

Chapter 13: Marine Fisheries, Fisheries Management, and Florida Bay

South Florida waters have been attractive to fishermen for millennia. Some market fishing by boats from Cuba began in the eighteenth century. Commercial fishing became more viable after 1900 when sources of ice for preserving the catch became more reliable. Well-heeled sportfishermen, mostly from the North, began taking trips to the Everglades region in the 1870s, frequently hiring locals as guides. By the time Everglades National Park was authorized in 1934, both sport and commercial fishing were well established in Florida Bay and along the Gulf Coast. The dividing line between sport and commercial fishermen was not always sharp. Many individual fishermen and the captains who guided them were in the habit of selling excess fish to fish house operators. Although they would surely represent themselves as sportsmen, when they sold part of their catch, these individuals were entering the commercial market. Operations by commercial fishermen in park waters proved to be one of the most contentious issues in Everglades National Park's history. During the campaign for the park's authorization, NPS officials came to understand that Monroe County interests would adamantly oppose the park unless given adequate assurances that commercial fishing could continue. The Service provided public assurances to commercial fishermen while internally acknowledging that restrictions on fishing would very likely be necessary in the future. To further natural resource management goals, park managers gradually established limitations, culminating in a total ban on commercial fishing and bag limits for sportfishermen, which became effective January 1, 1986.⁶⁶⁷

Early NPS Assurances to Fishermen

Park Service officials in the 1930s were quick to assure South Floridians that sportfishing was a long-accepted recreational pastime in national parks and would be permitted in the proposed Everglades National Park. Sportfishermen mostly sought tarpon, snook, spotted sea trout, gray snapper (also known as mangrove snapper), red drum (also known as redfish or channel bass), and grouper. Commercial fishing was a sizable local business, supporting hundreds of local families. Fish houses processed fish caught in waters slated to become part of the park at Naples, Everglades City, Flamingo, and various places in the keys. Mullet, seatrout, pompano, and mackerel were the most important commercial species. In addition to fin fishes, crabs, spiny lobsters, clams, and sponges were commercially harvested in the area.

⁶⁶⁷ Paige, 83-94.

Commercial fishermen and their political representatives in Monroe and Collier Counties kept asking for reassurance from the NPS and the Everglades National Park Commission that they could continue to operate in the waters of the proposed park. Mrs. C. S. "Mamie" Smallwood of Chokoloskee in August 1936 presented the commission with a petition from Gulf Coast families asking that commercial fishing continue because the fish trade was the "only maintenance" for hundreds of families. Fishermen in Monroe County believed that Ernest Coe and the Everglades National Park Commission had wholly ignored their interests and livelihoods.⁶⁶⁸ Backing up the fishermen, the Monroe County Commission passed a resolution vowing to oppose the inclusion of any portion of Florida Bay or the keys in the proposed park. Director Cammerer and other NPS officials wrote a series of letters to Florida politicians and fishermen's groups to keep the park project alive. A letter from Cammerer in April 1937 to the Monroe County Fishermen's Association would be cited locally for decades as an ironclad promise on the part of the NPS. It included the following language:

The National Park Service has no intention of imposing regulations relating to commercial and sports fishing within the Everglades National Park area, other than those contained in Florida State laws, or county laws in the event the latter exist.⁶⁶⁹

These assurances ultimately persuaded Monroe County to acquiesce in the inclusion of most of Florida Bay within the park. During the final negotiations that led to the state's commitment of \$2 million dollars for land acquisition in 1947, the NPS repeated its promises to assure the law's passage. Director Drury wired Bernie Papy, who represented Monroe County in the state legislature, that "commercial fishing will not be prohibited in the proposed park."⁶⁷⁰

NPS policy in the 1930s and 1940s was to manage fish resources on a sustained yield basis. This meant that restrictions on the taking of a given fish species would be imposed if managers judged that stocks threatened to fall below a level that would allow the species to thrive. Agency officials occasionally referred to this policy when reassuring commercial fishing interests, but did not emphasize it. Internally, NPS managers acknowledged that fish stocks were already under pressure in park waters and that future restrictions might well be needed. Director Cammerer in 1936 wrote Ernest Coe that "the taking of commercial marine species will be regulated only when it appears that the supply is threatened with depletion, and then only to the extent

⁶⁶⁸ Mrs. C. S. Smallwood to E. F. Coe, ENPC, Aug. 19, 1935, CP, EVER 20995c; Chester Thompson, Monroe County Fishermen's Assn., to E. F. Coe, ENPC, Apr. 19, 1937, CP, EVER 22687.

⁶⁶⁹ Dir. Cammerer to Chester Thompson, Apr. 23, 1937, EVER 42242, ser. IV.

⁶⁷⁰ Dir. Drury to Bernie Papy, Apr. 11, 1947, NARA II, RG 79, NPS CCF, box 907.

necessary to conserve the supply.” Dan Beard in his 1938 *Wildlife Reconnaissance* noted that “continued commercial fishing is reducing the supply and quality of the catch,” and gave his opinion that some sort of regulation would prove necessary.⁶⁷¹

At park establishment in 1947, some state regulations on fishing existed, but they were rarely enforced in the park area. “Stop netting” was banned by state law but still widely practiced. This method involved stringing nets up to a mile wide across the mouths of bays and other inlets at high tide. When the tide went out, fish were trapped in the net. Fishermen harvested the commercial species, mostly mullet and spotted sea trout, and left the rest to die. Widely employed legal methods of taking fish for the market included gill nets and line fishing. During World War II, fishermen based outside the immediate area began to use seine nets in Florida Bay, and some locals adopted them. As much as three or four miles wide, these nets had a smaller mesh than gill nets. Small fish that would pass through mesh of a gill net and larger fish that could break through a gill net were caught in a seine net. The seine nets were dragged across the water, using floats at the top and weights at the bottom. The weights did considerable damage to the seabed. Dan Beard as refuge manager in 1946 wrote “commercial fishermen have just about ruined Florida Bay both by abiding by State law and by not doing so. . . . I do not think that the area will be able to stand the fishing pressure that will be exerted on it without considerable regulation.” Once Florida Bay became part of the park in February 1950, the NPS took the first steps to stop the most destructive aspects of commercial fishing.⁶⁷²

Fishing Regulations Following Establishment

Superintendent Beard had informal discussions with sport and commercial fishermen, and drew up a set of fishing regulations. Following publication of the proposed rules in the *Federal Register*, the Service held a public hearing on them in Homestead in November 1950. Minor changes to the rules on crab traps and bait traps were made, and the revised regulations became effective March 9, 1951, upon their second publication. The regulations banned nets and seines from rivers, bays, and other “inland” waters within the park. Drag seine nets were completely banned, but commercial fishermen were allowed to continue using any other nets approved under state law as well as hook and line in the open waters of Florida Bay and the Gulf of Mexico. Other provisions defined the maximum size of legal nets and crab traps, prohibited the taking of turtles and their eggs, and closed the Ingraham Highway within the park to hauling of commercial catches of any kind. Those taking shrimp and

⁶⁷¹ Dir. Cammerer to Ernest F. Coe, June 9, 1936, CP, EVER 20406; Beard, *Wildlife Reconnaissance*, 53-56.

⁶⁷² Daniel Beard to C. R. Vinten, June 6, 1946, NARA Ph, RG 79, 79-58A-360.

selling it for bait had to apply for a permit from the park. Local guide fishermen and sportsmen's clubs strongly supported the regulations as did conservation groups like Florida Audubon. Superintendent Beard later noted that these first regulations met with little opposition.⁶⁷³

Everglades superintendents made minor changes to the fishing regulations between 1951 and late 1964. Park permits had been required for stone crab traps and silver mullet nets since 1948 (figure 13-1, stone crab catch. 1965). As of January 1956, commercial shrimping permits were restricted to those who held them before that date. In 1958, the park amended the fishing regulations by applying them to the land acquired in the northwest extension of the park boundary. In 1960, commercial shrimping was prohibited in park waters.⁶⁷⁴

The state of the fish stocks in the park continued to be a major concern of park managers throughout the 1950s and early 1960s. It was becoming clear that the pressure of commercial and sportfishing was not the only factor in the apparent de-

cline of some species in Florida Bay. There was a growing belief among scientists that the Central & Southern Florida Project had caused less freshwater to flow into the bay. A resulting increase in the bay's salinity seemed to be changing its ecology and affecting fish habitat. To get more data to inform future management decisions, the park in 1958 contracted with the Marine Laboratory of the University of Miami for a catch-and-effort survey. Led by Professor



Figure 13-1. A stone crab catch, 1965

673 "Notice of Hearing," 15 Fed. Reg. 7272-7273 (Oct. 28, 1950); 16 Fed. Reg. 2187-2188; Everglades National Park Fishing Regulations, Feb. 15, 1951, NARA Ph, RG 79, 79-67-A-1022; "Fishing Rule Changes for Glades Aired," *Miami Herald*, Nov. 17, 1950; Daniel B. Beard, "Return of the Gill Net to Florida Bay," *National Parks Magazine* 26/110 (July-Sep. 1952):110-111.

674 Acting Supt., ENP, to RDSE, Jan. 7, 1965, EVER 42242, ser. IV; Chronology of Special Regulations for Fishing and Boating in Everglades National Park, circa 1986, EVER 42242, ser. VI, sub. A, sub. 2.

James B. Higman, university students surveyed fishermen at Flamingo. Fishermen were asked how long they were out, where they fished, what species they sought, and how many of each species they caught. As many as 3,000 sportfishermen per year were interviewed between 1958 and 1967.⁶⁷⁵ Up to 1965, the park did not collect catch data from commercial fishermen in park waters. In May 1959, the Service said that it hoped to be able to expand its research to include study of the ecology of Florida Bay and the life cycles of important game fish species, once funding could be found.⁶⁷⁶

By late 1964, park managers had decided to require permits from all commercial and guide fishermen operating in the park and to possibly make other changes to fishing regulations (figure 13-2, commercial fishing permit). Park staff had informal discussions with fishermen on the Gulf Coast and the keys in November and December 1964. The meetings seem to have focused mainly on the proposed permit requirements. New regulations for fishing in Everglades National Park were then published in the *Register* on May 27, 1965. The agency received no comments or objections, and the regulations were published as a final rule on August 18, 1965, with an effective date of September 17. The regulations added new restrictions on the size and type of nets allowed, closed additional areas on the north shore of Florida Bay to commercial fishing, restricted the use of crab traps to the waters of southern Florida Bay, and reduced from 400 to 200 the number



Figure 13-2. Commercial. fishing permit

of crab traps a single operator could maintain. They also banned commercial harvest of spiny lobsters while allowing recreational harvesting by hand or bully net during the state's season. When park rangers attempted to enforce the new rules, there were loud objections to them and the way they had been adopted. Superintendent Stanley Joseph met with fishermen in Everglades City in November, but failed to quell the

⁶⁷⁵ A 1979 report indicates the interviews were conducted “for ten years, from 1958 to 1969.” Ten years of interviewing, beginning in 1958, would end in 1967, not 1969. The park’s computerized database, into which all of the paper reports on Florida Bay fisheries have been entered, supports the 1967 date.

⁶⁷⁶ Gary E. Davis and Edith B. Thue, “Fishery Data Management Handbook, Everglades National Park,” June 1979, <http://www.nps.gov/ever/naturescience/upload/SecureTRT-546.pdf>; SOI to Congressman Dante Fascell (draft), May 6, 1959, NARA II, RG 79, AF, box 2344.

opposition. On January 14, 1966, Joseph issued an administrative order suspending the enforcement of most of the new rules. Two weeks later, Joseph was replaced after just 28 months as superintendent by Roger Allin. This seems to have been a hastily arrived at decision designed to extricate Joseph from the controversy surrounding the fishing regulations. Evidence for this can be found in the fact that former superintendent Dan Beard came from the Southwest Regional Office in February to spend a week with the new superintendent to bring him up to speed on Everglades issues.⁶⁷⁷

Although the new provisions opposed by the commercial fishermen were suspended, the park maintained the requirement that commercial and guide fishermen obtain no-fee permits from the park. A condition of the permits was that the fishermen report their catches on a form supplied by the park. Park managers hoped that the data collected would help them formulate future fishery management decisions. Considerably later, in 1996, the park imposed a \$250 fee for guide fishermen permits (see chapter 21). In 1972, the park initiated an expanded program of catch-and-effort surveys of sportfishermen. Interviews were conducted at Everglades City, Chokoloskee, and Key Largo as well as Flamingo, and some 12,000 per year were conducted.⁶⁷⁸ It is very uncertain how much useful data the park ever got from any of these surveys. The reports from the commercial fishermen were voluntary. The park biologist in late 1971 observed that the most commercial fishermen never submitted any reports, while a few complied rigorously. The interviews with sportfishermen reached perhaps 10 percent or less of all those fishing in the park. Given that the skill level of recreational fishermen varied widely, the reliability of these surveys is questionable.⁶⁷⁹

Having the official fishing rules as published in the *Code of Federal Regulations* differ from the rules actually enforced was clearly not something that the NPS could tolerate indefinitely. Nonetheless, this was a complicated situation involving political, social, economic, and biological aspects. The Service continued to feel bound by the commitments previously made to commercial fishing interests, but the complaints from sportfishermen were growing. After considerable discussion with fishermen, state agencies, and the National Marine Fisheries Service, the park published a new set of regulations on May 8, 1971, revising some and leaving some unchanged. This time around, the Service made sure to include in the announcement that public hearings

⁶⁷⁷ Supt. to RDSE, Jan. 7, 1965, EVER 42242, SER. IV; Gary E. Davis, "Fishery Management Conflicts in Everglades National Park, n.d., EVER 42242, ser. VI, sub. A, sub. 2; SMR, Oct., Nov. 1965, Jan. 1966.

⁶⁷⁸ The figure of 12,000 interviews appears in Gary E. Davis, "Estuarine and Coastal Marine Fishery Management in Everglades National Park," *Proceedings of the First National Conference on Science in the National Parks*, Robert M. Linn, ed. (Washington, D.C.: NPS, 1979), 657-664. Park staff conducting the fishery program in the park in 2013 doubted that the number was that high. The discrepancy may in part hinge on whether the count measures fishing parties or individual fishermen, given that two or three fishermen often go out in a single boat.

⁶⁷⁹ Marine Biologist, ENP, to Resource Management Staff, Oct. 12, 1972, EVER 22970; Davis, "Fishery Management Conflicts."

would be held. After holding hearings in Homestead in December 1972 and analyzing written comments, the NPS published the final rules in July 1973. In the main, the new rules aimed to bring the official code in line with actual practice. The major changes from the rules published in 1965 were an enlargement of the area open to commercial fishing, a relaxation of the rules on gill and trammel nets, an extension from five to 14 days of the period nets and traps could be left unattended, and a return to the limit of 400 on crab traps. The NPS rejected suggestions made during the comment period for a commercial spiny lobster season and for a lengthening of the stone crab season. The Service also rejected requests that commercial fishing be banned entirely “as being inconsistent with prior commitments by the Federal Government.” A suggestion that the park expand its scientific investigations of park fisheries was accepted, subject to available funding.⁶⁸⁰

Mounting Concerns over Fish Stocks

The park continued its expanded catch-and-effort study mentioned above and began investigations of the salinity, bottom types, currents, and patterns of fish predation in Florida Bay. Not many years after the promulgation of the 1973 fishing regulations, sportfishermen and fishing guides, deeply concerned over declining catches, stepped up pressure on the park to take additional action to protect fish stocks. Captain Hank Brown of the Islamorada Fishing Guides Association was a leader in this effort. Fishing guides had suggested bag limits on some game fish as early as 1951, but their concerns had become more critical by the mid-1970s, and were shared by prominent national conservationists like Frank Masland (figure 13-3, Automated fish scaler at Flamingo). John Good, Everglades superintendent from October 1976 to February 1980, heard from the guide fishermen within two months of assuming his position. When asked about what could be done, Good advised the fishermen to get up a petition campaign. The fishermen took the advice, going so far as stopping motorists on U.S. 1 to get signatures; they also formed the Everglades Protection Association in February 1978. Shortly thereafter, the association presented the NPS with petitions carrying 4,700 signatures that asked for a moratorium on the use of nets in the bay, as well as bag limits on red drum and spotted sea trout.⁶⁸¹ In November 1978, the issue reached a national audience through an article in *Sports Illustrated* provocatively titled “Where Have All the Fishes Gone?” The article’s subtitle

680 Asst. Sec. for Fish, Wildlife and Parks to Sen. Lawton Chiles, Nov. 2, 1972, NARA II, RG 48, Office of SOI, CCF, box 180; 36 Fed. Reg. 8586-8587 (May 8, 1971); “New Fishing Rules Become Law in Park,” July 19, 1973, *South Dade News Leader*; 38 Fed. Reg. 16778-16780 (July 26, 1973).

681 In John Good’s recollection, the petitions were sent to Starker Leopold, science advisor to the NPS. Good received a call from Leopold, who said, “I’ve got these three scrolls. What the hell are you doing down there? I detect your fine hand in this.” Good interview.



Figure 13-3. Automated fish scalers at the Flamingo dock, 1968

framed the issue starkly, “Once fertile, the shallow waters of Florida Bay are now nearly barren of game fish, which have been driven away by high salinity or throttled in commercial gill nets.” The park responded by promising to do an assessment of park aquatic resources and putting a moratorium on the issuance of new commercial fishing permits.⁶⁸²

This new assessment was complicated by a number of factors, notably the previous promises to the commercial fishermen. In addition, commercial fishermen and sportfishermen largely sought different species. The only species pursued by both were spotted sea trout and pompano. Sportfishermen argued that the commercial fishing harmed them in two ways: commercial nets snared and killed juvenile sport-fish species, and the mullet removed by the market fishermen deprived sport fish of prey. The commercial fishermen also interfered with traditional patterns of guide fishing (13-3, Automated fish scalers at Flamingo). At the start of a day, guide fishermen would net a few mullet to use as bait. The nets of the commercial fishermen stirred up the bottom, clouding the water and dispersing schools, making it impossible for guides to locate mullet. The park, however, lacked data indicating that commercial fishing had a more direct impact on sportfishing. Many scientists blamed the decline in sport catches on the sizable increase in recreational fishing, the increase in Florida Bay’s salinity, or other environmental factors. The commercial fishermen and the

⁶⁸² 1974 Research Accomplishments and Activities, Feb. 20, 1975, EVER 22965; Dir. Demaray to Miles Collier, July 26, 1951, WNRC, NPS, 79-85-8; Frank Masland Jr. to Dir. Hartzog, Mar. 9, 1972, WNRC, NPS, 79-85-8, box 10; Frederick F. Ruoff, Islamorada Fishing Guides Association, to Supt. Good, Feb. 6, 1978, EVER 38306; Good interview.

Florida Division of Marine Resources did not hesitate to cite the park's own scientists, who concluded that declining catches "were related to changes in environmental conditions" not commercial fishing.⁶⁸³

The park released its *Assessment of Fishery Management Options in Everglades National Park, Florida* in January 1979. The options were then presented and discussed at four public forums, which drew more than 600 participants. The options involved prohibiting net fishing in all or portions of the park's marine waters, limiting the number of commercial fishing permits, establishing bag limits on red drum, seatrout, and grey snapper, prohibiting the harvest of spiny lobsters, and prohibiting or limiting the harvest of stone crabs. At the hearings, it became apparent that all parties believed that the decrease in freshwater run-off to Florida Bay from the Everglades was the biggest factor in declining fish populations. Neither the park nor the fishermen had any control over that factor. There was considerable disagreement over what management measures that were within the park's purview would be appropriate. The commercial fishermen vehemently opposed limitations on their activities and accused the NPS of going back on its word. They threatened to sue if they believed the new regulations violated their rights. Sportfishermen were largely in favor of bag limits; many guides had already adopted self-imposed limits. While the great majority of sportfishermen favored a ban on all net fishing, they voiced few, if any, objections to the continuation of commercial hook and line fishing, commercial stone crabbing, and private lobstering in the park.⁶⁸⁴

After reviewing and analyzing the public comments, the park in April 1979 prepared a "Review of Fishery Management Options at Everglades National Park, Florida." By this point, the NPS was moving toward a position of banning commercial fishing in the park on the grounds that for-profit extractive activities were fundamentally inconsistent with national park purposes. The Service was in a difficult position. It had no scientific studies indicating that commercial fishing was responsible for the poor results experienced by sportfishermen, but the latter were increasingly vociferous in demanding an end to net fishing. Superintendent Good and his staff viewed the issue as a competition for the natural resources in Florida Bay and believed that wildlife and sportfishermen had the higher claims. Good observed: "because commercial exploitation of park resources is not a primary objective [of the NPS], we are not as concerned about commercial fishing as we are about preservation of the natural system and the recreational opportunities the system affords." In part, the park realized

683 Edwin A. Joyce Jr., Dir., Division of Marine Resources, to Supt. Good, Feb. 27, 1979, citing Gary E. Davis, "Changes in the Everglades National Park Red Drum and Spotted Seatrout Fisheries, 1958-1978.

684 SFRC, "An Assessment of Fishery Management Options in Everglades National Park, Florida" (Homestead, Fla.: SFRC, Jan. 1979); Supt. Good to RDSE, Mar. 5, 1979, EVER 38306; "Some Oil for Troubled Waters in Everglades National Park," *Florida Sportsman*, Apr. 1979.

that a complete ban would be far easier to enforce than banning netting in some parts of the park but allowing it in others. Park managers also understood that if they continued to allow commercial fishing in any form, the controversy would be prolonged indefinitely. Park managers pointed out that promises by former directors were not legally binding and that the NPS could not be expected to abide by promises made under conditions that no longer prevailed.⁶⁸⁵

The NPS published the proposed regulations and an explanation of how they had been developed in the *Federal Register* in September 1979. The major changes were:

1. The complete elimination of commercial fishing, including crabbing, in park waters by December 31, 1985.
2. A bag limit of 20 fish per person, with no more than 10 of a single species.
3. A complete ban on taking spiny lobsters.
4. Allowing recreational crabbing with a maximum of five attended traps only.
5. Establishment of a crocodile sanctuary closed to all public entry embracing Little Madeira Bay, Taylor River, East Creek, Mud Creek, Davis Creek and Joe Bay.

The Service noted:

These regulations have been designed to provide greater resource protection through regulated use and to provide for increased recreational use and enjoyment of park resources by resolving the competition between commercial and recreational fishermen. . . . Most of the public perceives the park's purpose as providing recreation and natural system preservation and not commercial harvest of resources.

The announcement acknowledged that the \$1.2 million that park commercial fishing contributed to the local economy would be lost. It observed, however, that park recreational fishing contributed \$2.5 million in economic benefits and was steadily increasing. The NPS set a 60-day comment period and held four public hearings on the proposed regulations in October 1979.⁶⁸⁶

As might have been expected, commercial fishermen adamantly opposed the regulations. They said that no crocodiles and very few game fish were caught in their nets, and pointed out that sportfishing was often better in areas of Florida Bay that were open to netting than in smaller bays that were closed to the commercial fishermen. Commercial fishermen believed it was fundamentally unfair to allow guide fishermen to profit from park fisheries via the fees they charged sportsmen, while denying commercial operators the chance to make a living. A complete commercial

⁶⁸⁵ Supt. Good to Edwin A. Joyce Jr., Florida DNR, Mar. 26, 1979, Supt. Good to RDSE, Jan. 15, 1980, EVER 38306; Good interview.

⁶⁸⁶ 44 Fed. Reg. 33541-33545 (Sep. 14, 1979).

ban would hit the community of Everglades City particularly hard. The mayor and city council pointed out that five commercial fish houses operated there and fully 277 of the one thousand residents of Everglades City and Chokoloskee were employed in the production and processing of seafood. Some market fishermen saw the forthcoming ban as evidence of a consistent NPS bias against them, pointing to the early 1950s eviction of the fishing community at Flamingo. The Collier County Commission and the Florida Division of Marine Resources supported the commercial fishermen in their efforts to keep using park waters. The Organized Fishermen of Florida (OFF), representing some 16,000 commercial fishermen across the state, continued to threaten legal action if the ban went into effect. The commercial fishermen tried to enlist Congressman Dante Fascell in their cause; he listened patiently to their pleas, but did not get involved.⁶⁸⁷

In favor of the regulations were the U.S. Fish and Wildlife Service (FWS) and many environmental organizations, including the National Audubon Society and several Florida affiliates, the Izaak Walton League of America, and the Wilderness Society. Some of these groups and the Everglades Protection Association felt the regulations did not go far enough, believing that the ban on commercial fishing should be immediately effective. Other sportfishermen were unhappy with the restrictions on crabbing and lobstering and the closing of the areas in northeast Florida Bay that formed the crocodile sanctuary.⁶⁸⁸

The final regulations, published on February 15, 1980, with an effective date of March 17, 1980, differed little from the first version. In all, the NPS heard from 2,800 individuals who opposed the phase-out of commercial fishing, against 400 who supported it. Many of those counted as opposed had merely signed a petition. The Service held to its decision on the phase-out, noting that it was a “definitive solution” to the competition between recreational and commercial fisherman and that the six-year delay in implementation would allow commercial operators to amortize their equipment and find new fishing grounds. Superintendent Good also noted that many conservation and recreational interests wanted a quicker phase-out and would not accept any weakening of the regulations without a fight. Starting in 1980 and continuing through the end of 1985, only commercial fishermen who had held park permits during 1980

687 Lawrence Marvin, “Truth About Fishing in the Park,” *South Dade News Leader*, Nov. 1979; Mayor and Council of Everglades City to Supt. Good, Oct. 29, 1979, EVER 38306; “Everglades Conflict Heating Up,” *Miami Herald*, Oct. 1, 1979; “County Supports Everglades City,” *Organized Fishermen of Florida Newsletter*, Mar. 30, 1979; Edwin A. Joyce Jr., Dir., Florida DNR, to Supt. Good, Mar. 30, 1979, EVER 22965; Good interview.

688 Acting RD, FWS, to Acting Supt, ENP, Sep. 19, 1979, EVER 302897; Ron Tipton, National Parks Specialist, TWS, to Supt., ENP, Oct. 11, 1979, TWS papers, ser. 4, box 26; Jack Lorenz, Exec. Dir, Izaak Walton League of America, to ENP, Nov. 13, 1979, IWL papers, box 37; “Chamber Unhappy with Plan,” *Florida Keys Angler*, Dec. 1979.

were allowed new permits. The park required guide fishermen to get permits, which were open to anyone.⁶⁸⁹

As they had threatened, the OFF, representing the commercial fishermen, filed suit in federal court in late March 1980 seeking to block the new regulations. The group attacked the regulations on a number of grounds, including that the park had violated the National Environmental Policy Act by failing to prepare an environmental impact statement as part of its rule making. The OFF's request for a preliminary injunction to suspend enforcement of the regulations was denied in late April, and the case began its progress toward a trial on the merits. With the inauguration of President Ronald Reagan in January 1981 and his appointment of James Watt as secretary of the interior, federal conservation policies changed. Secretary Watt favored increased commercial use of public lands, and he soon began looking for ways to keep commercial fishing going in Everglades National Park, perhaps by granting lifetime permits to those fishermen who had been operating there as of 1979. In April 1981, after meetings in Washington among Interior representatives and representatives of the commercial fishing industry, Interior officials directed the Department of Justice to begin settlement discussions with OFF. The political appointees in Interior told Everglades National Park to hold additional public hearings on the commercial fishing question, which took place in June 1981. They also had the FWS conduct additional research on Florida Bay fish stocks, the funding coming out of the NPS budget.⁶⁹⁰

Both sides in the OFF lawsuit agreed to put it on hold while NPS took another look at the issues. John Morehead, who became Everglades superintendent in May 1980, reported that in the new round of hearings and comments "overall public response remained overwhelmingly in favor of eliminating commercial fishing from the Park by 1985." He observed that a reversal of the regulations would be strongly opposed by sportfishermen and conservation groups and would reopen a contentious dispute. Morehead recommended that the 1980 regulations remain in force and was backed by the regional director. The new FWS studies confirmed previous work. Secretary Watt in December 1981 directed the NPS to prepare a scoping paper on the fisheries issues and develop a research program on the marine resources of the park. In February 1982, NPS Director Russell E. Dickenson forwarded an issue

689 45 Fed. Reg. 10350-10355 (Feb. 15, 1980); "New Fishing Regs Become Law in Everglades National Park," NPS press release, Feb. 21, 1980; Supt. Good to RDSE, Jan. 15, 1980, EVER 38306; "New Fishing Regulations Start Monday in Everglades Areas, *Miami Herald*, Mar. 16, 1980.

690 *Organized Fishermen of Florida, et al., vs. Andrus, et al.*, Case No. 80-789-VIC-SMA, U.S. District Court, So. District of Florida, Mar. 28, 1980; Denial of Preliminary Injunction, 488 F. Supp. 1351, Apr. 29, 1981; J. R. Spradley, Assoc. Solicitor, DOI, to Anthony Liotta, DOJ, Apr. 6, 1981; 6-5-81, "National Park Service to Review Fishing Regulations at Everglades," Organized Fishermen of Florida press release, June 5, 1981, HFC; Hendrix interview. Ric Davidge, who was an assistant to Asst. SOI G. Ray Arnett, conducted some of the hearings; Davidge came to Florida convinced that the public would want commercial fishing, and was surprised when overwhelming majorities testified against it. Morehead interview.

analysis, research proposal, and other papers to the secretary, and stated that the position of the Service was that the regulations should remain in effect. This was not what the administration was looking for, and Interior fired back that the NPS “did not fulfill the charge” that it had been given. It seems clear that what Secretary Watt wanted was for the NPS to come up with a rationale for allowing fishing to continue beyond 1985. The NPS repeated that the decision had never rested on biological grounds, but rather on longstanding policy for national parks. At this point, Congressman Fascell wrote Secretary Watt urging him to keep the existing regulations.⁶⁹¹ Backed by Representative Fascell, Superintendent Morehead and his staff firmly and patiently held the line on the fishing ban. The Department of the Interior abandoned its push for a reversal in August 1982, directing the Department of Justice to resume defending the department in the OFF case. In July 1984, U.S. District Judge Sidney M. Aronovitz granted Interior’s motion for summary judgment and dismissed the action. OFF appealed the decision, which was affirmed by the 11th Circuit Court of Appeals in November 1985. OFF then asked the U.S. Supreme Court to hear an appeal, but this was denied in June 1986. By then, commercial fishing operations in the park had ended, on December 31, 1985, as the regulations provided. Everglades City residents were very bitter over the outcome. Their reactions are considered more fully in chapter 19.⁶⁹²

The Health of Florida Bay

Concerns about the abundance of sport fish and the future of commercial fishing preoccupied park staff from the mid-1970s through the mid-1980s. Soon after commercial fishing ended, broader concerns about the health of Florida Bay came to the fore. Some fishermen claimed to have noticed changes in the clarity of the bay’s water in the 1970s, but it was a large algae bloom and a massive die-off of sea grasses in the bay in 1987 that first caused widespread alarm.

Florida Bay, 80 percent of which lies within Everglades National Park, is one of the largest estuarine systems in the world. The bay is a shallow lagoon, with an average depth of less than five feet. It contains a mosaic of microenvironments, with relatively deeper basins (locally known as lakes) separated by mud banks. Deeper-water channels

691 Supt. Morehead to RDSE, July 28, 1981, EVER 42242, ser. VI, sub. A, bus. 2; Charles Waterman, “Reconsidering Commercial Fishing Policy in Everglades Is Bad News,” *Florida Times-Union*, Apr. 28, 1981; Dir., NPS, to Asst. Sec., Mar. 25, 1982; Ray Hubley to Ric Davidge, Apr. 7, 1982, EVER 42242, ser. VI, sub. A, sub. 2; Congressman Dante Fascell to SOI, Apr. 9, 1982, EVER 302897.

