



United States Department of the Interior

NATIONAL PARK SERVICE

EVERGLADES NATIONAL PARK

AND

FORT JEFFERSON NATIONAL MONUMENT

P.O. BOX 279

HOMESTEAD, FLORIDA 33030

IN REPLY REFER TO:

SUPERINTENDENT'S ANNUAL REPORT - 1985

The "Save Our Everglades" initiative, introduced by Florida's Governor Bob Graham in August 1983 continued to receive intensive attention throughout the year. The second annual "report card" listed moderate progress on some aspects of the program and greater success in the restoration of Everglades National Park and protection and acquisition of panther habitat. A significant offshoot of this emphasis was the formation of the Everglades Coalition consisting of members of major national conservation organizations to provide unified support for the Save Our Everglades program.

The legislative authority to conduct the two-year test water delivery schedule expired in November 1986; however, the South Florida Water Management District and the park have asked the U. S. Corps of Engineers to support a joint, three-agency request to Congress seeking additional authority to conduct experimental water delivery tests over a 5 year period. While it appears the Corps now agrees with the general concept of seeking an extension of the test period, they have recently proposed that the existing congressional authorization to acquire any impacted lands and to provide protection to affected homeowners be deferred during the extended test period. The park has recommended against such deferral, pointing out that while no damage is predicted to occur from the test deliveries, unless some mechanism is in place to enable compensation for potential adverse impacts, it will be virtually impossible to proceed with any meaningful experimental water delivery.

The new delivery schedule proposed by the Water Management District was designed to respond to the park's requests as well as to meet south Florida's continuing needs for flood protection and water supply. Computer modeling indicates that, if fully implemented, the new schedule would:

1. In normal years, give the park significantly more water than the existing regulation schedule with delivery responding to rainfall events.
2. Utilize Water Conservation Area 3-B and the area known as the Northeast Shark River Slough as integral parts of the delivery system.
3. Provide flexible, more natural timing of water delivery to the park, based upon both rainfall events and existing water storage conditions in the conservation areas.
4. Provide more gradual changes in delivery amounts to soften impacts of regulation schedules.
5. During the dry time of year, provide more water storage for recharge of the Biscayne aquifer and subsequent urban and/or agricultural use.

In November 1985, the Water Management District presented a new plan to restore the Shark River Slough. Components of this plan include:

1. WCA-3B and Northeast Shark River Slough (NESRS) should be reestablished as major functional components of the Shark River Slough (SRS) system.
2. Water flow to SRS should consist of:
 - a. Controlled flow through the S-12's (and possibly S-333) based on a real time response to hydrologic conditions.
 - b. Uncontrolled flow from WCA-3A into WCA-3B through a passive, fixed crest structure designed to provide high water flow out of WCA-3A while preserving its water supply function, and
 - c. Sheetflow from WCA-3B into NESRS through breaches in L-29.
3. The water storage function of WCA-3A must be maintained.
4. The operational flexibility of the South Dade Conveyance System must be preserved (both the L-30 and the L-67A/L-29 delivery routes).
5. The 8.5 square mile residential area should be provided one in ten year flood protection as recommended by the ENP/EE 380 Committee.
6. The existing (or improved) South Dade canal system should not be considered as a means of providing drainage or flood protection to any East Everglades property.

The analysis of data gathered during the one-year test of an early dry-down in the Frog Pond (acreage adjacent to the park where late-season tomatoes are grown) has not been completed. The landowner, Aerojet-General Corporation, has proposed a landswap of its south Florida holdings for federally-owned land in Nevada. Park officials have stated that, if acquired, the land should not be added to Everglades National Park; rather, it should be traded for State of Florida lands and managed to protect wetlands and water resources. Further, the park has stated that farmers could continue to lease this land for agriculture so long as conditions were met to insure that the farming activity was not harmful to the park.

The closure of the park to commercial fishing came almost without incident on December 31, 1985. A final challenge by the fishermen was ended on November 15, 1985, when the 11th Circuit Court of Appeals ruled that: 1/ There was no implied or promised contract between the park and the State of Florida or that the park is bound by the 1929 Florida Right to Fish Law; 2/ changes in the environment dictated that changes be made in the management agenda of the park; 3/ there was no administrative irregularity in the procedures the park used in rulemaking; 4/ the NPS had the expertise to make the decisions it made; 5/ the adequate protection of endangered species is within the framework of NPS policy;

and 6/ The Secretary of the Interior does have the ability to make rules for NPS areas based on data and recommendations from his subordinates.

