction has been extremely low the last two years of monitoring (2003, 2005), and we expect the population to decline in 2006 because of low recruitment. The cause of low productivity is unclear, but we suspect that it may relate to environmental factors during the wintering period. The second concern is the substantial

degree of mortality from automobile collision on park service roads. We have found more than two individuals/year during our 6-month monitoring period in each of the last five years; two juveniles and one adult were found in 2005. Certainly, all mortality is not identified and we estimate that annual road mortality is greater than six individuals/year. This translates to a > 10% reduction in the population each year. The primary problem area appears to be Research Road, where vehicle traffic is mostly due to park staff and its cooperators rather than visitors. Actions to improve driving behavior by park employees and its cooperators are urgently needed. It is unclear if the bluebird population can increase in size in the face of road mortality, which is an additive effect on top of those natural stochastic events (e.g., weather) that influence reproduction and survival.

At this time, we suggest that additional translocations are not necessary. However, if the population size decreases significantly (e.g., >50%) in 2006 and breeding is again poor, plans should be in place to consider augmentation either in the fall of 2006 or prior to the breeding season in 2007.

Wild Turkey. We assessed the population levels of Wild Turkey using ten digital cameras units with infrared sensors configured throughout the Long Pine Key region in ENP. We followed protocols established by the Florida Fish and Wildlife Conservation Commission's (FFWCC) Wild Turkey Management Section. Surveys are conducted twice each year, once during late summer and once in mid-winter. In 2005 we also complemented our camera survey with a gobbling survey using volunteers from the National Wild Turkey Federation. Based on our camera and gobbling surveys, we estimated a minimum population size of 5-6 turkeys (4 males and 1-2 females). One of the males identified in the course of surveys was banded, indicating it was from the original release in January 2000. The remaining birds were unbanded, indicating individuals from the original release bred successfully. Even though our surveys represent only a sample of the turkey population, we believe it is unlikely that the population is substantially larger. Even if our detection probability was a low as 50%, overall population size would equal 10-12 birds, which is lower than the number necessary to consider an additional augmentation (FFWC 2003). Consequently, FFWCC has scheduled to conduct another translocation of turkeys in January 2006.

Community-wide monitoring. We conducted avian surveys at 104 survey points in Long Pine Key, ENP and 95 survey points in Raccoon Point, BCNP once during the nonbreeding (December 15, 2004 – February 15, 2005) and breeding season (April 15 – June 1, 2005). Vegetation sampling was conducted at each survey station. We had sufficient sample sizes to estimate density for 12 species with the winter data and 13 species with the breeding season data. Our results showed good model fit, relatively precise density estimates, and no obvious evidence of assumption violations for most species. Analyses in the next year will focus on developing preliminary models relating bird abundance with habitat (vegetation, fire, and hydrology).

Pythons:

Reports of exotic snakes in Everglades National Park (ENP) include regular and increasing sightings of Burmese pythons (*Python molurus bivittatus*). Pythons in the wild today are a result of unwanted, intentionally, and perhaps accidentally, released exotic pets. The Burmese python, a native to Southeast Asia, can reach a length greater than twenty feet. This python is a long-lived (15 – 25 years) behavioral, habitat, and dietary generalist, capable of producing large clutches of eggs (8 – 107).

Pythons in ENP have been observed along the Main Park Road, in Long Pine Key, at Shark Valley, along Tamiami Trail, on the eastern park boundary, along canal levees, and in the remote mangrove backcountry. The non-native python's diet in the Everglades includes raccoon, rabbit, muskrat, squirrel, opossum, cotton rat, black rat, cat (kitten), bobcat, house wren, pied-billed grebe, coot, white ibis, limpkin, and American alligator. Sources of mortality include motor vehicles, mowing equipment, fire, and alligators.

As *Python molurus* is known to eat birds, and also frequents wading bird colonies in their native range, the proximity of python sightings to the Paurotis Pond and Tamiami West wood stork rookeries is troubling. In recent years, more than 213 Burmese pythons have been removed from the park or adjacent lands. In 2005, at least 95 pythons were removed, compared to 70 in 2004 and 23 in 2003. Multiple observations of individuals of different size-classes support the establishment of breeding populations of the Burmese python in ENP. The measured total length for snakes recovered ranged from 65 cm to 488 cm, including hatchling-sized animals recovered in the summer of 2004 and 2005.

Burmese pythons present a potentially significant threat to the successful ecological restoration of the greater Everglades. They have clear potential to occupy the entire footprint of the Comprehensive Everglades Restoration Project, adversely impacting valued resources across the landscape. Burmese pythons are widely bred in Florida and still imported from Southeast Asia as pets. Proposed management and control actions must include strategies for preventing their intentional release.

In July of 2005, an Invasive Snake/Reptile Management and Response Workshop convened. Workshop participants recommended strategic actions in three broad areas; (1) python control, (2) rapid response to invasive amphibians and reptiles in South Florida, and (3) public outreach and education. Action plans are being drafted and funding pursued. One of the recommendations was to conduct limited radio tagging and tracking studies. A pilot project, involving the park, USGS, University of Florida, and Davidson College, was initiated in December 2005. In mid-December four Burmese pythons were caught in the park, surgically implanted with radio transmitters, and released back into the park. The objectives of the first phase of the project are; (1) to ensure that we can find, catch, and remove the pythons we released, (2) to learn if pythons are using habitats other than the road and canal levee corridors, such as tree islands away from roads, (3) and, to determine if radio-tagged pythons lead us to other untagged pythons that can then be caught and removed. The results of the first phase of this pilot project are expected in March of 2006.

Vegetation Management:

During 2005, collection of accuracy assessment data to evaluate the Everglades/Big Cypress/Biscayne vegetation map developed by the University of Georgia was completed with funds provided by the NPS-USGS park vegetation mapping program. Cooperators from the Institute for Regional Conservation completed the second half of the accuracy assessment begun in 2004. Formal analysis of the results is not complete, but the results of the accuracy assessment will dictate whether to revise the existing map or initiate efforts to construct a new vegetation map.

Rare plant inventory and monitoring efforts focused on: (1) monitoring plant species of management concern and (2) establishing cultivated populations of species deemed to require augmentation or reintroduction to mitigate effects of human activities that severely reduced or eliminated them. In addition to continuing the monitoring of plots

established in the past, additional long-term monitoring plots were established for six rare plant species. In preparation for augmentation or reintroduction, propagules were obtained locally for six plant species. Five of these were successfully grown in culture.

The Everglades vegetation program supported a variety of National Environmental Policy Act compliance evaluations during 2005. Major efforts included the Environmental Assessment of the Fire Management Program, begun in 2004, which continued into 2005, and the Commercial Airboat Environmental Assessment.

Exotic Plant Control.

Non-native exotic plants (exotics) are the single greatest natural resource threat to the native plant communities of Everglades National Park (ENP). Approximately 1,000 plant species are recorded from the park. Of these, over 200 species are exotic. Limited funding allows for routine control of only 10 to 15 of these exotics. The most commonly targeted are Brazilian pepper (*Schinus terebinthifolius*), melaleuca (*Melaleuca quinquenervia)*, Australian pine (*Casuarina equisetifolia)*, seaside mahoe (*Thespesia polpunea*), latherleaf *(Colubrina asiatica*), and the most recent addition, Old World climbing fern (*Lygodium microphyllum*). Observations from biennial systematic reconnaissance flights have estimated that untreated Brazilian pepper affects 125,000 gross infested acres, while Melaleuca and Australian pine each affect 12,000 gross infested acres. Latherleaf has affected over 5,000 gross infested acres and Old World climbing fern infests more than 10,000 gross acres. Overall, these species are estimated to affect approximately 200,000-250,000 acres in the park. The earliest efforts to treat exotics in ENP date back to the 1960s (Doren and Jones 1997). Funding for exotics projects has always been problematic and has limited the duration and scope of systematic treatments. However, from the mid 1980s to the present, ENP has received generous support for the treatment of exotics.