692 “U.S. to Fight Suit Over Glades Fishing,” *Miami Herald*, Aug. 8, 1982; “Commercial Fishing Ban in ‘Glades Upheld,’” *Miami Herald*, July 7, 1984; 590 F. Supp 805, Nov. 15, 1985; U.S. Supreme Court denial of certiorari in *Organized Fisherman of Florida vs. Hodel*, 85-1561; Morehead interview.



Figure 13-4. Fishing in the Ten Thousand Islands

from 3 to 15 feet deep connect the basins. The central areas of the bay tend to be isolated from currents and water exchanges that are typical of areas closer to the Gulf of Mexico. The salinity of the bay varies from place to place, from season to season, and from year to year. In the twentieth century, much of the seabed was covered by lush stands of sea grasses. Turtle grass (*Thalassia testudinum*) was the most common variety in the second half of the twentieth century, with shoal grass (*Halodule wrightii*) and manatee grass (*Syringodium filiforme*) also being present. The bay is an important nursery ground for pink shrimp and spiny lobsters, which migrate to other areas as adults. In addition, it provides habitat for sponges, stone crabs, sea turtles, the American crocodile, and a number of important sport fish. Sportfishing is a major driver of the economy of the Florida Keys, making the health of the bay an important issue

for the community. Finally, the bay is a significant feeding ground for wading birds, eagles, and osprey.⁶⁹³

Periodic fish kills in Florida Bay are a natural occurrence. Elevated temperatures and reduced freshwater run-off can increase salinity and depress dissolved oxygen levels, killing fish by the hundreds or thousands. Large algae blooms tend to exacerbate the kills because the algae draws oxygen from the water at night. Prolonged cold snaps in the winter are deadly to fish, manatees, and crocodiles. No fish kills have been tied to pollutants in the bay, although an unusually large fish die-off in September 1990 aroused some suspicion. Hundreds of thousands of dead fish were spotted in Garfield, Rankin, and Snake Bights. Some outside scientists criticized park staff for not testing any of the dead fish for toxins. The park responded that weather conditions were responsible for the event, so there was no point in conducting tests. In January 2010, the park experienced a two-week-long cold spell, something that had not occurred for decades. The chilly weather caused the largest fish die-off in the memory of many locals and killed at least 70 crocodiles and 60 manatees. Cold also is hard on introduced species, and the 2010 event rid the area of an untold number of iguanas and pythons.⁶⁹⁴

The Florida Bay algae blooms and sea grass die-offs continued into the early 1990s; in 1992, a 300-to- 400-450-square-mile bloom dubbed the dead zone appeared. Both phenomena increased the murkiness—called turbidity by scientists—of the bay's waters. The algae turned the water green or brown, and when sea grasses died, the dead plant material and the increased stirring up of sediment clouded the waters. Fishermen seeking tarpon, bonefish, and other species often rely on being able to see their prey. The clarity and salinity of the water are also major determinants of what variety of sea grass is able to grow. Turtle grass, for example, is more salt tolerant than shoal grass and has replaced it in some areas in recent decades. The bay's problems began to attract attention in the press, including a 1995 piece in *Sports Illustrated* by Carl Hiassen. Hiassen wrote that bay waters once reverently described as "gin-clear" had been transformed into "a bilious rank-smelling broth" by algae.⁶⁹⁵

693 Florida Bay Program Management Committee, *The Strategic Science Plan for Florida Bay* (N.p.: Nov. 2004), 1; Thomas V. Armentano, Michael B. Robblee, P. Ortner, N. Thompson, David Rudnick, and J. Hunt, *Florida Bay Science Plan* (Homestead, Fla.: NPS, Apr. 1994), 16-17; Margaret D. Hall, Kenning Madley, Michael J. Durako, Joseph C. Zieman, and Michael B. Robblee, "Florida Bay," in *Seagrass Status and Trends in the Northern Gulf of Mexico: 1940-2002*, Scientific Investigation Report 2006-5287, edited by L. Handley, D. Altsman, and R. DeMay (Washington, D.C.: USGS, 2006), 242, <http://pubs.usgs.gov/sir/2006/5287/pdf/CoverandContents.pdf>.

694 "Park Officials Criticized for Ignoring Fish Kill," *Miami Herald*, Oct. 2, 1990; "Thousands of Game Fish Wash Ashore," *Miami Herald*, Aug. 26, 1993; "Heat Stroke May Have Killed Fish," *Miami Herald*, July 23, 2009; "Big Chill Kills Crocs, Pythons, Sea Cows," *Miami Herald*, Feb. 7, 2010.

695 "Algae Bloom Threatens Largest Lobster Nursery," *St. Petersburg Times*, Feb. 18, 1993; Carl Hiassen, "The Last Days of Florida Bay," *Sports Illustrated*, Sep. 18, 1995, <http://sportsillustrated.cnn.com/vault/article/magazine/MAG1007122/1/index.htm>.

In response to declining conditions in the bay, managers from Everglades National Park and the National Oceanic and Atmospheric Administration's Looe Key National Marine Sanctuary in 1993 created an informal organization, the Florida Bay Working Group. The working group produced an evaluation of previous scientific studies of the bay and in 1994, a *Florida Bay Science Plan*, the first such interagency plan. The science plan synthesized the existing science plans of several state and federal agencies and set forth objectives for Florida Bay monitoring, research, and modeling. By this time, the Clinton administration had created the South Florida Ecosystem Restoration Task Force to coordinate the policies of the multiple federal agencies that managed land in the region (see chapter 28). The South Florida Management and Coordination Working Group of the task force approved the *Florida Bay Science Plan*. It also gave more formal status to the Florida Bay Working Group, which was renamed the Florida Bay Program Management Committee (PMC).⁶⁹⁶

In 1997, the Science Oversight Panel of the Florida Bay PMC recognized the need for a revision of the *Florida Bay Science Plan*. This resulted in the *Strategic Plan for the Interagency Florida Bay Science Program*. The 1994 science plan had focused on basic information needs and the development of program processes. The 1997 strategic plan identified five central questions related to ecosystem attributes, set out steps needed to address the questions, and where possible, assigned agency responsibilities. The five central questions focused on the following issues: 1) the effects of storms, changing freshwater flows, sea level rise, and local evaporation/precipitation; 2) nutrient exchange and cycling; 3) algae blooms; 4) changes in sea grass communities; and 5) the recruitment, growth, and survival of Florida Bay animal communities. Not long after the publication of the strategic plan, the PMC decided to expand the program's scope to include adjacent waters: Biscayne Bay and the Gulf and Atlantic waters that are part of the Florida Keys National Marine Sanctuary. The Florida Bay Interagency Science Center maintained by the NPS on Key Largo (described above in chapter 11) became the major field station for scientific work on Florida Bay.⁶⁹⁷

In 2004, the PMC produced a revised plan, *The Strategic Science Plan for Florida Bay*. A new plan was needed in large part in order to coordinate Florida Bay science activities with the larger goals of the Comprehensive Everglades Restoration Plan (CERP), authorized by Congress in 2000 (see chapter 28). Because the Restudy of the Central and Southern Florida Flood Control Project undertaken by the U.S. Army Corps of

⁶⁹⁶ Donald F. Boesch, Neal E. Armstrong, Christopher F. D'Elia, Nancy G. Maynard, Hans W. Paerl, and Susan L. Williams, *Deterioration of the Florida Bay Ecosystem: An Evaluation of the Scientific Evidence*, Sep. 15, 1993, <http://citesceerx.ist.psu.edu/viewdoc/download?doi=10.1.1.22.8350&rep=rep1&type=pdf>; Armentano, et al., *Florida Bay Science Plan*, 5.

⁶⁹⁷ Florida Bay Program Management Committee, 2; David Rudnick, personal communication, June 28, 2013. The Florida Bay Program Management Committee became the Florida Bay and Adjacent Waters Program Management Committee.

Engineers in the 1990s focused mainly on the Everglades, the Corps also began a Florida Bay and Florida Keys Feasibility Study. This study's goal was to evaluate Florida Bay and its connection to the Everglades, the Gulf of Mexico, and the Florida Keys marine ecosystem and make recommendations concerning projects under the CERP that would alter freshwater deliveries to the bay. Largely because of the expense and complexity of developing models for the functioning of Florida Bay, the Corps' study has not yet been completed. A major goal of the PMC's 2004 strategic science plan was to ensure that results from Florida Bay research and monitoring activities are integrated into ongoing Everglades restoration decisions. As mechanisms for implementing the CERP began to take shape in the 2000s, the Florida Bay PMC ceased meeting. The various subgroups under the working group of the South Florida Ecosystem Restoration Task Force have taken over some of the functions of the PMC. The scientific advisory panel for CERP, known as RECOVER (REstoration, COordination, and VERification) also makes recommendations for Florida Bay research efforts. Many of the measures of the success of CERP projects focus on the "River of Grass"; the monitoring of conditions in Florida Bay and the development and fine-tuning of metrics related to it are equally important.⁶⁹⁸

Much of the research done on the Florida Bay ecosystem is conducted from the Florida Bay Interagency Science Center, colocated with the Key Largo ranger station (see chapter 7). Partners in the operation of the center include the South Florida Water Management District, the National Oceanic and Atmospheric Administration, Florida International University, Florida Atlantic University, and the Florida Fish and Wildlife Conservation Commission.⁶⁹⁹

A great deal more is known today about the ecology of Florida Bay than was known in 1993, but many uncertainties remain. The volume and timing of freshwater flows from the mainland affect the salinity and turbidity of the bay. It is clear that the Central and Southern Florida Flood Control Project and previous drainage efforts reduced the amount of freshwater reaching the bay and altered the timing and sources of freshwater deliveries. The consensus view of scientists is that the bay is more saline now than before drainage. The composition of sea grass communities before drainage is not clearly understood. Because of the bay's shallowness, it is presumed that extensive sea grass beds have existed for centuries. Before widespread hunting, the grazing of the sea grasses by large populations of turtles and manatees likely made the water

698 Florida Bay Program Management Committee, 3-6; John Hunt and William Nuttle, eds., *Florida Bay Science Program: A Synthesis of Research on Florida Bay* (Tallahassee: FFWCC, 2007), http://research.myfwc.com/engine/download_redirection_process.asp?file=tr11_2211.pdf&objid=52697&dctype=publication; David Rudnick, personal communication, Aug. 20, 2013; U.S. Army Corps of Engineers, Overview of the Florida Bay and Florida Keys Feasibility Study, http://www.evergladesplan.org/images/fbfk_wunderlich_poster.pdf.

699 "New Digs for Everglades Park Science Center," *Key West Citizen*, Feb. 17, 2010.



Figure 13-5, Propeller scarring in Florida Bay

more turbid than it typically was in the mid-twentieth century. As agriculture expanded in South Florida in the second half of the twentieth century, freshwater reaching Florida Bay contained more phosphorous and other fertilizer components, which have the potential to promote algae growth in the bay and eventually cause eutrophication. It has also been demonstrated that the fill placed between keys during the construction of the railroad to Key West (1906-1912) reduced the exchange of water between Florida Bay and the Atlantic, which likely limited the outflow of excess biomass from the bay.⁷⁰⁰ The role of hurricanes and tropical storms in flushing excess biomass from the bay is not clearly understood. The scientific consensus is that if freshwater flows to the bay can be augmented by projects undertaken as part of the CERP, water quality will improve and the number and size of algae blooms will diminish.

An issue that has arisen in recent decades is the damage inflicted on sea grass stands by propeller blades. As motorboats have become more powerful and cheaper, their use in Florida Bay has increased dramatically. Many boaters are unfamiliar with the mosaic of channels, basins, and mudflats in the bay and sometimes end up

⁷⁰⁰ Boesch, et al., 2, 4, 7, 9; David Rudnick, personal communication, August 20, 2013.

inadvertently plowing furrows in sea grass stands. This stirs up sediment and chokes some plants; the furrows can take 10 years or more to fill in with vegetation (figure 13-5, Propeller scarring in Florida Bay). As the park moved forward with the preparation of its GMP in the 2000s, it proposed alternatives that included the establishment of pole/troll zones in Florida Bay to protect shallow areas from propeller scarring. In a pole/troll zone, the use of internal combustion engines is banned; propulsion must be by pole, paddle, or electric trolling motor only. When these alternatives were presented to the public in 2009, some stakeholders suggested establishing a pilot pole/troll zone in a defined area as a test. After studying possible areas and conducting consultations, the park established a 9,400-acre pole/troll zone in Snake Bight, effective January 1, 2011. The condition of the seabed within the pole/troll zone is being monitored and compared with the seabed in nonrestricted areas.⁷⁰¹

In 1995, the National Parks Conservation Association (NPCA) produced a resource assessment of Florida Bay. One recommendation of the assessment was that the park require boaters to take a course on boating safety. Some years later, in 2003, the NPCA received an anonymous \$3.3 million donation to be used over five years to address problems in Florida Bay. Some of the money received by the association was used for research on the number of boaters using the bay and to assess the extent of the damage already done to the seabed. The NPCA formed a coalition of scientists and local users of the bay to recommend how the remaining funds could best be expended. Educating boaters, better marking of channels, and expanded ranger patrols emerged as key recommendations for preventing future damage. Consequently, some of the funds were employed to purchase patrol boats for the park and place new navigational markers. The park also published a brochure that includes a map of the bay and a guide for its responsible use by boaters. The eight-page brochure has an article on the role of sea grasses in the ecology of the bay, detailed guidelines on safety, and instructions on how to pole one's way to deeper water after running aground. The brochure is available at local marinas and on-line.⁷⁰²

As a result of internal park discussions, public input, and the recommendations of the NPCA resource assessment, the preferred alternative in the park's GMP released in early 2013 called for the adoption of a mandatory boater education program, not just for Florida Bay, but for all park waters. All boaters would be required to take a course, geared to the type of boat and duration of usage in the park, and receive a

701 Atkins North America, Inc., *Snake Bight Pole and Troll Zone, Everglades National Park, Year 1 Monitoring Report* (Doral, Fla.: Atkins North America, Inc., Aug. 2011), 5-6.

702 Brian Lavendal, "Just Skimming the Surface," *National Parks*, Summer 2005, 36-41; NPCA, *Florida Bay: A Resource Assessment* (Washington, D.C.: NPCA, Dec. 2005); NPS, *Florida Bay Map and Guide*, http://www.nps.gov/ever/planyourvisit/upload/map_and_guide_2012_spread.pdf; NPCA, *Florida Bay: An Assessment* (Washington, D.C.: NPCA, 2007), <http://www.npca.org/about-us/center-for-park-research/stateoftheparks/florida-bay/FLBAreport.pdf>.

permit. The courses are to be available on-line, at visitor contact points and local marinas, and in gateway communities. Details of the education and permitting program will be worked out after the GMP is approved. Another aspect of the preferred alternative was the establishment of pole/troll zones aggregating approximately 131,302 acres in the shallowest and most vulnerable areas of Florida Bay. This represents about one-third of the total bay acreage within the park boundary. The NPCA unveiled a precursor to the new direction proposed for boating on the bay in the GMP with the unveiling of its voluntary Eco-Mariner program in April 2009. This involves a free online boater education course in English or Spanish. The Eco-Mariner website also provides summaries of fishing regulations and license requirements and updated information on fishing conditions.⁷⁰³

While the mandatory boater education proposal in the GMP gained widespread support in South Florida, the idea of banning the use of internal-combustion motors from about 33 percent of Florida Bay has been controversial. Conservation groups like Florida Audubon support the pole/troll zone while Upper Keys fisherman Sandy Moret branded it “way, way beyond reason.” Park management has pointed out that 96 percent of the pole/troll zone is within one mile of a marked channel or deeper water. Fishing guides countered that a mile is a long way to paddle and that the restrictions will make it harder for them to earn a living.⁷⁰⁴

⁷⁰³ NPS, *Draft GMP*; NPCA media release, “Eco-Mariner Boater Education Course Premieres at Earth Day Event to Help Boaters Protect Florida Bay,” Apr. 22, 2009, http://www.npca.org/news/media-center/press-releases/2009/eco_mariner_042209.html; Eco-Mariner website, <http://ecomariner.org>.

⁷⁰⁴ “Driver Education for Boaters?,” *Key West Citizen*, Aug. 21, 2011; “Poll, Troll Zones for Third of Bay,” *Key West Citizen*, Mar. 3, 2013.

Chapter 14: Control of Invasive Species and Native Pests

Nonnative species, both plants and animals, are a serious concern for managers at Everglades National Park. The warm subtropical climate and changes caused by the Central and Southern Florida Flood Control Project make the area particularly susceptible to invasion by exotic species. In some cases, local residents introduced exotic plants long before the park was authorized. When exotic plants have high reproductive rates, elevated seed production, and longevity, they can easily displace native plants. Park scientists raised a concern over Australian pine within a decade of park establishment. Today, approximately 250 nonnative plant species are known to exist in the park. For many decades, South Florida has supported an exotic pet trade that annually imported or bred thousands of nonnative animals. There have been multiple accidental or deliberate releases of exotic land animals and fish from private owners and pet breeding establishments.⁷⁰⁵ Some of these animals have established breeding populations within the park. Park efforts regarding exotics have moved from attempts to control or eradicate them within its boundary to public education efforts aimed at preventing their release outside the park. In addition to attempting to control exotics, the park has had to contend with mosquitoes and other native pests that, unless artificially restrained, can at times make the park unbearable for visitors and staff.

The Pink Bollworm Project

The pink bollworm project, the first known effort to control an exotic species in what became the park, got underway in the early 1930s. The pink bollworm is a larval form of a moth, *Pectinophora gossypiella*, believed to be native to the Indian subcontinent (figure 14-1, pink bollworm). It was first reported as a pest in cultivated cotton in East Africa in 1904 and was found in Mexico in 1916. In 1932, the worm was discovered in experimental cotton plants at the U.S. Department of Agriculture (USDA) station at Chapman Field south of Miami. Investigations soon showed that the worm had found a host in a local variety of wild cotton (*Gossypium hirsutum*), which grows within five miles of the shore on many Florida keys and along the Gulf Coast. Wanting to keep this pest from affecting cotton crops in the Southeast, the USDA began a program of

⁷⁰⁵ Robert F. Doren and David T. Jones, "Plant Management in Everglades National Park," in *Strangers in Paradise: Impact and Management of Nonindigenous Species in Florida*, ed. Daniel Simberloff, Don C. Schmitz, and Tom C. Brown (Washington, D.C.: Island Press, 1997), 275-276; Hillary Cooley, "Exotic Vegetation Management Program: Fiscal Year 2012 Report" (Homestead, Fla.: NPS, 2012), 2.

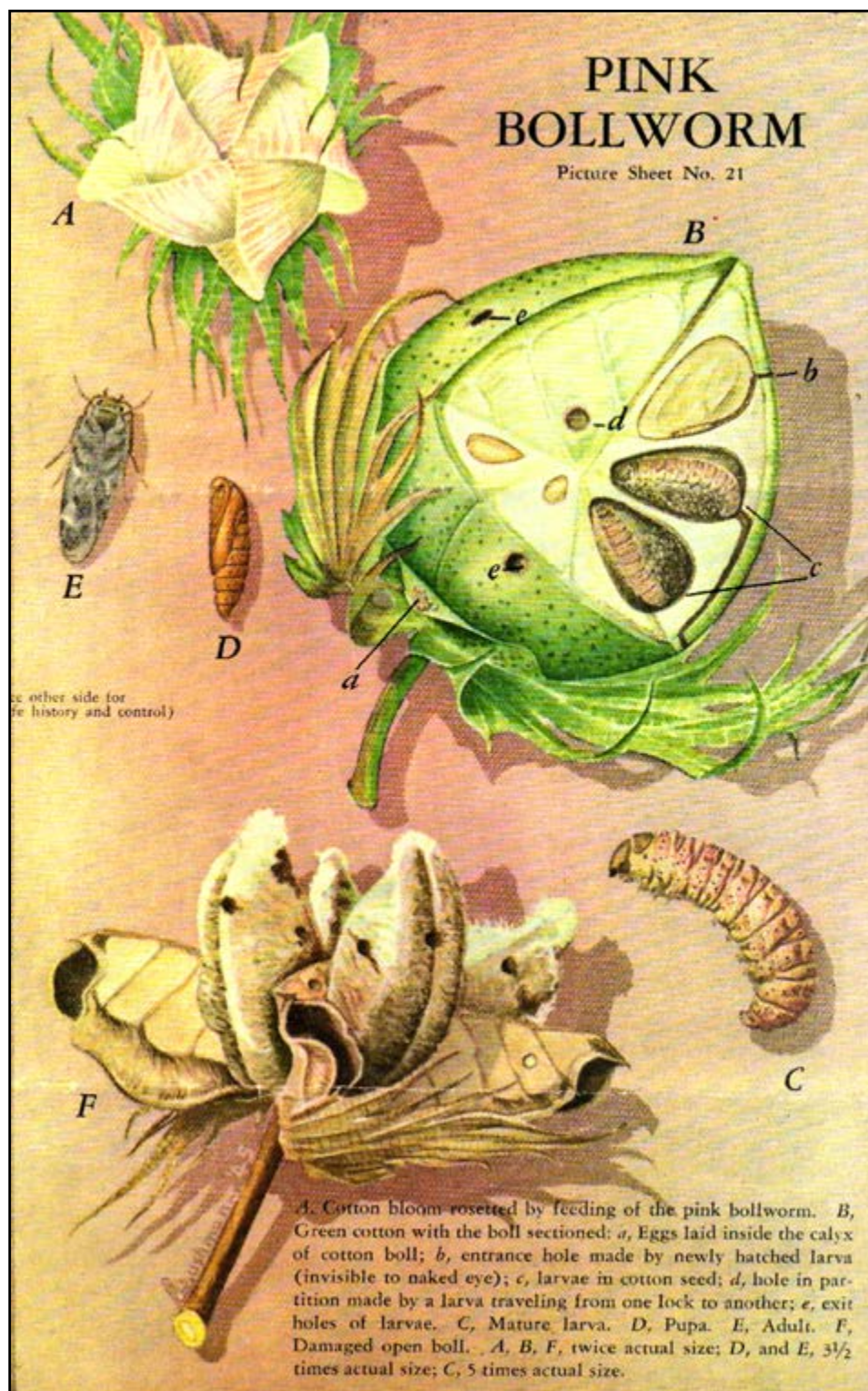


Figure 14-1. Pink bollworm

eradication of the wild cotton host plant in South Florida. Under the program, crews went into the field from late September to May to uproot and burn cotton plants. The USDA found Flamingo an ideal spot to set up a seasonal camp the local black men it hired for this heavy labor. White supervisors of the project apparently commuted from Homestead.⁷⁰⁶

The USDA's Flamingo camp was set up each year from 1932/1933 through 1946/1947 (figure 14-2, Flamingo camp for wild cotton workers). From Flamingo, work crews went by boat to keys and by truck to mainland areas, which required building temporary roads and trails. Congress declined to fund the project for fiscal years 1948 and 1949 (July 1, 1947, to June 30, 1949). Congress restored funding for fiscal year 1950, and the USDA requested permission from the NPS to resume the project. Superintendent Beard opposed restarting the project. As a wildlife technician and refuge manager he had observed damage to plants surrounding the cotton as well as the occasional killing of snakes and harvesting of orchids and mahogany timber by



Figure 14-2. Flamingo camp for wild cotton eradication workers

⁷⁰⁶ Lloyd Noble, *Fifty Years of Research on the Pink Bollworm in the United States*, Agriculture Handbook No. 357 (Washington, D.C.: USDA, 1969), <http://babel.hathitrust.org/cgi/pt?id=ui-ug.30112019254223#page/14/mode/1up>.

project workers. None of this seemed appropriate in a national park. Further, Beard questioned the need for the program, given that the only cotton raised commercially in Florida was about 250 miles to the north and the USDA crews could never keep up with the spread of wild cotton. Beard and others suspected the whole program was more about getting federal dollars into South Florida than protecting crops. Beard consulted with Dr. Walter M. Buswell, a botanist at the University of Miami, who observed that Congress could achieve equal benefit to the Florida economy with far less resource damage if it merely put the bollworm workers up in a Miami Beach hotel for a few weeks.⁷⁰⁷

The USDA had enough clout to keep the project going, and the best that Everglades superintendents could do was keep a close watch on the project, prohibit burning of vegetation, and push the USDA to use herbicides rather than machetes in removing the wild cotton. The project went forward under a memorandum of understanding between Interior and Agriculture from 1949/1950 into the early 1970s. By then, the USDA was admitting that it had failed to eradicate wild cotton in South Florida. Dr. Bill Robertson noted that the “program has come under severe question periodically for more than 30 years.” Additionally, the “incidence and the mobility of the parasite are both very low” and “control efforts are almost necessarily erratic.” He strongly urged the NPS to put an end to the program, which it did in 1972.⁷⁰⁸

Invasive Flora

By the late 1960s, three nonnative trees had emerged as serious problems for Everglades National Park: Australian pine, melaleuca, and Brazilian pepper. Australian pine (*Casuarina equisetifolia*) was the first nonnative that park managers recognized as a potential threat (figure 14-3, Australian pine). The tree, which is not a pine but an evergreen hardwood, was brought to Florida in the late 1800s and planted as windbreaks and for bank stabilization. It reaches heights of 70 to 90 feet and is a prolific producer of seeds, which are spread by birds, wind, and water. In 1956, Dr. Bill Robertson noted individual trees in the park and urged that they be removed before “we have solid stands to contend with.” Hurricane Donna in 1960 compounded the problem by widely scattering seeds.⁷⁰⁹

Melaleuca (*Melaleuca quinquenervia*), known variously as paperbark tree, cajeput, and punk tree, is native to Australia (figure 14-4, Melaleuca trees). It was introduced

⁷⁰⁷ Supt. Beard to RDR1, Jan. 21 and Jan. 28, 1949, NARA II, RG 79, NPS CCF, box 924.

⁷⁰⁸ Memorandum of Understanding, Dec. 8, 1949, NARA II, RG 79, NPS CCF, box 924; William B. Robertson Jr., Wild Cotton Eradication Project, Dec. 14, 1971; Acting Dir., NPS, to T. W. Edminister, USDA, Aug. 17, 1972, NARA Ph, RG 79, 79-85-8.

⁷⁰⁹ Biologist Robertson to Chief Ranger Campbell, Feb. 27, 1956, EVER 22970; Draft Exotic Plan Management Fact Sheet, Feb. 12, 2004, EVER 43414.



Figure 14-3, Australian pine

in South Florida around 1900 as an ornamental. University of Miami Forester John C. Gifford and others promoted it as an ideal tree for reclaiming wetlands, believing that it drew water from the ground. Ernest Coe recommended planting it on otherwise “useless” land, and the Corps used it to stabilize the levees around Lake Okeechobee in the late 1930s. The tree is an evergreen, grows up to 80 feet, and has a layered, whitish bark that peels easily. Isolated melaleuca trees were first reported in the eastern portions of the park in 1967.⁷¹⁰

Brazilian pepper (*Schinus terebinthifolius*), native to coastal Brazil, Paraguay, and Argentina, was introduced in Florida as an ornamental plant as early as the 1840s (figure

⁷¹⁰ C. E. Turner, T. D. Center, D. W. Burrows, G. R. Buckingham, “Ecology and Management of *Melaleuca Quinquenervia*, an Invader of Wetlands in Florida, U.S.A.,” *Wetlands Ecology and Management* 5/3 (1997):165-178; “Fast-Spreading Tree Chokes Glades, But Control Programs Are Working,” *Miami Herald*, July 3, 2006; Ernest F. Coe to Frederick V. Coville, Botanist, USDA, October 19, 1933, CP, EVER 13650; Status of Exotic Pest Plants/Everglades National Park, n.d. [2004], EVER 43414.



Figure 14-4. Melaleuca trees

14-5, a monotypic stand of Brazilian pepper). It is an evergreen that can grow to about 30 feet, often growing in dense stands that shade out other vegetation. Brazilian pepper produces white flowers and fruit that turn a deep red when ripe. It had already appeared in the park at the time of establishment, and Dr. Frank Craighead Sr. in 1961 predicted that it might become a serious problem. The species was not recognized as a pressing issue until around 1970. The rock-plowed soils of the Hole in the Donut were particularly susceptible to invasion by pepper plants.

Over time, a number of other exotic plant species began to appear in the park. In the 1960s, park staff were alarmed by the rapid growth of water hyacinth (*Eichornia crassipes*) in the L-67 extension canal and adjacent wetlands. In recent decades, old world climbing fern (*Lygodium microphyllum*) and lather leaf (*Colubrina asiatica*) have emerged as troublesome invaders. It was clear that the exotic flora had a number of negative consequences for Everglades ecosystems. These included displacement of native plants, loss of habitat value for wildlife, changes to the water regime, changes to soil characteristics, and changes in fire regimes. The park began a systematic effort to address exotic plants in spring 1968. The first step was to survey the park to learn what inroads had already been made. The park developed an exotic plant control plan in 1973. The plan identified melaleuca control as the top priority. It further observed

that “it will be impossible to completely control the major exotic plants within the Park. The goal will be to maintain a holding action against invasion at as many areas as possible.”⁷¹¹

In 1963, the park began attacking Australian pine at waterfront areas, especially where the tree threatened to disrupt sea turtle and crocodile nesting areas. By the early 1970s, park staff were using a Hypo-Hatchet® tree injector to inject herbicide into the trees and reporting a very high kill rate. In the 1970s and early 1980s, park staff addressed melaleuca by pulling up seedlings and cutting down trees, then applying herbicides to the stumps. In the early 1970s, the park looked to determine what herbicides were most effective against Brazilian pepper. Fire was used experimentally without success. Herbicides and physical removal were used against water hyacinth. The pine is



Figure 14-5. A monotypic stand of Brazilian pepper in the Hole-in-the-Donut

⁷¹¹ Draft Exotic Plan Management Fact Sheet; Water Hyacinth (*Eichhornia crassipes*) in Everglades National Park, Feb. 1976, EVER 22970; Frank J. Mazzotti, Ted D. Center, F. Allen Dray, and Dan Thayer, “Ecological Consequences of Invasion by *Melaleuca Quinquenervia* in South Florida Wetlands,” University of Florida, <http://edis.ifas.ufl.edu/uw123>; Larry Bancroft, Exotic Plant Control Plan, 1974-1979, July 1973, EVER 42242, ser. IV.

largely under control on keys and coastal areas, but remains in southeastern portions of park.⁷¹²

The park undertook a thorough review of its exotic plant management activities in 1983 and prepared an exotic plant control handbook. The following year it hosted an exotic woody plant workshop. Concern over exotics was becoming more widespread, and the Florida Exotic Pest Plant Council was established in 1984 by concerned state and federal agencies, corporations, and individuals to address invasive flora in a more systematic fashion. Everglades National Park has played an active role with the council since its inception, with park scientists serving on its board. In its early years, the council identified the control of melaleuca as its top priority. Scientists from a wide range of disciplines, land managers, and public officials participate on the council. It publishes a list of invasive plants in the state and has makes available much valuable research and treatment advice. Five years after the council's establishment, the *Wall Street Journal* described the statewide effort against exotics as just getting started.⁷¹³

In November 1988, the park hosted an exotic pest plant symposium organized by park biologist Robert Doren. This was described as the first event concerned with exotics that attracted broad participation from South Florida agencies. The park and others have experimented with biological control methods, the use of an invasive species' natural predators to limit its spread. An example is the introduction of the melaleuca snout beetle (*Oxyops vitiosa*). The beetle is established in the park and is of some help in limiting the spread of melaleuca. The Water Resources Development Act of 2007 included funding for the Department of Agriculture to conduct significant additional work on developing biological control agents for exotic plants in the Everglades. For a number of years, the NPS has partnered with the South Florida Water Management District in conducting systematic overflights of the park to monitor the distribution of exotics. The goal is to do the airborne monitoring every other year, but funding levels do not always allow this. The monitoring is coordinated by the NPS's Exotic Plant Management Team Program.⁷¹⁴

Melaleuca and Australian pine were well established in the East Everglades expansion area. Prior to the 1989 act that added 109,000 acres of the East Everglades to the park, park managers concentrated on establishing a buffer zone along the eastern

712 Summary of Terrestrial Resource Management in Everglades National Park, 1975; Water Hyacinth (*Eichhornia crassipes*) in Everglades National Park, Feb. 1976, EVER 22970; SAR, 1972, 1975.