South Florida has earned the infamous title of "Drug Capital of the United States." There are approximately 130 miles of unpatrolled coastline within Everglades National Park. Routine drug interdiction patrols are not scheduled due to inadequate manpower and equipment; however, rangers can and do become involved in interdiction in the performance of their regular backcountry patrol duties. During 1985, more than 19,000 pounds of marijuana bales (valued at approximately \$7.6 million) and 400 marijuana plants were recovered. Four arrests were made and the subjects charged with possession with intent to distribute. The courts confiscated three vehicles and two boats with trailers and awarded them to the park.

Preliminary contacts were made by the reporting staff from CBS' "60 Minutes" to develop a story linking the park's phase-out of commercial fishing with intensive drug activity in Everglades City. The investigation apparently did not produce the sort of documentary suitable for their show, and the project was dropped.

The project to elevate the Shark Valley road to provide year-round visitor access has moved ahead quite rapidly. The park completed an Environmental Impact Statement and a Finding of No Significant Impact was issued based on the design which will restore a more natural flow of water through the extensive use of culverts. The work will be accomplished through Federal Highway Administration funding with all necessary fill material being provided by the South Florida Water Management District.

The initial draft of the Peripheral Areas Study and Program Evaluation being prepared by Denver Service Center required extensive revision and modification; a new team leader was assigned and the revised draft should be available early in 1986.

In conjunction with UNESCO and the Florida International University, the South Florida Research Center sponsored a symposium on Wildlife in the Everglades and Latin American Wetlands. More than 40 specialists involved in research, management and/or conservation of wetland areas attended the proceedings which were provided in English and Spanish simultaneously.

Special awards during the year included a certificate to Sammy Hamilton, Jr., recognizing 25 years of outstanding service to the visitor in the operation of the sightseeing tourboat concession at Everglades City; the presentation of the U. S. Coast Guard Public Service Commendation to Captain "Cliff" Green for his assistance to the Coast Guard in conjunction with his operation of the NPS supply boat serving Fort Jefferson National Monument; and the Southeast Region's Resource Protection Award to Superintendent Jack Morehead.

Visitation for 1985 was 700,686 (an increase of nearly 10% over 1984), and generally followed the increased tourism figures reported by other south Florida attractions. Nearly 8,000 information packets were mailed, 32 permits for commercial filming were processed (primarily documentaries and travel

productions) and 67 scientific collecting permits were issued. The majority of the collecting involves geological field trips to obtain core samples. This activity has, for many years, been restricted to Crane and Bob Allen Keys.

Equal Opportunity Efforts: To expand the distribution of vacancy announcements, local state vocational rehabilitation offices and Veteran's Administration Offices have been added to the list. A very successful Career Counselors' on-site visit to the park has resulted in an increased number of handicapped, minority and disabled veteran applicants. We have been able to place many of these in temporary positions in the Maintenance Division.

Two employees participated in the Dade County Employ the Handicapped Job Fair, increasing the park's visibility among the special population groups present in the local area. Although no referrals were made from this particular effort, we expect the contacts will be fruitful in the future.

The park employed five individuals with reportable handicaps in temporary, not-to-exceed one year appointments (one less-than-30% compensable veteran) and one less-than-30% compensable veteran in a full-time permanent position.

Minority and handicapped employees hired in permanent positions:

Superintendent's Office	1 black female clerk-typist
Administration	8 females-- 2 supervisory positions 1 TAPER appointment 2 in positions with known promotion potential 3 clerical positions.
Chief Naturalist's Office	1 female interpreter
Chief Ranger's Office	3 females (Entrance Station) 1 female law enforcement ranger 1 female supervisory park ranger 1 black female supv. park ranger 1 Hispanic female secretary 1 female secretary
Maintenance	1 hearing impaired female TAPER/clerical) 1 black female TAPER/motor vehicle opr.
Research	1 female librarian 1 female hydrologic technician 1 female editorial assistant 1 female biological tech (term appt.)
Fort Jefferson	1 female interpreter

To celebrate Black History Week, a special program followed by a cookout featuring traditional black foods was enjoyed by a large number of park staff and guests from the local community. A film entitled "Our Hispanic Heritage" and a talk by Estella Santiago, a local school principal, were offered during National Hispanic Heritage Week.