Exotics Projects Fiscal Year 2005

In order to address the threat posed by exotics, ENP requested and received funds from the South Florida Water Management District (SFWMD), Miami-Dade County's Wetland Mitigation Trust Fund, which is managed by the Special Area Management Planning Committee (SAMP), the Florida Department of Environmental Protection (FDEP), the United States Army Corps of Engineers (ACOE), the ENP, South Florida Natural Resource Center (SFNRC), and the National Park Service's Florida Exotic Plant Management Team (EPMT) for the treatment of invasive exotic plants. Provided below is a table summarizing the agency donations in FY 2005.

Project Location	Agency	Gross Infested Acres Treated	Costs
East Everglades District	SAMP	10,274	$ 511,000
East Everglades District	SFWMD	60	$ 60,000
East Everglades District	FDEP	1,375	$ 400,000
East Everglades District	ACOE	78,000	$ 94,000
East Everglades District	SFNRC	12,379	$ 100,000
Gulf Coast District	EPMT	200	$ 28,570
Flamingo District	EPMT	200	$ 21,000
Gulf Coast District Lygodium	EPMT	1,550	$ 250,000
Dry Tortugas	SFNRC	35	$ 1,000
Total			$1,465,570

In FY 2005, exotics projects were carried out in every district of the park. The majority of the funding has been utilized in the East Everglades Acquisition Area (EEAA). Since 2002, ENP has received funds sufficient to complete the systematic initial treatment of approximately 69% (73,959 acres) of the roughly 107,652 acres in the EEAA. This is a significant milestone. Volunteer projects are also carried out on a regular basis. Park-wide volunteers coordinated by district rangers, interpreters and the park botanist play a crucial role in assisting with exotics control. The most notable efforts are in Flamingo, Everglades City, and Paradise Key.

Still, many other areas of the park remain affected by exotics. For example, Brazilian pepper heavily impacts many of our hammocks, bayheads, and hardwood forests in Shark River Slough. The unique and rare Coastal Hardwood Hammocks and Coastal Islands from Everglades City to eastern Florida Bay are impacted by a host of exotics, the worst of which is latherleaf. In the western portion of the park, between the mangroves and the sawgrass prairies, Brazilian pepper occupies many thousands of acres. Brazilian pepper on the northern boundary of the park, along Highway 41, also obscures the view of the extensive sawgrass prairies and pond apple stands in the park to the south. Old World climbing fern has expanded from the remote western portions of the park and is now also found in a few discrete areas of North Shark River Slough.

Hole-in-the-Donut Wetland Restoration. In this cooperative effort, Everglades National Park works with Miami-Dade County to restore an area of non-native plants completely surrounded by natural habitat. Known as the Hole-in-the-Donut, this area – originally a wetland – was farmed from 1918 until 1975. When farming ceased, the area became dominated by the non-native tree commonly known as Brazilian pepper (*Schinus terebinthifolius*). County wetland mitigation bank funds are now used to restore the area to a marl prairie wetland vegetative community with its associated wildlife.

The objectives of the Hole-in-the-Donut Wetland Restoration and Mitigation Project are: (1) restoration of wetland habitat; (2) removal and control of exotic plants, especially Brazilian pepper; (3) establishment of a wetland community that resembles the natural community in vegetation structure (horizontal/vertical, density of plants, functional types of plants), if not in actual number of plant species; and (4) restoration of a wetland community that resembles natural Everglades wetlands in species composition and dynamics.

HID Land Clearing

Year	Acres Restored
1989	52.1
FY 1997	188.5
FY 1998	191.6
FY 1999	133.8
FY 2000	240.6
FY 2001	332.6
FY 2002	None*
FY 2003	905.5
FY 2004	839.9
FY 2005	1007.2
Total	**3892.0**

*No land restored – SOW revised and new contract awarded for FY 2003

Environmental Monitoring
The majority of plant species (61% to 73%) and plant cover on restoration sites were wetland plants (either obligate or facultative wetland plant species). This meets the regulatory requirement for cover by wetland plants. By comparison, 66% of species in adjacent natural vegetation and 27% of the species in unmitigated Brazilian pepper were wetland-associated species.

The site restored in 1989 was most similar to natural vegetation; however, it still showed differences in the rankings of dominant species. It will take about 15 years to establish a wetland community that resembles natural vegetation in actual species dominance. Natural processes involved in shaping plant communities such as fire, freezes, tropical weather systems, extreme high water, and extreme drought will also be required.

Plant species occurrences were surveyed at 0.35 m, 0.70 m, 0.80 m, and >1.05 m. Higher elevations tended to have more species. At 0.70 m and 0.80 m in elevation, the higher number of species resulted from the addition of non-wetland-associated species, not the loss or replacement of wetland-associated species. At greater than 1.05 m, wetland species were replaced by non-wetland species. At this elevation, the major community type shifts from graminoid wetland (lower species diversity) to mesic pineland-hammock (higher species diversity).

The restoration techniques employed were successful adjacent to the pinelands, and indicate that restoration of pinelands is possible. More than 3,000 pine seedlings greater than 10 cm in height have naturally germinated on the site since January 1998 and 26 of these seedlings were greater than 50 cm in height.

Since the initiation of restoration activities, 211 species of vertebrates have been observed. There were 24 species of fishes, 15 species of amphibians, 29 species of reptiles, 131 species of birds, and 12 species of mammals. Unmitigated Brazilian pepper had the lowest cumulative total (48 species) and the restored sites had the highest totals (range of 93 to 154). Natural vegetation had 110 species. Higher species richness of restored sites was primarily due to a higher number of birds.

The restored sites have a higher abundance of fishes and selected aquatic macro-invertebrates (crayfish, grass shrimp) than undisturbed natural vegetation. This higher prey base on the restored sites supported higher numbers of wading birds and grassland-associated species, including federally endangered wood storks. The restored sites were also regularly used by up to 35 white-tailed deer, which attracted federally endangered Florida panthers (photographic record) during the dry season. Raccoon, marsh rice rat, marsh rabbit, and bobcat were also frequently noted.

Cape Sable Canals:

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 intrusion through these canals and sea-level rise have hastened the conversion of freshwater marshes north of Lake Ingraham to shallow marine habitat and mangrove forest. Tidal flushing has eroded the canals and deposited the sediments 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 1980s or early 1990s and were replaced by sheet-piling dams in 1997. The sheet-pile plugs have now also failed.

The dams appear to have influenced general ecological conditions, including critical wildlife populations in the area. In addition, there are visitor safety issues and access to designated wilderness continues to be a problem.

The canals drain freshwater from the interior wetlands and also permit salt water from the Gulf of Mexico to penetrate inland. This salt water intrusion is accelerating the change from freshwater wetlands to a more saltwater estuary ecosystem. By allowing salt water intrusion, the freshwater wetlands which consist of sawgrass and other wetland species have been transformed to mangrove forest. Tidal flushing of freshwater from the interior wetlands is also transporting organic material (i.e., peat and nutrients), causing a loss of organic soil, which has resulted in soil subsidence. As a result of this flushing through both East Cape and Middle Cape Canals, Lake Ingraham is filling in with marl sediment at a significantly accelerated rate. If this process goes unchecked, Lake Ingraham will soon become a tidal mud flat.

Dr. Harold R. Wanless and his PhD. student Brigitte Vlaswinkel, University of Miami, were funded by NPS to study the coastal landscape, wetland, and tidal channel evolution affecting critical habitats of Cape Sable. In his final report of June 2005, Dr. Wanless documented the rapid filling of Lake Ingram and widening of the canals and natural channels in the area.

The park continues to consider the range of issues posed by these canals for the integrity of park resources, endangered species, public safety, and wilderness access. A team of NPS geologists and hydrologists has reviewed and analyzed existing information, defined and evaluated alternatives, and made recommendations.

Inventory and Monitoring of Physical Resources:

The mission of this program is to monitor the physical resources of Everglades National Park. This is accomplished by collecting and managing high quality data from a network of marine and freshwater monitoring stations located throughout the park.

The program is mainly focused on operating and maintaining the hydrologic monitoring network throughout ENP. The network consists of 65 stations throughout the marsh and uplands of ENP as well as 35 stations in the marine and estuarine areas. Telemetry is included in almost all stations providing real-time data acquisition necessary for a variety of resource management activities and is transmitted daily to the COE and the South Florida Water Management District for day-to-day operations of the local water control system. Data from the monitoring stations generate over 15,000 records per day that are automatically collected and loaded into a data management system for review by program staff.