713 SAR, 1983, 1984, 1986; Michael J. Bodle and Robert F. Doren, "The Exotic Pest Plant Councils," *Castanea* 61/2 (Sep. 1996):252-254; Eric Morgenthaler "Everglades Park Battles to Stem Invasion of Exotic Foreign Plants," *Wall Street Journal*; Jonathan Taylor, personal communication, Jan. 14, 2013.

714 SAR, 1988, 2000; Jonathan Taylor, personal communication, Jan. 14, 2013; National Research Council, *Progress Toward Restoring the Everglades: The Fifth Biennial Review—2014* (Washington, D.C.: National Academies Press, 2014), 79, http://www.nap.edu/catalog.php?record_id=18809. Hereafter cites as *Progress*, 2014.

park boundary. The aim was to eradicate the two invasive species on both sides of the boundary, with the Park Service and the South Florida Water Management District working in tandem. Once the East Everglades lands became part of the park, eradication of these two species became the park's top exotic plant control priority. Both melaleuca and Australian pine continue to enter the park from seed sources east of the park boundary. The park has attempted to quarantine these species by applying herbicides from the west to the east, attacking the areas of least concentration first. As of 2012, 99 percent of the melaleuca in the park had been treated once, but follow-up treatments are needed. Most of the park's Australian pine had been initially treated by 2012, but approximately 800 acres in the far southeastern portion of the mainland awaited initial treatment.⁷¹⁵

The South Florida and Caribbean Parks Exotic Plant Management Plan.

Everglades National Park in the early 2000s lacked a comprehensive document on exotic plants that satisfied National Environmental Protection Act criteria. Plant ecologist Jonathan Taylor and others came to realize that a number of NPS units in Florida and the Caribbean had the same deficiency. These parks were known to “have similar goals to preserve and protect park resources, face similar issues related to the presence and spread of exotic plants, and use similar techniques to manage exotic plants.” Hoping to share expertise and resources, the NPS developed the *South Florida and Caribbean Parks Exotic Plant Management Plan*. The plan set up a framework for nine NPS units threatened by invasive plants to analyze and evaluate threats and proposed management actions. The preferred alternative in the plan emphasized active restoration of native plants. Initial work on the plan and its associated environmental impact statement began in 2003 and a draft was released for public review in fall 2003. The final version took effect August 30, 2010, and the plan calls for annual reviews.⁷¹⁶

Brazilian Pepper in the Hole-in-the-Donut

The park faced a particularly difficult battle with Brazilian pepper when farming ended in the Hole-in-the-Donut in the mid-1970s. Before the 1950s, this area

⁷¹⁵ SAR, 1991; Cooley, “Fiscal Year 2012 Report,” 4-5; Hillary Cooley, personal communication, Sep. 13, 2013.

⁷¹⁶ The other NPS units involved were Big Cypress National Preserve, Biscayne National Park, Canaveral National Seashore, Dry Tortugas National Park, Buck Island Reef National Monument, Christiansted National Historic Site, Salt River Bay National Historical Park and Ecological Preserve, and Virgin Islands National Park. Jonathan Taylor, interview by Bonnie Ciolino, Bethany Serafine, and Lu Anne Jones, Nov. 3, 2011; “South Florida Parks Seek Input for the South Florida and Caribbean Parks Exotic Plant Management Plan,” NPS media release, Oct. 2, 2006; 75/167 Fed. Reg. 52967-52969 (Aug. 30, 2010).

had been short hydroperiod glades with fingers of pine upland. After World War II, about 9,000 acres in the Hole-in-the-Donut was under cultivation, two-thirds of that acreage being rock plowed (see chapter 6). Once the farmlands were in government ownership, the NPS was eager to reverse the effects of agriculture and restore natural conditions. Immediately upon farming's end, the park planted former fields with slash pine, sedges, and grasses, but without success. In some cases, the park had to drill 18-inch-deep holes in the limestone bedrock to plant saplings. Park staff also established test plots where different treatments of the disturbed area were tried – disking, mowing, bulldozing, and burning. None of the treatments promoted a return to native vegetation. Worse, throughout the abandoned agricultural fields, Brazilian pepper rapidly took over. The drier, more aerated soil and traces of fertilizer left from agriculture proved particularly conducive to the invader. The pepper formed dense stands, known as monotypic stands, that crowded out all other vegetation.⁷¹⁷

Efforts to remove the pepper trees with herbicides and burning were failures, largely because pepper seeds remaining in the soil survived the treatments. In the late 1980s, resource managers tried a new tactic, attempting to recreate a slough and a hammock landscape by removing all soil material in the slough location, and piling it up to form a hammock. The hardwoods planted on the artificial hammock died, but native wetland plants took hold in the slough. To validate these results, between 1989 and 1992, the park removed soil down to the substrate on 45 acres and partially removed soil on 15 acres. Analysis of the test results showed that only total removal of the soil produced a return to native vegetation (Figure 14-6, Removing soil in the Hole-in-the-Donut). The U.S. Army Corps of Engineers and the Dade County Department of Environmental Resources Management participated in these tests.⁷¹⁸

Although the effort would be very expensive, the park concluded that only total removal of the soil would accomplish restoration goals. In 1993, the NPS, Miami-Dade County and the National Parks Foundation (NPF) entered into an agreement to restore approximately 6,300 acres in the Hole-in-the-Donut. Funding for the project came from a wetlands mitigation trust fund established by Miami-Dade County, and the NPF agreed to accept and hold funds from the county. Developers who were allowed to fill in degraded wetlands in other parts of the county paid up to \$19,000 an acre into the fund as mitigation. In 1996, the park was granted permits from the Corps of Engineers and the state of Florida, and the project began in 1997. The environmental assessment conducted by the Corps identified several alternatives for

717 Robert F. Doren and Louis D. Whitaker, Plan for Mitigation and Monitoring of Secondary Successional Communities in Everglades National Park: Hole-in-the-Donut, Dec. 6, 1988, EVER 22965; Taylor interview; SAR, 1991.

718 NPS, "Environmental Assessment, Hole-in-the-Donut Soil Disposal" (Homestead, Fla.: NPS, Aug. 1998), 9.



Figure 14-6, Removing soil in the Hole-in-the-Donut

deposition of up to 17 million cubic yards of removed soil, with trucking it off-site the preferred alternative.⁷¹⁹

After the Corps issued its permit, there was a growing realization that trucking the soil off-site would be expensive and likely require the park to replace a dozen miles of road every two to four years. The state also decided that the costs of trucking the soil out of the park were not a legitimate mitigation expense, and the NPS would need to find funding for it. As a result, the state's permit allowed the indefinite retention of the soil on-site by piling into mounds within the Hole-in-the-Donut. The NPS prepared a supplemental environmental assessment in 1996 focusing on the issues surrounding soil disposal. This assessment emphasized the damage to roads and degradation of the visitor experience that 12 to 16 thousand truck trips each winter would cause if the soil was removed. Instead, the document called for creating five to 12 soil disposal mounds on 2 to 3 percent of the restored acreage. It was acknowledged by all concerned that piling up the soil in the park was a disruption of the natural environment. Ultimately as

⁷¹⁹ Jonathan Taylor, interview by author, Sep. 26, 2013; "A Mountainous Challenge in the Heart of the Everglades," *Miami Herald*, Apr. 20, 1997.



Figure 14-7, Spoil pile in the Hole-in-the-Donut with native vegetation

the project proceeded, six soil mounds totaling 230 acres were created in the park. The mounds were to have been located away from visitor use areas and cultural resources. For reasons that remain murky, one mound was located near the historic route of the Ingraham Highway and a second within sight of the HM-69 missile base.⁷²⁰

The issues surrounding soil disposition aroused considerably controversy locally. Some farmers who forced out of the Hole-in-the-Donut in the 1970s expressed outrage that the NPS was creating artificial conditions on a portion of the acreage they had promised to restore. One former farmer, Rosario Strano, complained, “They’re not restoring, they’re destroying. They’re down there digging up good soil.” Dr. Murray Mantell, a professor of civil engineering at the University of Miami, had a novel, perhaps tongue-in-cheek, proposal. He suggested that the soil be piled up to form mountains that could be covered with artificial snow for a ski resort within the park.

⁷²⁰ NPS, Decision Notice and Second Finding of No Significant Impact for Restoration of Wetlands in the Hole-in-the-Donut, with attached Supplemental Environmental Assessment (Homestead: NPS, Sep. 18, 1996); Taylor interview.

The NPS declined this solution (figure 14-7, a spoil pile in the Hole-in-the-Donut with native vegetation).⁷²¹

The Hole-in-the-Donut restoration project has been a stunning success. When the limestone is exposed, summer rains flood out any pepper seedlings. Algae and other plant material create a layer of marl, and sawgrass and other native plants rapidly become established, without the need for plantings by park staff. After 15 years, soil accumulations average about 3.7 centimeters, within the range considered optimal for rocky wetlands areas in the Everglades. Within a few years, native and migratory birds colonize the reclaimed acreage, and raccoons, deer, panthers, and black bears move in. The project has been expensive, with each reclaimed acre costing between 10 and 15 thousand dollars. As of October 2013, 4,850 of the targeted 6,300 acres had been restored. Early concerns among environmentalists over the soil mounds have largely died away. Interest earned from the mitigation trust fund allows staff to mow the mounds to prevent pepper from being reestablished. One mound has been released to natural succession, with hardwood hammock trees becoming established. The mounds have proven to be good habitat for invertebrates, including rare and endangered butterflies. Bird watchers love the mounds because they are excellent observation platforms. The preferred alternative in the park's draft GMP contemplates constructing spur trails to one or two mounds to be used as overlooks.⁷²²

Brazilian pepper also covers tens of thousands of acres on the fringes of mangrove forests on the Gulf side of the park. The density of these stands varies, but most are in areas that are very difficult to access. Crews coming in to apply treatments would need to use helicopters. Helicopter landings are problematic in wilderness areas, and there are few landing areas where the pepper grows. To date, the NPS had not identified "a cost-effective strategy for systematically removing Brazilian pepper" from these areas. The best that the park has been able to accomplish with available funds is to spot treat Brazilian pepper at high-priority locations, for example, where impacts of the plant on rare or endangered species is a concern.⁷²³

Old World Climbing Fern and Lather Leaf

Old world climbing fern was first noticed in Everglades National Park in 1999. It is a twining and climbing perennial that starts on the ground and grows up shrubs and

⁷²¹ "Schussing through the Everglades?," *Orlando Sentinel*, Aug. 17, 1997.

⁷²² Craig S. Smith, Laura Serra, Yuncong Li, Patrick Inglett, and Kankia Inglett, "Restoration of Disturbed Lands: The Hole-in-the-Donut Restoration in the Everglades," *Critical Reviews in Environmental Science and Technology* 41/6 (2011):723-739; "Reviving 'Hole in the Donut' an Everglades Success Story," *Miami Herald*, June 26, 2001; Taylor interview; Jonathan Taylor, personal communications, Jan. 14 and Sep. 26, 2013; Draft GMP, 67.

⁷²³ Cooley, "Fiscal Year 2012 Report," 5.

trees, eventually smothering them. Within the park it is mostly found in remote Gulf coast areas from Cape Sable to Everglades City. In 2010, old world climbing fern was estimated to be growing on at least 2,000 acres in the park. The total could be higher because it is unlikely that all stands of the plant can be observed from aircraft flying at 500 feet. Park scientists believe that the affected area has expanded slightly since then. The park has used herbicides released from the air to control this invasive, but funding has not been available for this treatment since 2008. In 2013, the park released brown Lygodium moths (*Neomusotima conspurcatalis*) in affected park areas. This species feeds on old world climbing fern, and this method of biological control previously has been used with some success in Florida's Jonathan Dickenson State Park. Park scientists will be monitoring the results of the introduction of this moth species.⁷²⁴

Park collaborator Frank C. Craighead recognized lather leaf in the park as early as 1954, but it did not become a serious concern until the 1990s. By then, the species was noted as common on upper dunes, coastal strand habitat, buttonwood forests, and coastal hardwood hammocks along Florida Bay and in the Ten Thousand Islands. Lather leaf is difficult to identify in aerial survey efforts, making it difficult to estimate how much of the park is affected. The plant has been controlled in limited areas by persistent manual removal and herbicide application.⁷²⁵

Exotic Flora Introduced by the NPS

The planting plans used during the Mission 66 period in the 1950s and 1960s frequently specified the use of exotic plants. As attitudes within the NPS evolved, this practice was abandoned. In 1979, the park removed several hundred nonnative coconut palms from Flamingo and the headquarters area on Parachute Key.⁷²⁶

Invasive Fauna

Various tropical fishes were among the first invasive animals to cause concern in the park. Once the extensive system of canals of the Central and Southern Florida Flood Control Project were built, nonnative fishes (and species native to other parts

⁷²⁴ Jonathan Taylor, "Management of Old World Climbing Fern in Everglades National Park," in *Old World Climbing Fern Management Plan for Florida*, 2d ed., 2006; University of Florida IFAS, http://hillsborough.extension.ufl.edu/homegardening/PDFs/Fact%20Sheets/Invasives_Old%20World%20Climbing%20Fern.pdf; Anthony Boughton and Ted Center, "Biological Control of Old World Climbing Fern, *Lygodium microphyllum*, Recent Progress with the Brown Lygodium Moth," Florida Exotic Pest Plant Council, Apr. 6, 2010, http://www.ars.usda.gov/research/publications/publications.htm?seq_no_115=251047; Hillary Cooley, personal communication, Sep. 13, 2013.

⁷²⁵ Cheryl M. McCormick, compiler, *Columbian Asiatic (Lather Leaf) Management Plan* (N.p.: Florida Exotic Pest Plant Council, 2007), 37-39.

⁷²⁶ SAR, 1979.

of Florida) had an easy route into park waters. As early as December 1969, Everglades rangers received instructions to preserve or photograph any nonnative fishes they encountered. At the time, the so-called walking catfish (*Clarias batrachus*) was creating a media stir. *C. batrachus* was one of a number of nonnative fish brought to Florida for the aquarium trade that were released into the wild and eventually established breeding populations. As described above in chapter 12, park managers had limited information on freshwater fish populations prior to the late 1970s. Once systematic sampling began, it was learned that the walking catfish and the black acacia (*Chilasoma bimaculatum*) were breeding in park waters (figure 14-8, invasive freshwater fish).⁷²⁷

The appearance of nonnative fishes in park waters seems to be tied to changes in regional water management practices. Not long after the capacity of canals near the park was expanded and water began being pumped directly from the L-31W Canal into Taylor Slough in 1981, six new nonnative fishes appeared in the eastern section of the park. After 1999, when water managers began delivering more water to the eastern side of the park and water overtopped the banks of the C-111 and L-31W Canals, eight additional nonnative species were found in the park. To date, 17 nonnative species have been detected in park waters. Two of these, the Mozambique tilapia and the banded cichlid, are not believed to be breeding in the park. Ten of the 17 species are from the Cichlidae family, a large family of tropical fishes with members native to Central and South America, Africa, and Asia. Among these are the oscar (*Astronotus ocellatus*), the Mayan cichlid (*Cichlasoma urophthalmus*), the spotted tilapia (*Tilapia mariae*), the blue tilapia (*Oreochromis aureus*), and the African jewelfish (*Hemichromis letourneuxi*). Fish from the Cichlidae family have the ability to adapt to a variety of habitats. Further, they occupy a similar ecological niche to native sunfishes and have the potential to outcompete them. Nonnative fish from other families that have become established in the park include the Asian swamp eel (*Monopterus albus*) and the pike killifish (*Belonesox belizanus*). Some of these invasive species do provide prey for larger native fish, like the largemouth bass (*Micropterus salmoides*), or for wading birds.⁷²⁸

The long-term effects of the invaders on the ecosystem are largely unknown. Recent studies indicate that the African jewelfish and the Mayan cichlid may pose a particular threat. When small native fishes seek refuge in the deeper waters of solution holes and creek headwaters in the dry season, they appear to be subject to increased predation by these species. It is generally thought that once a nonnative fish species is

727 Chief Ranger, EVER, to Field, Dec. 19, 1969, EVER 22965; "Catfish 'That 'Walks' Is Here to Stay, Florida Finds," *New York Times*, Nov. 24, 1968; Jeffrey L. Kline, William F. Loftus, Kevin Kotun, Joel C. Trexler, Jennifer S. Rehage, Jerome J. Lorenz, and Michelle Robinson, "Recent Fish Introductions into Everglades National Park: An Unforeseen Consequence of Water Management?," *Wetlands*, Jan. 17, 2013, DOI 10.1007/s13157-012-0362-0. Loftus interview. Native to Africa and Southeast Asia, *C. batrachus* uses its dorsal fins to wriggle (not actually walk) up to 75 feet from one body of water to another.

728 Kline et al.; Jeffrey Kline, personal communication, June 28, 2013.



Figure 14-8. Invasive freshwater fish

established in the park, it is highly impractical, if not impossible, to eradicate it. Current NPS management efforts therefore are directed to stopping invaders before they reach the park. If nonnative fishes are detected in canals bounded by levees before they can enter the park, there is a better chance of eradicating them. The park has stepped up efforts to educate the public about the dangers of releasing nonnative fish, encourage responsible practices by breeders of aquarium fishes, and achieve water management practices that are favorable to native species. The park is an active

participant in the Everglades Cooperative Invasive Species Management Area (CIS-MA) effort, described further below.⁷²⁹

Nonnative Land Animals

Over the decades, a number of nonnative land animals became resident in the park, including feral hogs, armadillos, and iguanas. The Spanish brought domesticated swine (*Sus scrofa*) with them on their invasions of the Southeast in the 1500s, and feral populations have existed in Florida ever since. The main threat from hogs is the damage to native vegetation caused by their foraging. In 1930, a group of U.S. senators scouting the proposed park area saw wild hogs in the area. Ranger Erwin Winte in 1960 noted evidence of hog rooting on a tree island in the Shark River Slough. Wild hogs today are found in every county in Florida, with a statewide population estimated at 500,000 to two million. In 2012, some Florida hunters began the practice of shooting hogs from the air using chartered helicopters. This occurred on a large private ranch in the north Everglades, well away from the park. In the park, hogs are confined mostly to upland areas. The nine-banded armadillo (*Dasypus novemcinctus*) is native to South Texas and Mexico, but rapidly expanded its range in the twentieth century. This armored mammal has been in Everglades National Park since the early 1970s, if not earlier. Both hogs and armadillos have emerged as good food sources for panthers.⁷³⁰

A number of lizards from the exotic animal trade have established themselves in the park. These include the brown anole (*Anolis sagrei*), knight anole (*Anolis equestris*), common green iguana (*Iguana iguana*), and three species of gecko. To date, these lizards appear not to have caused serious damage. A more recent reptilian invader, the Argentine tegu lizard (*Tupinambis merianae*), has caused more concern. The tegu is omnivorous and can tolerate temperatures approaching freezing. A host of other exotic animals are present in Florida, not far from the park's boundary. Many could in future

729 J. S. Rehage, S. E. Liston, K. J. Dunker, and W. F. Loftus, "Fish Community Responses to the Combined Effects of Decreased Hydroperiod and Nonnative Fish Invasions in a Karst Wetland: Are Everglades Solution Holes Sinks for Native Fishes?," *Wetlands*, Jan. 17, 2013, DOI 10.1007/s13157-012-0361-1; E. J. Harrison, J. J. Lorenz, and J. C. Trexler, "Per Capita Effects of Nonnative Mayan Cichlids (*Cichlasoma urophthalmus*; Gunther) on Native Fish in the Estuarine Southern Everglades," *Copeia* 2013/1, 80-96; Jeffrey Kline, personal communication, June 28, 2013.

730 "New Territory Seen by Senate Group in Blimp," *Miami Daily News*, Dec. 30, 1930; "Wild Hogs: Nuisance or Hunting Opportunity?," Florida Fish and Wildlife Conservation Commission, <http://myfwc.com/news/news-releases/2012/january/03/outta-jan/>; "Hunters Use Helicopters to Target Nuisance Wild Pigs on Florida Ranch," *Miami Herald*, Mar. 25, 2012; Joseph M. Schaeffer and Mark E. Hostetler, "The Nine-Banded Armadillo (*Dasypus novemcinctus*)," University of Florida IFAS, <http://edis.ifas.ufl.edu/uw082>; Wes Phillips to Larry Bancroft, May 8, 1973, EVER 22965.

become park residents. The Burmese python is the invader that aroused the greatest concern in the 2000s.⁷³¹

Burmese Pythons and Other Constrictors

For decades, several python species have been imported into and bred in Florida for those who crave unusual pets. Two subspecies of *Python molurus*, the Burmese python (*Python molurus bivittatus*) and the Indian python (*Python molurus molurus*) have become a large problem for the Everglades National Park (figure 14-9, Burmese py-



Figure 14-9. Burmese python

thon).⁷³² Several other python species, including the African rock python, are also of concern. The Burmese python is one of the largest snakes in the world; females can

⁷³¹ "Hunt is on for Tegu Lizards in South Florida," *Miami Herald*, Sep. 26; 2013; Everglades National Park Exotic Species List, <http://www.nps.gov/ever/forteachers/upload/BackgroundInformation.pdf>.

⁷³² Other large snakes including the northern African python (or African rock python) (*Python sebae*), common boa (*Boa constrictor*), reticulated python (*Python reticulator*), and green anaconda (*Eunectes murinus*) have been found in the wild in the Everglades, but only the Burmese python is known to have a significant breeding population. The northern African python does appear to be breeding in a localized area just southeast of the intersection of Tamiami Trail and Krome Avenue, not far from the park boundary. Florida Museum of Natural History website, <http://www.flmnh.ufl.edu/herpetology/fl-guide/Pythonsebae.htm>.

reach more than 20 feet in length and weights of 200 pounds. Burmese pythons are tan with distinctive brown and black markings on the back and sides. They kill by first gripping the victim with their teeth and then wrapping their body around it and smothering it. The species is semiaquatic, known to hunt on dry land and in water, and needs only a slightly elevated hammock for nesting. It was known for some time that Florida owners were releasing pythons when they became unmanageably large. The first confirmed capture of a Burmese python in the park came in 1979. Hurricane Andrew in 1992 demolished a number of exotic pet warehouses, releasing an unknown number of pythons into the wild. Until the year 2000, only about a dozen had been found in the wild throughout South Florida. From that point, sightings and captures skyrocketed. By 2007, 250 to 300 individuals annually were being captured or found dead within the park or on adjacent South Florida Water Management District land.⁷³³

Burmese pythons pose a particular threat in the Everglades because they can adapt to a variety of habitats, consume a wide variety of prey, live 15 to 25 years, can move great distances, and are prolific breeders. Analysis of the stomachs of these serpents has shown that they eat mice, rats, rabbits, muskrats, raccoons, opossums, deer, bobcats, egrets, and more. A study published in early 2012 documented a decrease in populations of raccoons, opossums, rabbits, and bobcats observed at night in the park from 2003 to 2011. Although the authors cautioned that this is not proof that predation by pythons is the cause, the results are suggestive. Beginning in late 2005, scientists from the University of Florida and the park began surgically implanting radio transmitters in a few pythons, to better track their movements. Radiotelemetry led to the discovery in May 2006 of the first nest of python eggs in Everglades National Park, confirming that the giant snake was indeed breeding in the park.⁷³⁴

The invasion of the Everglades by giant pythons that squeeze the life out of their prey was a story that few media outlets could resist, especially after video of “gator vs. python” went viral. This epic, 24-hour struggle started on a Sunday morning in January 2003, when visitors on the Anhinga Trail observed a full-grown alligator and a large python in a clinch. The gator had bitten down on the snake, which then wrapped itself around the gator. Deputy Superintendent John Benjamin happened to be there to photograph a section of the boardwalk that needed repair. His son, also John, who was with him, shot video and placed it on the web, causing a sensation. Media outlets

⁷³³ Rebecca G. Harvey, Matthew L. Brien, Michael S. Cherkiss, Michael Dorcas, Mike Rochford, Ray W. Snow, and Frank J. Mazzotti, “Burmese Pythons in South Florida” (Gainesville, Fla.: University of Florida IFAS, July 2008), <http://edis.ifas.ufl.edu/uw286>.

⁷³⁴ Harvey, et al.; Michael E. Dorcas, John D. Willson, Robert N. Reed, Ray W. Snow, Michael R. Rochford, Melissa A. Miller, Walter E. Meshaka Jr., Paul T. Andreadis, Frank J. Mazzotti, Christina M. Romagosa, and Kristen M. Hart, “Severe Mammal Declines Coincide with Proliferation of Invasive Burmese Pythons in Everglades National Park,” *Proceedings of the National Academy of Science* 109/7 (Feb. 14, 2012), <http://www.pnas.org/content/109/7/2418.full?sid=42030396-df1f-4b93-be77-fbfade00a499>.

from the *National Examiner* to *National Geographic* picked up the story. In 2009, *The New Yorker* ran a nine-page feature on exotic animals in Florida, featuring the python prominently and quoting park biologist Ray W. “Skip” Snow extensively. Reality television was not far behind. The National Geographic Channel debuted “Python Hunters” in July 2010. Public television’s highly regarded *Nature* series produced an episode “Invasion of the Giant Pythons.” Since 2003, video of other python/alligator encounters has been posted.⁷³⁵

As land managers became aware of the python threat, a number of steps were taken. Following an invasive reptile management workshop in 2005, the NPS joined with several other institutions to form the Python Science Support Team. The support team has been focusing on ways to capture and remove pythons. Scientists have no present hope of eliminating pythons from the park. A key concern is to insulate bird rookeries from predation by pythons, perhaps by trapping and relocating or euthanizing pythons in the immediate vicinity. It will also be important to try and keep pythons out of the Florida keys. The keys are home to small populations of several endangered species like the Key Largo cotton mouse (*Peromyscus gossypinus allapaticola*), Lower Keys marsh rabbit (*Sylvilagus palustris hefneri*), and the key deer (*Odocoileus virginianus clavium*) that would be particularly vulnerable to pythons.⁷³⁶

In 2007, the Florida legislature passed legislation addressing “reptiles of concern.” The law directed the Florida Fish and Game Conservation Commission (FWC) to draw up a list of nonnative venomous reptiles and other reptiles of concern. Anyone keeping an animal on the list was required to obtain a \$100 annual permit. The commission was given the authority to inspect the premises of any permit holder and revoke the permit if violations were detected. The law also provided penalties for releasing such animals into the wild. The FWC identified four python species (Burmese, articulated, African rock, and amethystine or scrub), the green anaconda, and the Nile monitor lizard as reptiles of concern. It also required that owners implant an identifying microchip in each animal and prepare a critical incident and disaster plan detailing how animals would be secured or evacuated in an emergency. After a Burmese python killed a two-year-old Florida girl in 2009, the legislature in 2010 banned the possession, importation, sale, trading, or breeding of the five species. Existing owners of such animals were exempted, and Florida breeders of these reptiles were permitted to continue operating.⁷³⁷

⁷³⁵ Burkhard Bilger, “Swamp Things,” *The New Yorker*, Apr. 20, 2009, 83; John Benjamin, interview by author, July 20, 2012; National Geographic Channel, <http://www.nationalgeographic.com/wild/shows-python-hunters/>; <http://www.pbs.org/wnet/nature/episodes/invasion-of-the-giant-pythons/introduction/5532/>.

⁷³⁶ Harvey, et al., Bilger, 87.

⁷³⁷ Florida statutes 2007-239 and 2010-185; State Representative Ralph Poppell, “Florida is Proactive about Exotic Reptiles,” *Gainesville Sun*, July 24, 2009; Responsible Exotic Animal Ownership website, <http://www.rexano.org/StatePages/FloridaFrame.htm>.

Effective March 23, 2012, the U.S. Fish and Wildlife Service declared the Burmese python, Indian python, Northern African Python, Southern African python, and yellow anaconda to be injurious reptiles. This action brought the five species under the provisions of the Lacey Act and made it a federal offense to import these snakes and their eggs into the United States or to transport them across state lines.⁷³⁸ Although these state and federal laws were well-intentioned, they came too late to do much good for the Everglades.

Efforts to control invasive pythons have assumed some very creative dimensions. From 2010 through 2013, the Florida Fish and Wildlife Conservation Commission sponsored an annual sanctioned hunt of Burmese pythons and other injurious reptiles on state land. A much-ballyhooed “Python Challenge” in 2013 drew 1,500 participants, but resulted in the capture of just 68 pythons. The event failed to significantly reduce python populations, but scientists who performed necropsies on the animals gained insights into their diets. Given the meager results, the state has no current plans to repeat the event. The state continues to train and license python hunters, who then have a better chance of locating the elusive beasts than the average hunter. Everglades National Park also has about 30 authorized agents who track and try to capture pythons in the park for research purposes.⁷³⁹

The detection of pythons by specially trained dogs has shown some promise. In winter 2010/2011, two black Labrador retrievers from Auburn University, part of a program known as EcoDogs, were in the park with their trainers and university scientists. The dogs covered more ground and were more than twice as accurate as human searchers in detecting pythons. Tracking pythons with dogs is expensive—they require at least six months of specialized training and must work with skilled handlers. The use of tracking dogs is one tool among several that will likely be used in the future to address the python issue.⁷⁴⁰

An Invasive Insect Species: The Red Imported Fire Ant (*Solenopsis invicta*)

The red imported fire ant arrived in the American South from South America in the 1930s and is well established throughout Florida, including Everglades National Park. The ant has aggressive foraging behaviors, with individuals stinging their prey

⁷³⁸ 77 Fed. Reg. 3329-3330 (Jan. 23, 2012).

⁷³⁹ “Hunters Unleashed on Florida Python Problem,” *Chicago Tribune*, Feb. 24, 2010; “Officials Give Up on Evicting Pythons,” *Washington Post*, Mar. 22, 2014; “The Python Invasion Project: Meet the Hunters,” *Miami Herald*, June 9, 2014.