ADMINISTRATION

With the IBM personal computers installed, 1985 was the year the park made the giant leap into the 21st century. In-park training was conducted by a contractor covering the most frequently used programs--Lotus 1,2,3, dBASE, and DisplayWrite 2. Subsequently, the TAPS sheets for the entire park have been entered into the computers and the administrative clerks have found this to be a tremendous improvement over the manual preparation of these documents.

Funding levels (before Gramm-Rudman cuts) for fiscal year 1986 were:

Office of the Superintendent	\$ 408,500
Administration	459,200
Interpretation	668,400
Resources Management & Visitor Protection	1,392,800
Maintenance	1,910,900
Research	1,624,100
TOTAL BUDGET	\$ 6,463,900
Cyclic Maintenance	\$ 225,000

Park-wide staffing levels (includes Fort Jefferson):

Permanent Full-time	154
Part-time Permanent	3
Subject-to-Furlough	9
Temporary	35
TOTAL STAFFING	201

INTERPRETATION

The 1985 interpretive program consisted of a diversity of activities designed to fit the special need to interpret the Everglades in terms of resource issues to identify with the widely differing interests of the visitor. Personal services were provided for more than 590,000 visitors. Interpreters presented over 100 different walks, talks and demonstrations at an average cost of \$.66 per visitor hour.

More than two years in the planning and development stage, the renovation and installation of new exhibits in the Parachute Key (headquarters) and Flamingo visitor centers have greatly improved these facilities. Some portions of the

exhibitory remains incomplete with final work to be completed late in 1986. Other new exhibits include an explanation of the Buttonwood Canal dam and bird identification displays.

Assistance was provided to Fort Jefferson in the planning, design, production and installation of new museum and wayside exhibits. An estimated five tons of historic artifacts were removed to the new museum collection facility at the Dan Beard Center. This facility has been extensively upgraded primarily through the efforts of a temporary curator hired through non-recurring funding from the Regional Curator. The park's collections are now being properly stored and catalogued, although much work remains to be done.

Shark Valley: Total visitation for the year was 129,626, with more than 42,900 taking the concession-operated tram tours. Unlike past years, high water conditions forced only intermittent closing of the road and alternative nature walks were provided for the visitor when trams could not operate. During the spring, when NPS staffing was reduced, the concessioner provided interpretive services on some of the tours; ENP staff provided the training. The 1985/86 winter season began December 20 with 8 trams per day. Visitation rose dramatically during the period between the holidays with 100-300 persons per day being turned away.

Gulf Coast: More than 50,000 people passed through the ranger station during the year--approximately 2,500 less than in 1984. Three hurricanes skirted the area, but did not create any serious problems. The new hurricane storage building provides safe, dry storage for materials, thus saving a great deal of last-minute activity before a storm.

In spite of a second competitor offering sightseeing boat rides originating in Everglades City, the concessioner reported a large increase in business. Park interpreters provided narration on a record number this year, serving more than 6,600 visitors.

The major tourist event in Everglades City is the Seafood Festival held for two days in February. With the assistance of a volunteer, more than 850 people were contacted at the NPS booth.

Flamingo: The old museum facility, built in the early 1960's, was sorely in need of the remodeling completed this year. Although somewhat scaled down from the original concept, it is now an attractive and intriguing display of park information. In dismantling the old museum, it was discovered that the Audubon print (Great White Heron) was an original of considerable value. The print has been relocated to the museum where it can be properly stored and cared for. The addition of the new information desk and the general facelift given the lobby, have greatly improved the staff's capability to serve the visitor, allowing space for more than one person to work in an attractive setting. This is especially important when involved in the lengthier task of issuing backcountry permits.

Visitation and attendance at programs was somewhat reduced during the summer months. Much of this must be attributed to the unusually severe mosquito problem

during the rainy season and the concentrated effort made by park staff to inform the public of this condition. Visitors usually fail to comprehend how uncomfortable the conditions can become and tend to disregard all but the strongest warnings.

For the first time, EVER and the concessioner planned combined training and orientation sessions for seasonal staff. This proved productive, and many suggestions developed to improve this program for future years. TW Services took the lead in developing interpretive programs for the public on Halley's Comet.

Royal Palm: The majority of the district's programs were focused on issues and resource management concerns together with outside threats to the national park due to the wide public attention focused on the park through the Governor's Save Our Everglades program.

The park's slide file was completely reworked to provide increased security and quality in the collection of approximately 30,000 slides at headquarters and 15,000 at Flamingo.