The hydrological monitoring network was significantly impacted by Hurricanes Katrina and Wilma in the first quarter of FY 05 with a total loss of 12 stations including the structural components. In addition, 9 other sites were submerged by the storm surge resulting in the destruction of the monitoring equipment housed at these sites. In response to this, the hydrology program has tasked a catastrophe response team to

construct new hurricane resistant structures to replace lost stations. The new design, made in part in response to NOAA predictions of increased frequency of hurricanes over the next 20 years, should allow the monitoring program to continue with fewer interruptions in data collection due to severe weather in future years. As of the end of 2005, 7 new stations were completed and are collecting data in support of the Inventory & Monitoring (I&M) program mission.

In addition, to the hydrologic monitoring network, the program is involved in several cooperative monitoring efforts. The following is a list of cooperative monitoring projects conducted during FY 2005:

- Air Quality Monitoring; in cooperation with NPS Air Resources Division
- National Atmospheric Deposition Network; in cooperation with the US Environmental Protection Agency (EPA)
- Ultra-Violet Radiation and Stratospheric Ozone; in cooperation with the EPA and the University of Georgia
- Surface water quality; in cooperation with the South Florida Water Management District
- Groundwater quality; in cooperation with the South Florida Water Management District.

Accomplishments for the Physical I&M program revolve around the programmatic activities relating to maintenance of the monitoring and telemetry network and managing the high volume of data generated. Below is a listing of the major accomplishments for the year.

1. Reviewing and validating water level, rainfall, salinity, and water temperature data from all stations in the monitoring network.

   Data produced by the monitoring program;

   - are used on a daily basis by water management officials and resource managers, and researchers
   - provide hydrologic information presented and analyzed in Project Assessment Reports such as the Interim Operational Plan (IOP) report produced as part of the Modified Water Deliveries program
   - provide the foundation of measuring the status and trends of the hydrologic resources of ENP
   - provide the hydrologic information necessary to gauge the success of various restoration project including the Modified Water Deliveries Program, CSOP, and the CERP
   - are used for fire management activities.

2. Collected monthly surface water quality samples throughout the main drainages of ENP. The surface water quality program provides information relating to the affects of upstream water management activities on the water quality entering ENP.

3. Collecting quarterly groundwater quality samples in the C111 basin. This program monitors the impacts of the C111 detention areas on ENP.

4. In cooperation with NOAA we have joined the Coastal Observation and Monitoring Network by installing satellite telemetry equipment at selected marine sites.

The future of the monitoring program is probably most influenced by the needs of the Comprehensive Everglades Restoration Plan, which is leading to significant increases in data requests as well as requests to add more monitoring stations to the park. We expect a modest expansion in hydrologic monitoring to continue throughout the next few years.

FACILITY DESIGN, OPERATIONS AND MAINTENANCE

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

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 2 Environmental Education camps). 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 2005 include the following:

Construction/Rehabilitation
Three line item construction projects for the replacement of water and wastewater treatment facilities at Flamingo and Pine Island, were substantially completed at the end of 2005. EVER packages 191A, 191C and 191RO are scheduled for final inspection in March 2006. Total value of the projects is approximately $13,000,000. Completion of packages 191A and 191RO will satisfy the conditions of a consent order with the Florida Department of Environmental Protection and release the park from schedules fines.

The DRTO line item project for the stabilization of Fort Jefferson was nearing substantial completion by the end of the year. The anticipated completion date is April 2006. Total value of the project is $1,600,000.

General renovations of park assets has included the continued rehabilitation of Flamingo campground restrooms, Royal Palm sales office and contact station, Pa-hay-oke boardwalk, remodel 20 Flamingo bathrooms, cap Flamingo Lodge swimming pool, stripe 50 miles of park roads, raise the Shark Valley tower trail, repair Shark Valley parking area sidewalks, replace Everglades City canoe launch, demolish the East Everglades

ranger station, camp tender's house and Flamingo dormitory, rehabilitate/relocate five AST's, mitigate highway safety problems on park roads including drainage and shoulder repairs, repair Flamingo restaurant roof, relocate the Harney River chickee, install new signs and campground equipment at various sites, install 30+ central air conditioning systems parkwide, and complete water system rehabilitation of five drinking water systems. Total value of these projects is approximately $1,300,000.

Engineering and Professional Services

The park achieved all milestones for the implementation of FMSS, including completion of 100% of the CCA's. FMSS data refinement included establishing baseline preventive maintenance programs for HVAC, fleets, and utility systems. A strategy and schedule for implementing a work order system was completed by the end of the year. Design work was partially completed for the replacement of three employee housing units at DRTO, rehabilitation of the Northwest District boat basin, Shark Valley tram parking area, and Dan Beard/Bill Robertson Centers' water systems, and completed an order for the replacement of 90% of the park's sign inventory. Specifications were developed for a number of hurricane restoration projects including those awarded during and after the emergency response. Projects which have been funded and are ready for award include the dredging of the Florida Bay marina and a general debris removal contract for the Flamingo area. Total value of the engineering projects when constructed is $2,100,000

Hurricane Repairs

Numerous contracts were awarded to repair assets throughout both parks. Common repairs included the replacement of roofing, screens, fencing, signs and debris removal. Many of the front and backcountry campsites were damaged or destroyed and lost campground equipment (tables, grills, chemical toilets). Staff was detailed from VOYA, APIS, and ISRO parks to assist rebuilding backcountry campsites to enable the park to open for the winter season. Park staff continued to make repairs to water/wastewater systems, electrical distribution equipment, and building electric and mechanical systems. A temporary office trailer and "POD" storage containers were set up in Flamingo to replace the old Flamingo maintenance office/shop (damaged in Wilma). Visitor facilities in the Flamingo district were repaired and open during January 2006, including a portion of the campgrounds, visitor center, boat launches and fish cleaning station.

Numerous hurricane repair projects were completed at DRTO including; the repair of the Loggerhead dock, Garden Key fuel dock and finger piers, repair of the counterscarp wall (pier and counterscarp later damaged by Hurricane Wilma), debris removal, replacement of a mooring dolphin, three generators, electrical distribution equipment and demolition of two staff housing units. Miscellaneous repairs were completed on both keys to protect building exteriors and restore utility services. The communications tower and a satellite communications system were replaced on Garden Key. The satellite system which was funded by the Office of Information-WASO, has improved the speed and connectivity for both voice and data, allowing DRTO staff access to NPS managed networks and data bases for the first time.

DIVISION OFADMINISTRATION

PERSONNEL

Recruitment and Placement:
-- 60 vacancy announcements were issued through Delegated Examining Unit (DEU) authority.
-- 51 merit promotion vacancy announcements were issued.

Hires:
Permanent – 18 (8 or 44% were female/minority)
Temporary/Term – 42(28 or 66% were female/minority)
Seasonal – 43 (23 or 53% were female/minority)
Total – 103 (59 or 57% were female/minority)

Classification:
--30 position descriptions were classified

Training:
--Processed 37 employee SF-182's (Request, Authorization, Agreement and Certification of Training).

--Sponsored 3 training classes – Motorola and IFR Technical End User – 40 hours (January, 2005); COR/COTR – 24 hours (February, 2005) mandatory training, and Assistance Agreements Administration – 24 hours (June, 2005) mandatory training.
--TEL Broadcast – participated in 22 broadcasts totaling 102 participants.
--Free computer training offered from Southcom – 9 employees participated.
--Diversity: All employees received on-line training – "No Fear - Discrimination and Whistleblowing in the Workplace".