⁷⁴⁰ “A Giant Battle: Auburn Canines Help in Search for Everglades’ Pythons,” Auburn University press release, Feb. 15, 2012, http://ocm.auburn.edu/featured_story/pythons_dogs.html; “Snake-Sniffing Dogs Help Find Pythons in the Park,” *Washington Post*, May 3, 2012.

en masse. In the American South, fire ants frequently become the dominant ant species because of a lack of predators and competitors. Research and observations have shown the fire ant to be a direct and indirect threat to a number of animals found in the Everglades, notably the Florida tree snail, loggerhead turtle, and alligator. In areas of Florida outside Everglades National Park, researchers have observed fire ants killing tree snails and hatchling loggerhead turtles. Research also has shown that both turtle and alligator nests that are infested by fire ants have lower success rates. Fire ants may also adversely affect the foraging behavior of small mammals where fire ant mounds are plentiful. The effect of fire ants on native animals in Everglades National Park is largely conjectural at the moment, pending research efforts specifically targeting the park.⁷⁴¹

Cooperative Efforts and Public Awareness

Everglades National Park has pursued a number of cooperative efforts to combat invasive species. The park's involvement with the Florida Exotic Pest Plant Council has already been mentioned. In late 2008, the park joined with USFWS, the Corps, the SFWMD, and the Florida Fish and Wildlife Conservation Commission to form the Everglades Cooperative Invasive Species Management Area (CISMA). Miami-Dade County later affiliated with the CISMA. The Everglades CISMA was created to provide a framework for interagency cooperation on invasive species issues and facilitate coordination with the CERP as individual restoration projects went forward.⁷⁴²

A major focus of the interagency effort has been educating the public about the issues with invasive species and getting the public's cooperation in preventing future problems. The park and the Florida Fish and Wildlife Conservation Commission produced *Florida Invaders*, an eight-page color brochure. The piece emphasizes the economic and ecological costs of invasives and touts the advantages of education, prevention, early detection, and rapid response. Readers are urged to be responsible pet owners and gardeners. The park has helped fund and staff Nonnative Pet Amnesty Days at Zoo Miami. Owners may bring unwanted exotic pets to the zoo on these days, no questions asked. The FFWCC lines up responsible adopters for these animals, and the event gives people an alternative to releasing them into the wild.⁷⁴³

741 C. R. Allen, D. M. Epperson, and A. S. Garmestani, "Red Imported Fire Ant Impacts on Wildlife: A Decade of Research," *American Midland Naturalist* 152 (July 2004):88-103; B. Smith, "A Partial Survey of Florida Tree Snail (*Liguus fasciatus*) Distribution in Big Cypress National Preserve," report submitted to NPS, 1997.

742 Everglades CISMA website, <http://www.evergladescisma.org/about.cfm>; Ray W. "Skip" Snow, interview by author, Oct. 5, 2011.

743 Snow interview; NPS, *Florida Invaders*, <http://www.nps.gov/ever/naturescience/upload/2008%20Florida%20Invaders%20For%20Web.pdf>.

Mosquito Control

Mosquitoes present a severe challenge for humans attempting to live and work in the Everglades in the warmer months. Some 13 of the 43 mosquito species found in the Everglades bite humans. Mosquitoes carry diseases like West Nile disease and St. Louis encephalitis and can cause accidents when droves of them attack drivers or operators of power tools. Former residents of the fishing village of Flamingo told of their various attempts to keep the pests at bay. Some houses had a “losing room” where a smudge fire and palmetto fronds were used to shed the insects before one entered the house. Mothers wrapped their children’s limbs in newspaper before they ventured outdoors in summer. With the park’s establishment and the development of employee residences and maintenance facilities at Flamingo and Pine Island, the NPS faced the challenge of making these areas habitable with the least damage to the environment. The reality is that any chemical that is toxic to mosquitoes will adversely affect other creatures under some circumstances. On the other hand, as the park put it in 1961, “abatement or reduction of the mosquito nuisance [at developed areas] is recognized as essential to the welfare of visitors and employees.”⁷⁴⁴

The park has used a number of insecticides against mosquitoes through the decades (figure 14-10, mosquito fogging at Flamingo, June 1965). DDT (dichlorodiphenyltrichloroethane) was used at the park’s 1947 dedication and up through the early 1960s. In May 1961, the *Miami Herald* reported that mosquito fogging was done daily at Flamingo. Rachel Carson’s *Silent Spring* came out in 1962, touching off a campaign against DDT that led to its near total ban in the U.S. effective January 1, 1973. As of 1966, Everglades National Park had already switched to malathion for mosquito abatement. Malathion is an organophosphate insecticide known to be toxic to insects and some fishes and can cause altered behavior and loss of motor control in birds and reptiles. In 1970, Secretary of the Interior Walter Hickel instituted a systemwide ban on the use of DDT and 15 other pesticides. In the mid-1980s, the park was still employing malathion, but also experimenting with Scourge®, with active ingredients of resmethrin and piperonyl butoxide. By the late 2000s, the park was primarily using Anvil® 10+10 and Duet®. Both products contain d-phenothrin (trade name, Sumithrin®) and piperonyl butoxide as active ingredients. Resmethrin and sumithrin are synthetic pyrethroids, while piperonyl butoxide is a synergist, a chemical that enhances the effectiveness of other compounds. Duet® also contains prallethrin (trade name,

⁷⁴⁴ Barbara L. Pettit, “A Short History of the Everglades and Surrounding Areas,” typescript draft, Apr. 1981, EVER 22965; Park Master Plan, Mission 66 Edition, 1961, HFC, box 3; Draft White Paper: Mosquito Control and Pesticide Use at Everglades National Park, n.d. [circa Aug. 2007].



Figure 14-10. Mosquito fogging at Flamingo, June 1965

ETOC®), which has the ability to draw mosquitoes from a resting state, thus increasing their exposure to the insecticide.⁷⁴⁵

Since 1980, mosquito control in NPS areas has been governed by the Integrated Pest Management (IPM) program as well as general NPS management policies. The management policies provide that native pests may be suppressed to “manage a human health hazard when advised to do so by the U. S. Public Health Service (which includes the Centers for Disease Control and the NPS public health program); or to otherwise protect against a significant threat to human safety.” Currently, Everglades and other NPS units make annual requests for the use of pesticides via an internet-based application called PUPS (Pesticide Use Proposal System). Depending on the requested use, park requests are approved by the regional or national IMP program manager. Since the implementation of the IPM program, Everglades has received authorization to use mosquito adulticides at the developed areas at Flamingo

⁷⁴⁵ “Tourist Trade Slump Hits Everglades Park,” *Miami Herald*, May 12, 1961; Leslie D. Beadle, U.S. Public Health Service, Report of a Mosquito Survey at the Everglades National Park, Florida, Oct. 1966, EVER 22970; “News Briefs,” *National Parks Magazine*, Aug. 1970, 30; “Farewell, DDT,” *Miami Herald*, Dec. 31, 1972; National Resource Defense Council, <http://www.getipm.com/articles/malathion.htm>; Bayer Environmental Sciences, http://www.backedbybayer.com/system/product/product_label_pdf/59/SCOURGE-Insecticide-With-Resmethrin-Piperonyl-Butoxide-18-Plus-54-MF-Formula-II.pdf; SAR, 1985; “Synthetic Pyrethroids,” Beyond Pesticides, <http://www.beyondpesticides.org/pesticides/factsheets/Synthetic%20Pyrethroids.pdf>; material safety data sheets for Anvil® 10+10 and Duet®; Hillary Cooley, personal communication, Sep. 13, 2013.

and Pine Island and at nonwilderness work sites for health and safety purposes. The areas actually treated each year varied depending on the severity of the mosquito presence. Thresholds for the use of pesticides were established based on the number of recorded mosquito landings per minute (landing counts). When thresholds were exceeded, suppression measures were authorized. Pesticide application was generally made through ultra-low-volume spraying.⁷⁴⁶

Two developments in 2007 caused the park to review its mosquito control procedures. NPS staff required to live in the park had begun to purchase backpack sprayers and insecticides on their own to combat what they saw as an unbearable mosquito problem. These actions were not sanctioned through the IMP review process. In that same year, the North American Butterfly Association raised concerns over the effects of mosquito adulticides on rare butterflies in the park. Park managers concluded that its existing 1985 Mosquito Control Plan was no longer adequate. The park formed a Mosquito Interdisciplinary Team, which began work on a Mosquito Risk Reduction Plan in Everglades National Park Developed Areas. Through 2008 and 2009, the team worked to draft a new plan that would allow mosquito suppression when thresholds were exceeded. In summer 2008, ecologists Marc C. and Maria Minno observed butterflies before and after insecticide spraying at Flamingo. They observed neither mortality nor changed behavior in the butterflies, although they were not equipped to measure any sublethal effects on butterflies. Focus groups were also conducted with park employees to learn more about the physical and psychological effects of mosquitoes. Among other things, the Mosquito Interdisciplinary Team's recommendations called for incorporating adaptive management principles into the new plan; that is, adjustments would be made to spraying and other procedures as experience was gained. The team's recommendations were circulated in early 2010. To date a new plan has not been adopted, largely because of the press of other business and lack of funding.⁷⁴⁷

⁷⁴⁶ Jerry McCrea and Carol L. J. DiSalvo, "Integrated Pest Management: What Is It? What Has It Done for the National Park System?," in *Crossing Boundaries in Park Management: Proceedings of the 11th Conference on Research and Resource Management in Parks and on Public Lands*, ed. David Harmon (Hancock, Mich.: The George Wright Society, 2001), 393-398; Draft NPS Fact Sheet: Managing Pesticides, July 2007, <http://www.nps.gov/sustainability/documents/Waste/Pesticide-Management.pdf>; NPS Servicewide IPM Coordinator to IPM Program Files (draft), Feb. 8, 2010; *NPS Management Policies*, 2006, <http://www.nps.gov/policy/mp2006.pdf>; Hillary Cooley, personal communication, Sep. 13, 2013.

⁷⁴⁷ IPM Coordinator to IPM Program Files (draft), Feb. 8, 2010; Marc C. Minno and Maria Minno, "An Assessment of the Risk of Harm to Butterflies in the Flamingo Area of Everglades National Park Due to Mosquito Control Spraying around Staff Housing and Maintenance Facilities," July 5, 2008, "Everglades National Park Mosquito Risk Assessment Pilot: Results of Focus Group Interviews," Apr. 2010, National Resource Report NPS/BRMD/NRR—2010/189, ENP IPM files; Hillary Cooley, personal communication, Sep. 13, 2013.

Chapter 15: Wildland Fire

When Everglades National Park was established in 1947, the long-standing NPS policy was to suppress all wildfires in parks, whether caused by lightning or human activity. The NPS was not alone in this; at the time, fire suppression was standard policy for all federal government land managers. NPS fire policies had been developed in the forests of the western states and for the most part echoed the policies of the U.S. Forest Service. The geology and vegetation of South Florida, as well as the region's cultural attitudes and practices regarding fire, differed sharply from the western experience. Additionally, combating fires with traditional techniques exposed Everglades fire fighters to considerable hardship and danger, because of the region's solution holes, exposed limestone rock, sawgrass, palmetto, muck, and insects. All of these factors produced a relationship with fire at Everglades National Park that was unique within the Service. The park played a key role in the evolution of national wildland fire policies. Research done in the Everglades by park biologist Dr. Bill Robertson Jr. in the 1950s added much to the general understanding of the role of fire in ecosystems and led to the park's program of prescribed burning, the first such program in the NPS. The Everglades fire experience then helped to shape what historian Stephen J. Pyne has called fire's "cultural revolution" in the 1960s and thereafter. In this revolution, the idea that fires should be prevented whenever possible and always fought when they broke out gave way to an understanding that: 1) fire was a part of the natural order, 2) some fires should be allowed to burn, and 3) prescribed burns were often beneficial. In the 2000s, a growing belief that "natural" Everglades landscapes might well have been fire-maintained by humans for millennia began to influence fire policies.⁷⁴⁸

Early Park Approaches to Fire

In the late 1940s, NPS managers clearly understood that South Florida residents, Indian and white, had been using fire to manage landscapes since at least the nineteenth century. Only in later decades did scientists begin to understand that the routine use of fire by indigenous people around the world for a variety of purposes went back thousands of years. NPS managers were quite aware of the damage done by human-caused fire to South Florida residential areas on the edges of the Everglades. They doubted, however, that lightning was a major cause of Everglades fires. This view was expressed by an NPS forester who wrote: "All fires are probably man-caused

⁷⁴⁸ Sellars, 126-127, 162-163, 253-257; Stephen J. Pyne, *America's Fires: A Historical Context for Policy and Practice* (Durham, N.C.: Forest History Society, 2010), 46-47. There are exceptions to this generalized picture. As early as the 1890s, geologist John Wesley Powell argued that Native American practices of burning understory helped prevent large crown fires. Pyne, 23.

since lightning is normally accompanied by heavy rain.” Superintendent Beard at first held this view and tended to be dismissive of local residents, including Ernest Coe, who argued that lightning caused fires. NPS managers understood that Indians in Florida had long used fire in hunting and to discourage mosquitoes and other pests. They also knew that subsequent white and black settlers used fire for these ends and also to clear fields for planting, renew rangeland vegetation for livestock, and clear underbrush before an area was logged. By the middle of the twentieth century, many wildfires each year were accidentally set by the careless handling of cigarettes and cooking fires. Dry-season incendiary fires tended to be the most damaging to built-up areas and to Florida’s image as a winter vacation paradise.⁷⁴⁹

The drainage work completed by the state in South Florida in the first decades of the twentieth century made fire a much bigger problem. Drainage lowered the water tables in the Everglades, prolonging the dry season and exposing muck and peat for longer periods. This caused the exposed soil to oxidize, making it more vulnerable to erosion and fire. Fires that might have burned out quickly in predrainage days tended to burn longer and cause more damage after drainage. The Everglades is a mosaic of differing natural environments, and fire has different effects in these various environments. Prior to drainage, fire was likely more common in pine uplands and sawgrass stands than on tree islands. Lowered water tables changed the effects of fire, especially in sawgrass marshes and coastal prairies. Before 1900, areas of sawgrass often would burn in the wet season, when the soil was inundated or heavily saturated. Under these conditions, the sawgrass regenerated rapidly. Following drainage, fires in sawgrass more frequently burned below the surface, destroying the stalks (known as culms) that normally would have sent out new growth. Fires in the dry season also burned the accumulated organic material (muck and peat) that formed the soil in the Everglades. Once ignited, muck fires could burn for months. Bill Robertson noted that between 1920 and 1954, extensive fires occurred in the Everglades in more than one-third of the winters. Fires were particularly troublesome in 1938, 1939, and 1945. In April 1939, news accounts told of “great clouds of smoke rolling into Miami” as more than a million acres burned. Everglades fires that sent smoke and ash east to the resort areas on the Atlantic coast were especially worrisome to tourist-oriented South Florida.⁷⁵⁰

In the subtropical environment of the Everglades, the effects of fire or the absence of fire show up within a few years. Once they had gained some experience, Superintendent Beard and his staff concluded that what they had learned about fire

⁷⁴⁹ Asst. Chief Forester L. F. Cook to RDR1, Apr. 26, 1948, NARA Ph, RG 79,, 79-58A-360, box 7; Dale L. Taylor, *Fire History and Fire Records for Everglades National Park, 1948-1979* (Homestead, Fla.: SFRC, 1981), 114-116.

⁷⁵⁰ McVoy, et al., 105-109, D86; “Tragedy in Florida,” *Dallas News*, Apr. 23, 1939; William B. Robertson Jr., “Everglades Fires – Past, Present and Future,” *Everglades Natural History* 2/1 (1954), 15.

elsewhere did not always apply in this new park. Following NPS policy and hoping to avoid a repeat of the catastrophic dry season fires of recent years, Everglades staff began with the idea that all fires should be suppressed. In 1948, the park entered into a cooperative agreement with Dade County, which established an Everglades Fire Protection Zone. The zone extended 12 miles east of the eastern border of the park. The NPS staff pledged to help fight fires in this zone when requested, and Dade County agreed to help with fires within the park. The following year, 1949, the park adopted its first fire control plan, which ran to 23 pages and had a drawing by Superintendent Beard on its cover. In 1950, park staff had to fight three large fires simultaneously: Tamiami Fire No. 3, Long Pine Key Fire No. 3, and the Mowry Fire. These fires were fought day and night, mostly on foot, with very limited equipment that was difficult to move through the dense vegetation. Airplanes were used only to scout fires and map their extent. In May 1950, Superintendent Beard met with his ranger and fire protection staff for a critique of the fire season; the fire critique became an annual event. The park also instituted annual fire training sessions, which the NPS regional forester often attended. In these early years, park staff worked heroically under extremely difficult conditions to fight fires. Beard wrote of this period of fire control, "every time we used to have a fire the chief clerk, superintendent, and fiscal accounting clerk grabbed their old pants . . . and ran out to work on it" (figure 15-1, Supt. Beard's take on fire fighting). Given the huge effort required and the dangers to firefighters, Beard and others came to question the wisdom of suppressing every fire. They also noted that the tracks left by fire-fighting equipment like bulldozers and mobile pumper tanks often left scars that lasted far longer than any visible effects of the fire itself.⁷⁵¹

Beard and his staff were also learning more about the role of fire in Everglades environments. In 1950/1951, two fire observation towers were erected, one on Long Pine Key near present-day Research Road and the other near the end of the Shark Valley Road (at that time, commonly known then as the Seven-Mile Road) running off Tamiami Trail.⁷⁵² Once the towers were manned, park staff made an interesting observation: they saw that lightning did indeed cause a number of fires. Most were quickly put out by rain or high humidity, but a few turned into large blazes. Park staff also began to understand that fire played a key role in maintaining the forest communities, dominated by stands of slash pine (*Pinus elliotti* var. *densa*), on uplands like Long Pine Key. Without periodic fires in the pine uplands, hardwood species came to dominate and soon shaded out the typical understory of a pine forest. Park staff began to

⁷⁵¹ Fire Control Plan, Everglades National Park, Feb. 1949, NARA II, RG 79, NPS CCF, box 924; Taylor, *Fire History*, 6, 17; Everglades National Park Fire Critique, May 16, 1950; Supt. Beard to RDRI, Dec. 8, 1955, NARA II, RG 79, NPS AF, box 1384; Supt. Beard to C. Ray Vinten, Jan. 15, 1953, EVER 22965.

⁷⁵² The Seven-Mile Road fire tower was removed in Sep. 1964, following the completion of the Shark Valley observation tower/fire lookout. SMR, Sep. 1964.



Figure 15-1. Superintendent Beard's take on fire fighting, 1949

consider that they might have to deliberately start fires to replicate what natural fire once had achieved. Nothing in the record indicates that park managers in this period considered the possibility that Native Americans deliberately burned pine upland areas to facilitate hunting or encourage the growth of useful plants like the coontie. As early as March 1949, Beard observed: "I do believe that, after about a decade of protection down here, we shall come to the conclusion that controlled burning in certain vegetative types will be in accordance with policy and good sense."⁷⁵³

Bill Robertson began to learn about the Everglades ecosystem in 1948 as he did field work for his PhD dissertation on the breeding bird populations of South Florida. In 1951-1952 he took a seasonal position as a fire control aide at Everglades National Park. Robertson investigated the role of fire and produced a 1953 study, "A Survey of the Effects of Fire in Everglades National Park." The key finding of this study was that Florida's rockland pine forests were a subclimax vegetational community. If these forests did not regularly burn, hardwood forest communities would replace them. Robertson wrote: "Almost all of the endemic pinewoods species are shaded out by invading hardwoods in pine forest areas that are free of fire for as little as five years."⁷⁵⁴ The unavoidable conclusion was that the NPS would have to tolerate or introduce fire in pine uplands if this rare forest community, which was rapidly disappearing outside the park, was to survive.

The park's 1956 fire control plan reflected the first eight years of experience with Everglades fire. The basic policy was that "all fires inside or threatening the park shall be suppressed." The only exceptions were fires in the coastal mangrove zone and most fires in hardwood hammocks. Fires in the mangrove belt, usually touched off by lightning, typically burned out quickly and were difficult to detect and fight. Park policy was to let them burn unless they threatened to move into prairie or marsh areas.⁷⁵⁵ Rather than fight fires on hammocks, park staff attempted to protect threatened hammocks by creating fire breaks around them so that wildfires would bypass them. The plan called for the two fire lookout towers to be manned from 9:30 am to 6:00 pm from November 1 through June 30. Pineland fires were to be combated using backfiring from roads or bulldozed firelines. Glades fires were to be addressed by spraying water at the head or hot flank, with swatters beating down embers. Bulldozers were not to be used on glades fires unless there was no other feasible means of fire control. The park maintained its cooperative agreement with Dade County, calling for mutual response to fires within the Everglades Fire Protection Zone. Additionally, the plan delineated

⁷⁵³ Supt. Beard to RDR1, Mar. 29, 1949, NARA Ph, RG 79, 79-58A-360, box 7; Daniel B. Beard, "Let 'er Burn?," *Everglades Natural History* 2/1 (1954), 6-7.

⁷⁵⁴ Beard, "Let 'er Burn?," 6-7; Robertson, "Everglades Fires," 13.

⁷⁵⁵ Everglades superintendents seem never to have sought official sanction for this deviation from NPS policy; it was in the nature of a "house rule." Supt. Beard to RDR1, July 16, 1956, EFR.

the responsibilities of park staff for training, presuppression, equipment maintenance, and response.⁷⁵⁶

The First Prescribed Fire

As of the middle 1950s, deliberate burning to maintain a vegetative community such as the Everglades pinelands was strictly against NPS policy. With an increased understanding of the role of fire in pine uplands, Superintendent Beard went to work to get permission for an exception for Everglades National Park. Relying on Bill Robertson's work, in July 1956, he wrote the regional director about the consequences of completely suppressing fire in the pine uplands. Late in the year he renewed his argument in a two-page memo to the regional director. Beard pointed out that:

the invasion of pine by hardwoods is more rapid than supposed It seems evident that the advance of hardwood succession will ultimately result in the extinction of south Florida slash pine and . . . in the loss to the park of many land birds and other animals found only in the pine forest habitat.

He closed this memo by asking for immediate consideration of an exception to NPS policy. Regional Director Elbert Cox and the regional forester supported Beard's request and passed it on to Director Conrad Wirth. Wirth consulted with the heads of major conservation groups, including the Nature Conservancy. A month later the NPS director approved this "radical departure from the long-established and effective fire control policy of the Service." He stipulated though that he personally would need to approve the burn plan and that burning should be limited to the smallest area of the park that would ensure the maintenance of "a representative sample of this pine type." The NPS was moving away from its longstanding policy in this instance, but very cautiously. Without Beard's persistence and NPS management's respect for his knowledge of local conditions, this deviation from long-standing policy likely would not have occurred.⁷⁵⁷

In June 1957, Bill Robertson prepared a management plan for this first prescribed burning program, which Director Wirth approved in October. Under the plan, pine upland areas (Long Pine Key, Pine Island, and Parachute Key) were divided into study blocks, denominated Blocks A through K. Blocks A through J were on Long Pine Key. Block K, which originally comprised all the other upland areas, later was subdivided

⁷⁵⁶ Everglades National Park Fire Control Plan, May 1956, EFR.

⁷⁵⁷ Supt. Beard to RDR1, Nov. 14, 1956, Dir. to RDR1, Dec. 18, 1956, NARA II, RG 79, NPS AF, box 1384; Taylor, *Fire History*, 15-16; George B. Fell, Exec. Dir., The Nature Conservancy, Nov. 19, 1957, EFR. Biologist and NPS collaborator Frank C. Craighead also supported the idea of prescribed burning in the pinelands. Frank C. Craighead to RDR1, no date [July 1956?], EVER 42242.

into Blocks K through Z. The plan called for doing burns from December through March. The timing was based more on the availability of winter seasonal employees than any effort to mimic the timing of natural fires. Summer (wet season) fires caused by lightning were to be allowed to burn in the uplands, but were to be monitored. During 1957, park staff blazed 20 miles of rough-graded fire roads on Long Pine Key to separate the study blocks. On April 21, 1958, park staff conducted a controlled burn of Block B, about 1,500 acres, on Long Pine Key (figure 15-2, Setting the park's first prescribed burn). This represented the first time the NPS had conducted a prescribed burn as part of a long-term plan that included monitoring of results.⁷⁵⁸ The *Miami*



Figure 15-2, Setting the park's first prescribed burn

News explained that "a good fire is occasionally the best friend of the slash pine." In subsequent years, all of the remaining study blocks were burned pursuant to a schedule. Robertson and ranger staff documented conditions in the study blocks before and after the burns from 1958 through 1965. After 1965, the burns continued but with less rigorous data collection.⁷⁵⁹

The new policy applied only to the park's pine uplands; suppression of other fires remained official Everglades National Park policy through 1972. In November 1965, the park burned all of Pine Island to reduce the large

amount of fuel produced by Hurricane Betsy. Between 1969 and 1972, the park began to extend its controlled burning program beyond pineland areas to all areas of the park that were fire-dependent, potentially embracing approximately 438,000 acres. Park staff burned 30 experimental plots in the Shark Slough and studied the results. Sawgrass stands that remain unburned for long periods become ecologically degraded and produce large fuel loads that contribute to making unplanned fires larger and more dangerous. Park staff concluded that controlled burns succeeded in reducing dead sawgrass fuel loads and promoting new growth. Over time, controlled burns also began to be used in an attempt to control or eliminate exotic vegetation. The burning

⁷⁵⁸ Sequoia National Park Supt. John White did some limited controlled burning on his own authority in the 1920s, and Pipestone National Monument Supt. Lyle K. Lynch in 1950 did a controlled grasslands burn. Neither had approval from the Washington NPS office. Hal K. Rothman, *Blazing Heritage: A History of Wildfire in the National Parks* (New York: Oxford University Press, 2007), 42, 86-87.

⁷⁵⁹ Supt. Allin to RDSE, Apr. 15, 1968, WRNC, NPS, 79-68-8, box 12; SMR, Apr. 1958; Taylor, *Fire History*, 14-16; "Park Rangers Set Helpful Fire, *Miami News*, Apr. 21, 1958.

of thick stands of Australian pine, where herbicides were ineffective, began in 1971. Still, pine uplands remained the overwhelming focus of the prescribed burning.⁷⁶⁰

One of the most serious fires in the park's history, the Shark Valley Fire, raged from May 15 to June 20, 1962. This incendiary fire began just south of the Tamiami Trail, nine miles east of the park but within the fire protection zone where the park and Dade County had mutual responsibilities. Park staff immediately joined Dade County firefighters in an effort to keep the fire out of the park. By the end of the second day, however, an arm of the fire had crossed the park boundary. On the fourth day, brisk winds spread the fire some 16 miles down Shark Valley, and the park requested outside assistance. Personnel from Homestead Air Force Base and the Navy were in the ranks of firefighters by the fifth day. Several days later, the Service also hired Seminoles as firefighters. The Coast Guard and later the Navy supplied a helicopter which proved extremely useful in transporting men and equipment. Ranger-Pilot Ralph Miele made many overflights to monitor the fire's progress. With these added resources, the park was able to keep the fire from reaching the main park road. On May 24 a second fire that had begun in the Big Cypress Swamp merged with the Shark Valley Fire. At this point, a B-26 tanker plane and Stearman cropduster planes were used to drop water on the fire, the first use of aerial water drops by Everglades National Park. The Shark Valley Fire was declared under control on June 5 and officially out on June 20. By that time, it had burned 77,664 acres within the park and 106,880 outside of it.⁷⁶¹

Park managers gleaned several valuable lessons in combating the Shark Valley Fire and others in the 1960s. The use of helicopters proved significantly more effective than glades buggies in fighting a fast-moving fire over difficult terrain. Park staff agreed that "helicopters should be used whenever possible on all future fires other than the small ones." Managers judged the aerial dropping of water a partial success and looked to experiment with water bombing in the future, with the addition of fire retardants to the water. Radio communication among fire crews and between crews and pilots was often lost during the fire and recognized as an area that needed improvement. After a fire in 1969, park management decided to discontinue fighting fires at night for safety reasons. Managers were also increasingly reluctant to expose staff to the dangers of directly attacking glades fires, and the use of backfiring or spot ignition to deprive fires of fuel became more common.⁷⁶²

760 R. W. Klukas, "Control Burn Activities in Everglades National Park" (Tallahassee: 12th Tall Timbers Fire Ecology Conference Papers, 1973); Harold W. Warner, "The Effects of Fire on Sawgrass in Shark Slough," Mar. 1975, EFR; SMR, Nov. 1965; Thomas Richard Anderson, interview by author, Sep. 26, 2013.

761 Narrative – Shark Valley Fire, July 1962; Chief Park Ranger to Supt., July 20, 1962, EFR; Ralph Miele, interview by author, June 13, 2012.

762 Narrative – Shark Valley Fire, July 1962; Chief Park Ranger to Supt., July 20, 1962, EFR; Taylor, *Fire History*, 6.

Fire Management Replaces Fire Control

In the early 1970s, the park contracted with Ronald H. Hofstetter of the University of Miami to undertake a study of fire and fire management in the park. Hofstetter's 1975 report, *Effects of Fire in the Ecosystem*, looked at the effects of fire on sawgrass glades and wet prairies as well as pine uplands. The report included a number of recommendations:

1. Establishing the areas within the park where fires would be allowed to burn and other areas where they would be suppressed.
2. Systematically tracking water levels, soil moisture, and fuel loads.
3. Burning pine areas on a 3- to 7-year schedule.
4. Burning glades areas on a 10-year schedule.
5. Using spot ignition for management burns, rather than line ignition, to mimic lightning ignition.
6. Conducting prescribed burns in the wet season or early in the dry season, when most natural fires occur.
7. Establishing a dedicated prescribed-burn team in the park.
8. Educating the public about fire ecology and prescribed burning.⁷⁶³

Attitudes nationwide toward fire prevention and fire suppression were changing in the 1960s and 1970s, as the environmental movement began to take hold in the U.S. The 1963 Leopold Report recommended that the NPS change its fire policies. The report specifically cited the Everglades experience with controlled burning as a positive example of more ecologically attuned resource management. It recommended that the Service make greater use of controlled fire, which it described as "the most 'natural' and much the cheapest and easiest" method of manipulating vegetation (see chapter 11 for details on the Leopold Report). The experience gained at Everglades National Park, fire research being conducted at Sequoia National Park, and the work of Florida's Tall Timbers Research Station all influenced the evolution of NPS attitudes.⁷⁶⁴ Beginning in the 1960s, the Service began to revise its fire policies. The 1968 version of the agency's management policies for the first time recognized fire as a natural ecological factor. The policies announced that some naturally occurring fires could be allowed to burn and prescribed burns could take place. Naturally occurring fires that were allowed to burn became known as prescribed natural burns. Fires set by

⁷⁶³ Ronald H. Hofstetter, *Effects of Fire in the Ecosystem: An Ecological Study of the Effects of Fire on the Wet Prairie, Sawgrass Glades, and Pineland Communities of South Florida, Final Report*, EVER-N-48, USDI National Park Service, NTIS No. PB 231940, June 1975.