Extensive effort was put into rewriting the Everglades and Fort Jefferson brochures and the book, Everglades Wildguide. Technical support was provided for a major series of articles on the Everglades which appeared in the Miami Herald and have been proposed as a sales item for the bookstore. A German language translation of the Everglades brochure was prepared for publication by the cooperating association.

Glades District: Ten teacher workshops were offered with an attendance of 235. The State of Florida's Department of Education accredited these programs granting 12 master plan points toward teacher recertification for attendance. Schools from seven counties in Florida took part in the 258 field activities conducted by Glades personnel. Dade County schools supported the visits of its students by providing bus transportation funding in the amount of over \$19,200. The park was adopted by 8 elementary and 2 senior high schools.

The caretaker program has proved to be an exceptionally successful use of volunteers. Having an on-site resident at the interpretive centers has reduced district costs for equipment repair by increasing the level of supervision.

A donations brochure was developed and distributed--the first of its kind for EVER--asking for gifts to help support the park's school programs. The response has been good and the program is being continued.

To meet budget reductions, the Key West Ecology Week program was dropped after 7 years, the ENP sponsored school visits to Fort Jefferson were eliminated, and the fall school visits program begun in 1974 were reduced from 80 to 17 programs in order to ensure that funds would be available for school programs in spring 1986.

Fourteen Everglades National Park Institutes--a series of multi-discipline seminars for adults-- were offered on topics ranging from water delivery needs,

fire, exotic plants, Florida Bay, and hunter ethics and safety. Promotion of the Institutes was made possible through radio interviews, a donated brochure, and articles in the Miami Herald. Three videos were developed in the "Understanding the Everglades" series and distributed by Dade County schools and local educational television networks.

Volunteers in Parks (VIP) Program: In a very successful year, 105 volunteers donated a total of 12,340 hours--an increase of nearly 30% over 1984. Calculated at the GS-5/1 level, this represents a savings of over \$85,300.

Maintenance used VIP's for the first time performing duties such as painting, carpentry, site rehab and clean-up, electrical, boardwalk repairs, and general maintenance projects. Resources Management had help in surveying nest sites and tagging and measuring loggerhead turtles at Fort Jefferson; in exotic plant control and finishing fire management plots; and making channel markers.

In Research, VIP's did bird censusing, studied reptiles and amphibians, and processed data on stone crabs. The campground host program provided invaluable assistance in campground registration, light maintenance/clean-up, and information assistance to visitors. A VIP served as the Superintendent's secretary for a 6-week period before a replacement could be found under the merit promotion system.

Interpretation used VIP's in a variety of projects including work on the slide file, Historic Place/Name file, evening program/campfires, trail roving contacts, and art work. The museum benefitted greatly with approximately 500 hours of work on projects identifying, labeling and preserving fishes, labeling taxidermy specimens, organizing the black and white photo file, and restoration work on items in the collection.

Time donated (by Division):

Interpretation	3,570
Research	3,436
Resource Management	800
Fort Jefferson	396
Visitor Protection	2,590
Maintenance	1,116
Superintendent	432
TOTAL HOURS VOLUNTEERED	<u>12,340</u>

LAW ENFORCEMENT AND RESOURCES MANAGEMENT

In spite of the heavy law enforcement image south Florida has, within the park it is a low-profile activity with 44 Part I crimes reported for the year, a 14% decrease compared to 51 in 1984. A recurring problem involves intrusion by airboats in the northwest section. A summary of other violations includes:

Traffic violation notices written	184
Resource related violation notices	154
Boating related violation notices	83
Drugs, Disorderly, etc.	8
TOTAL VIOLATION NOTICES ISSUED	<u>429</u>

Resources Management

Marine Resources: The State of Florida has recognized the need to manage the recreational fishery and has proposed stringent restrictions on the taking of trout and redfish in addition to the already imposed snook rules. A measure of the change in public opinion regarding the park's fishing regulations came in a meeting with the permitted professional guide fishermen. This group is of the general opinion that the only good fishing remaining in south Florida is within the park, and this condition is due to the bag limits instituted in 1980. They are actively opposing the State's proposal to limit redfish to two per person with a minimum size of 18". They hope to use the park's fisheries data to support more moderate bag limits and minimum size requirements. They also feel the park should more aggressively pursue violators of the current regulations.