Awards:
--10 employees received On-the-Spot awards to total $6,426
--20 employees received STAR awards to total $34,933
--2 employees received a Quality Step Increase.
--66 employees received time-off awards to total 1,377 hours.
--56 employees received Excellence in Service gift awards

BUDGET

EVER FINANCIAL SUMMARY FY 2005

ONPS Budget	
Park Management	$1,798,800
Administration	1,557,100
Interpretation	1,543,200
Visitor/Visitor Protection	3,178,400
Maintenance	4,088,100
Research/Resource Mgmt	2,617,600
Total	**14,783,200**

Other Funding:	
CESI	3,877,400

CERP	4,634,000
Task Force	1,290,000
LWCF Reprogrammed Funds	702,000
Mod Water	975,000
VIP	9,000
Equipment Replacement	35,400
Air Quality	19,000
Cyclic	301,300
Hazardous Waste	57,000
Repair/Rehab	737,700
Donations	679,345
Museum Cataloging	133,000
Safety Training	1,200
Train the Trainer	1,400
PCS Funding	23,500
Total	**$13,476,245**
TOTAL EVER FUNDING	**$28,259,445**
Fees Collected in FY 2005	
IBP's	$68,585
NPS Passports	86,650
Golden Eagles	14,980
Special Use Permits	175
Park Specific	81,480
Entrance Fees	893,825
Golden Age	45,652
Boat Use Fees	59,610
Back Country Fees	44,061
Concession Fees	1,157,783
Special Interp Programs	33,039
Campground	52,675
Commercial Aircraft Tour Fee	1,320
Commercial Tours	4,125
Unclaimed Money	968
Fees Collected	**$2,476,344**
Contractor Camp Ground Sales	**130,030**
TOTAL FEES COLLECTED	**$2,606,375**
FTE	
Park Management	15.74
Administration	20.75
Interpretation	22.36
SF Task Force	9.06
Visitor/Resource Protection	71.08
Maintenance	45.99
Research/Resource Mgmt	74.04
Total FTE	**259.02**

DRTO FINANCIAL SUMMARY FY 2005

ONPS Budget	
Park Management	$134,500
Ranger Admin	48,900
Interpretation	84,300
Visitor Protection	306,200
Maintenance	
Bldgs	39,400
Stabilization	250,000
Grounds	34,600
Utilities	145,800
Boats	63,800
Natural Resources	179,500
ONPS Budget	**$1,287,000**

Other Funding	
VIP	$3,200
Repair/Rehab	247,600
Cyclic	238,200
Donations	33,441
Const - Storm	261,428
Total Other $	**$783,869**

TOTAL DRTO FUNDING	**$2,070,869**

Fees Collected in FY 2005	
Damaged Resources Recovered	$466
NPS Passports	655
Entrance Fees	230,979
Golden Age	240
Campground	12,149
TOTAL FEES COLLECTED	**$244,023**

FTE	
Park Management	1.05
Administration	1.02
Interpretation	1.04
Visitor Protection	4.32
Maintenance	4.51
Research	0.52
Total FTE	**12.46**

RESOURCE AND VISITOR PROTECTION

The R&VP Division is responsible for the protection of the park's visitors and resources. These responsibilities are accomplished through education and information, law enforcement, emergency medical response, emergency search and rescue operations, regulation of aircraft operations and flight following over the park, and fire management.

The Division also supports field level resource management projects, including control and removal of invasive exotic species. Activities also include cooperation with other law enforcement and fire management jurisdictions, local community liaison at the District level, and support of the park's role in special events, visits and incidents.

In February 2005, the park entered into a grant agreement between the South Florida National Parks Trust and the National Parks Conservation Association. This agreement provided approximately $580,000 in funding to enhance and foster the protection of Florida Bay. With this funding, the R&VP division hired 2 temporary law enforcement rangers and increased overtime hours for existing staff to expand patrol operations on Florida Bay. Two new patrol vessels were purchased through this grant and outfitted for use in the Florida Bay District. This funding will continue through FY 2006.

R&VP fire personnel and law enforcement staff supported numerous out-of-park incidents in 2005. These included: western wildfire suppression operations, the Piping Plover detail at CAHA, Hurricanes Rita and Katrina.

Due to the impacts of Hurricanes Katrina (08/26/05) and Wilma (10/24/05) on the Flamingo District of the park, operations were severely affected. The campground, which contains approximately 300 sites, sustained damage from both storms that forced the park to remove it from the nationwide reservation system for the upcoming winter season. Damages to the campground included downed and hazardous trees, total destruction of the kiosk, and campsite damage. Flamingo was also without phones and power for a substantial period of time hampering recovery efforts. Flamingo opened to the public with limited services on February 04, 2006. The campground opened 2 loops on a first-come, first-serve basis. Recovery efforts are continuing.

The Everglades National Park law enforcement staff received the SERO "Outstanding Service in Natural Resource Protection" for 2005.

A summary of accomplishments for FY 2005 follows:

There were a total of 14 search and rescue incidents in the park during the year.

- Park staff handled 44 emergency medical services incidents, including 32 trauma cases.
- There were 14 citations/arrests for illegal drug activity.
- There were 26 citations/arrests for Part One crimes, with the majority of cases involving larceny-theft.
- Among Part Two crimes, there were 279 citations/arrests; the majority for weapons violations (79) 85 incidents involved disorderly conduct, 52 liquor law violations, and 9 DUI's.
- During CY 2005, there were no incidents of documented violations of the Archeological Resources Protection Act, the Antiquities Act, or other statutes

protecting archeological/paleontological resources. Enforcement costs are not divided to identify separate ARPA protection. Costs are included in the park's overall law enforcement and resource protection budget.

- There were 2839 boating, 1 aircraft and 1224 traffic related LE incidents.
- The fiscal year continued an authorized level of 33 commissioned park rangers assigned to the Division. Due to a combination of standard turnover rates and significant parkwide budget constraints, the year saw an average of 27 permanent commissioned staff. The LE staff received 5 permanent rangers as part of the Southeast region "in-take" program. Once they completed their FLETC/FTO program (06/05), they were integrated into the park's LE program with one ranger assigned to the Gulf Coast District, one to the Florida Bay District, and 3 assigned to the Flamingo District.

Fire Management

- In 2005 Everglades Fire Management treated 31,908 acres using management ignited prescribed fire. This acreage represents nearly one-third of the acres treated Service-wide. Fire staff managed natural ignitions for 3828 acres
- Conducted a 604 acre prescribed burn immediately adjacent to the Miccosukee Reserved Area, protecting this community, endangered species habitat and cultural resources from potential wildfires. This was an interagency accomplishment with USFWS, BICY, Miccosukee tribe of Indians of Florida.
- Everglades Fire Management staff hosted the 2005 Cape Sable Seaside Sparrow Symposium, an interagency, interdisciplinary team that oversees development of fire strategy in T & E habitat.
- Everglades Fire Management staff participated in, and presented posters at the Pine Rocklands Symposium. The Pine Rocklands Working Group is an international, interdisciplinary team of subject matter experts tasked with developing best management practices in the management of pine rocklands habitat.
- Provide Fire Ecology and Fire Effects Monitoring assistance to BICY and Canaveral NS.
- Fire Ecologist Rick Anderson and Fire Management Officer Bob Panko served on National Level Teaching Cadres instructing interagency line officers in fire management techniques.

VISITOR SERVICES AND INTERPRETATION

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. 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.

In 2005,the division of interpretation reached 965,696 people including; 431,954 visitors at five visitor centers, 48,739 visitors attended 2,176 interpretive programs, 10,454 students attended 299 curriculum based education programs, 36,241 people were

contacted through community outreach programs, and 78,740 publications were distributed.

In April the park hosted a multi-agency day long event commemorating the 100th anniversary of the death of Guy Bradley and other fallen conservation officers within the National Park Service, U.S. Fish & Wildlife Service and the National Audubon Society.

In 2005, 5.73 FTE of the Division's 24.5 FTE was funded from non-ONPS sources. These FTE supported 84% of the curriculum-based education program, 18% of visitor center staffing, 17% formal interpretation programming, and 10% informal interpretive programs. In addition, 77% of non-personal services, publications and media, were supported by alternate funding sources. The curriculum-based education program reached 10,454 students with only 16% of program funding coming from ONPS funds. Alternate funding sources included two new fee-based programs; bike hikes and slough slogs. Other alternate funding sources included: Ford Proud Partner Transportation Interpreter Program at Shark Valley; South Florida National Parks Trust supporting the Curriculum-Based Education Programs; Fee Demo through the collection of wilderness fees; National Parks and Conservation Association support of Florida Bay related outreach and education, and the Everglades Association supported publications.