⁷⁶⁴ Established in Tallahassee in 1958, the Tall Timbers Research Station began a series of fire ecology conferences in 1962 that fostered the exchange of ideas and best practices among biologists and resource managers. Stephen J. Pyne, *Fire in America: A Cultural History of Wildland and Rural Fire* (Seattle: University of Washington Press, 1997), 159.

staff were known as prescribed management burns. Fires not meeting park management's goals would continue to be suppressed. This new policy gave the NPS a leading position on fire management and allowed superintendents considerably more scope to craft fire policy in line with local conditions. Everglades National Park's fire *control* plan became a fire *management* plan in 1973, reflecting this change in attitude.⁷⁶⁵

The 1973 Everglades National Park Fire Management Plan reflected the cultural revolution in dealing with fire. The document stated:

The objective of the [fire management] program is to manage fire as one of the environmental factors, along with water, so as to let natural processes perpetuate the natural ecosystems of Everglades National Park by allowing lightning and man-caused fires to burn under a prescription in designated fire management units and by prescribed burning.

Each fire not deliberately set by the park would be evaluated, with one of three responses—suppression, containment, or observation—chosen based on the conditions that prevailed. Three fire management units (FMUs) were established within the park: mangrove/coastal glade (328,000 acres), Everglades prairie (356,811 acres), and pineland (13,000 acres). The boundaries of the FMUs were established based on management objectives, different response objectives, and defensible borders. The zones, subject to minor boundary changes, remain in effect at this writing. The most significant change has been in the boundary of FMU 3, which formerly had an irregular boundary, but has now been simplified to embrace the territory between the main park road and the route of Ingraham Highway. The 1973 plan also recognized the Everglades Protection Zone, corresponding to the 12-mile mutual protection zone established in earlier agreements with Dade County. The Everglades Protection Zone became the responsibility of the Florida Division of Forestry in 1975. Following the East Everglades expansion of the park authorized in 1989 legislation, the approximately 109,000 acres added to the park became a new FMU, FMU 4.⁷⁶⁶

As articulated in the 1973 plan, the fire management strategy for each of the three FMUs was essentially to allow fires to burn. For the coastal zone, no action was anticipated when fire broke out. In the prairie zone, lightning fires would be monitored, and man-caused fires would be fought only if soil moisture conditions were unfavorable and only with indirect methods (i.e., backfiring). In the pineland zones, fires would be allowed to burn to the limits of the controlled-burn block where they

⁷⁶⁵ A. Starker Leopold, *Wildlife Management in the National Parks* (Washington, D.C.: NPS, March 1963), www.cr.nps.gov/history/online_books/leopold/leopold2.htm; Sellars, 254-257; Pyne, *Fire in America*, 303.

⁷⁶⁶ Larry Bancroft, "Fire Management in Everglades National Park," Aug. 1974, EVER-01385; Everglades National Park Fire Management Plan, Oct. 1973; Draft Everglades National Park Fire Management Plan, Sep. 2011, EFR.

started. If the fire needed to be contained, indirect methods would be used. The park's management biologist was given the authority to decide when a fire in Zone 2 or 3 would be contained. Strict limits were placed on the use of tracked vehicles to contain fires. The plan provided that research into fire behavior and fire ignition techniques was to continue. The plan would be kept current through a yearly review by the management biologist and district rangers.⁷⁶⁷

The 1973 Fire Management Plan contained a Prescribed Burning Plan for 1974 through 1979. It stated the goals of prescribed burning in the park as:

1. Reducing fuel loads, especially along the park boundary, to minimize chances of catastrophic fire.
2. Perpetuating a mosaic of subclimax vegetational communities.
3. Controlling Australian pine where feasible.
4. Restoring agricultural land in the Hole-in-the-Donut.

The plan included a schedule indicating which pineland blocks were to be burned from 1974 through 1979. In spite of Hofstetter's recommendation about burning in the wet season, the plan restricted controlled burns in pineland to October through January. The stated reason was a fear of disrupting wildlife reproduction, but the availability of seasonals in the winter probably played a role. This prohibition on wet season burning was dropped in the 1976 plan. Burns were also to be conducted so as to cause minimal inconvenience to visitors.⁷⁶⁸

An October 1974 Conference on Wildfire Management in South Florida and several follow-up meetings led to the creation of the South Florida Interagency Fire Management Council. The group was organized to provide a framework for inter-agency cooperation, information sharing, the promotion of appropriate fire management practices, and increasing public understanding. The council is made up of federal, state, and local governmental agencies from the tip of the Florida peninsula up through Charlotte, Glades, and Martin Counties. This has evolved into the South Florida Fire Planning Unit, which was organized pursuant to the National Fire Plan. Council members are the National Park Service, Bureau of Indian Affairs, Florida Park Service, Florida Department of Forestry, the South Florida Water Management District, and the Florida Fish and Wildlife Conservation Commission. At this writing, the council meets four times a year.

⁷⁶⁷ Everglades National Park Fire Management Plan, Oct. 1973, EFR.

⁷⁶⁸ Everglades National Park Fire Management Plan, Oct. 1973, EFR. Dir. George Hartzog was especially sensitive to the effect of smoke on VIP visitors to the park. Nathaniel Reed tells of hearing from park rangers that Hartzog strictly forbade burning in the winter and spring when VIPs were in the park. Reed called up Hartzog and suggested that he have the most attractive female park employees greet VIP visitors and explain to them the ecological benefits of controlled burning. It was not long before Reed was hearing praise from Congressmen about the "great things" being done with fire in Everglades National Park. Reed interview.

After the 1976 establishment of the South Florida Research Center, the park hired a fire ecologist, Dale L. Taylor. Taylor prepared a number of studies on the history and ecological effects of fire in the Everglades. Much of the fire-related work done by the SFRC and outside scientists in the 1970s focused on the seasonality of fire. Taylor's *Fire History and Fire Records for Everglades National Park, 1948-1979* (April 1981) contained a detailed analysis of the first three decades of fire in the park. Taylor also established a centralized repository of fire data in the park, which continues to be maintained. This fire data has now been digitized and placed in a GIS system that provides a comprehensive history of fires since establishment and the acreage burned. Taylor's work reinforced the idea that prescribed burning in the wet season most closely matched natural conditions.⁷⁶⁹

Scientists in the 1970s seemed to realize that humans had used fire in the area for thousands of years—presumably in the winter dry season as well as the summer. They were committed, however, to the idea of replicating the effects of lightning ignition. From the late 1970s into the early 2000s, the park burned largely in the wet season. By the late 1980s, a major emphasis of the park's fire team was to reduce fuel loads along the northern and eastern park boundary. The goals were to keep fires inside the park so they would not spread to built-up areas and to keep fires ignited outside the park from entering it. When Dale Taylor took a position with the Bureau of Land Management in Alaska in 1981 or 1982, the fire ecologist position in the SFRC was left vacant. It was re-established within the fire program in 2004, as detailed below. SFRC scientist Robert F. Doren did some work related to fire. During the 1980s, Sue Husari, trained as a biologist, was assistant fire management officer, then fire management officer and brought that perspective to the fire program. Through the early 1980s, the majority of controlled burns done within the National Park System were done in Everglades National Park and Big Cypress National Preserve. Over time it became apparent that ignition of prescribed burns using a helicopter was safer and more efficient than ground ignition. Park staff worked with USFS staff to develop an aerial igniter specifically adapted to South Florida conditions.⁷⁷⁰

The NPS produced its first separate statement of fire policy in 1978, with the release of *Director's Order 18: Fire Management Guideline (DO-18)*. Fires that burned nearly one million acres in Yellowstone National Park in 1988 had lasting effects on NPS wildland fire policies. The Service drew much negative, often ill-informed, press coverage because a few of the Yellowstone fires were prescribed burns that escaped containment. The public failed to understand that the majority of the damage resulted

769 Dale L. Taylor, "Fire Records: Their Importance and Use in Documenting Fire History," EVER 42242; Jackson Weir, personal communication, July 19, 2012; Anderson interview.

770 Dale Wade, John Ewel, and Ronald Hofstetter, *Fire in South Florida Ecosystems, Technical Report SE-17* (USFS Southeastern Forest Experiment Station, 1980), 37; Anderson interview; "Federal Review of Fire Policy Constrains Everglades Burns," *Miami Herald*, Nov. 6, 1988.

from lighting and accidental ignitions outside the park. In response, the NPS directed parks to temporarily suppress all fires while it reviewed its policies. The Departments of Interior and Agriculture produced a review report in 1989, which led to a 1990 revision of *DO-18*, titled *Wildland Fire Management Policy*. A second dual-agency review occurred in 1995. The 1998 revision of *DO-18* embraced the conclusions the 1995 review. NPS fire policies in this period moved toward requiring significantly more planning for and monitoring of both prescribed natural fires and prescribed management fires. Each new park fire management plan now had to be supported by an environmental assessment. Additionally, park fire management plans were to include a fuels management analysis and plan, and all prescribed management fires were to include monitoring programs to evaluate fire behavior, fire effects, and whether fire objectives were met. To help implement monitoring standards, the NPS in 2003 issued a *Fire Monitoring Handbook*. An important emphasis in the 1998 and 2003 documents was the need for objective-dependent monitoring—monitoring that gave some idea of whether the articulated goals of prescribed burning were being achieved.⁷⁷¹

As a result of these systemwide initiatives and the growing interest in the restoration of the Everglades ecosystem, the park fire program added a formal fire ecologist position in 2004. Thomas Richard “Rick” Anderson, held the fire ecologist position from 2004 to 2008, when he became the park’s fire program manager. Since 2004, the fire program has emphasized increasing the efficiency and usefulness of monitoring, reworking national guidelines to better fit the unique conditions and challenges of the Everglades, and monitoring the effects of fire on specific ecosystem components. Inventory and monitoring of fire plots has been modified and streamlined. Staff increasingly have relied on precise photo monitoring, which limits the time staff have to spend on the ground in difficult conditions. Some of the guidelines in the *Fire Monitoring Handbook* are applicable primarily to western forests. While fallen limbs and sticks are important portions of the fuel load in many western areas, grass and palmetto are the primary fuels in the Everglades. Consequently, the park has ceased calculating the number and mass of fallen sticks in wetlands.⁷⁷²

As described above in chapter 12, the park provides habitat for a number of threatened and endangered species. The park’s fire management plan includes measures to protect these species, and planning and monitoring for management fires takes them into account. Many of the park’s endangered plants are found on hardwood

771 Bruce M. Kilgore, “Origin and History of Wildland Fire Use in the U.S. National Park System,” *George Wright Forum* 24/3 (2007):112-113; USDA and DOI, *Final Report of the Fire Management Policy Review Team* (Washington, D.C.: USDA and USDI, 1989); USDA and DOI, *Final Report: Federal Wildland Fire Management Policy and Program Review* (Washington, D.C.: USDA and DOI, Dec. 18, 1995); NPS, *Director’s Order 18: Wildland Fire Management Policy* (Washington, D.C.: NPS, 1990, 1995); NPS, *Fire Monitoring Handbook* (Boise: National Interagency Fire Center, 2003).

772 Anderson interview.

hammocks, and the fire plan stipulates that sensitive hammocks will be protected from naturally occurring fires and excluded from prescribed burns. The endangered Cape Sable seaside sparrow is found only within Everglades National Park, in several subpopulations. Park fire managers take care not to burn large proportions of sparrow habitat at one time and also work to reduce hazard fuel concentrations in or surrounding sparrow habitat. Recently, the endangered Bartram's scrub-hairstreak and Florida leafwing butterflies have become a management concern. The pinelands croton is the sole larval host for the former species. Reports by scientists in the 1910s and 1920s indicate that croton was considerably more abundant in that period. Planning for prescribed burns in the pinelands now takes into account the life cycle and health of this host species, and its regrowth and resprouting after fires are noted.⁷⁷³

The Miccosukee Tribe of Indians in Florida understandably has concerns about prescribed burning in nearby park areas. The tribe has its own fire management program and participates in the South Florida Interagency Fire Management Council. In the first decades of the park's prescribed burning program, the park was reluctant to burn areas where there was a risk of smoke or fire reaching tribal residential areas along the Tamiami Trail. Now that most tribal houses are on substantial concrete pads, the fire risk has diminished. It is important to reduce fuel loads in areas closed to the reserved area, and the park coordinates its burning with the tribe. Park fire managers in recent years have worked to accommodate the tribe's objectives in planning burns.⁷⁷⁴

The park's fire management program is hampered in that it is currently operating under an outdated 1995 fire management plan. Staff have been working on a new edition of the plan, including an environmental assessment, since the early 2000s. A final draft of the plan and environmental assessment is expected to be available for public comment by the end of 2014. The reasons for the delay in getting a new plan approved are many. The park has a small planning and compliance staff, which long was preoccupied with developing the park's general management plan, with the fire management plan receiving a lower priority. Without a current, approved plan, the park cannot burn in designated wilderness under ordinary circumstances. The park has 1.3 million acres of wilderness, making this a serious limitation. Fire managers protect Everglades wilderness values by applying minimum tools analysis to all planned activities in wilderness and the use of minimal impact suppression tactics for unplanned activities. Essentially this involves selecting the practice, tool, or equipment that has the least adverse impact on wilderness values. Fire managers also maintain a list of park historic structures and archeological sites and take care not to use ground-disturbing suppression methods where archeological resources are believed to exist. The park can burn more often in the pinelands of the 230-acre Boy Scout camp, because it is

773 1993 Fire Management Plan, 2011 Draft Fire Management Plan, EFR.

774 Richard Anderson, personal communication, Nov. 8, 2013.

privately owned. This allows crews to refine ignition techniques and also compare the results of different fire return intervals as shown in figure 15-3.⁷⁷⁵

At times, the park has been able to burn in wilderness when it can be justified as a measure to control exotic vegetation. Since 2004, the fire team has put together a map detailing the dates of last burning throughout the park, known as a fire return interval departure map. Analysis of the map has revealed that some areas in the park have remained unburned for decades. The park's prescribed burning program began in the pinelands, and that plant community has traditionally received the lion's share of planned burning. A current priority is to do more burns in marshes and coastal prairies, within the limitations imposed by the lack of an approved fire management plan. More burns are now being conducted in the winter dry season as well. The park constitutes only a portion of the historical Everglades, and lighting ignitions in the park are few. Historically, many fires likely began outside the current park boundary and burned into what is now the park. This no longer occurs, because fire suppression is the rule outside of the park. If park staff conducted prescribed fire only in the wet season, they could not burn sufficient acreage to maintain what historically seems to have been an extensively fire-maintained landscape.⁷⁷⁶

The basic philosophy behind the park's fire management policies remains that fire is a natural process in the Everglades. Stated park fire management objectives are:



Figure 15-3. Different fire return intervals in pineland, 7-8 years on left, 2-3 years on right

⁷⁷⁵ Anderson interview; 2011 Draft Fire Management Plan, EFR; Mayavati Tupaj, personal communication, June 27, 2014.

⁷⁷⁶ Anderson interview.

1. Safeguarding the park's natural and cultural resources from the negative effects of fire and fire management activities.
2. Maintaining and restoring a healthy and sustainable ecosystem through science-based fire management.
3. Managing fires through monitoring and limiting fire suppression to the minimum needed to achieve resource benefits and public safety.
4. Using prescribed burns to maintain fire-dependent ecosystems, reduce hazard fuel loads, control exotic vegetation, and minimize the danger of fires entering or leaving the park.⁷⁷⁷

Park managers apply adaptive management principles to fire management. The operations of the fire management program are systematically monitored in a search for improvements and refinements that can be made. As of this writing, the program has 28 full-time staff and between 10 and 12 seasonal and subject-to-furlough positions. The park's four fire management units remain:

FMU 1, Coastal Prairie. Approximately 400,000 acres. About 97,000 acres of fire-dependent prairie, with the rest mangrove forest and Florida Bay.

FMU 2, River of Grass. About 405,000 acres, of which 326,000 acres are fire-dependent.

FMU 3, Pinelands. Approximately 55,000 acres, with 47,000 acres fire-dependent.

FMU 4, East Everglades. About 109,000 acres, of which 102,000 acres are fire-dependent (figure 15-4, fire management units).⁷⁷⁸

Everglades National Park's fire management activities are closely coordinated with other federal, state, and local agencies that have land management responsibilities in South Florida. The NPS, US Fish and Wildlife Service (USFWS), and Florida Forest Service (FFS) have a state-wide cooperative agreement pertaining to the management of wildland fire. Under the aegis of this agreement, a South Florida Annual Operating Plan is established among the NPS, the Fish & Wildlife Service, the Everglades District of the FFS, BIA, and the Seminole Tribe of Florida. The annual operating plan establishes a Mutual Response Zone along the eastern boundary of the park that enables all agencies involved to take initial attack actions. The Mutual Response Zone is now limited to the area between the park's east boundary and Canals 31 and C-131.⁷⁷⁹

⁷⁷⁷ 2011 Draft Fire Management Plan, EFR.

⁷⁷⁸ 2011 Draft Fire Management Plan, EFR; Jennifer Adams, personal communication, July 19, 2012.

⁷⁷⁹ 2011 Draft Fire Management Plan, EFR; Weer interview.

Fire Cache

A fire cache is a strategically placed supply of fire tools and equipment assembled in advance and maintained for use in fire management only. The park's first cache was in three bays of the CCC-era garage at Royal Palm Hammock. By the late 1950s, the fire cache had moved to the Pine Island maintenance area. In 1984, the fire cache moved to the Daniel Beard Center. When the SFNRC moved from the old Iori bunkhouse in the late 1980s, the park's fire team moved into the building and the fire cache was located in the nearby garage building.⁷⁸⁰

Major Park Fires Since 1970

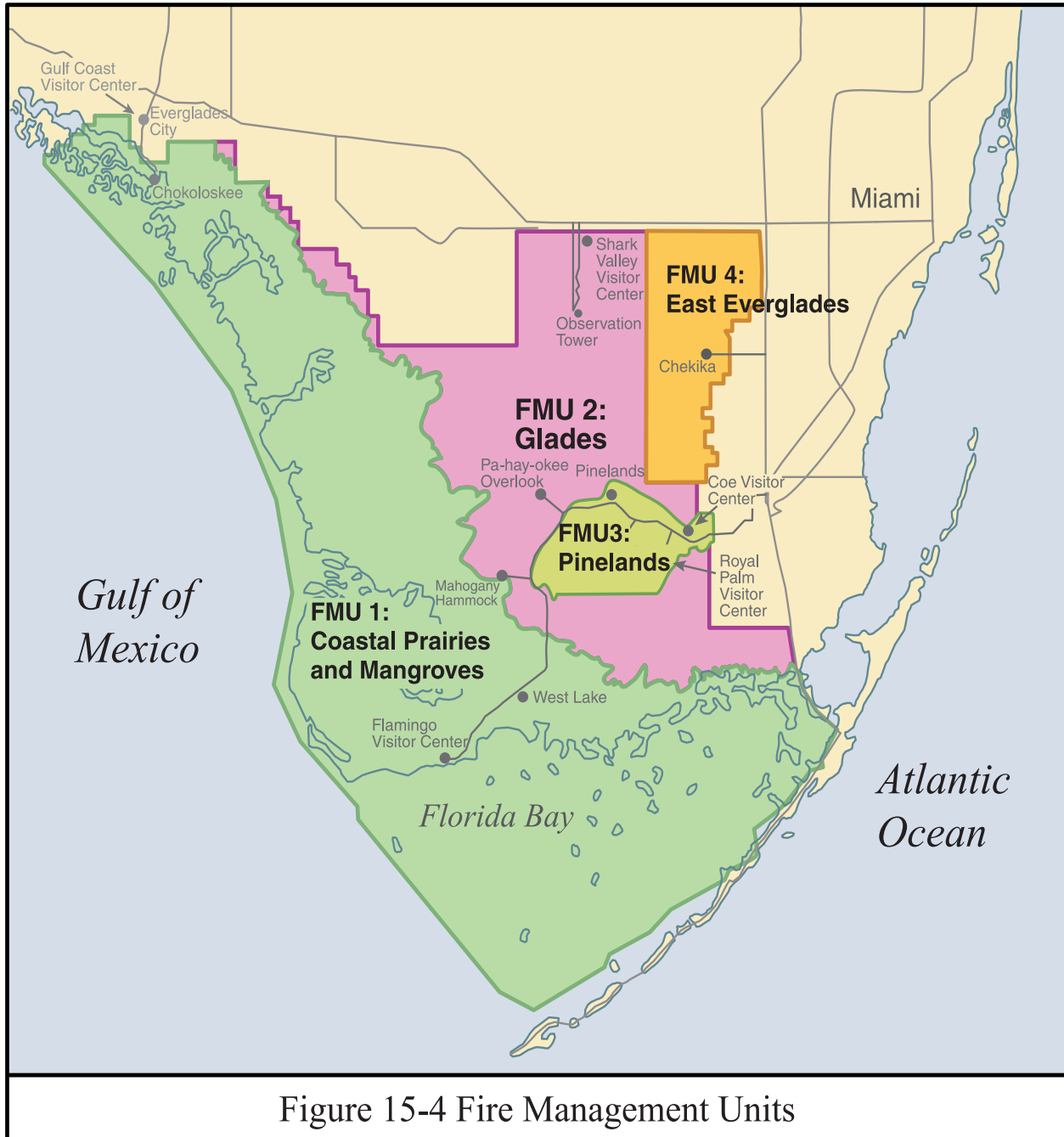
Everglades National Park experienced wildfires that burned substantial acreage in 1974, 1985, 1986, and 1989. In 1974, incendiary fires burned more than 62,000 acres within the park. The first major fire in Shark Slough since 1962 came in May 1985. The Panther Fire was ignited by lightning on May 16. It was judged to be within the prescription and allowed to burn. It was declared out on May 22, having burned 27,628 acres. The May 1986 Eleocharis Fire, started by lightning, burned 36,415 acres in the park. Severe drought conditions in 1989 resulted in two major fires. The Ingraham Fire began on May 17 with five separate lightning strikes and was contained on May 26. It burned 98,800 acres in the heart of the park. The DOF 457 Fire was an incendiary fire that began in the East Everglades north of Chekika State Park on June 13. It entered the park on June 17 and eventually burned 15,590 acres within the park and 28,110 acres outside the park.⁷⁸¹

The largest fire to hit the park in 19 years was 2008's Mustang Corner Fire. This human-caused fire began on the morning of May 14, 2008, just east of the park boundary. The fire threatened nearby private property as well as habitat of the Cape Sable seaside sparrow. By May 18, the fire was sending heavy smoke over the community of Kendall and threatened to leave the park and hit a nearby prison. Under these circumstances, the park superintendent authorized the air drop of diluted fire-retardant chemicals. The fire was declared out as of noon, June 14, 2008, after having burned 39,465 acres. Prescribed burns done inside the park boundary in the years prior to this fire were important in reducing fuel loads. Absent those management fires, it would

⁷⁸⁰ Form 10-768, Royal Palm Ranger Garage, Sep. 9, 1949, EVER 22965; ENP Fire Control Plan, Mar. 1966, EFR; Jennifer Adams, personal communication, July 19, 2012; SAR, 1984.

⁷⁸¹ SAR, 1974; Report on Panther Fire, 1986 Fire Occurrence Summary, Chairman, Fire Review Panel, to Supt., Jan. 19, 1990, EFR.

have been much more difficult to keep the Mustang Corner Fire away from populated areas.⁷⁸²



⁷⁸² Mustang Corner Fire Report, June 18, 2008, EFR; “Everglades National Park Declares Mustang Corner Fire Out,” NPS media release, June 17, 2008; “Everglades Park Counts the Good and the Bad after a Blaze,” *New York Times*, May 23, 2008; Anderson interview.

Chapter 16: Hurricanes and Storms

Florida has over 1,300 miles of coastline and no part of the state is more than 75 miles from the Atlantic Ocean or the Gulf of Mexico. In the words of hurricane historian Jay Barnes:

Its low-lying terrain, in some areas only a few feet above sea level, extends miles inland from the coast. Its many rivers, lakes, and glades are prone to flooding from heavy rains. Along with its position in a near-tropical sea, these physical features contribute to Florida's great vulnerability to the recurring effects of hurricanes and tropical storms."⁷⁸³

Hurricanes are a fact of life in the Everglades, representing one more challenge for NPS managers. Hurricane preparedness at Everglades National Park has progressed from a 20-page hurricane plan prepared in 1951 to a plan of more than 160 pages in place at this writing. Throughout the park's history, the safeguarding of humans lives—those of visitors and park staff—has been the top priority.

Following the park's establishment, the first hurricane to affect the park was the Miami hurricane of September 21, 1948.⁷⁸⁴ This brought a storm surge of six to eight feet at Flamingo, knocking many of the houses there off their supports. Much to the disappointment of Superintendent Beard, residents did not abandon their homes but quickly propped them back up (see chapter 6). The park's first hurricane plan established a system of green, yellow, and red alerts to be place in effect as a storm approached. The plan was always viewed as an evolving document, to be reviewed and updated annually. The green-red-yellow system has given way to a comparable three-step arrangement of preliminary, advanced, and final hurricane preparations. The park keeps a hurricane incident management team in place, ready to go into action when a storm approaches. Working under a designated incident commander are four team leaders, for planning, logistics, finance, and operations. Following 1992's Hurricane Andrew, the park has emphasized beginning hurricane preparations early, even though many times preparations will end up being unnecessary because a storm takes a different track.⁷⁸⁵

⁷⁸³ Jay Barnes, *Florida's Hurricane History* (Chapel Hill: University of North Carolina Press, 1998), 1-2.

⁷⁸⁴ The National Weather Bureau did not begin naming hurricanes until 1953; Miami hurricane has become the accepted name for this storm.

⁷⁸⁵ SMR, Aug. 1951; Everglades and Dry Tortugas National Parks Hurricane Plan, 2006, EVER 22965; "Hurricane Preparedness at Everglades and Dry Tortugas," *South Dade New Leader*, May 25, 2014.

The park's experience with major storms is treated in some detail here, and all storms recorded as doing damage in the park are summarized in the table at the end of the chapter.

Hurricane Donna, 1960

A quiet decade for Atlantic storms came to an abrupt end in September 1960 with Hurricane Donna. Donna did considerable damage in the Caribbean before heading toward the Florida keys and the west coast of Florida over the night of September 9-10. The storm moved north along the Gulf Coast, with the eye just offshore, battering Flamingo and Everglades City with winds estimated at 140 miles per hour (all of the Flamingo wind gauges were blown away) (figure 16-1, damage to concessioner's shop from Hurricane Donna). In Everglades City some 200 people took refuge on the second floor of the Collier County Courthouse as seven to eight feet of water coursed through the streets. The storm surge at Flamingo was estimated at 12 feet above normal high tide. Somehow the six people who rode out the storm there survived.⁷⁸⁶



Figure 16-1. Damage to concessioner's shop at Flamingo from Hurricane Donna, 1960

although enough survived (about 500) that they were not wiped out. Great numbers of the more common American and snowy egrets and white ibis were killed. The park had counted 50 bald eagle nests just before the hurricane. All but two were destroyed, and four months later just 12 had been rebuilt. At Flamingo, the motel and restaurant lost their roofs; the marina, two employee residences and five comfort stations were

Damage to the mangrove belt from Madeira Bay west to White-water Bay and the visitor facilities at Flamingo was extensive. Many stands of mangrove and mahogany were killed outright. Wading birds, most of them at roost because the hurricane hit at night, were hit hard. The park estimated mortality among great white herons at 35 percent, al-

⁷⁸⁶ Barnes, 197-207; Supt. Hamilton to RDR1, Sep. 15, 1960. NARA Ph, RG 79, 79-66-A-661; "Flamingo a Shambles from Hurricane Winds," *Miami Herald*, Sep. 13, 1960.

destroyed. Overall, clean-up and rebuilding cost \$400,000, equivalent to \$3.2 million in 2014 dollars.⁷⁸⁷

Donna also affected cultural resources. With vegetation swept away, aerial reconnaissance revealed at least two previously unknown Native American mounds. A tantalizing glimpse of the pioneer-era structures still present in the 1950s is provided in a posthurricane memo from Gulf Coast District Ranger Richard Stokes. He reported that “the storm solved many of our problems as far as buildings with the park in Gulf Coast District.” Stokes reported the Watson Place on Chatham River as almost completely destroyed, and “shacks” at Turkey Key (2), Rabbit Key (1), Pelican Key (3), and Mormon Key (unspecified number) washed away. At Chatham Key, three camps were destroyed while one was in good condition and Darwin’s Place on Chevelier Bay remained in good condition.⁷⁸⁸

Restoration of visitor areas moved forward quickly. The road to Flamingo was opened September 18, the motel was able to reopen on December 15, and the Flamingo campground on January 7, 1961. The plantings around the Flamingo visitor center complex were replaced in 1962. A few outside the Service thought the hurricane provided a chance to scale back the Flamingo development to something more appropriate for a wilderness, but the NPS repaired or replaced all facilities.⁷⁸⁹

Devastating as it was, Hurricane Donna provided an opportunity for park naturalists and outside scientists to measure hurricane effects in ways never before possible. Park collaborator Frank Craighead established 38 test plots in the mangrove forest from Little Madeira Bay to Lostmans River to monitor revegetation and recommended they be checked every six months. Craighead and Vernon C. Gilbert published a preliminary report on hurricane effects on vegetation in March 1962. Dr. Bill Robertson delivered a paper on the hurricane’s effects on bird populations at the 1961 annual meeting of the American Ornithologists Union. Donna was the first storm to demonstrate the ability of hurricane to spread nonnative species. The hurricane spread Australian pine (*Casuarina equisetifolia*) extensively up the park’s west coast.⁷⁹⁰

787 SMR, Nov. 1960; Supt. Hamilton to RDR1, Oct. 21, 1960, “Hurricane Damage to Everglades National Park,” NPS press release, Nov. 2, 1960, NARA Ph, RG 79, 79-66-A-661; Barnes, 207.

788 “Mounds ‘Found’ by Donna,” *Miami Herald*, Sep. 13, 1960; Gulf Coast District Ranger Richard A. Stokes to Supt., Oct. 9, 1960, EVER 22965.

789 SMR, Dec. 1960, Jan. 1961; Completion Report, Grading, Seeding, Planting, Flamingo, Dec. 1962; SOI to Mrs. Benjamin Butler, Nov. 9, 1960, NARA II, RG 79, NPS AF, box 420.

790 NPS collaborator Frank C. Craighead to Supt., Nov. 8, 1961, EVER 42242; Frank C. Craighead and Vernon C. Gilbert, “The Effects of Hurricane Donna on the Vegetation of Southern Florida,” *The Quarterly of the Florida Academy of Sciences* 25/1 (March 1962):1-9; Dr. William B. Robertson, “Effects of Hurricane Donna upon Bird Populations of Southern Florida”; G. E. Davis, L. L. Loupe, C. T. Roman, G. Smith, J. T. Tilmant, and M. Soukup, compilers and ed., *Effects of Hurricane Andrew on Natural and Archeological Resources* (Denver: NPS, 1996), xvii, <http://archive.org/details/effectsofhurrica00davi>.