An amendment to the park's special regulations has been prepared to allow the park to assimilate all State of Florida bag limits on finfish provided they are more restrictive than the current 10/20 limit. The amendment will also change the lobster prohibition from "taking" to "possession"; eliminate all commercial fishing paragraphs which are superfluous with the elimination of commercial fishing; and, revise the maximum diameter cast net from 12 to 20 feet.

In 1985 the park issued commercial fishing permits to 244 individuals--78 gill netting, 29 hook and line, 32 stone crab, and 164 professional guide. These permittees furnished 4,246 interviews to resource management personnel for inclusion into their respective databases. More than 8,000 recreational boaters were interviewed (creel census) representing approximately 20% of the estimated 40,800 boaters using park water. Boating use increased 5% over the estimates for 1984 and represented the highest value since the park began keeping records of such use in 1972.

The staff continued work on the final report under the NPS-USFWS Cooperative Fisheries Study. Procedures for the preparation of a socio-economic study of park fisheries, to be included in the final report, were negotiated and reviewed.

Under a Memorandum of Understanding with the U. S. Fish & Wildlife Service's Endangered Species field office in Jacksonville, the Fort Jefferson marine turtle population was surveyed. During the six-week sampling period, 18 loggerhead and one green sea turtle were observed and 11 specimens tagged and measured. Under an existing MOU between the park and the National Marine Fisheries Service, a captive rearing feasibility study at FOJE was completed indicating that a ten-fold increase in weight could be achieved with less than 25% mortality in 18 months of passive aquaculture utilizing the moat at the fort.

Adjacent lands management required the review of approximately 250 Section 404 public notices issued jointly by the U. S. Army Corps of Engineers and the Florida Department of Environmental Regulations. Substantive comments on five of these notices were forwarded to SERO for consideration by USFWS.

On November 14, the Secretary of the Interior announced that areas south of the 26th parallel will be offered for lease for the purpose of OCS oil and gas exploration. These areas will be no closer than 25 miles to the park's west coast or north of FOJE.

Air Quality: The staff worked with monitoring specialists from the Denver Air Quality office as well as state and county officials to re-establish a criteria pollutant monitoring station in the park. By year's end, most of the program elements necessary to continuously monitor ozone and sulfur dioxide were in place including automated data processing to transmit data to the state data bank.

Visibility monitoring continued using an automated 35mm camera. Air Resource Specialists, Inc. (ARS), the NPS contractor for visibility data reduction, is currently analyzing data already collected. In addition, ARS conducted a visitor survey to determine how important visibility-related attributes are compared to other features found in the park. At the main visitor center 1180 surveys were distributed at random. Results of the Everglades survey were very similar to those done at Grand Canyon, Mesa Verde and other parks, in that clean air ranked among the top attributes.

The staff coordinated with the Permit Review and Technical Support Branch, Denver Air Quality office, in responding to two Prevention of Significant Deterioration (PSD) permits for municipal power plant facilities in Broward and Palm Beach counties. As a result of NPS review comments, the State adopted stricter standards for best available control technology (BACT) required for new facilities of this type.

Progress continued with the series of air quality effects related studies undertaken by NPS in cooperation with Florida Power and Light Company. Most of the studies will continue through 1986, although two--the pine fumigation study and the sulfur isotope study--are near completion and reports should soon be available. Studies continuing in 1986 include pine biomonitoring, epiphyte bioindicator species, climatology, epiphyte fumigation, and lichen study.

In May 1985 the Superintendent testified at a Congressional oversight hearing on the impacts of air pollution on national park units.

Backcountry Management: Focus continued on regulating overnight camping use through implementation of the backcountry permit system. The trend toward increased visitor use continued this year with more than 13,200 visitor use nights documented. The existing 35 designated sites continue to be stretched to capacity. In addition, there has been a significant increase in "at large" wilderness zone camping in recent years to meet the increased demand that cannot be accommodated at designated sites. Wilderness zone camping has increased from

fewer than 200 visitor nights in 1980 to more than 1200 visitor nights in 1985. Concern is growing regarding the effects of this increased use on vegetation, wildlife, sanitation, backcountry resources and the visitor experience as a whole.

Fire Management: The park was in very high to extreme fire danger from January until mid-May 1985. All divisions made personnel available for initial attack stand-by on lieu days and during off-duty hours; SERO provided an initial attack crew for a two-week period.

During 1985, approximately 53,500 acres burned within the park. Management fires accounted for 53,095 of this total (37,500 acres in 52 lightning fires, 17,055 in 13 prescribed burns, and 300 acres in 3 wildfires determined to be in prescription). Seventeen wildfires in the East Everglades mutual aid zone required observation and evaluation for threat to the park.