In FY05, 70 volunteers worked for the Division of Interpretation donating 11,917 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 provide assistance to students, teachers and park staff throughout the school year. 10 volunteers were Artists in Residence.

Volunteer in Park Program

In FY05, 393 volunteers donated 35,721 hours in support of 4 visitor centers, 2 developed campgrounds, 48 backcountry sites and a curriculum based environmental education program reaching 10,454 students. Volunteers help reduce resource impacts by assisting in the maintenance of 82 miles of surfaced roads, 156 miles of trails and 7 miles of interpretive trails. Volunteers assist 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 project; assisted in efforts to eradicate invasive plant species, worked in the recycling center, and completed a variety of facility and trail maintenance projects.

GPRA Goals

During March 2005, four hundred Visitor Survey Cards were distributed to a random sample of visitors in four areas of the park. This survey was conducted to measure the parks performance related to NPS GPRA Goals IIa1 (visitor satisfaction) and IIb1 (visitor understanding and appreciation). Results for Goal IIa1: Visitor Satisfaction = 91% of park visitors were satisfied with park facilities, services, and recreational opportunities. The park fell short of 2005 NPS goal of 95%. Results for Goal IIb1: Visitor Understanding of Park Significance = 96% of park visitors understood and appreciated the significance of the park. The park exceeded the 2005 NPS goal of 86%. The response rate for this survey was 28% (down from 32% in FY04).

South Florida Population Study

Everglades National Park contracted Clemson University to complete a "South Florida Population Study." During the summer of 2004, Clemson conducted an OMB-approved telephone poll of 1,806 south Florida residents, asking them about their knowledge, attitudes and opinions about the south Florida national parks, perceived and real barriers to visitation, and their awareness and understanding of the Comprehensive Everglades Restoration Plan. Interviews were conducted in English, Spanish, and Haitian Creole. Almost 90% of respondents had heard of Everglades National Park, 61% had heard of Biscayne, and 53% and 44% were aware of Big Cypress National Preserve and Dry Tortugas respectively. Responses indicate that there is no widespread constraint to visiting the parks other than "no time." Fifty-five percent of respondents were not aware of CERP, indicating the need for a public outreach and education campaign on this issue. However, data indicate strong support of the project (89%) of those familiar with it. Once CERP was explained to those unfamiliar with it, 62% of respondents supported it, while 32% were neutral. Clemson completed its final report to the park in February, 2006.

EVERGLADES ASSOCIATION

The Association is a National Park Service Cooperating Association working in cooperation with the four South Florida National Park Service areas to assist visitors and increase public understanding of the natural and historical values of the parks. At park visitor centers, the Association sells high quality publications and educational materials to the public. Net proceeds from sales are returned to the parks to support scientific, educational, historical and visitor service programs of the National Park Service. The Association is a private, non-profit organization incorporated in the State of Florida.

During 2005, the Association provided $118,801 to the support of the parks divided between information assistance at sales areas and funds donated to support park educational projects. In the latter category, $53,000 was made available as donations to support educational efforts of the four south Florida parks during the year.

The Association funded a variety of publications including the Park Stories newspaper, site bulletins, species checklists, and the resources management oriented Florida Bay Newsletter. The Association provided staff support in three visitor center, training sessions, housing costs for volunteers, and the parks curriculum based environmental education program.

Special equipment purchases allowed staff to enhance the quality of their interpretive materials. Support was also provided for community outreach meetings. Living history items and research books were provided to the various parks and districts.

SOUTH FLORIDA NATIONAL PARKS TRUST

The Trust is chartered through the National Park Foundation. The purposes of the Trust relate to advancing, through private and non-profit sectors, the interests and missions of the parks and in securing financial and other resources to support an enhancement of the park's efforts. In 2005 the South Florida National Parks Trust awarded four grants to Everglades and Dry Tortugas National Parks totaling $101,200, to fund; cannon conservation, bilingual wayside exhibit production, 'Waterways" television program production, and an interactive underwater video camera for Shark Valley.

Concessions

The Hurricanes of 2005 had varying effects on the park's concessioners. The tour boat operation at Gulf Coast had the fewest impacts, with a closure of less than two weeks, no damage to their vessels, and only limited damage to their facilities. The concessioner at Shark Valley suffered greater damage, with the destruction of the chickee roof, damage to several trams, and a large amount of debris cleanup. This damage, along with damage to NPS facilities and high water, kept Shark Valley closed for several weeks.

However, the greatest impact on concession operations occurred at Flamingo. Hurricanes Katrina and Wilma left the current overnight accommodations uninhabitable. The cottages were essentially destroyed. The lodge units (already in poor condition with high condition facility indices) were damaged to such an extent that repairing the existing units can't be justified. While the concessioner was able offer very limited day use operations (a gift shop/campers store) after Katrina, the flood damage from Wilma was so severe that all commercial visitor services unavailable for the remainder of calendar year 2005. The concessioner's facilities are located in a coastal high hazard area and were built at ground level, leaving them vulnerable to future flooding. The cottages are already scheduled to be removed and the park has submitted a funding request for removal of the lodge units. If future facilities are built they will need to be raised in order to meet current code.

The concessioner will offer limited day use visitor services in 2006 consisting of the Marina Store, boat tours, fuel service, boat rentals and bicycle rentals. Due to the marginal financial viability of these operations over the last several years, the lack of a new contract, the extensive losses experienced by Xanterra in 2005 (and expected in 2006), along with the risk of future hurricanes, the concessioner informed NPS that they wish to discontinue operating at Flamingo before the end of 2006.

SOUTH FLORIDA COLLECTIONS MANAGEMENT CENTER

Museum Accessions: SFCMC park museum collections continued to increase in FY2005.

Park Unit	FY04 Total	FY05 Total	FY05 Increase	% Increase
DRTO	91,130	113,975	22,845	25.09%
EVER	1,583,652	1,799,935	216,283	13.65%
SFCMC	4,778,479	5,139,907	361,428	7.56%

FY2005 Collection Growth

Although the museum collections increased in FY2005 due to new field collections and donations, the growth rates seen in Table 1 do not yet reflect a "typical" growth rate for each park unit that can be used for annual planning purposes. The lack of a curator prior to 1988 and the lapses in the museum curator position from 1993-1995 and 2000-2002 have created a large backlog of unaccessioned collections for the park units. SFCMC staff has been addressing these collections and accessioning the backlog as time and staffing permit since August 2002. Although considerable progress has been made in this area, a backlog of unaccessioned collections continues to exist for each park unit.

It is anticipated that the EVER collection will have another significant increase in collection size in FY2006 as the archives identified during the April 2005 park-wide archives survey are accessioned into the collection. Likewise, DRTO is scheduled for a park-wide archives survey in FY2006 which will significantly increase the collection size for that park. Moreover, additional collections will continue to be generated, increasing the collection size for all five park units serviced by the SFCMC.

Significant Accessions in FY2005:

- DRTO: donation of an Enfield bayonet; donation of 1940s photographs; objects collected from Cuban migrant boats; archeological artifacts from archeological testing prior to construction projects; samples of historic fabric from preservation projects at Fort Jefferson; and specimens and associated records from permitted research projects undertaken in the park.
- EVER: donation of Seminole shirt made for Daniel Beard; donation of American flag that flew over combined A&B Batteries of Nike missile base; donation of an article about Ernest Coe; donations of park-related memorabilia; park administrative records from the 1960s-1970s, recalled from the Federal Records Center; and specimens and associated records from permitted research projects undertaken in the park.

South Florida Parks Collection Management Plan: The Collection Management Plan (CMP) team presented the parks with a review draft of the South Florida Parks Collection Management Plan in September 2004. The revised draft of the CMP was submitted to SERO in September 2005.

SFCMC Charter The CMP planning process included an evaluation of the role and function of the SFCMC. As part of this process, it was determined that the SFCMC should follow the model of the South Florida/Caribbean Inventory & Monitoring Network, developing a charter that establishes a superintendents' board of directors and advisory committees at each park unit. Using this model, the SFCMC Curator drafted a similar charter for the SFCMC. This draft charter was reviewed by the superintendents and appropriate staff at the four south Florida park units. Following this review and subsequent revisions, the SFCMC Charter was approved by the park superintendents and the Regional Director in February 2005.