Hurricane Betsy, 1965

Betsy formed as a weak tropical depression east of Barbados in late August 1965. After strengthening into a hurricane, the storm moved north of the Bahamas. It appeared headed for the Carolinas, but changed course and move southwest toward the tip of the Florida peninsula. Betsy hit the keys and Everglades National Park on September 8, 1965, as a category 3 hurricane with an eye 40 miles wide and wind gusts estimated at 140 miles per hour. The storm brought three to five inches of rain to the park, which helped some to alleviate a severe drought. Downed trees temporarily closed the park's Pa-Hay-Okee, Mahogany Hammock, and Gumbo Limbo Trails; Cuthbert Lake Rookery also was damaged. Because of the amount of downed fuel, all of Pine Island was included in the prescribed burn program in 1965/1966 following the hurricane. Repairs to roads, structures and utilities ran to \$180,000, the 2014 equivalent of \$1.4 million. After moving into the Gulf, Betsy headed to Louisiana where she caused widespread devastation.⁷⁹¹

Hurricane Andrew, 1992

No employee of any of the South Florida parks on duty in August 1992 is likely to forget the experience of Hurricane Andrew. Forming as a tropical wave off the Cape Verde Islands, Andrew was the first named tropical storm of the season. Andrew passed well north of Puerto Rico on August 21 and strengthened from a tropical storm to a category 4 hurricane in just 30 hours. The hurricane made landfall on the 24th just before 5:00 am, passing directly over Biscayne National Park, Homestead, and Everglades National Park. A small, fast-moving, but incredibly intense storm, Andrew had sustained winds of 140 miles per hour and gusts up to 175 miles per hour. Rainfall from the hurricane was a minor factor, and the storm surge mainly affected properties close to Biscayne Bay. It was Andrew's winds that wreaked havoc across a narrow band of South Florida.⁷⁹²

When Andrew suddenly strengthened, Superintendent Richard Ring implemented the park's hurricane preparedness plan on August 22 and appointed a park incident commander. By nightfall on the 23rd, the park was closed and park employees either had been released to their homes outside the park or collected at shelter locations at Pine Island, park headquarters, and the Oasis Visitor Center in Big Cypress. When employees ventured out at daybreak on August 24 after the storm had passed, they confronted a scene of almost unbelievable destruction. Park interpreter Deborah Liggett

⁷⁹¹ Barnes, 223-230; SMR, Sep., Nov. and Dec. 1965; Acting RDSE to Dir., Oct. 19, 1965, NARA Ph, RG 79, 79-69-A-384.

⁷⁹² Barnes, 261-265.

remembered, “We weren’t at the end of the world, but we could see it from here.” Conditions within the park remained hazardous for the first 72 hours as crews went out to survey damage. Passing over the mainland in just over three hours, Andrew left a narrow, 20-to 30-mile-wide path of devastation. At Everglades, the main visitor center, Pine Island, Long Pine Key, the Daniel Beard Center, Chekika, and several boardwalk trails were heavily damaged, while facilities at Everglades City, Flamingo, and Key Largo were virtually untouched. Many downed trees had to be removed before roads were passable. The park requested a Type I incident management team, which was activated on August 25th, with Rick Gale from the NPS Washington, D.C., ranger activities division as incident commander. On October 8, a type II incident management team under Bill Blake took over to coordinate the return of authority to the park superintendent. The type II team demobilized on October 25, but continued to provide administrative support to park managers during a two-month transition period. Some 300 NPS employees from other parts of the country served on the two teams.⁷⁹³

Andrew left nearby communities such as Homestead, Florida City, Naranja, and Cutler Ridge in chaos, and the first priority was finding and assisting park employees. Andrew left 175,000 homeless and 1.4 million temporarily without power. One Fort Jefferson employee, Natividad “Tito” Roheno, was killed by falling debris at his Naranja Lakes home. Among the 258 employees of the four parks, 101 had their homes destroyed, while another 75 suffered major property loss. The storm demolished the old Royal Palm Lodge at its new site in Homestead and virtually destroyed Homestead AFB. Phone service, including cell phone service, was spotty to nonexistent.⁷⁹⁴ The incident management team used satellite phones for the first time in an NPS disaster. Many staff members were in a state of shock, and employee assistance teams went door to door helping to stabilize houses and salvage possessions and providing other assistance. A donation fund, managed by Eastern National Parks and Monuments Association, collected \$200,000 servicewide. Looting was widespread after Andrew and many park employees had to stand guard over their homes with shotguns. Understanding the toll the situation was taking, the NPS did its best to arrange hardship transfers for employees who requested them. About 30 employees of the three parks ended up

⁷⁹³ “Embracing the Everglades,” *Miami Herald*, Dec. 18, 1992; NPS, *Reference Manual 55, Incident Management Program*, <http://www.nps.gov/policy/rm55manual.pdf>; Hurricane Andrew Incident Management Team, *Hurricane Andrew, 1992: The National Park Service Response in South Florida* (Denver: NPS, 1994), 47-48, 61-62. The NPS developed the incident command system in the 1980s to coordinate activities in fighting major wildland fires. The system ensured that uniform procedures were in place before an incident and that a team with the necessary skills could be quickly assembled from across the National Park System. Andrew was the first use of the system for a natural disaster.

⁷⁹⁴ Although not as common as they are now, cell phones were owned by 11 million Americans in 1992, and some park staff had them.

moving on. Outside the park, National Guard troops and nonprofits handled relief efforts, soon supplemented by regular military units.⁷⁹⁵

Andrew affected employees' possessions in the short term and their emotional resources over the long term. Superintendent Ring, who had been at Everglades just a bit over three months, had his house destroyed. As he describes it, "we weren't looking outside to see what was happening. We moved from room to room in our house as the storm grew and ended up in our garage inside my minivan. The house came apart around us; it was pretty well totaled." Mike Soukup, director of the South Florida Natural Resources Center, was luckier, having purchased a 1957 house that "was built to withstand hurricanes. We watched as our neighbors' houses literally flew past us, but our house never got any water inside." The superintendent's secretary and her husband lived in a neighborhood that was repeatedly looted. As then Assistant Superintendent Larry Belli remembered, "He was in the front yard of his house with a gun for the better part of a year. She finally talked him into going out to dinner one night, and that was the night they got looted." That was the last straw, and she transferred to another park. For months following Andrew, park employees spent their working days rebuilding the park and their off-duty hours rebuilding their homes.⁷⁹⁶

Resource Damage from Andrew

Flooding is the major cause of wildlife death in hurricanes; there was little flooding with Andrew because it was a relatively dry storm. Maximum rainfall recorded in Everglades National Park was 4.5 inches; most areas got 1.5 inches or less. Animals with radio collars—panthers, black bears, and deer—could be checked relatively quickly; none of the collared animals perished. Alligators were already experiencing a poor nesting year, and Andrew broke up 27 percent of nests. Crocodiles and manatees were not affected. Many birds disappeared for a few days, but soon were back in the park in customary numbers. Mangrove forests, pine uplands, and hardwood hammocks near the storm's eye were severely affected. There were many downed trees and limbs in the park's pinelands (figure 16-2, damage to pinelands from Hurricane Andrew). Approximately 70,000 acres of mangroves knocked down, but many trees showed new growth within weeks. Andrew did little damage to marine resources in Florida Bay or

795 SAR, 1992; "Transition Plan, Hurricane Andrew Incident," Oct. 1992, EVER-01767.

796 Richard Ring, interview by author, July 18, 2012; Michael Soukup, interview by author, July 25, 2012; Lawrence Belli, interview by author, June 27, 2012; "Rebuilding Continues," *Federal Times*, Aug. 30, 1993.

along the park's Gulf Coast. Archeological sites on tree islands in the park and in the Ten Thousand Islands suffered relatively minor damage from uprooted trees.⁷⁹⁷

At the urging of Southeast Region Chief Scientist Dominic Dottavio and others, the NPS brought together a team of 23 scientists to assess the posthurricane condition of natural and archeological resources in Everglades, Biscayne, and Big Cypress. Nationally prominent experts worked with local scientists and formed three teams: marine, terrestrial, and freshwater. In addition to making an initial assessment, the teams made short-term and long-term monitoring and mitigation recommendations. Gary E. Davis, former SFRC employee, then at Channel Islands, and Cameron Shaw of the U.S. Fish and Wildlife Service were the team coordinators, along with Laurie Park of Everglades, who handled logistics. The teams were in the parks from September 15 through 23. Overall the group concluded that "initial ecosystem responses seemed normal." The scientists noted that hurricane winds almost certainly spread nonnative plant species. Scientists who participated later collaborated to produce a special issue of the journal *BioScience* in April 1994 containing six articles on the effects of Hurricane Andrew.⁷⁹⁸

A major concern with hurricanes in South Florida is the opportunity they provide for the spread of invasive species. The scientific team that visited Everglades in September recommended monitoring for the spread of species such as Brazilian pepper. During Andrew, several sites outside the park with exotic animals were destroyed, releasing their denizens into the wild. Among the specimens that escaped were Burmese pythons. As recounted above in chapter 14, Burmese pythons since then have established a breeding population in the park.⁷⁹⁹

Damage to Park Facilities

Damage to park facilities was estimated at \$30 to \$40 million. The key to reopening the park was restoring electrical service. Power poles were down all along the main park road and the roads to Royal Palm and the Dan Beard Center. The park had previously planned to place electrical cables underground, and this project was fast-tracked after Andrew. Park managers set the goal of reopening the park on December 15, in time for the winter tourist season. Achieving this goal depended on having the power grid back up. A \$6.5 million contract for laying the buried cable for the new electrical

⁷⁹⁷ Gary E. Davis, General Comments – Resource Conditions, Everglades, Biscayne, and Big Cypress Resulting from Hurricane Andrew, n.d. [Sep. 1992], EVER 58222; Gary E. Davis, et al., *Effects of Hurricane Andrew*, 97-99.

⁷⁹⁸ Stuart L. Pimm, Gary E. Davis, Lloyd Loope, Charles T. Roman, Thomas J. Smith III, and James Tilmant, "Hurricane Andrew," *BioScience* 44/4 (Apr. 1994):224-229; Gary E. Davis, et al., *Effects of Hurricane Andrew*, 4-6. The latter document contains a list of all team members and peer reviewers.

⁷⁹⁹ Davis, et al., *Effects of Hurricane Andrew*, 38-40.



Figure 16-2. Damage to pine uplands from Hurricane Andrew, 1992

system was completed in 108 working hours and the work was rushed along. The main visitor center and some employee houses were not salvageable and were demolished. A number of structures, including the Dan Beard Center, suffered roofing damage and water intrusion. Chapter 18 covers damage to museum collections in the Beard Center. As soon as contracts could be let, crews began work on debris removal, reroofing buildings, and repair/replacement of damaged trails. Three residential buildings at Pine Island were damaged beyond repair and were burned as training exercises for the park's structural fire crew. A contemporary park report described them as dormitory housing, but a comparison of before and after site plans indicates that they were two seasonal duplex structures and a three-bedroom house variously described as the chief clerk's residence or the superintendent's residence. The latter was built in 1951 and had oak floors and cypress paneling.⁸⁰⁰

The areas of the park that were outside Andrew's narrow path of destruction were back in service relatively quickly. The Everglades City visitor center and boat tours were running again on September 21. Shark Valley and its tram tours reopened to the public by Nov. 3. The reopening of the main park entrance, Royal Palm, and Flamingo occurred on schedule on December 15 and received considerable media attention. Park interpreters emphasized to visitors that hurricanes are a natural occurrence, and that the Everglades ecosystem was, for the most part, responding naturally. A temporary visitor center in a mobile unit served as an orientation point at the park entrance. The Gumbo Limbo and Pinelands Trails were open, as was part of the Mahogany Hammock Trails. The Anhinga Trail had to be rebuilt, and opened at the end of February 1993. The Chekika and Long Pine Key campgrounds remained closed through the 1992/1993 season. As described in chapter 7, the Ernest F. Coe Visitor Center opened in 1996.⁸⁰¹

The effects of Andrew on park resources and park staff were long lasting. On August 27, 1993, the three South Florida parks "held a general staff meeting to commemorate the anniversary of Hurricane Andrew. By bringing the park family together, the year's experiences, accomplishments, and future plans were again shared as part of the healing process."⁸⁰²

800 SAR, 1992; NPS, Andrew Update – Day 365, Aug. 1993, EVER-58222; Form 10-768, Chief Clerk's Residence, Pine Island, Dec. 28, 1968, EVER 22965; Oron Bass, personal communication, Oct. 22, 2013.

801 "Everglades Opens Shark Valley Area, *Miami Herald*, Nov. 3, 1992; "Everglades Park's Main Street Reopens," *Miami Herald*, Dec. 15, 1992; "Everglades Park Reopens Trail," *Miami Herald*, Feb. 28, 1993.

802 SAR, 1993.

Hurricane Katrina, 2005

Katrina developed in the Bahamas in late August and was a weak category 1 hurricane when it made landfall near the Dade/Broward County line around 6:30 pm on August 25. The storm spent about seven hours over Florida before entering the Gulf of Mexico. Although it did far greater damage later in Louisiana, Katrina had significant effects at Everglades. Katrina was barely a hurricane and forecasts called for it to pass to the north of Flamingo, so park management opted not to evacuate that area. The storm took an unanticipated dip to the south and ended up bringing a storm surge of approximately four to six feet at Flamingo. The surge damaged boats and deposited a large amount of dead sea grass. The storm damaged or destroyed a number of government and private vehicles that remained on site because of the failure to evacuate. There was also considerable loss of employee property (figure 16-3, houseboats floated onto dock by Katrina). Some backcountry campsites were also damaged by the storm surge. August 25 proved to be a harrowing night for the employees at Flamingo.



Figure 16-3. Houseboats floated onto dock by Hurricane Katrina, 2005

Flamingo District Ranger Tony Terry describes four-foot waves in front of his house and alarms sounding through the night as the storm surge bounced vehicles around.⁸⁰³

Park staff began clean-up operations immediately after the storm passed, and an incident management team (IMT) under the command of Gordon Wissinger was in the park from August 30 through September 15. The major accomplishments of the IMT were restoring power to Flamingo, removing debris and sediment, clearing trails, and repairing and replacing appliances and equipment. Land-line telephone service had to be reestablished, and Flamingo residents were provided rented cell phones in the interim. The IMT called in a critical incident stress management (CISM) team, which conducted six group debriefings and additional one-on-one sessions to help staff cope with stress and restart their lives. During the IMT's duration, approximately \$850,000 was expended on salaries, contracts, and other recovery expenses. One major lesson from Katrina was to err on the side of caution in implementing the park's hurricane preparedness plan, which indicated that Flamingo should have been evacuated.⁸⁰⁴

Hurricane Wilma, 2005

The park was still recovering from Katrina when a stronger hurricane, Wilma, passed over South Florida on October 24. Wilma formed as a tropical depression south of Jamaica on October 15, 2005, and moved to the west and northwest. The storm touched the northeastern tip of the Yucatan peninsula on October 21 as a category 4 hurricane and moved into the open waters of the Gulf of Mexico. Wilma then moved to the northeast, making landfall near Cape Romano on October 24 as a category 3 with sustained winds of 120 miles per hour. The hurricane was over the Florida peninsula for a bit more than four hours before moving into the Atlantic Ocean.⁸⁰⁵

On October 19, Superintendent Kimball formed a hurricane incident management team with Bob Panko as incident commander (IC). It became the IC's responsibility to oversee the completion of hurricane preparations and see to the well-being of park staff. Park staff began securing buildings, moving equipment, and instituting a phased closure of the park. Shark Valley and Everglades City were shut down by the close of business on Thursday, Oct. 20. An all employees meeting was held at 4 pm on October 22 to go over closing procedures and other matters; that same day, Supervisory Park Ranger Curt Dimmick took over as IC from Bob Panko, who left for previously scheduled fire training in West Virginia. The main entrance and the

803 SAR, 2005; Tony Terry, interview by author, Jan. 18, 2012; NOAA, <http://www.ncdc.noaa.gov/special-reports/katrina.html>.

804 Gordon Wissinger, "Hurricane Katrina Incident, Everglades and Dry Tortugas National Parks, Aug. 30 – Sep. 15, 2005" (Homestead, Fla.: NPS, Sep. 15, 2005); Allyson Gantt, personal communication, June 28, 2013.

805 NOAA, Hurricane Wilma, <http://www.nhc.noaa.gov/outreach/history/#wilma>.



Figure 16-4. Flamingo housing area following Hurricane Wilma, 2005

entire park were closed at 8 am on Sunday, October 23. Most employees by then had been released to make preparations at their homes, and Flamingo residents sheltered at headquarters. Once the storm had passed, a national incident management team under IC J. D. Swed formally took over from the park team on October 25, although the hand-off was implemented over several days. The national team gave way to park type 3 incident management team on November 9; this team demobilized as of November 21, turning responsibility back to the park superintendent.⁸⁰⁶

Wilma was a fast-moving storm with a wide eye. Her winds were considerably stronger north of the eye; to the south, most of the damage was from storm surge. Everglades City and Chokoloskee had storm surges of eight to ten feet, and Flamingo from six to eight feet (figure 16-4, Flamingo housing area following Wilma). The hurricane did not lose much strength over the peninsula and was still a category 2 when she passed into the Atlantic. Wilma caused considerable damage in the built-up areas

⁸⁰⁶ Supt. Kimball to Bob Panko, Oct. 19, 2005; Bob Panko, Incident Commander, to Supt., Oct. 22, 2005; Transfer of Command Plan for Everglades and Dry Tortugas National Parks, n.d. [1st week Nov. 2005], EVER 22965; Allyson Gantt, personal communication, June 28, 2013.

of Fort Lauderdale and West Palm Beach. In the immediate aftermath of the storm, six million customers were without power in the state.⁸⁰⁷

Because Wilma did such widespread damage across South Florida, there was considerable competition for recovery resources, slowing the park's rebound. Within Everglades National Park, Flamingo took the most serious hit. As the Miami Herald put it:

Hurricanes Katrina and Wilma flooded the aging hotel and nearby cottages, leaving behind a soggy, stinking, uninhabitable mess. The storms filled the ground-floor rooms with six inches of bay bottom, fried electrical systems and trashed just about everything not made of concrete.⁸⁰⁸

Power was restored to nearly all of the park by first week in November, and to the Flamingo residential area by the end of November. The Everglades City Visitor Center reopened November 3, the main visitor center on November 11, and the Shark Valley area on November 12. It took some time to clear the main road all the way to Flamingo, and the Flamingo Visitor Center and the marina store did not reopen until some time in December. The Flamingo lodge and housekeeping cabins were damaged beyond repair and the wreckage was ultimately hauled away. Park staff, a representative from the NPS Southeast Regional Office, and a representative from the Florida State Historic Preservation Office conferred on-site and concluded that the lodge was not eligible for the National Register. The housekeeping cabins had not reached 50 years of age and were found not to be exceptionally significant. The park received \$5.6 million in hurricane recovery funding in FY2007 and \$2.1 million in FY2008. Clearing some 10,000 cubic yards of sediment from the Flamingo boat basin was a major chore that occupied much of the summer of 2006 and cost \$540,000. The park was able to open the boat ramps in August 2006.⁸⁰⁹

Wilma did not cause great damage to natural resources, and may have had a beneficial effect in clearing sediments from Florida Bay. Many trees were downed on canoe trails, which took some weeks to clear away. Following Wilma, Margo Schwadron, a SEAC archeologist, did a preliminary assessment of 10 archeological sites on the Gulf

807 "Hurricane Wilma, 2005," *Coastal Breeze News* website, <http://www.coastalbreezenews.com/2010/08/12/hurricane-wilma-2005/>.

808 "Ruined Lodge Needs Plan, Funds," *Miami Herald*, Oct. 1, 2006.

809 NOAA, Hurricane Wilma, <http://www.nhc.noaa.gov/outreach/history/#wilma>; "High Season Is a Casualty after Storms," *New York Times*, Nov. 23, 2005; SAR, 2005; "Everglades National Park Reopens Florida Bay Boat Ramps in Time for Labor Day Holiday," ENP media release, Aug. 18, 2006, ENP CF; Allyson Gantt, personal communication, June 28, 2013; Fred Herling, personal communication, Oct. 30, 2013.

Coast. Wave action had eroded a number of shell midden sites and the root balls of downed trees had exposed some artifacts at others.⁸¹⁰

The implementation of the park's hurricane preparedness plan was considerably more successful for Wilma than it was for Katrina. Cooperation among park divisions and between park staff and IMT staff was judged to be superior. The park experienced shortages of generator fuel after Wilma, and keeping tanks topped off in future emerged as a recommendation. The two hurricanes of 2005 took a considerable toll on park staff. Within a year after Wilma, a number of employees stationed at Flamingo had moved on to other park units.⁸¹¹

Summary of Hurricanes and Tropical Storms Doing More than Minimal Damage to Everglades National Park

Storm	Date	Notes
Miami Hurricane	Sept. 21, 1948	Storm surge of 6-8 feet at Flamingo.
Hurricane Donna	Sept. 8, 1960	\$400,000 damage, mostly at Flamingo.
Hurricane Isbell	Oct. 14, 1964	Passed directly over Everglades City from the Gulf. Destroyed Lostmans River Ranger Station, \$11,000 damage.
Hurricane Betsy	Sept. 7-8, 1965	\$180,000 in damage; boardwalk trails were rebuilt.
T. S. Dennis	Aug. 17, 1981	Heavy rainfall and flooding in East Everglades.
Hurricane Floyd	Oct. 12, 1987	Weak category 1; \$17,000 required for park cleanup
Hurricane Andrew	Aug. 23, 1992	\$30 - \$40 million in damage to the park, including the loss of the main visitor center and many roofs.
T. S. Gordon	Nov. 16, 1994	Caused flooding in the East Everglades
Hurricane Katrina	Aug. 2005	Damage to buildings and vehicles at Flamingo.
Hurricane Wilma	Oct. 24, 2005	\$7 million in damage; Flamingo Lodge and cabins a total loss.

810 "High Season Is a Casualty after Storms," *New York Times*, Nov. 23, 2005; Margo Schwadron, SEAC, to Bob Panko, ENP, n.d. [Nov. 2005], EVER 22965.

811 NPS, Wilma: What Were the Most Difficult Challenges Overcome?, n.d. [Nov. 2005], EVER 22965.

Chapter 17: Archeological and Historic Resources

Everglades National Park was created primarily because of its unique flora and fauna. In the 1920s and 1930s there was some limited understanding that the park might contain significant prehistoric archeological resources, but the area had not been comprehensively surveyed. After establishment, the park's first superintendent and the NPS regional archeologist were surprised at the number and potential importance of archeological sites. NPS investigations of the park's archeological resources began in 1949. They continued off and on until a more comprehensive three-year survey was conducted by the NPS Southeast Archeological Center (SEAC) in the early 1980s. The park had few structures from the historic period in 1947, and none was considered of any historical significance. Although the NPS recognized the importance of the work of the Florida Federation of Women's Clubs in establishing and maintaining Royal Palm State Park, it saw no reason to preserve any physical reminders of that work.

Archeological Investigations in Everglades National Park

The archeological riches of the Ten Thousand Islands area were hinted at by Bernard Romans, a British engineer who surveyed the Florida coast in the 1770s. Romans noted:

[W]e meet with innumerable small islands and several fresh streams: the land in general is drowned mangrove swamp. On the banks of these streams we meet with some hills of rich soil, and on every one of those the evident marks of their having formerly been cultivated by the savages.⁸¹²

Little additional information on sites of aboriginal occupation was available until the late nineteenth century when South Florida became more accessible and better known to outsiders. Among the visitors to the region were avocational archeologists and some scientists interested in prehistoric sites. Those who investigated the Gulf Coast in this period did most of their work in areas north of the future Everglades National Park. In 1885, Andrew E. Douglass, an astronomer who spent winters in Florida, investigated sites on the southwest coast, including Lostmans River. Frank Hamilton Cushing in 1893 made some spectacular finds on Marco Island, just north of the future park. Muck soils there preserved wooden artifacts that almost always

⁸¹² Bernard Romans, *A Concise Natural History of East and West Florida* (New York: R. Aitken, 1775), 289, https://play.google.com/books/reader?id=GpI5AAAAcAAJ&printsec=frontcover&output=reader&authuser=0&hl=en_US.

failed to survive elsewhere in the South Florida environment. These included masks, batons, and the six-inch-high statuette of a panther that has been widely reproduced. Cushing's discoveries inspired others to dig in Southwest Florida. Among these were Clarence B. Moore. Heir to a fortune made in the manufacture of paper, Moore made trips to the southwest Gulf Coast in 1900, 1904, 1906, 1907, and 1918. He was mostly interested in mounds and earthworks, and his published work largely lacks "stratigraphic interpretation and context, but these details were often recorded in his field notes." Moore visited Lostmans Key twice, but ended up concluding that the area that would become the park was of minor archeological significance.⁸¹³

As noted in chapter 3, physical anthropologist Aleš Hrdlička investigated the area of the Ten Thousand Islands south to Cape Sable in 1918. He did no excavating but described the sites he encountered in considerable detail. Hrdlička differentiated between shell heaps, which he construed as platforms for habitation, middens, and burial mounds. In 1923, Guy Fewkes of the American Bureau of Ethnology conducted a survey that included Lostmans Key and Chokoloskee as well as sites farther north. Follow-up excavations by Henry Collins and M. W. Stirling focused on Horr's Island and Captiva Island, rather than areas that would become part of the park. Based on the work already accomplished, the NPS chief archeologist, A. R. Kelly, in 1932 pressed to have archeological resources considered in setting the park boundary. He also observed that "Florida, despite its acknowledged importance for history and archeology, has done less than any other state to preserve these values." The inclusion of archeological sites did not play a role in the political compromise on a park boundary that was finally reached in the 1940s (see chapter 4).⁸¹⁴

After establishment, Superintendent Beard entered into an informal arrangement with the Department of Sociology and Anthropology at the University of Florida to perform a preliminary survey of prehistoric archeology in the park. Dr. John Goggin, pioneer of professional archeology in South Florida, and his students conducted this work. Goggin was interested in the cultural area from Lake Okeechobee to the keys, and he had begun doing field work in Dade County in the 1930s. Goggin's teams spent four winters from 1949 through 1952 in the park. In January and February 1949, NPS Region 1 archeologist John C. Harrington joined Goggin while he was investigating

813 Jeffrey M. Mitchem, "New Information about Clarence B. Moore's Expeditions to Peninsular Florida," paper presented at Apr. 1999 meeting of Florida Anthropological Society, http://www.academia.edu/1435940/New_Information_About_Clarence_B._Moore's_Expeditions_to_Peninsular_Florida. All of Moore's published papers on southeastern archeology have been reprinted by the University of Alabama Press. Three volumes cover Florida, including *The West and Central Florida Expeditions of Clarence Bloomfield Moore* (1999), which contains his "Notes on the Ten Thousand Islands."

814 Randolph J. Widmer, *The Evolution of the Calusa, a Nonagricultural People on the Southwest Florida Coast* (Tuscaloosa: the University of Alabama Press, 1988), 43-45; A. R. Kelly, Chief, Archeological Sites Division, NPS, to Supt., Fort Marion National Monument, Apr. 6, 1932, NARA II, RG 79, NPS CCF, box 920.

Rookery Mound, the Cane Patch, and the Banana Patch. Harrington was surprised at the extent of the archeological sites in the Everglades, which he described as “more exciting than in many areas.” In 1950 and 1951, Goggin worked at Lostmans River, Onion Key, the Hamilton Garden Patch, and Johnson Hammock. The Cape Sable area was the focus of the 1952 season. While Goggin was at work, Superintendent Beard noted “It is quite evident that archeological sites in the park have more value for scientific and interpretive purposes than the Service had realized when the park was proposed and created.” Regrettably, Goggin never produced a comprehensive report on his investigations. Goggin expanded on Alfred L. Kroeber’s original definition of the Glades tradition (2500 YBP to AD 1700), delineating subregions and establishing the first stratigraphic sequence for South Florida. From the early 1950s until his death in 1963, he continued to refine this sequence. This sequence has been adjusted by subsequent scholars, but has provided the basis for subsequent archeological analyses (Figure 17-1, The remains of a prehistoric ceramic pot found in the park).⁸¹⁵

Following Goggin’s work, relatively little archeological work was done in the park in the 1950s and 1960s. In this period, much of the archeological survey work in the broader Everglades region was done by avocational archeologists. Park rangers also recorded the locations of archeological sites and did some surface collecting. For example following Hurricane Donna in 1960, a ranger collected a “half bucket” of artifacts on Rabbit Key. In 1955, archeologist Dr. William Sears mapped and tested a large shellwork site at the mouth of Turner River that subsequently came into NPS ownership. In 1964 NPS Regional Archeologist John W. Griffin began what was planned as a multiyear, systematic survey of sites within the park. Because of internal NPS changes, only the first year was completed. In that year:

Efforts were concentrated on the area between Everglades City and Lostmans River, and consisted primarily of visiting and surface collecting previously known sites under the guidance of Ranger Richard Stokes. Working out of the Lostmans River Ranger Station, test excavations were conducted at Onion Key, Walter Hamilton Place, and Hamilton Garden Patch Twenty-one sites were visited.

The park established an archeological site file at this time.⁸¹⁶

In 1965, the NPS contracted with the Florida Atlantic University Department of Anthropology to comprehensively map archeological sites within the park. Dr.

⁸¹⁵ J. C. Harrington, Regional Archeologist, to Dir. Drury, Feb. 23, 1949, NARA II, RG 79, NPS CCF, box 904; John M. Goggin, “Archeological Sites in the Everglades National Park, Florida,” Laboratory Notes 2, Anthropology Laboratory, University of Florida, June 1952; J. C. Harrington, Regional Archeologist, to RDR1, Feb. 8, 1949, NARA Ph, RG 79, 79-67-A-1022; NPS SEAC, Everglades National Park Overview and Research Design, 1982 (Tallahassee: SEAC, 1982), 12; SMR, Jan. 1950.

⁸¹⁶ William H. Sears, “The Turner River Site, Collier County, Florida,” *Florida Anthropologist* 9/2:47-60; Logs from Gulf Coast District Ranger Station, 1960 to circa 1988, EVER-01718; John W. Griffin, *Archeology of Everglades National Park; A Synthesis* (Tallahassee: SEAC, 1988), 64, 168.