Big Cypress and Everglades implemented a cooperative fire management agreement. Both areas responded with personnel, equipment and aircraft to requests for initial attack assistance. Detection flights were expanded to include both areas during the wildfire season.

Both the southeastern and western United States experienced a severe wildfire season. Everglades provided support to national interagency wildfire suppression efforts. In addition to personnel, the park provided bombardiers, helicopters, radios, fixed-wing aircraft and miscellaneous equipment and supplies. Park participation, including support on project fires in BICY was:

Category	Person Days
Interagency Fire Crews	72
SERO Crew & National Coord. Spec.	11
Wildfire Support, Overhead	227
Mudslide, Puerto Rico	25
TOTAL ASSISTANCE	<u>336</u>

Assistance to the park provided through the Southeastern Coordination Center included: an initial attack crew, USFS dispatchers, a 20-person suppression crew, equipment and aircraft transport, a BIFC radio system, and a logistics expert to evaluate EVER fire operations.

Training coordinated through EVER fire management included: OAS Air Operations, Air Service Manager--Heliport, Fire School, Basic NIIMS Training, Intermediate Air Operations, Fire Business Management, and Crew Boss Training.

The park hosted the South Florida Interagency Wildfire Council meetings during the year.

Vegetation Program: All mandated administrative functions of the Integrated Pest Management program were carried out including approvals for individual pesticide use (21 for Everglades; 2 for Fort Jefferson). A new IPM plan for

mosquitoes was completed which included a trial use of the resmethrin insecticide "Scourge". A small-scale effectiveness study of Scourge vs. malathion was delayed due to funding constraints. After completing the U. S. Public Health Service pest control training, the IPM coordinator and park botanist taught park employees the process and 9 employees were certified for mosquito control operations by the State of Florida.

An Air Quality Monitoring project using South Florida Slash Pine as an indicator species was initiated in conjunction with the Air Quality Division in Denver. Plots were set out in five locations along an east/west gradient from the Turkey Point Power Plant to Big Cypress Preserve. Fifteen mature trees in each plot were permanently labelled and their general health and vigor evaluated; also, potted seedlings were set out and maintained. The effects of air pollution on growth and visible damage to seedlings will be evaluated for the next three years.

To monitor the effects of prescribed burning methods on pineland vegetation, two plots were established in the Pine Island area. One of the two plots was burned and data collected; however, due to the western fire situation and poor weather conditions, the second plot was not burned. Data analysis and collection was suspended due to budget constraints; however, through the efforts of two volunteers, a study collection of dried plant specimens and color photographs was begun and will be housed in the herbarium.

Exotic plant control remains an area of critical concern. Data collection continued on two feasibility studies--the seasonality of treatment and herbicide concentration most effective in controlling Brazilian pepper and the efficacy of using fire to control Brazilian pepper in the Hole-in-the-Donut.

Since exotic plants are a regional problem, much effort was directed to the formation of the South Florida Exotic Pest Plant Council, an interagency group formed to promote cooperation and information-sharing on exotic plant control.

MAINTENANCE

Unfortunately, the Maintenance Division is frequently known, not for what it does, but for what it does not do. This, however, is not the case in Everglades. Many special projects and emergency tasks have been accomplished in addition to meeting the routine maintenance needs of the park. It is common for visitors to comment favorably on the appearance and condition of the park and its facilities.

Special Projects:

--Sixteen additional trailer sites for concessioner use were constructed in the Flamingo quarters area. Work included A&E design and supervision of project which included installation of all utilities, concrete patios and asphalt driveways at a cost of \$40,000.

--The unsafe condition of the Snake Eight boardwalk was cited as the cause of a visitor injury. The old boardwalk was removed and construction of 100 feet of new boardwalk was constructed using day labor and volunteers from concessioner and park. Cost exclusive of volunteer labor was \$7,200.

--A \$24,000 project to upgrade utilities for the concession-operated restaurant and prevent a possible health hazard to the visitor was completed under contract with A&E design and project supervision by park staff.

--The \$104,000 cost of replacing underground gasoline tanks and rehab of gasoline dispensing facilities at Flamingo marina area were shared by the concessioner and NPS.

--The South Florida Water Management District contributed personnel and equipment to remove water reeds from the wildlife viewing area at Eco Pond at Flamingo at an estimated savings to the park of \$13,800.