EVER Scope of Collection Statement: A draft was prepared with SERO funding and sent to the park for review. It is expected that this SOCS will be approved in FY2006.

Museum Emergency Operations Plan: The SERO Curatorial Services Program received funding to prepare a Museum Emergency Operations Plan (MEOP). A draft document is not expected until FY2006

Park-wide Archives Survey: EVER received funding in FY2005 for a park-wide archives and records management survey. This survey was conducted by the Technical Information Center (TIC) at the NPS Denver Service Center (DSC). All districts and offices of the park were surveyed for potentially archival materials. In addition, park records management activities were also assessed. The draft report was received in August 2005. The revised draft of the report is expected in December 2006.

SFCMC Photograph Collection Condition Survey A contract with Harpers Ferry Center (HFC) to conduct a Photograph Collection Condition Survey (CCS) was let. The

CCS was conducted by HFC Conservator Theresa Shockey. Negatives, prints, slides, and digital images were surveyed. The final report was accepted in September 2005.

Museum Collection Accountability & Cataloging

Museum Accessions: As noted above, the museum collections from the SFCMC park units continued to grow in FY2005. The park units are required to prepare museum accession documentation, which documents legal title to museum collections. The SFCMC conducts all museum accessioning for the five parks. Table below illustrates the increase in accessions in FY2005. These data refer to numbers of accessions only, not the increase in total collection size (i.e. one accession may be 1 object or 100,000 objects). In FY2005, the SFCMC parks averaged one new accession every 2.8 calendar days or one accession every 1.9 work days.

Park Unit	New FY2004 Accessions (for workload comparison)	New FY2005 Accessions	Total Number of Accessions (all years)	% Increase in Total Accessions for FY2005	Estimated FY2005 Time to Complete (in hours)
DRTO	16	20	128	16%	15.0
EVER	105	93	863	11%	124.0
SFCMC	131	157	1,191	13%	172.0

The above statistics illustrate several important points about the parks' collections and about SFCMC workload trends. First, the BICY data illustrates the rapid increase in the number of new accessions that occurs when every permitted research project is assigned a museum accession number, as required (although not all FY2005 permits received accession numbers see below). Because accession numbers are not assigned for all permits from BISC and DESO, the number of accessions in the data above is lower than it should be and backlogs are created.

Second, although the combined accessions for the five park units represent a 13% increase in total accessions managed by the SFCMC, it also represents an increase of 17% over the FY2004 workload. This increasing workload is not being met with additional staff; as a result, less work can be accomplished on other goals.

For workload estimating purposes, the SFCMC uses a figure of 0.75 hour of staff time needed per accession. This is the average amount of time it takes to enter accession information into the accession book and ANCS+ database, create the accession file and required forms, coordinate with researchers and/or donors, get appropriate signatures on legal documents, etc. Using this figure, combined with the data presented in Table 2, reveals that a total of 172 hours (or 4.3 weeks) of staff time was devoted preparing accession documentation in FY2005. This figure does not include the time spent correcting accession data (see "Corrective Action Plan" below) or other needs

associated with correcting the backlog of problems associated with these records (as identified in the South Florida Parks CMP, draft 2005).

Outgoing Loans: Considerable effort was undertaken in FY2005 to improve accountability of museum collections on loan to other institutions. This effort focused on collections on loan to the Southeast Archeological Center (SEAC) that did not have current, or any, loan documentation. The backlog of loans (approximately 40 accessions) to SEAC from EVER still needs to be addressed. There is also an unknown backlog of undocumented loans of specimens from previous research collecting permits to be addressed in the future.

Preventive Conservation

Acetate Preservation Project: The SFCMC received Cultural Cyclic funding to address actively deteriorating acetate negatives in the museum collection. Images that were showing significant signs of deterioration (e.g. the DRTO Grant negatives) were duplicated by Chicago Albumen Works. Three industrial freezers were purchased to provide cold storage for acetate negatives, color images, and movie film.

DRTO hot shot furnace artifacts A contract for conservation treatment of hot shot furnace artifacts removed during the rehabilitation project was awarded.

DRTO Cannon Conservation: The SFCMC received a $25,300 grant from the South Florida National Parks Trust (SFNPT) to begin conservation treatment of the cannon at DRTO. This grant, which funds conservation treatment of one Rodman cannon, demonstrates a continued commitment to preserve museum collections and improve visitor experience by the SFNPT, which provided the SFCMC with $4,020 in FY2004 for the DRTO Cannon Collection Condition Survey. FY2005 funds were received from the SFNPT in August 2005. The SFCMC Curator prepared a detailed scope of work, list of potential bidders, and coordinated with EVER contracting staff regarding this project. Bids will be solicited and this project will be implemented in FY2006.

Museum Storage Upgrades: $40,000 was received from MCPPP funds to install another compactor storage system in the archive storage area at the Robertson Building. This system will provide storage space for an addition 576 record storage boxes plus desperately needed storage space for framed artwork. The compactor storage system will be installed early in FY2006. Also two 15-drawer map cabinets with bases were purchased along with 4 standard museum cabinets and one double-wide museum cabinet, with drawers.

Hurricanes: Although Hurricane Katrina did hit Homestead and the south Florida area, the museum collections came through unscathed. Power outages at the Beard Center and Robertson Building were of short duration; in fact, electricity was restored to this area quickly and the HVAC systems only lost power for a few hours. The Flamingo District of EVER, however, sustained significant storm surge, damage and power loss due to Hurricane Katrina. The HVAC system at the Flamingo Visitor Center did not function after the storm. Partial power was available, however, in the Flamingo Museum. As a result, the collections were not evacuated following the storm. Instead, dehumidifiers were used to control the relative humidity and prevent mold growth, until full power could be restored.

Hurricanes Dennis, Katrina and Rita all caused damage at DRTO. It was Katrina; however, that has the greatest impacts to museum collections at DRTO. The cannon on the terreplein of the fort had what remained of their protective paint coatings “sand blasted” off by the storm, subjecting the cannon to flash rusting. Due to the approach of

Hurricane Rita, the emergency conservation treatment of the cannon could not be completed in FY2005. Instead, the work was conducted October 4-10, 2005. None of the collections in the visitor center at Fort Jefferson were directly damaged by the hurricanes, although there was generally water intrusion into the visitor center during the storms and the relative humidity after both Katrina and Rita reached 100% for short periods of time.

Emergency Response Caches: Funding was received in FY2005 to prepare museum emergency preparedness and salvage caches. The $8,000 was received to purchase portable generators, dehumidifiers, fans, and extensive supplies to develop three emergency caches to ensure the SFCMC's ability to prepare for, and recover from, disaster situations.

Herbarium Scanning Project: The South Florida/Caribbean Inventory & Monitoring Network has entered into a cooperative agreement with Fairchild Tropical Botanic Gardens (FTG) to produce high resolution scans of Network parks' herbarium specimens and label data. Approximately 1,300 specimens were inventoried, packed and transported to FTG for scanning.

FLMNH Cooperative Agreement: An agreement was completed with the Florida Museum of Natural History (FLMNH) at the University of Florida. This CA provides for the rehabilitation of the existing wet collections at the SFCMC, as well as long-term collection storage and management at the FLMNH. The issues associated with this collection had been identified in the 2002 Security and Fire Protection Survey and the 2003 Wet Specimen Collection Condition Survey, as well in the park-wide environmental audits from 2002-2005

Planning and Compliance Branch

Park Planning Program

EVER General Management Plan/EIS

- Documented DSC team deficiencies in order to get GMP back on track
- Rewrote draft alternatives, zoning documents, maps to prepare for park SERO and WASO review/approval
- Prepared PowerPoint and other materials to get through the SERO review process

East Everglades Archeology Study

- Managed contract and coordinated with SEAC and park staff to accomplish fieldwork and develop report for use in GMP and Interim Airboat Plan

East Everglades Airboat Trail Inventory/Assessment

- Managed contract and coordinated with University of Georgia and park staff to accomplish fieldwork and develop report for use in GMP and Interim Airboat Plan
- Helped secure additional funds to conduct Phase 2 that will provide 20-year analysis

EVER GMP Alternative Transportation Study

- Managed contract with HNTB to complete Phase 2 in January 2005; result was feasibility analysis for potential alternative transportation options for the draft GMP alternatives

EVER Manatee Data Compilation and Evaluation

- Co-managed contract and coordinated work for consistency/applicability to GMP
- Conducted reviews and work sessions with contractor (USGS) to insure effectiveness for planning purposes

Florida Bay Aerial Survey of Boating/Fishing Activity

- Prepared documents and presentations to secure private donor funding in FY05.
- Lead role in developing SOW and contract with UM-RSMAS.
- Developed pilot program and helped facilitate test flights in FY05.