Figure 17-1. The remains of a prehistoric ceramic pot found in the park

William H. Sears ran this project, which pioneered the use aerial photography in locating sites. By correlating the photography with a literature search, the survey located 114 sites, only 74 of which were ultimately determined to be within the park boundary. During this effort, Dr. William Kennedy of Florida Atlantic University excavated intact pots on Mormon Key. This effort resulted in a reorganization of the park's site file and a base map of sites. Sears's team conducted relatively few field surveys to verify site locations. The report of this project contained "discussions of site types, ceramic sequences, and culture areas." This was the most comprehensive survey of park archeological sites prior to a multiyear survey undertaken by SEAC in the early 1980s. From time to time, excavations for other purposes uncovered artifacts. In the course of the



Figure 17-2. A prehistoric deer pin found in the park

1968 dredging of portions of Taylor Slough adjoining the Anhinga Trail, prehistoric material, including Glades Plain and Glades Tooled ceramic sherds, was recovered. Also in 1968, John Griffin worked at the Bear Lake Mounds. In 1970, Griffin did test excavations at Panther Mound (Cabbage-Rattlesnake).⁸¹⁷

1980s Survey by the NPS Southeast Archeological Center

The 1980s SEAC survey involved three seasons of work from 1982 through 1984. The teams profited from experience gained in an archeological survey of the Big Cypress National Preserve conducted from 1977 through 1981. An important approach was to use infrared aerial photography in developing a site signature model that was pre-

dictive of locations of sites on hammocks. The 1980s field work was preceded by an analysis of the 168 previously assigned site numbers in the Florida State Master Site File. Previous surveys had concentrated on more easily accessed coastal sites; the 1980s work added substantially to the inventory of sites in the interior of the Everglades. The first year's survey was conducted in May and June 1982 and focused on the Shark River Slough and eastern Whitewater Bay. The second season's survey was performed from January through early April 1983 and involved reconnaissance and ground truthing of sites accessible by airboat. The reconnaissance of sites in the coastal zone and mangrove forests began in the second season and was completed in

⁸¹⁷ Griffin, *Synthesis*, 65, 169; NRHP nomination, Anhinga Trail, Nov. 5, 1996; SMR, July 1968.

the third season from January through mid-April 1984. The primary goal of the survey was to locate and ground-truth sites. Data collection was limited to surface collection and random auger and shovel tests. Nine sites were mapped (figure 17-2, A prehistoric deer pin found in the park).⁸¹⁸

The SEAC survey identified 193 sites that were entered in the NPS's Archeological Sites Management Information System (ASMIS). The sites were classified into the following nine categories:

Site Type	Number
Shell works	12
Shell middens	20
Eroded beach sites	21
Mangrove zone earth middens	26
Relic shell ridges	6
Shark River Slough earth middens	62
Taylor Slough earth middens	3
Miscellaneous sites	7
Earth middens, artifact scatters, single artifacts, historic sites of the Western Everglades	34

Roughly half the sites were coastal and half inland. The coastal sites were generally considerably larger. Most of the inland sites were on the higher portions of hammocks in the Shark River Slough. Of the 193 sites, only 34 percent had diagnostic ceramics allowing tentative dates to be assigned. Twenty percent of the sites had no ceramic artifacts and 46 percent had only Glades plain work. Glades plain work was made throughout the Glades tradition and thus does not appreciably narrow the date range for a site. Even when diagnostic ceramics were available, usually only a few were collected, and hence, they could not be considered representative of the full range of site occupation. In the park's first four or five decades, the collection of ceramic fragments at a site was often quite limited; more recent site investigations typically result in large numbers of diagnostic sherds. In 1988, under a contract with the NPS,

818 Griffin, *Synthesis*, 176. The reports of the SEAC effort are John E. Ehrenhard, Gregory Komara, and Robert Taylor, *Everglades National Park Cultural Resource Inventory, Interim Report Season 1* (Tallahassee: SEAC, 1982); Robert C. Taylor, *Everglades National Park Archeological Inventory and Assessment, Season 2* (Tallahassee: SEAC, 1984); and Robert C. Taylor, *Everglades National Park Archeological Survey, Season 3* (Tallahassee: SEAC, 1985).

archeologist John Griffin prepared a summary largely based on the 1980s SEAC work, entitled *The Archeology of Everglades National Park: A Synthesis*.⁸¹⁹

Archeological investigations since the SEAC survey have mostly been associated with construction projects that involved ground disturbance, accidental finds, and surveys of land added to the park. In winter 1991/1992, campers on Pavilion Key reported the presence of two skeletons. Three pottery sherds classified as Glades plain were associated with the burials. SEAC archeologists and park staff reburied the remains above the high tide line, which was the preferred treatment of the Miccosukee Tribe of Indians of Florida.⁸²⁰

In 2004 and 2005 SEAC did an archeological assessment of the East Everglades addition to the park that resulted in the addition of 42 sites to the park's ASMIS database entries. Based on previous experience, the survey concentrated on tree islands. Vegetation typical of the higher elevations of the islands was used as a predictor of archeological sites. Of 43 sites selected as potential targets, 42 had archeological remains. All 42 were earth middens. Five of the sites had late Archaic (5,000 to 3,000 YBP) components, "considerably earlier than previously thought for human occupation in the interior Everglades." In one instance, at the Duck Club/Sour Orange Hammock site, a radiocarbon date of 5580 to 5310 YBP was obtained. This survey also revealed a buried mineralized soil layer on several trees islands. The presence of middens containing archeological artifacts below the mineralized layer raises the distinct possibility that some tree islands formed over the aboriginal middens. Excavations at many more tree islands are needed before more definite conclusions can be drawn about role of humans in tree island formation. It can be stated with assurance that native people were present in the interior of the Everglades from the period that the Everglades as we know them took shape. The creation of Everglades landscapes then is the result of the interaction of human activity and nonhuman natural processes.⁸²¹

Following Hurricanes Katrina and Wilma in 2005 SEAC archeologist Jill Y. Halchin spent two weeks in the park assessing the condition of 16 archeology sites, primarily in the Ten Thousand Islands area. She found three sites that had been destroyed and six that had suffered serious erosion. Beach sites had been particularly hard hit. On this visit, Halchin discovered six historic period sites, five of them in the vicinity of Flamingo and one on Wood Key. The park attempted to get some hurricane recovery funding, which totaled in the tens of millions of dollars, for assessing and

819 Griffin, *Synthesis*, 179.

820 Archeologist Bennie Keel to Chief, SEAC, Jan. 8, 1992, SEAC Library.

821 Margo Schwadron, "Everglades Tree Islands Prehistory: Archaeological Evidence for Regional Holocene Variability and Early Human Settlement," *Antiquity* 80/310 (Dec. 2006); Margo Schwadron, *Archeological Damage Assessment of Sites Burned in the Mustang Corner Fire, Everglades National Park, Florida* (Tallahassee: SEAC, 2008), 10-11; Margo Schwadron, personal communication, Aug. 23, 2013.

stabilizing sites, but was told that that type of project did not qualify. NPS funding and some funding from the National Geographic Society allowed work to be done from 2007 through 2010. At beach sites, this involved surface collecting and shovel tests to determine the presence of subsurface artifacts. At shell island sites like Sandfly Key, three-dimensional scanning of eroded banks was undertaken to provide a baseline that will be useful in tracking future erosion. Additional work is needed and will be undertaken as funds become available.⁸²²

Following the 1980s SEAC survey and John Griffin's 1988 synthesis, the survey of the park's archeological sites was described as "reasonably complete." The state of knowledge was that of a Phase I survey, meaning that the location, site type, and size of sites are known, but little else (figure 17-3, archeological site work). The consensus today is that knowledge of the archeological sites in the park is far from complete. As of this writing the park has 310 sites on its official ASMIS database listing. The most prevalent site types are earth middens (149) and shell middens (31). Areas within the park where undiscovered sites may exist include the upland areas in the eastern



Figure 17-3. Archeological site work

⁸²² Trip Report, Archeologist Jill Y. Halchin, SEAC, to Dir., SEAC, Mar. 8, 2006, SEAC accession 2027, SEAC library; Margo Schwadron, personal communication, Aug. 23, 2013.

portion of the park, which have not been extensively surveyed and tree island sites. The work done in the East Everglades suggests that deeply buried sites may exist on many tree islands. There also are likely to be submerged sites along the Gulf Coast that were inundated by rising seas centuries ago. The 1968 finds in Taylor Slough suggest the presence of additional buried or inundated inland sites.⁸²³ Going forward there undoubtedly will be additions to the park's list of prehistoric sites.

Historic Period Archeological Sites

No systematic effort to identify historic period archeological sites within the park has been made.⁸²⁴ Many of the prehistoric archeological sites in the park also contain a historic period component. The aboriginal shellwork and midden sites along the coast were attractive homestead sites for white settlers who began to arrive in the nineteenth century. Some homestead sites are still marked by surviving cisterns, foundations, or citrus, coconut palm, or other nonnative species planted by settlers (figure 17-4, Cistern at House Hammock). Many of these settlement sites are now recognized archeological sites. In the interior, the higher and drier portions of hammocks used by



Figure 17-4. Cistern at House Hammock

823 Griffin, *Synthesis*, 180, 325-326; Margo Schwadron, personal communication, Aug. 23, 2013.

824 Melissa Memory, personal communication, June 26, 2013.

prehistoric people were used later by Seminole and white hunters and fishermen. A few historic period archeological sites, like those at or near Flamingo or other sites of fishing activity in the park, are not necessarily associated with prehistoric occupation. Several forts constructed during the Second and Third Seminole Wars are known to have been located within the present park boundary (see chapter 1). These include Fort Poinsett and Fort Cross at Cape Sable, Fort Henry, Fort Westcott, and Camp Moulder on Pavilion Key. To date, the locations of these installations have not been identified. If they are positively identified in the future, they could become recognized archeological sites. The sites of moonshine stills with some equipment have been discovered in the past and may be discovered in the future. These have the potential to become recognized archeological sites. The site of the long-abandoned tannin factory on Shark River mentioned in chapter 1 contains deteriorating boilers, piles of milled lumber, and some post and wall remains (Figure 17-5, Remains of tannin factory). It is a recognized archeological site.⁸²⁵

From time to time, storms disturb the ground and reveal evidence of historic period activity. For example, in 1961, a skeleton was found on Sid Key believed to be



Figure 17-5. Remains of a tannin factory in the park

⁸²⁵ Paige, 212-214; James Hammond, *Florida's Vanishing Trail* (N.p.: printed by author, 2008); Paul O'Dell, personal communication, June 29, 2013; Everglades National Park Archeological Sites Management Information System (ASMIS) database.

the remains of a victim of the 1935 hurricane. Victims of this hurricane washed up on a number of keys in Florida Bay and were buried, so the park is now the custodian of these grave sites.⁸²⁶ The sites of known twentieth century plane crashes and military or military contractor research are now or may in the future be identified as archeological sites. Beginning in the 2000s park staff have worked to add historic period sites to the ASMIS database.

Archeology National Register Listings

Griffin's 1988 synthesis observed that the entire park might justifiably be included in a National Register archeological district. More practically, he recommended that the Shark River Slough and Ten Thousand Islands be registered as districts. In 1996, a multiple property nomination was prepared to provide contexts and registration requirements for sites and districts within the park. In November 1996, the multiple property nomination and nominations for four districts and three sites were accepted by the Keeper of the National Register. The Shark River Slough District contains 62 discontinuous sites. The Ten Thousand Islands District contains 70 scattered sites. The following are the National Register listings for Everglades National Park:

Bear Lake Mounds Archeological District
Monroe Lake Archeological District
Shark Valley Slough Archeological District
Ten Thousand Islands Archeological District
Anhinga Trail
Cane Patch
Rookery Mound
Turner River

As mentioned in Chapter 1, the Mud Lake Canal is very important and unusual example of aboriginal engineering. In recognition of its national significance, the Mud Lake Canal in September 2006 was designated a National Historic Landmark.⁸²⁷ At 3.9 miles, the canal is one of the longest known prehistoric canals anywhere within the U.S.; as of this writing it is the only one recognized as a National Historic

⁸²⁶ SMR, Mar. 1961; E. U. Woodard, "Cremations and Burials on Florida Keys Following Hurricane of Sept. 2, 1935," Veterans Storm Relief, ENP Cultural Resources Division files.

⁸²⁷ The National Historic Landmark program, authorized by the Historic Sites Act of 1935, recognizes properties that are significant to the nation as a whole. As of this writing only some 2,500 properties have received landmark status. The National Register of Historic Places was created by the National Historic Preservation Act of 1966. National Register properties may be significant at the local or state level as well as the national level. Currently, there are 80,000 National Register listings, representing 1.4 million individual properties. Many National Register listings are districts, which can embrace dozens or hundreds of individual properties.

Landmark. On December 2, 2007, the park held a dedication ceremony marking this designation.⁸²⁸

Historic Structures

Early NPS policy at Everglades was to protect structures like shell mounds and canals dating to the prehistoric period; the NPS either eliminated or neglected structures from the historic period. This approach was typical of the 1950s and 1960s, when the historic preservation community in general had little interest in vernacular buildings and buildings from the more recent past. In addition, before passage of the National Historic Preservation Act of 1966, the NPS lacked guidelines and procedures for evaluating and protecting historic properties. Leaving aside Native American structures, no structures in the park had been erected before the 1880s at the earliest, and all were modest buildings. At establishment, known structures in the park included Royal Palm Lodge and its outbuildings and designed landscape, the fishing village at Flamingo, buildings associated with commercial fishing at Snake Bight and Lostmans River, Dr. Lunsford's house and air strip at Cape Sable, and the dwelling sites of early twentieth century settlers on keys and areas of high ground on the Gulf coast. The two-story, frame Watson house on Chatham River was the most substantial settler's house standing at the park's establishment. Many of the white homesteads were on existing Native American platforms and mounds. The NPS clearly saw the prehistoric Native American use as more significant than any subsequent historic use. Some staff likely believed that it would be easier to interpret the prehistoric period without the evidence of later occupation. The park's 1967 resource management plan summed up the prevailing attitude. The management objective for "physical evidence of human occupation of islands and keys" was stated as "obliterate all evidence of man's activities except in those areas dedicated to visitor use." The park's 1981 backcountry management plan noted that the only existing historic building in the park was the Royal Palm deer feeding station. It added: "All other buildings have been obliterated by hurricanes and other natural causes and remaining portions are not being maintained."⁸²⁹

The statement in the backcountry management plan and similar statements in other park documents like the 1986 historic resource study gloss over the fact that the NPS worked actively to remove traces of nineteenth- and twentieth-century settlement. The park's razing of buildings at Flamingo in 1951 is covered in chapter 6.

⁸²⁸ National Register of Historic Places, Mud Lake Canal National Historic Landmark Nomination, Sep. 20, 2006, NR 06000979.

⁸²⁹ Resources [sic] Management Plan, Everglades National Park, Feb. 1967, approved by Acting Dir. Harthan Bill, March 26, 1968, EVER 42242, ser. IV., sub. A, ss. 2; ENP, *Backcountry Management Plan*, July 1981, 22.

Superintendent Beard did allow former residents to remove scrap iron, wrecked automobiles, and other salvageable material (figure 17-6, Flamingo artifacts). When Dr. Lunsford's property was obtained through condemnation, the park cleared away all his improvements. In summer 1952, park rangers burned the Braddock and Smith houses on Chatham River; an "old fisherman's shanty" on Trout Creek met a similar fate in



Figure 17-6. Artifacts from the fishing village at Flamingo

1954. In fall 1957, the park burned a Flamingo house that had been kept as an exhibit. Hurricane Donna in 1960 damaged or destroyed many buildings. The storm severely damaged the old Irwin House at Flamingo and its remains were removed. Ranger Richard Stokes reported that Donna had "almost completely destroyed" the Watson House on Chatham River and washed away structures that he called shacks on Turkey, Rabbit, Mormon, and Pelican Keys. Ed Braddock

of Miami had been using the Watson Place as a base for sportfishing up until spring 1960, when the park declined to renew his special use permit. After Donna, the NPS removed the remains of the house, but landscape features remained. Sportswriter Red Smith observed "the overgrown ruin of an estate in 1964." In 1983, Chester Obara, the outdoors editor of a Florida newspaper, noted only parts of Watson's moonshine distillery remaining.⁸³⁰

Few NPS officials or staffers in the early decades believed that structures from the recent past were worthy of preservation. An exception is a recommendation from the park's 1957 research conference to "preserve and mark historic sites, including the Flamingo village site." There is no evidence that this recommendation received serious consideration.⁸³¹

⁸³⁰ Alone among NPS officials, land acquisition officer A. B. Manly believed the Watson Place had historic significance. SMR, Nov. 1951, Aug. 1952, Feb. 1954, Oct. 1957, Dec. 1960; District Ranger Stokes to Chief Ranger Nelson, Nov. 19, 1959, Supt. Hamilton to G. J. Missio, May 13, 1960, District Ranger Stokes to Supt., Oct. 9, 1960, EVER 22965; Supt. Joseph to RDSE, Nov. 12, 1964, NARA Ph, RG 79, 79-69-5662; Red Smith, "The Everglades: An Emperor and Crow Rule Roost," *New York Herald Tribune*, Mar. 10, 1964; Chester Obara, "First Work the Bugs Out of Everglades," *St. Petersburg Independent*, Dec. 15, 1983.

⁸³¹ NPS, "Report of Proceedings, Everglades National Park Research Conference, June 6-8, 1957," NARA Ph, RG 79, 79-68-A-2955, box 48.

Royal Palm State Park

As has been recounted above in chapter 7, the park used the Royal Palm Lodge as a ranger station and visitor contact point until 1951. In that year, the NPS completed a new visitor center several hundred yards away at the start of the Anhinga Trail. The lodge was sold the next year and removed from the park in two sections. The park did not consider the outbuildings or designed landscape from the state park to be worth preserving. The CCC-era garage and the old park caretaker's house were removed in August 1959 (figure 17-7, CCC-built garage at Royal Palm). In 1977, the foundations



Figure 17-7. Civilian Conservation Corps-built garage at Royal Palm, 1950 photo

of the lodge were reported as still being visible. The stone deer feeding station/pump house was described as “in fairly good condition except for the doors which are beginning to rot.” No maintenance of this structure had been performed as of 1977, but a draft plan for historic resources management expressed the intention to remove vegetation periodically and treat the doors. As of this writing, the deer feeding station is the only building at Royal Palm that still stands. In the winter of 2010-2011, a park volunteer, Laura Marquardt,

documented a number of landscape features at Royal Palm. These included building foundations, pond remnants, and introduced plantings of orange trees, royal palms, and philodendron. A 2000 draft National Register of Historic Places nomination for the Ingraham Highway (see next section) did not evaluate the remains of the cultural landscape at Royal Palm. Everglades National Park has prepared a project, now awaiting funding, to document and evaluate the cultural landscape at Royal Palm.⁸³²

Ingraham Highway and Associated Canals

As related in chapter 1, Ingraham Highway was constructed from Homestead to the vicinity of Coot Bay, with a spur road to Flamingo, between 1915 and 1922. To provide fill for the roadbed, the Homestead Canal was dredged adjacent to the

⁸³² SMR, Oct. 1952; NPS, Draft Historic Resources Management Plan for Everglades National Park, Feb. 1977, EVER 22965; Laura Marquardt, “GPS readings and description of discovered sites at Royal Palm,” n.d. [2011]; Melissa Memory, personal communication, June 26, 2013.

highway. Additionally, several canals, including the East and Middle Cape Sable Canals and the Flamingo (Buttonwood) Canal were dug to drain the coastal prairies. While the NPS was building the portion of the main park road that swung along the northern edge of Long Pine Key, Ingraham Highway remained the only way to reach Coot Bay and Flamingo. The NPS incorporated most of the last 17 miles of Ingraham Highway as part of the main park road, paving it with asphalt for the first time. When the main park road opened in 1957, the park blocked Ingraham Highway where it intersected the new road near Sweet Bay Pond and obliterated some 3.4 miles of the old road. Approximately six and ½ miles of the highway remained in use by farmers in the Hole-in-the-Donut and as administrative roads. Fewer than five miles of the roadbed were released to succession. In the 1990s, a total about 2,900 feet of the old highway lying between Royal Palm Hammock and the main park road were obliterated to enhance water flows in Taylor Slough.⁸³³

In 2000, historian Christine Trebellas of the NPS Southeast Regional Office prepared a draft National Register of Historic Places nomination for the Ingraham Highway. This provided a historic context that focused on the political and engineering history of the highway. A June 2009 cultural resource assessment expanded on the draft nomination and included an assessment of the Homestead, East Cape Sable, and Buttonwood Canals. The cultural resource assessment documented the social history aspects of these features, traced the changes to them following park establishment, and included many drawings, maps, and photographs. The assessment concluded that the Ingraham Highway, the Homestead Canal, and the East Cape Sable Canal were potentially eligible under National Register Criterion A.⁸³⁴

Iori Farms

The Iori Farms warehouse and dormitory/commissary buildings, constructed in 1955, were extensively modified by the NPS before they were 50 years old. Because of the modifications to the buildings and the fact that the farming is no longer being done in the Hole-in-the-Donut, the Iori buildings do not convey their historic use and are not eligible for the National Register.

833 Christine Trebellas, Draft National Register of Historic Places Nomination, Ingraham Highway Historic District, 2000, ENP CR files; Environmental Assessment, Taylor Slough Bridge Replacement and Old Ingraham Highway Removal, Nov. 21, 1997, ENP Maintenance files; Mance Buttram, Christine Trebellas, Melissa Memory, and Laura Ogden, *A Cultural Resource Assessment of the Old Ingraham Highway and Homestead, East Cape Sable and Buttonwood Canals*. Homestead, Fla.: Everglades National Park, July 2009, 65, 69.

834 Buttram, Trebellas, Memory, and Ogden, 80-81.

Mission 66 Structures

In 2012, the Florida Historic Preservation Office concurred that several Flamingo structures contributed to the significance of a National Register-eligible Flamingo Mission 66 Developed Area Historic District: the visitor center, the service station, flagpole, the concession warehouse, two four-unit apartment buildings, boat basins 1, 2, 3, and 4, the boat shelter, the boat shop, and the fish cleaning building. The SHPO deferred consideration of the eligibility of the Mission 66-era cultural landscape at Flamingo. A stated aim in the park's draft general management plan (GMP) is to preserve, where feasible, the character-defining features of this landscape. A historic structure report for the Shark Valley Tower done under a contract concluded that the tower was eligible for the National Register. In 2013, the NPS contracted with Wiss, Janney, Elstner Associates to prepare a National Register nomination for all the Mission 66-era structures at the park. It is anticipated that the nomination will embrace Flamingo, Shark Valley, Pine Island, and park roads. The internal NPS conclusion is that none of the structures or landscape features at Everglades City are eligible for the National Register.⁸³⁵

Nike Base HM-69

As recounted below in chapter 22, the U.S. Army in 1965 moved a Nike Hercules surface-to-air missile base onto property in the Hole-in-the Donut. The property was within the park's authorized boundary but not in NPS ownership at that time. The Army deactivated the base in 1979 and turned it over to the NPS in the early 1980s. Before Nike missile base HM-69 became park property, the U.S. Army removed the missiles and radar towers. The NPS retained most of the structures associated with the launch area and almost all of those associated with the administration area. At the launch area, the ready building, part of the kennel building and a number of utility buildings were removed, and the borrow pit was filled in. The missile shelters, berms, and missile assembly buildings remain (figure 17-8, Nike Base HM-69 launch area from the air). The sentry box at the administration area was removed and the roof of the administration building was replaced following Hurricane Andrew. In July 2004, Nike Missile Site HM-69 was placed on the National Register of Historic Places. It was registered as a district containing the same acreage as the special use permit granted

835 Laura A. Kammerer, Deputy State Historic Preservation Officer, Florida Dept. of State, to Supt. Dan B. Kimball, ENP, Apr. 13, 2012, ENP Cultural Resource Division files; Wiss, Janney, Elstner Associates, Inc. "Shark Valley Tower. Historic Structure Report, 75% draft" (Atlanta: NPS, July 2012); Cynthia Walton, personal communication, Oct. 21, 2013; *Draft GMP*, 69.

to the army, with 22 contributing buildings and structures. In recent years, the park has offered guided tours of the base, which have proven very popular with visitors.⁸³⁶

Coopertown

Three brothers from Missouri, John, James T., and Marion Cooper, opened various retail establishments in the late 1940s on the south side of the Tamiami Trail three miles west of Krome Avenue. Cooperstown has been in continuous operation since then, offering airboat tours, a restaurant, and a gift shop. The Florida SHPO has determined that Coopertown is eligible for the National Register of Historic Places.⁸³⁷

Hammock Camps in the East Everglades Addition

As part of the East Everglades expansion, the NPS acquired a number of hunting and airboat camps located on tree islands. The camps were established in the decades following World War II and contain functional wood-frame buildings typically constructed from plywood, corrugated metal, and rolled asphalt. Many of the camps are superimposed upon sites of historic period Indian occupation and prehistoric Native American occupation. A 2004 assessment of the camps concluded that only one, the Duck Club property, formerly used by the Miami Rod and Gun Club, was potentially eligible for the National Register of Historic Places. The park has proposed projects, as yet unfunded, to plan for the preservation and interpretation of the hunting camps and other cultural resources associated with the tree islands in the East Everglades addition.⁸³⁸

Cultural Landscapes

The park has a number of cultural landscapes, or remnants of them, dating to prehistoric and historic times. At present, two landscapes have completed listings on the NPS's Cultural Landscape Inventory: the Mission 66 developed landscape at Flamingo and the landscape created by the U.S. Army at the HM-69 Nike Missile Base. The National Register documentation currently being prepared for the park's Mission 66-era resources will address landscape features. The park has proposed a project, to date unfunded, to prepare a cultural landscape report for the NPS's maintenance and

⁸³⁶ National Register of Historic Places, Nike Missile Site HM-69 National Register of Historic Places Nomination, July 27, 2004, NR 04000758.

⁸³⁷ Coopertown website, <http://coopertownairboats.com/index.html>.

⁸³⁸ Brian Coffey, NPS SERO, "Trip Report — Everglades Camps," December 2004, copy in files of Everglades National Park Cultural Resources Division; NPS PMIS project statements 139482 and 198743.



Figure 17-8. Nike Missile Base HM-69, aerial view of launch area

residential area at Pine Island. Almost all traces of the cultural landscape associated with the fishing village of Flamingo have been obliterated. Remnants of cultural landscapes, cisterns or foundations for example, exist at other sites of white settlement within the park. The designed landscape at the former Royal Palm State Park is largely overgrown, and the only remaining building is the deer-feeding station. Foundations of buildings and examples of plantings introduced during the state park period survive at Royal Palm.⁸³⁹

Ethnographic Resources

Ethnographic resources are cultural or natural resources that possess significance for cultural groups. Examples range from natural features that have spiritual significance to Native American groups to plants like the saw palmetto that have practical use as building material for both Native American and white settlers of the Everglades region. In the Everglades, a host of plants, animals, and geographic features are potentially significant ethnographic resources. Professor Laura Ogden and Melissa Memory, then chief of cultural resources at the park, prepared a draft *Ethnographic Assessment and Overview for Everglades National Park* in the 2010s, but it has not been put into final form.

⁸³⁹ David Hasty, SERO, personal communication, June 18, 2014; NPS PMIS project statement 206373, Prepare Cultural Landscape Report of Pine Island Landscape with CLI, FMSS, GIS and IRMA Data.

The U.S. Army Corps of Engineers commissioned a study of traditional cultural properties associated with the “Modern Gladesmen Culture,” published in 2011. Many of the tree islands in the East Everglades expansion area were occupied by Indians and whites during the historic period, many in recent decades having been used as hunting camps. The park has a proposed project, which awaits funding, to prepare a plan for the preservation and interpretation of the East Everglades cultural and ethnographic landscape. The preferred alternative in the park’s draft GMP calls for better protection and interpretation of park ethnographic resources.⁸⁴⁰

⁸⁴⁰ Laura Odgen, personal communication, June 30, 2014; NPS PMIS project statement 139482, Preservation and Interpretation Plan for East Everglades Cultural and Ethnographic Landscapes; *Draft GMP*, 65; Greg Smith. “*You Just Can’t Live Without It: Ethnographic Study and Evaluation of Traditional Cultural Properties of the Gladesman Culture, Comprehensive Everglades Restoration Plan (CERP), Southern Florida*. St. Augustine, Fla.: New South Associates, 2009, http://www.evergladesplan.org/pm/pm_docs/master_rec_plan/062909_gladesmen_study_draft.pdf.

Chapter 18: Museum Collection, Library, and Records Management

From the park's establishment in 1947 until the 1980s, its museum program received little attention and very limited resources. The park has had a trained curator only from 1987 to 1993 and again starting in 2002. The absence of a well-funded, professional museum program for the majority of the park's history has had unfortunate consequences. The park missed out on opportunities to acquire the papers of individuals like Marjory Stoneman Douglas and John Pennekamp who were closely tied to its past. Also forfeited was the chance to collect items connected to historical activities like alligator hunting, commercial fishing, tomato farming, and tanbark processing. By the late 1980s, Everglades National Park had a considerable history of storing museum items from other Florida parks. The park's more formal role as a multipark repository began with the formation of the Everglades Regional Collection Center in 1987. This later evolved into the South Florida Collections Management Center.⁸⁴¹ The center and its staff are physically located at Everglades National Park. The center serves four other park units in addition to Everglades; this chapter will focus on the Everglades collections. Because the operations of the center affect other aspects of Everglades National Park, notably space allocation, some description of the center's overall functions and operations is included.

Early Collection Efforts

Although decades would pass before the park had a professional museum program, it was acquiring museum collection and library items almost from the beginning. In August 1948, for example, Former Congressman J. Mark Wilcox gave the park press clippings and some other materials that had been in the files of the Everglades National Park Association. The park gradually began assembling a library, a photograph and slide file, and a collection of natural history specimens. Park collaborator Frank Craighead, park biologist Bill Robertson, and park naturalist Willard Dille began an important herbarium collection in the 1950s. For several decades, little distinction was made between the library and the museum collection and both were kept in the same space. In addition, the available records indicate that the terms museum collection and study collection were used interchangeably. It is likely that the park staff had little idea what it intended to retain permanently as a museum collection and what it kept for

⁸⁴¹ The center holds and manages museum collections for Everglades National Park, Dry Tortugas National Park, Biscayne National Park, Big Cypress National Preserve, and DeSoto National Memorial.

consumptive use by naturalist/interpreters. Further, the park made no serious effort to place retired files into an archival collection for several decades. Items continued to accumulate in the 1950s and 1960s, including some extensive collections of *Liguus* tree snail shells and some personal items that had belonged to Audubon warden Guy Bradley.⁸⁴²

The park library and collections were kept at park headquarters on Krome Avenue in Homestead until 1961, when they moved to the new park headquarters building just inside the park entrance on Parachute Key. By 1967, the park reported having a library/museum collection of some three to four thousand items, which included an extensive pamphlet/reprint file, the herbarium, other natural history specimens, and a few historic and archeological artifacts (Figure 18-1, American crocodile skull). All were housed in air-conditioned space in the park headquarters, never exceeding 730 square feet. The park's chief naturalist was responsible for the collection/library and was able to keep a museum technician on staff for a portion of the 1960s. In this period, the Everglades Natural History Association funded book purchases and at times paid the salary of a part-time librarian.⁸⁴³

Considerable delays and lapses in accessioning items to the museum collection were routine well into the 1980s. In January 1949, the Seminole dugout canoe discovered by Daniel C. Beard, the superintendent's son, became the first item accessioned into the park collection. No record of accessions of any kind have been found for the period May 11, 1959, to July 1, 1982, leading to speculation that an accession book

kept in that interval may subsequently have been lost.⁸⁴⁴

In the 1970s and 1980s, park management seemed largely unaware of the importance of the park's library and museum collections. Recommendations from a park library task force appointed in 1972 were mostly ignored. When Park Librarian Alcyone Bradley and Park Chief Naturalist George Robinson in



Figure 18-1. An American crocodile skull, a representative natural history collection item

⁸⁴² J. Mark Wilcox to Thomas J. Allen, RDR1, n.d. [Aug. 1948], CP, EVER 22649; NPS, *South Florida Parks Museum Collection Management Plan* (Homestead, Fla.: 2008) (hereafter *SFPMC-MP*), 9-10; SMR, May 1964.

⁸⁴³ Supt. Beard to Dir., June 18, 1956. NARA Ph, RG 79, 79-62-A-305; SMR, Jan. 1959; Supt. Allin to Dir., Oct. 10, 1967, Mary Ann H. Ogden, "Museum Collection, Everglades National Park," June 15, 1977, EVER 22965.

⁸⁴⁴ *SFPMCMP*, 8-11; SMR, Jan. 1949.