--The clear-up and rehab of the Lostran's River Ranger Station--a joint effort by Flamingo and Everglades City Maintenance with assistance from the Ranger Division, Everglades City. The old trailer was burned and remaining debris hauled out; remaining structure rehabbed for field ranger use.

--Provided technical and liaison support for field survey for the Shark Valley Road Project, working closely with the Department of Transportation.

--Renovation of restrooms at Flamingo visitor to provide handicap access.

An on-going agreement between Dade County Correctional Institute and the park provides an outstanding source of personal services for day-to-day maintenance and preventive maintenance of physical facilities and grounds by use of prisoners for day-labor. This has proved beneficial, providing the park with much-needed day labor and improving the morale of the inmates. The estimated savings in labor costs to the federal government is \$34,900.

A hands-on ground and turf maintenance training program was conducted by Don Wadse, Horticulturist/Training Officer from National Capitol Region, providing not only improvements in general appearance of the landscaping, but also practical experience for personnel from Everglades, Big Cypress and Biscayne.

SOUTH FLORIDA RESEARCH CENTER

The emphasis on the Save Our Everglades program continued to focus the research programs on issues directly related to water delivery and its effects on the park's resources. Requests for briefings, reviews, presentations and interviews with the scientific staff on issues raised in the media dealing with endangered species, threats to the park, hydrology, fisheries, etc., imposed exceptionally heavy demands on the staff. Appearances by park staff were required at virtually every meeting of conservationists, environmental activists, study committees, all levels of government bodies, and NPS and Department of the Interior officials.

Of particular interest was the status of the Florida panther, and because of its designation as the official state animal, and recurring incidents resulting in the death of animals on highways, in hunting incidents, and in the process of the study of the species, public opinion on how best to protect the animal both within and outside the park was very strong. While many feel it is critical to subject the animals inside the park to intensive study, including collaring, there is equally strong opposition to any disturbance here. Studies being conducted by the Florida Game and Freshwater Fish Commission are producing some information, but they recognize that many of the animals are found primarily on

private lands, and the data available seems to raise more questions than it answers.

A contracted study to measure the distribution, abundance and reproduction of the Florida panther inside the park and along the adjacent eastern boundary was completed. Dogs were used, but no panthers were chased or collared. The study provided documentation that there is a small panther population, and recruitment is occurring; however, whether the animals leave the area for other parts of the state, their feeding habits, etc., are unknown. A report prepared by the contractor, Roy McBride, concludes with:

"The challenge for the administrators of the public land is to find a balance where the multiple-use concept and panthers may co-exist. If the panther can be saved anywhere in the eastern United States, south Florida holds the best opportunity. Nowhere else east of the Mississippi exists an undeveloped area of such size, diversity, or hope for the panther. The evidence that panthers can exist in south Florida is unassailable. The extent to which the public is willing to sacrifice the growth and utilization of the remaining habitat will determine the ultimate outcome of the panther."

Systematic Reconnaissance Flights (SRF) Wading Bird Study: The study has gained considerable attention because of the methodology being used. In addition to the 11 bird species included in the census, white tail deer are being counted, and this information will be valuable as an indicator of the prey base for the panther; however, of primary interest are estimates of the number of wading birds feeding in southern Everglades and a determination of what hydropatterns attract the most birds and the relationships between different feeding conditions and nesting activity.

Aquatic Food Web Study: A companion study in which sampling of fish, invertebrates and microscopic plants in areas of consistently different hydropatterns will help us determine how hydropattern affects productivity in the Everglades.

Marine Research: This program was focused on two aspects of the park's marine and estuarine resources. The first of these involve studies of the ecological characteristics of Florida Bay, particularly with respect to important habitats and food organisms of gamefish, wading birds, and raptors. The second area of research was concerned with park game and commercial fish stocks.

In Florida Bay, studies of the recruitment, growth, movement and habitat of the pink shrimp, a highly important food organism within the system, were continued. In addition, the staff completed a draft color coded map depicting all benthic habitats of Florida Bay on a scale of 1:48,000. Two research contracts were administered during the year concerning marine habitat studies.

Dr. Joseph Zieman, University of Virginia, completed his studies describing the vegetative composition and productivity of the major marine habitats within Florida Bay and Dr. George Rowell, National Audubon Society, continued a study of

the forage fishes and macro invertebrates on the shallow carbonate mud banks, utilized by wading birds and gamefish, in Florida Bay. Dr. Zieman submitted a final report of his work entitled The Distribution and Abundance of Benthic Vegetation in Florida Bay.