EVER East Everglades Hunting Camps Survey/Analysis

- Coordinated site visit and served as liaison with SERO History Division for a report on East Everglades hunting camps as potential cultural resources and visitor use facilities
- Reviewed/helped finalize report documenting resource conditions

BISC-EVER Greenway

- Continued facilitating meetings, events and project start up/coordination efforts
- Developed SOW for consulting contract and serving as key liaison with agencies and organizations supporting the project
- Helped secure funds and project support from local and state agencies

Adjacent Lands Planning

- Participated in BISC-EVER team looking at the potential impacts of Florida City annexation and DRI on the site called Florida City Commons; reviewed proposal documents, drafted correspondence describing NPS concerns, coordinated with agencies and organizations involved in proposal review

Environmental Compliance Program

Overview

In FY 05, the program contributed to completion of a Florida/DOI agreement for managing submerged lands at Dry Tortugas National Park, completion of draft special regulations for Dry Tortugas National Park, and significant progress on an ongoing Environmental Impact Statement (EIS) and two Environmental Assessments (EAs). Program staff also completed documented categorical exclusions for 27 projects, NHPA compliance for 31 projects, and participated in 20 wilderness minimum tool determinations. In addition, 2005 saw the full implementation of the Planning, Environment, and Public Comment (PEPC) internet-based program for NPS review of NHPA compliance documents and for the public scoping of the Temporary Airboat Concessions Contracts Environmental Assessment. Tables summarizing NEPA and NHPA accomplishments are attached.

Projects

Florida/Department of the Interior Submerged Lands Management Agreement

During the preparation of the 2001 Dry Tortugas National Park General Management Plan Agreement, the State of Florida indicated to the NPS that it claimed title to submerged lands located within the park. These lands are also claimed by the United States. Implementation of the park's Research Natural Area zone has been delayed pending resolution of this issue. In December 2004, the State and NPS conceptually agreed that rather than litigate title, the submerged lands should be managed by the NPS consistent with the authorized purposes of the park and the 2001 GMPA.

To implement this arrangement, the park, the Department of the Interior and the Governor and Cabinet worked for 9 months to complete a submerged lands management agreement. Under the agreement, approved by the Governor and Cabinet and DOI on August 9, 2005, the NPS will issue special regulations to implement the GMPA; the Florida Fish and Wildlife Conservation Commission (FWC) will review the regulations; and the NPS will seek concurrence of the State's Board of Trustees of the Internal Improvement Trust Fund (Governor and Cabinet) with the regulations.

In addition, the NPS and the State will work together to implement a research and monitoring program for the park's marine ecosystem, to coordinate this work with similar efforts by the Florida Keys National Marine Sanctuary, and to provide a status report on the marine fisheries at least every five years to the Board of Trustees. Nothing in the agreement affects the FWC's jurisdiction under the Florida Constitution regarding marine fish. The branch chief participated in all aspects of development of the agreement including reviewing drafts, recommending changes, preparing and giving presentations and participating in a site visit to the park for a cabinet aide.

Dry Tortugas Special Regulations
On a parallel track, the park and DOI worked with the NPS regulations program to develop draft special regulations. Hurricane Rita forced postponement of a September briefing with the Fish and Wildlife Conservation Commission until December 2005. The park superintendent briefed the Commission on December 2, 2005 and again on February 2, 2005 when the commission approved the draft regulations subject to some changes. Review of the draft regulations by the Office of Management and Budget and Council on Environmental Quality is nearing completion and the park expects to publish them in the Federal Register for public review and comment in the near future. The branch chief participated in all aspects of development of the regulations including analysis and drafting, preparation of the Section 7 Biological Assessment, coordination with FFWCC staff, preparing presentations and briefing packages.

Exotic Plant Management Plan and Environmental Impact Statement **(EPMP EIS).**
In April 2005, the consultants prepared an internal review draft of the EIS with technical assistance by the compliance office and other park staff who provided comments and suggestion of the draft document. Comments from EVER and other parks that could not be immediately addressed were resolved in a three-day multi-park meeting in August 2005; during this meeting, the preferred alternative and environmentally preferred alternative were selected. The consultants then began preparing the final document for SERO review release to the public, again with technical assistance from the Compliance office.

Fire Management Plan Environmental Assessment**.** This EA is being prepared in-house, and several important steps were completed in 2005. A programmatic Minimum Tool Determination, an essential appendix to the document, was finalized in accordance with the recommendations of the National Wilderness Coordinator and the recommendations of a panel audience at the George Wright Society Conference, where the draft tool was presented. While most sections of the Affected Environment chapter were written by subject matter experts, compliance staff wrote these sections for several topics including threatened and endangered species, wildlife and wildlife habitat, wilderness, and exotic plants, and facilitated impact analyses on each of these topics with the subject matter experts. Compliance staff also wrote the impact analyses for the topics listed above as well as vegetation, transportation, visitor use, park neighbors, park

operations (several programs). Progress on the Fire EA was frustratingly slow for all parties involved, due to hurricane delays, shifting priorities on compliance projects, and staff levels.

Temporary Airboat Concessions Contracts Environmental Assessment. There are three commercial airboat operations within the East Everglades that pre-dated the land's addition to the park. The park is trying to find an administrative tool to manage these operations in the interim while the General Management Plan is being completed. In FY 2005, the park conducted both internal and public scoping. Compliance staff prepared the scoping brochure and displays, arranged for meeting locations, updated the mailing list and conducted a mass mailing. The park also prepared and mailed targeted scoping consultation letters to federal, state, and local agencies and organizations; these included section 7 consultations for ESA with the U.S. Fish and Wildlife Service, Essential Fish Habitat consultation with NOAA Fisheries, and section 106 consultations for NHPA with the State Historic Preservation Office. Public scoping had to be re-scheduled due to hurricane shutdowns, and the scoping period was extended due to the disruption caused by Hurricane Wilma. The Compliance office used PEPC to perform scoping. Most comments were received on this system, but several dozen pieces of correspondence were received as paper copies and had to be manually entered. The branch coded all comments and identified representative quotes for each category of comments. A Concern Response Report was generated using PEPC. Compliance staff also prepared a two page scoping report that was sent to the consultant. In addition to public scoping, the compliance office compiled park comments for editing the consultant's Internal Scoping Report.

NEPA Categorical Exclusion projects. All park projects are screened for compliance with NEPA and Director's Order 12. In 2005, twenty-seven projects completed NEPA compliance as signed Categorical Exclusions with documentation, and approximately thirty projects were screened (some are still in progress). Each of these projects was screened by an interdisciplinary team, most required a site visit, and several required consultations with regulatory agencies. Due to time constraints, some projects are screened without site visits, and some screenings are accomplished via phone, interoffice mail, or by informal personal contact. Many projects were complex. Seventeen of the completed projects also required separate compliance with NHPA or the Wilderness Act. Some projects were related to completed or ongoing Environmental Assessments. For example, the Flamingo Water Treatment Plant Air Quality project involved park management level decisions regarding the best way to remove hydrogen sulfide, a controversial and potentially dangerous gas, from source wells that provide drinking water.

NHPA projects. In 2005, thirty one projects completed compliance with NHPA. These projects were referred to cultural resources experts in the Southeast Regional Office (SERO) and/or the Southeastern Archeological Center (SEAC). Because of SEAC or SERO's recommendations, nine of these projects also underwent section 106 consultation with the State Historic Preservation Office.