Research on park game and commercial fish stocks addressed two areas of concern: 1/ larval and juvenile fish recruitment and habitat needs, and 2/ an assessment of the impact of fishing activities on park fish stocks. Assistance in the studies of larval and juvenile fish was provided by the National Marine Fishery Service Laboratory in Beaufort, NC, under a research contract. Their work focused on documenting sources of recruitment of larval fish and habitats utilized by young juveniles. The USFWS conducted fishery independent sampling studies to determine stock abundance and conducted tagging studies to evaluate fish movement, fishing mortality rates, and population size. Results of all cooperative studies will be reported in 1986.

A report entitled Aspects of the Population Dynamics and Biology of the Stone Crab (Menippe mercenaria) in Everglades and Biscayne National Parks as Determined by Trapping conducted during previous years was completed in December.

A new librarian was hired to provide full library services for the park.

CONCESSIONS

Everglades National Park Boat Tours, Inc.: The concession is completing its fourth year of a ten year contract. SER approved the company's incorporation in August. It remains a family-run firm, providing personal service to the visitor. The overall annual evaluation was satisfactory and Mr. Hamilton recorded more than a 30% increase in passengers over 1984, even though a second competitive operation began operation in Everglades City.. The new shuttle service to Sandfly Island was initiated, but has not enjoyed great success. Rate increases were requested and approved in January. The boats were in excellent condition for the season and the outlook for the future is optimistic enough to support his decision to enlarge his facilities.

Shark Valley Tram Tours, Inc.: The business, operated by Gettysburg Tours of Pennsylvania, is completing their third year of a five-year concession permit. The Shark Valley road remained dry much of 1985 allowing the company to operate 262 days, serving 36,500 visitors. The annual overall evaluation was satisfactory. The on-site management changed and the company trained and used their own interpreters intermittently through the year. The government-owned, concessioner-maintained propane powered trams continued to present maintenance problems and qualified mechanics are continually being sought. Planning for the mid-1986 construction to modify the road for year-round operations has begun.

Flamingo Lodge, Marine and Outpost Resort: Operated by T. W. Services, Inc., of Chicago; Illinois, the company is completing six years of a 15-year concession contract (purchased in June 1984). Overnight stays were up 10% over 1984; the overall evaluation was satisfactory. The 1985 season was one of adjustment as the company entered its first winter season under management with a new General Manager appointed in February from the ranks of the corporate structure.

Facility improvements included: complete renovation of the marina fueling facility; repair of gas station pumps; new carpeting for lodge and dining room; new furnishings for lodge rooms, including TV's and air conditioners; installation of a new locking system for lodge rooms; and ten new canoes and several cash registers.

An aggressive marketing campaign has significantly increased interest in the property as a well-rounded, complete winter resort area. Rate increases were approved for extended boat tours, improved lodge rooms, charter fishing, boat rentals and meals. The houseboats were not delivered in 1985.

Commercial Use Licenses: The park continues to issue and renew commercial use licenses to air taxi and boat operators, bus tour firms, and canoe outfitters. There are presently nine canoe outfitters, none charter boat operators, five air taxi services, four sailing charters, and five application requests outstanding.

FLORIDA NATIONAL PARKS & MONUMENTS ASSOCIATION, INC.

The expansion of the cooperating association's operation to include outlets at Fort Jefferson, Biscayne and Big Cypress led to the decision to change the name from Everglades Natural History Association. This was officially done in October of this year. To better serve their host areas, a program to expand the range of sales items and to encourage increased support through memberships was initiated. The new structure of memberships includes:

Corporate (non-voting)	\$1,000
Life	250
Honorary	--
Sustaining	50 annual fee
Supporting	25 annual fee
Individual	10 annual fee
Student/Seasonal Park Employee	5

Corporate memberships were recommended as a means of increasing revenue and as a potential source of support for association projects.

Financial aid to the National Park Service for FY 1985:

	Prior Years	Current Year	Total
Interpretation	\$286,741	\$30,073	\$316,814
Research Activities	10,343	355	10,698
Free Publications	5,318	-	5,318
Land Donations	93	-	93
Aid to Cooperating Assoc. Fund	19,512	591	20,103
Aid to Superintendent	10,767	406	11,173
Other	57,111	3,276	60,387
TOTAL AID	<u>\$386,885</u>	<u>\$34,701</u>	<u>\$424,586</u>