Wilderness projects. Everglades National Park has 1,296,500 acres managed as wilderness, out of 1,509,000 total acres within the park. This wilderness area is called the Marjory Stoneman Douglas Wilderness to honor the park's great defender. In compliance with the Wilderness Act and Director's Order 41, the park's interdisciplinary Wilderness Committee screens all proposals to install structures or use motorized

vehicles or mechanized equipment in designated or potential wilderness areas. Approximately twenty projects underwent a Minimum Tool Determination in 2005. To meet the new GPRA goal for Wilderness Character, the park began determining which roads and trails can be passively restored via cessation of use and natural vegetative recruitment.

COMPLETED NEPA PROJECTS FOR CALENDAR YEAR 2005

	Project Tracking #	Project Name	Date of Project Completion	Wilderness Min Tool?	NHPA?
1	L7615-FY05-001	Install Herbicide Shed	02/04/05	N	Y
2	L7615-FY04-025	Flamingo WTP Air Quality	02/25/05	N	Y
3	L7615-FY04-029	Butterfly Reintro Program	03/04/05	N	N
4	L7615-FY05-014	Main Park Road Pavement Mark	03/10/05	N	N
5	L7615-FY05-009	Install Butterfly Trail and Garden in FL	03/22/05	N	N
6	L7615-FY04-030	FY05 Exotic Veg Management	03/28/05	Y	Y
7	L7615-FY05-015	Block Wilderness Fire Road	03/28/05	N	N
8	L7615-FY05-016	Pahayokee Bdwk Restoration	03/28/05	N	N
9	L7615-FY05-013	Rehab Royal Palm VC	04/11/05	N	Y
10	L7615-FY05-018	SR41 Culvert Maintenance	07/13/05	N	N
11	L7615-FY05-022	Improve Dan Beard Center Water	07/18/05	N	Y
12	L7615-FY05-023	Dan Beard Center Road Repair	07/19/05	N	Y
13	L7615-FY05-031	Install Pilings Loggerhead Dock	07/27/05	N	Y
14	L7615-FY05-029	Main Park Entrance Gates	08/12/05	N	Y
15	L7615-FY05-035	DRTO Radio Tower	09/07/05	N	Y
16	L7615-FY05-036	DRTO Install Satellite Dish	09/09/05	N	Y
17	L7615-FY04-019	Relocate Fuel Storage Tanks	09/14/05	N	Y
18	L7615-FY05-004	Sprint Buried Cable	09/22/05	N	Y
19	L7615-FY05-030	EVER/DRTO FY06 Exotic Veg. Mgmt. Prog.	09/26/05	N	Y
20	L7615-FY05-041	Repair SV Tower Comfort Station Roof	09/29/05	Y	Y
21	L7615-FY05-033	Exotic Tree Removal on Garden Key	10/14/05	N	N
22	L7615-FY05-043	Demolish hurricane damaged FL bldgs.	10/14/05	Y	N
23	L7615-FY05-040	C-111 Geotechnical Investigations	12/02/05	Y	N
24	L7615-FY05-019	Dr. Richards RP 2005	12/15/05	Y	Y
25	L7615-FY06-003	Demolish Hurr. Wilma damaged FL structures	12/30/05	N	N

Programmatic Exclusions:

	Project Tracking #	Project Name	Date of Project Completion
1	H4217-FY04-038	Install Plaques Nike Missile	10/06/04
2	H4217-FY05-001	Sprint Tower Guy Wires	10/10/04
3	H4217-FY04-027	Dr. Stewart RP FY04	10/27/04
4	H4217-FY04-026	Hays Barn Demolition	10/30/04
5	H4217-FY05-002	PI WWTP Effluent Disposal	11/12/04
6	H4217-FY05-003	SV Tram Parking Pull-out	11/12/04
7	H4217-FY05-004	Replace Harney Chickee	11/23/04
8	H4217-FY05-010	Replace Pine Island Residence Drainfields	12/21/04
9	H4217-FY04-031	FL WTP Air Quality	02/25/05
10	H4217-FY05-013	Dr. Baldwin Research Permit FY05	03/23/05
11	H4217-FY05-017	Saunders RP	06/08/05
12	H4217-FY05-015	Improve DBC Roads	07/19/05
13	H4217-FY05-016	Improve DBC Water	07/19/05
14	H4217-FY05-019	Install Pilings Loggerhead Key Dock	07/27/05
15	H4217-FY05-018	Dr. Wang Research Permit	08/04/05
16	H4217-FY05-020	Main Park Entrance Gates	08/12/05
17	H4217-FY05-021	Dr. McCormick RP 2005	09/02/05

18	H4217-FY05-024	Relocate Fuel Storage Tanks	09/14/05
19	H4217-FY05-025	Sprint Replace Buried Cable	09/22/05
20	H4217-FY05-026	Repair SV Tower Comfort Station Roof	09/28/05

Section 106 Consultations:

	Project Tracking #	Project Name	Date of Project Completion
21	H4217-FY04-036	Hurricane Charley Damage to Counterscarp	11/08/04
22	H4217-FY04-005	Install Modular Housing Facilities	11/15/04
23	H4217-FY05-005	Dr. Gann Research Permit FY05	01/04/05
24	H4217-FY04-035	EVER Interim Exotic Veg Mgmt	02/23/05
25	H4217-FY05-011	Dr. Kalla Research Permit FY05	02/23/05
26	H4217-FY05-008	Install Herbicide Shed	02/25/05
27	H4217-FY05-012	Rehab Royal Palm VC	04/11/05
28	H4217-FY05-022	Replace Radio Tower on Fort Jefferson	09/08/05
29	H4217-FY05-023	Install Satellite Dish on Fort Jefferson	09/08/05
30	H4217-FY05-014	Demolish Flamingo Camptender House	09/15/05

DRY TORTUGAS NATIONAL PARK

2005 was a record year for hurricanes. Just about every major storm passed by DRTO. Of the hurricanes that went by DRTO four of them had the eye pass within 50 miles of park. Loggerhead dock along with government and gas docks were destroyed. Roof of lighthouse at Loggerhead took heavy damage along with light. Southern and northern tips of Loggerhead were underwater during Wilma. Moat wall took some heavy hits incurring approximately 1,500 to 2,000 feet of total damage. Communication tower was destroyed during Katrina but replaced. Park received 3 new generators due to Katrina storm damage. Land bridge connecting Garden and Bush Keys was removed by Wilma.

Record year for Cuban migration. 2005 saw 59 landings with approximately 724 Cuban refugees reaching DRTO. Coast Guard manned Loggerhead from April to September in attempts to interdict smugglers. Joint efforts with Coast Guard and NPS had some success. An NPS Special Events and Tactics Team was also brought out to DRTO to assist. The South Florida National Parks Trust assisted DRTO with donations of money and supplies which helped care for refugees as they arrived cold and hungry from their journey. Over 30 chugs have been removed from Garden Key.

New internet and phone system was installed at DRTO.

The first resource position was hired for DRTO and will be stationed in Key West to assist with the implementation of the Research Natural Area.

An emaciated, lost Manatee was rescued from moat and transported via Sunny Days ferry to Key West. From Key West the Manatee named "Jefferson" was transported to Miami Sea Aquarium for rehabilitation.

Phase 1 stabilization of the fort walls is about 90% completed. Inspection phase should take place in April of 2006. Money for 2006 work was deleted from the Interior budget.

A barrel of original Rosendale cement was uncovered by Hurricane Wilma. It now stands proudly outside of Visitors Center.

San Juan Historical Site Masons were out at DRTO on 2 week detail prepping casemates for new park housing units. Park will receive 3 new units to be installed within casemates.

University of Miami conducting Red Grouper survey to use as baseline data.

Remote pay request for DRTO employees was approved at Regional & WASO levels and is now at the Department for concurrence.

The 100 year anniversary of the Carnegie Lab Institute was celebrated. Great grandson of Alfred G. Mayor was in attendance.

Visitors Center received a brand new flat screen plasma color TV to go along with DVD that gives virtual tour of DRTO. DVD provides 360 degree view of park area such as Harbor Light, Loggerhead lighthouse, Garden key and more.

Kevin Colley was first DRTO Ranger to graduate FLETC and attend field training program.