1974 asked for additional space for the library (which still included the museum collections), the assistant superintendent responded: “[W]e cannot provide additional library space now or in the foreseeable future because of problems that would be created in other phases of operations of a more serious nature than those associated with the library.” He suggested that Robinson limit the acquisition of new library materials, get rid of obsolete materials, and consider microfilming some materials. The story was much the same in 1982 when Superintendent Jack Morehead noted that the park’s collections were not used enough to warrant training or recruiting personnel to manage them. Morehead suggested to his regional director that the park’s museum collections be disbanded. He recommended that the parks’ collections be disbursed among other NPS installations and local universities or turned over to the park’s research center and interpreters for consumptive use.⁸⁴⁵

Following the establishment of the South Florida Research Center, the park’s library and museum collection moved in October 1977 from headquarters to the research center in the former Iori bunkhouse (now the Dr. Bill Robertson Jr. Center). The collection got a little more space in the remodeled building, 1,030 square feet, but less than the 1,500 square feet considered adequate by the NPS Library Services Division. Items moved to the center included about 6,000 bound volumes, some five to six thousand pamphlets and reprints, what was described as a “biological study collection,” slides, and photos. Responsibility for the collection shifted from the interpretative division to the director of the research center, and interpretation kept a small library for its use at headquarters. Biologist James Kushlan, who came to Everglades National Park in 1975, believed that the main library housed a good collection of South Florida materials. In 1983, Lead Park Technician Bobbie Pettit-Tilmant was assigned curatorial responsibilities as a collateral duty; it is not known how long she remained in that capacity.⁸⁴⁶

Throughout much of this period, the park had a library committee that made recommendations for the library/collections. The committee tried to make improvements, but achieved little. In 1982, in response to the superintendent’s desire to disband the collection, a team headed by Regional Curator H. Dale Durham visited the park to study the needs of its museum program.⁸⁴⁷ The team’s report identified a number of deficiencies, notably in the areas of oversight, accountability, coordination

⁸⁴⁵ Handwritten note from asst. supt. on memo, Chief Naturalist Robinson to Supt., Sep. 12, 1974, Supt. Morehead to RDSE, Feb. 12, 1982, EVER 22965; *SFPMCMP*, 15.

⁸⁴⁶ Chief, Field Library Services, to Dir., Office of Library and Information Services, WASO, June 4, 1976, EVER 22965; R. Alan Mebane, Chief of Interpretation, to Patricia Wickman, Museum of Florida History, Mar. 18, 1985, EVER 22965; SAR, 1983, 1984; Kushlan interview; Sandy Dayhoff, interview by Bridget Beers, Apr. 6, 2001.

⁸⁴⁷ Assoc. RDSE, Operations, to ENP Supt., Oct. 25, 1982, EVER 22965. The other members of the team were Arthur Allen, Chief, Division of Museum Services, Harper’s Ferry Center, and Christine Schonewald-Cox, Biologist, Natural Science Division, WASO.

with research staff, and procedures for processing collections. Among the team's recommendations, which were endorsed by the Southeast Regional Office, were:

1. Returning responsibility for the collections to the interpretative division.
2. Moving the entire collection to Nike Missile Base HM-69 headquarters building (now the Dan Beard Center).
3. A complete inventory of the collections.
4. Preparation of a scope of collections statement.
5. Preparation of a policy on the use of collections.
6. Improved environmental control of collections.

In 1984, the collections moved from the Robertson Building to the Beard Center and once again became the responsibility of the interpretive division. Most of the Beard Center became the new home of the South Florida Research Center. In



Figure 18-2. Archival storage in the Robertson building in 2002

2002, space in Robertson was being used for archival storage, indicating that some material remained there after the 1984 move or was later placed there (Figure 18-2, Archival storage in the Robertson building in 2002). It is likely that in the 1984 and earlier moves of the collection, items were discarded to make the moves easier. The Durham team's visit also resulted in the regional curator and the WASO Natural Science Division putting on a training course at the park, which accomplished some basic museum tasks. Compiling an inventory and improving environmental conditions would have to wait another 30 years. The scope of collections statement, approved in March 1985, made some additional recommendations: that the park separate its

museum collection from its library and that the park's archeological artifacts be moved to the Southeast Archeological Center in Tallahassee.⁸⁴⁸

In 1992, Hurricane Andrew caused considerable destruction at Everglades National Park. The 1961 main visitor center had to be demolished. A hurricane salvage team, made up of Kent Bush, Dale Durham, and Jonathan Bayless, recommended that the Bernard Thomas mural painting from the visitor center dating to the late 1960s be removed and evaluated by a conservator. See chapter 20 for details on the commissioning of this painting. The team did not remove the painting from the wall, apparently because of concerns that the wall contained asbestos. Some time later, the painting was taken down by others, cut into two pieces, rolled up, and removed to museum storage. In 2011, a conservator treated the painting, stabilizing paint that had flaked and lifted, and mounting it on a backing cloth. The park hopes to find a suitable future exhibition location for this 22-foot-long mural. Hurricane Andrew did not affect the museum program's spaces at the Beard Center as severely other parts of the building; water damage was largely confined to the wet specimen room.⁸⁴⁹ The loss of electrical power did lead to some mold growth in collection storage areas. Park staff discarded significant amounts of water-damaged files and other material from research offices in the building as well as microfilm and perhaps other material from the park library. No formal process guided this activity. The "loss of administrative record and research data from Hurricane Andrew was significant."⁸⁵⁰

In 1996, the park partnered with Florida International University and a number of other organizations to create the Everglades Digital Library (EDL). A service of the Digital Collection Center at Florida International University Libraries, the EDL is an ongoing effort to make primary source material concerning the Everglades easily available over the Internet to support research, education, ecosystem restoration, and resource management. Material from a number of repositories, including the Everglades Regional Collection Center at Everglades National Park, was digitized. Only a small fraction of the material housed at Everglades National Park, mainly some archival items and photographs, was placed online.⁸⁵¹

848 Assoc. RDSE, Operations, to ENP Supt., Oct. 25, 1982, ENP Scope of Collections Statement, Mar. 25, 1985, EVER 22965; *SFPMCMP*, 16.

849 In 1992, the museum program had in place a supposedly hurricane-reinforced Bally® modular building awaiting the transfer of collections materials. Nothing had been moved into the building because of problems with its floor. This proved fortunate, because Hurricane Andrew flattened the building. Nancy Russell, personal communication, June 26, 2013.

850 SFCMC, FY2011 & FY2012 Annual Reports (Homestead, Fla.: SFCMC, Sept. 30, 2012) (hereafter FY11 and FY12 AR), 30; Nancy Russell, personal communication, Sept. 28, 2012, and June 26, 2013; *SFPMCMP*, 16, 71-72, quotation from 16.

851 Everglades Digital Library, <http://everglades.fiu.edu>; "At Last, There's an Everglades without Mosquitoes," *Miami Herald*, May 26, 1997.

The Beginnings of a Multipark Approach

In April 1987, the Everglades Regional Collection Center (ERCC) was formed to take responsibility for the museum collections of all four South Florida NPS units: Everglades, Fort Jefferson, Biscayne, and Big Cypress. The exact history is obscure, but it is clear that materials from Fort Jefferson were housed at Everglades National Park from the early 1960s and materials from Biscayne from the late 1970s. The superintendent's annual report for 1987 indicates that 1,700 square feet in the Beard Center was allotted to the ERCC. A GS-7 museum technician position was also established at this time. The ERCC was made formal in 1990 with the adoption of "Protocols for the Everglades Regional Collections Center." The stated goal of the ERCC was "to provide centralized collections management services for the natural science and cultural collections of the four south Florida park units." In this same period, Superintendent Michael Finley decided to shift responsibility for the library/collections to the South Florida Research Center. When Finley hired Michael Soukup as center director in 1989, he told him he would have responsibility for the library/collections and resource management, without any increase in the center's budget.⁸⁵²

The park hired Jonathan Bayless into the newly created museum technician position in 1987. He was soon promoted to museum curator, and Dan Foxen was hired as the technician. Bayless moved to remedy some of the program's deficiencies, making some progress on the backlog of unaccessioned items, purchasing needed museum furniture and equipment, and installing a new security system. He also assembled a team to prepare a collection management plan (CMP), which was approved in 1989. The CMP endorsed the concept and mission of the ERCC and recommended that the three other parks make an annual contribution of \$3,000 to the center. When Bayless left the park in 1991, Foxen became curator, while the museum technician position remained vacant. Foxen stayed on as curator only until spring 1993, and the position was vacant until 1995. At that time, Walter Meshaka, a herpetologist, was hired as curator. In 1999, the park's newly formed planning and compliance branch became responsible for the ERCC. The following year, 2000, Meshaka left the park, leaving the curator position vacant until summer 2002.⁸⁵³

Brien Culhane, chief of the newly formed planning and compliance branch, believed that the park had long needed a cultural resource management program, which would be the logical home for the museum collection and library. Culhane urged park management to create a separate cultural division, and in August 2002, the park hired

⁸⁵² SAR, 1987; Soukup Interview; *SFPMCMP*, 12-13.

⁸⁵³ SAR, 1988, 2006; *SFPMCMP*, iv, 12-13, 18-19; Nancy Russell, SFCMC, *South Florida Collections Management Center Five Year Accomplishment Review (FY2003-FY2007)* (Homestead, Fla.: SFCMC, Dec. 14, 2007) (hereafter *5-Year Review*), 2.

Nancy Russell as museum curator. In 2006, with the establishment of the park's cultural resource management program, the museum function transferred from planning and compliance to the new division. Melissa Memory was hired as the first chief of culture resources and remained in the position until summer 2013.⁸⁵⁴

A New Direction

As of late 2002, the museum program at Everglades National Park had suffered from decades of understaffing, underfunding, and neglect. The backlog of unaccessioned and uncatalogued items was large; physically the collection lacked adequate space and was poorly protected; accountability for the collection was deficient; and for decades park staff had enjoyed access to the collections without any monitoring or controls. Curator Russell began working to revitalize the multipark approach, provide a clear direction for the center, and begin to bring it up to NPS standards. One of her first moves was to change the center's name. In 2003, the Everglades Regional Collection Center became the South Florida Collections Management Center (SFCMC). The new name emphasized that the center served multiple parks and that henceforth, collections would not just be stored but actively managed. The 1989 collection management plan (CMP) was outdated, and Russell assembled a team headed by Allen Bohnert, regional chief of curatorial services, to prepare a new one. The CMP project team made two visits to South Florida in 2004 and produced a draft plan the following year.⁸⁵⁵

After its first visit, the team developed three alternatives for a vision statement for the SFCMC. In July 2004, representatives of the four South Florida parks met and used a modified choosing-by-advantages process to articulate the center's vision and make other broad policy decisions. Getting the four parks together in this way was key to building support for the center concept. The group strongly supported a centralized approach, affirming that the SFCMC "is the central museum services provider for the four south Florida NPS units." The group went on to adopt a mission statement and goals and objectives for the center. The mission was stated as acquiring, documenting, preserving, interpreting, researching, and making accessible the natural and cultural history of the four parks.⁸⁵⁶

The concept of a charter for the SFCMC grew directly from the CMP process. Biscayne managers involved in the process suggested a charter similar to the charters

⁸⁵⁴ SAR, 2006; Brien Culhane, interview by author, Oct. 7, 2011; Russell, *5-Year Review*, 2.

⁸⁵⁵ Other team members were Jonathan Bayless, Steve Floray, Paul Rogers, Brigid Sullivan, Robert Wilson, Heather Young, Donald Cumberland, and Carol Ash. *SFPMCMP*, 1; Russell, *5-Year Review*, 2.

⁸⁵⁶ *SFPMCMP*, 20-21. See the plan for a list of the goals.

used by the Service's inventory and monitoring networks. Approved in February 2005, the charter sets out the functions and organizational structure of the center and contains provisions designed to ensure that it is responsive to the needs of the park units served. The charter establishes a board of directors and a collections committee. Serving on the board are the three park superintendents, the SFCMC curator, and the Southeast Region's chief of museum services. The board provides guidance for and oversight of the center's operations and evaluates its performance. Having the superintendents on the board helps ensure their ongoing commitment to the center. The collections committee, made up of representatives appointed by the parks from relevant disciplines, provides technical assistance and advice to the curator. The charter also describes the duties of the SFCMC curator and the areas to be covered in the center's annual work plan and annual report. In fiscal year 2006, DeSoto National Memorial became part of the SFCMC, and an amendment to the charter was executed to reflect this.⁸⁵⁷

Since late 2002, the SFCMC curator and staff have made tremendous strides in putting the center and its collections on a sound professional footing. The accomplishments achieved in various program areas are described below.

Collection Storage and Protection

As of August 2002, conditions were abysmal at the Beard Center, the main museum storage area, and the Robertson Building, which held the archival collection and library. At the Beard Center, there were problems with condensation and mold growth from the heating, ventilating, and air-conditioning (HVAC) system; peeling paint; seepage from the concrete floor slab; improper storage of items; cockroach infestation; and general uncleanness (Figure 18-3, Storage of wet specimens in 2002). At the Robertson Building, archival collections and library materials, some of the latter shelved and some boxed, shared space with nonmuseum researchers, stored equipment, and other uses. In some areas, boxed books were stacked floor to ceiling and the bottom boxes had suffered mold growth.⁸⁵⁸

The museum curator acted quickly to end the incompatible uses in the Robertson space. At long last, the library was physically separated from the museum collection. Library items were evaluated, with duplicate or extraneous items given to the Florida International University Library. The remaining library items were moved to the training room in the Beard Center. The library had been assembled largely to assist park science and was the responsibility of the SFNRC. In 2010, the SFNRC opted to

⁸⁵⁷ *SFPMCMP*, 27; Charter of the South Florida Collections Management Center; Amendment One to Charter of the South Florida Collections Management Center.

⁸⁵⁸ Russell, *5-Year Review*, 17-19.



Figure 18-3. Storage of wet specimens in 2002

give up the library, and the SFCMC lacked staffing to take it over. Consequently, when the Beard Center was remodeled in 2011, the library was disbursed. Park divisions were given first choice of materials, with any unclaimed items going to Florida International University.⁸⁵⁹

The removal of the library from the Robertson Center in 2002 and the relocation of the GIS function freed up additional space in that building for the archival collection, an archivist's office, and a desk for museum researchers.

Over several years, staff added additional compactor storage, new map cases, and fixtures that allowed framed works of art to be properly accommodated. In 2003, a fire detection system was installed for the first time, and the Robertson museum space now has available a trailer-mounted generator and an emergency switch to transfer power when regular power service is interrupted.⁸⁶⁰

Natural history items and artifacts were stored in the Beard Center as of late 2002. Curator Russell's first office was inside the secured storage area. In 2004, an office was found for her just down the hall from storage. The Beard Center got a new security system in 2003 and an emergency transfer switch in 2006, allowing generator power to be used when needed. In FY2007 and FY2008, a \$260,000 rehabilitation of the collection storage space in the Beard Center took place. This work required that the entire collection be temporarily relocated. The overall goal of the rehabilitation was to provide a tighter shell for the 1,800 square foot storage space by replacing the HVAC ductwork, adding a new ceiling and lighting, installing a plastic vapor barrier to the walls and a chemical vapor barrier between the floor slab and a new poured epoxy floor (Figure 18-4, Preparing for the rehabilitation of Beard Center space). A \$30,000 compactor storage system was installed after the rehabilitation while the space was empty. The compactor system increased the space available for the natural history collections, and the center purchased new museum furniture for these items. In 2009, the curator was given a new office, and the space she had been using since 2004 was devoted to overflow collection storage (Room C). In late 2013, the SFCMC took over

⁸⁵⁹ Nancy Russell, personal communication, Nov. 1, 2013. The library was intact when I began research for this history and it provided useful information. Its loss is regrettable.

⁸⁶⁰ Russell, *5-Year Review*, 18-19; Bonnie Ciolino, personal communication, June 26, 2013; Nancy Russell, personal communication, June 26, 2013.



Figure 18-4. Preparing for rehabilitation of the Beard Center space

the former conference room in the Beard Center for collection storage. The SFCMC is glad to get any additional space that it can, but receiving space piecemeal here and there is not cost-effective.⁸⁶¹

Collection Size and Accountability

A basic task facing the SFCMC staff was determining just what was in the museum collection and where it was located. Previous staff had not followed standard museum practices in defining locations, so merely locating material was a challenge. Much material lay unaccessioned and uncatalogued. In particular, the vast majority of the hundreds of thousands of archival items were not catalogued (Figure 18-5, Storage of audio-visual materials in 2002). A first step was compiling a 100 percent inventory of all material in the collections, and this task was accomplished in stages over six years. In FY2003, the center's best estimate was that the Everglades collection had 1,334,969 items, some 247,000 of which were archeological artifacts and related documentation

⁸⁶¹ Nancy Russell, personal communication, Nov. 1, 2013; Russell, *5-Year Review*, 17-19; SFCMC FY2008, FY2011, and FY 2012 Annual Reports, South Florida Collections Management Center (Homestead, Fla.: SFCMC, June 12, 2008), 39-59. Appendix A of the 2008 report provides a more detailed account of the rehabilitation of the Beard Center collections space.



Figure 18-5. Storage of visual materials in 2002

housed at the Southeast Archeological Center (SEAC). For all four parks, the estimate was 3.5 million items, 1.7 million of them at SEAC. Because of the history of incorrectly accessioning collections and the failure to accession collections, there was not a lot of confidence in these estimates. By FY2012, Everglades had 2,948,695 items. This increase of more than 1.5 million items consisted mostly of archival materials that had been accumulating for decades in various park divisions, but had never been turned over to the collection.⁸⁶²

The SFCMC staff began the work of adding this material in the collections. Much of this was accomplished through term employees, interns, and some volunteers. A snapshot of the progress made is indicated in the tables below.

Total Number of Accessions, FY2002 – FY2012

Fiscal Year	Everglades	SFCMC
2002	599	816
2007	1375	1924
2012	1907	3008

⁸⁶² *5-Year Review*, 10, 15; FY11 and FY12 Annual Report, 49; Nancy Russell, personal communication, June 26, 2013.

Total of Catalogued Items, FY2002 – FY2012

Fiscal Year	Everglades	SFCMC
2002	733,386	1,363,841
2007	936,456	2,000,640
2012	1,714,700	3,399,815

As of the close of FY2012, 58.14 percent of the items in the Everglades portion of the collection had been catalogued. The vast majority of the uncatalogued material is archival.⁸⁶³

Funding and Staffing

In FY2003, the SFCMC received approximately \$80,000 in Operations of the National Park Service (ONPS) funding, generally known as base funding. In addition, it received about the same amount of funding for specific museum projects, known as PMIS (Project Management Information System) funding. This level of funding was wholly inadequate for the needs of the center, and the curator began working to achieve an increase in base funding and compete more successfully for project funding. Project funding showed a notable increase in FY2005 and was between \$550,000 and \$648,000 for four of the five years from FY2007 through FY2011 (Figure 18-6, Jean Schardt providing conservation treatment on a bobcat specimen). The center received a substantial increase in base funding beginning in FY2009, because of a notable collaborative effort involving DeSoto National Memorial. Parks prioritize their requests for base funding additions. At Curator Nancy Russell's suggestion, DeSoto Superintendent Scott Pardue made a base increase for the SFCMC his top priority, recognizing that it would help four Florida parks as well as his. As a result the center received a \$300,000 base increase, part of which went to fund a new position at DeSoto. The SFCMC's base funding reached \$295,000 in FY09 and \$394,000 in FY2011. The superintendent of the smallest park involved in the SFCMC in this instance recognized the large benefit that could be achieved by assigning his top priority to a collective effort rather than one that benefited only his park.⁸⁶⁴

The increased base funding has allowed the center to add to its permanent staff. As of August 2002, the SFCMC had just one full-time position, the GS-12 curator. As of this writing, the SFCMC has five base-funded positions: a curator, archivist,

⁸⁶³ *5-Year Review*, 9-13; FY11 and FY12 Annual Report, 49.

⁸⁶⁴ Russell, *5-Year Review*, 4-5; FY11 and FY12 Annual Report, 11-13, 37-39; Nancy Russell, personal communication, June 26, 2013.



Figure 18-6. Jean Schardt treating a bobcat specimen with diatomaceous earth

registrar, museum technician, and archives technician. The curator has made extensive use of project funding to fill term and temporary positions and has creatively employed students, interns, and volunteers. Volunteer hours have grown from 423 in FY2003 to as much as 2,829 in FY2007. Project funding has also permitted the hiring of contractors to address backlog cataloging and object conservation needs.⁸⁶⁵

Collection Access and Use

As more of the center's collections have been catalogued and provided with finding aids, they have become increasingly useful and utilized by park staff and outside researchers. The increased accessibility of the museum collection is reflected in a dramatic increase in NPS and external users. In FY2002, the center handled eight

⁸⁶⁵ FY11 and FY12 Annual Report, 11, *5-Year Review*, 9.

requests for EVER materials from all sources, while in FY2012, the center responded to 225 park and 86 external requests related to EVER collections. This represented 85.5 percent of the total park requests and 59.3 percent of the total external requests that the SFCMC handled. An important aspect of making collections more accessible is providing digital access. Since 2002, the center has made considerable progress in digitizing individually cataloged photographs, slides, specimens from the herbarium, and selected archival items from the Everglades collections.⁸⁶⁶

Oral Histories

A number of oral histories were present in the center on various media, mostly magnetic tape. The curator has been able to have a number of these transcribed, and has initiated a program of conducting oral history interviews with departing staff, former staff, and local residents. In October 2011, Everglades National Park hosted a 40-hour, Servicewide workshop, “NPS Effective Oral History: Interviews, Project Management, and Practical Implications.” Five SFCMC staff members participated.⁸⁶⁷

Permitting and Accessioning of the Results of Research

Every research permit issued by each of the South Florida parks should result in a museum accession. Even those research projects that do not generate specimens produce field notes, data, reports, and other archival material. Retention and proper curation of collection items produced by research projects are important to making the results of the research usable and accessible. Without a professional museum program for most of the park’s history, important results from research projects have been scattered or lost forever. Prior to August 2002, the vast majority of research projects covered by permits were not being assigned accession numbers. Any data, reports, and specimens generated by these projects were not becoming part of the SFCMC collection and were generally not available to scientists or researcher in the future. The SFCMC has now become integrated with the NPS Research Permit Reporting System. The SFCMC curator succeeded in getting accession numbers assigned for all DRTO and EVER permits in 2003, and soon thereafter for the other parks. Not until 2010, when the center had funds to hire a registrar, was it able to systematically follow up and try to ensure that project-generated data, reports, and specimens actually got into the collection. In FY2012, the center had 109 active permits with accession numbers, some 53 of which were for Everglades.⁸⁶⁸

⁸⁶⁶ Russell, *5-Year Review*, 20-21; FY11 and FY12 Annual Report, 1, 71.

⁸⁶⁷ FY11 and FY12 Annual Report, 44.

⁸⁶⁸ *SFCMCP*, 91; FY11 & FY12 Annual Report, 53.

The chronic failure to include the costs of curation in scientific and other research projects imposes a substantial burden on the SFCMC. It is NPS policy that each research project, whether in-house or permitted, include a line item in its budget to cover curation costs. This policy is widely disregarded, meaning that the SFCMC must come up with the funding and staff time to incorporate the research products into the collection. In this way, the backlog of the center continues to grow. Not only is this problematic for the center, but makes the research efforts less useful than they could be, because of unavoidable delays in making the research results available to users of the collection.

Conservation Projects

As previously mentioned, the Bernard Thomas mural received stabilization treatment in 2011. The center has undertaken a number of other conservation projects since 2002. These include treatment of damaged Everglades color slides and five original signs from the HM-69 missile base (Figure 18-7, Nike base warning sign). The center has completed many conservation projects for other participating parks, details of which may be found in the SFCMC's annual reports.⁸⁶⁹

Planning Documents

Under the curator's direction, a number of museum planning documents were prepared and approved beginning in 2003. These include:

- South Florida Parks Collection Management Plan (2008)
- Museum Storage Plan (2004)
- SFCMC Integrated Pest Management Plan (2009)
- Preventive Conservation Plan, including a Museum Housekeeping Plan (2007)
- SFCMC Archives Processing Manual (2008, with regular updates)
- SFCMC Archives Collection Condition Survey (2008)
- Scope of collection statements for EVER (2007), DRTO (2003), BICY (2007), BISC (2007), and DESO (2010)
- Museum Security and Fire Protection Surveys for EVER (2003) and BISC (2008)
- Museum Access and Use Policy for EVER/DRTO (2004), BICY (2007), BISC (2007), and DESO (2007)⁸⁷⁰

⁸⁶⁹ FY11 & FY12 Annual Report, 30; SFCMC FY2009 Annual Report (Homestead, Fla.: SFCMC, Jan. 26, 2010), 34-35.

⁸⁷⁰ See Russell, *5-Year Review* and SFCMC annual reports for additional detail.

New Museum Storage Facility

The SFCMC has chronically been short of space, and the problem will only grow as the collections of the five parks grow. The CMP team, meeting in 2004, recognized this and recommended that a new museum facility be constructed, noting that the existing spaces in Beard and Robertson were not large enough and did not meet NPS storage standards. In order to house existing collections and the anticipated growth over ten years, the team calculated that a facility of 11,500 square feet was needed. Even after acquiring additional space in the Beard Center, the SFCMC has less than 4,000 square feet available to it. The preferred alternative in the park's draft GMP calls for the construction of new museum along Research Road within the park.⁸⁷¹ The new facility would:

provid[e] for public exhibits and a storage facility that meets NPS collections standards. Museum collections would continue to be acquired, preserved, and accessible to researchers, and the public would have its first opportunity to experience the center's vast resources and collections.⁸⁷²

Records Management

Everglades National Park has never had a records management officer, and it appears that the NPS Southeast Region has not had one since its headquarters moved to Atlanta. Records management is not a museum program function; in practice at Everglades the responsibility devolves upon the administrative officer. Records are identified as temporary (with 3-year or 15-year retention) or permanent. When no longer needed in the park, records are turned over to a federal records center managed by the National Archives and Records Administration (NARA). The NPS has an arrangement with NARA under which records related to natural and cultural resource management can be retained in park museum collections. This provides park managers with access to records documenting previous resource management decisions, as well as actions and events that have affected resources in the past.⁸⁷³

At Everglades, those responsible for record disposition decisions often do not fully understand NPS policy. At times, this has resulted in records being destroyed that ought to have been retained. At the other extreme, some staff have sent records indiscriminately to the museum collection. This has forced museum staff to become *de facto* records managers, making decisions on temporary and permanent status, etc.⁸⁷⁴

⁸⁷¹ *SFPMCMP*, 165-166.

⁸⁷² NPS, *Draft GMP*, 68.

⁸⁷³ Nancy Russell, personal communication, Nov. 1, 2013.

⁸⁷⁴ Nancy Russell, personal communication, Nov. 1, 2013.



Figure 18-7. Nike base warning sign from South Florida Collection Management Center

As the NPS moves more and more to electronic records, the need for a parkwide policy on them is increasingly apparent.

Chapter 19: Relationships with Cultural Communities

Native Americans

As described in chapter 1, at the end of the Third Seminole War in 1858, some 100 to 150 Indians remained in South Florida. The U.S. signed no peace treaty with the remaining Seminoles and merely suffered them to remain in the area without accord- ing them any reservation land. For some decades, the Seminoles were able to range relatively freely in South Florida.⁸⁷⁵ They typically established temporary camps on hammocks, moving seasonally to the pinelands to hunt and deeper into the Everglades to fish and take birds for plumes and alligators for hides. Mostly they plied their cy- press canoes on the lakes, rivers, and sloughs, as well as the canals made by prehistoric Indians. In addition to the food they got from hunting and fishing, the Indians raised hogs, corn, pumpkins, sugar cane, and other crops. In the winter and early spring, groups of Seminoles brought alligator hides, plumes, and pelts to trading posts at Fort Myers, Everglades City, Chokoloskee, Fort Lauderdale, Miami, and Bill Brown's store. Brown's store was for a time located at the site of present-day Immokalee and later at Boat Landing, 30 miles to the southeast in the Big Cypress Swamp. The Seminoles largely avoided any other contact with whites, seeking to maintain their traditional lives on land that no one else wanted. Religious groups and the U.S. Office of Indian Affairs made sporadic attempts to Christianize the Indians and persuade them to settle on permanent homesteads, but had no success.⁸⁷⁶

When the Florida East Coast Railroad reached Miami in 1896 and the state's drainage work got going early in the twentieth century, the Seminoles found it harder to keep to their traditional ways. Federal laws limited the plume trade, and drainage lowered water levels, making it much harder to navigate by canoe and greatly reducing game populations. The Indians also faced more competition for game from white hunters. The federal government began to purchase or set aside acreage for reser- vations, including the Dania (now Hollywood) Reservation in Broward County and the nucleus of the Big Cypress Reservation in Hendry County. For the most part, the Seminoles declined to move to the reservation land. In 1917, the Florida legislature established a Seminole reservation on 99,200 acres in Monroe County, running from

⁸⁷⁵ Until the 1950s, all Florida Indians generally were referred to as Seminoles. As described later in the chapter, the Miccosukee Tribe of Indians of Florida in 1962 obtained recognition as a separate tribe.

⁸⁷⁶ James W. Covington, "Federal and State Relations with the Florida Seminoles, 1975-1901," *Tequesta* 32 (1977):17-27. In 1947, the Office of Indian Affairs was renamed the Bureau of Indian Affairs.

Lostmans River to Shark River (figure 4-1). The act provided that the land was “for the perpetual use and benefit of the Indians,” and the state intended eventually to turn this reservation over to the federal government to administer. Seminoles used the Monroe County reservation for hunting and fishing, but it contained little high ground suitable for crops or permanent residences. Already by the 1910s, some Seminoles had been hired by tourist attractions in Miami, being paid to set up camps where visitors could observe them and buy their craft items. With the completion of the Tamiami Trail in 1928, a number of Seminole families moved their camps from the Big Cypress Swamp to the trail, where they could make a living from the tourist trade. The Indians charged an admission fee for entry into their villages along the trail; sold dolls, baskets, and patchwork clothing; and entertained visitors with alligator wrestling. Some males also served as guides for hunters.⁸⁷⁷

The Impact of the Proposed Park on Indians

When the Everglades National Park Association began lobbying for a national park in the Everglades in the late 1920s, it was immediately apparent that a park would have a major impact on the Seminoles. The park’s proposed boundary included the state reservation in Monroe County and the sites of a number of Indian camps on both sides of the Tamiami Trail (figure 19-1, Seminole camp on Tamiami Trail, 1927). The acreage within the proposed park had been prime hunting ground for the Seminoles for more than 100 years, and hunting was not considered an appropriate use in national parks. Early on, the NPS, the Office of Indian Affairs, and state officials decided that the Monroe County reservation could be replaced by a comparable tract of state land in Broward and Palm Beach Counties. This replacement tract was similar to the Monroe acreage, flooded much of the year and mostly unsuitable for agriculture. There is no evidence that the Indians were consulted on this swap of reservation land.⁸⁷⁸

Ernest Coe and other Florida park proponents thought that the park would greatly benefit the Indians. Coe believed that game animals, protected from hunting inside the park, would rapidly expand in numbers and then spill over into the adjacent, newly established reservation. Coe confidently predicted that this offered the Seminoles “a constant future supply of game.” In addition, he believed the park would provide many opportunities for Indians to work as canoe guides and to sell their craft items. Coe wrote “what could be more tempting . . . than a trip . . . through one of these

⁸⁷⁷ Executive Order 1379, “Seminole Reserves, Florida,” June 28, 1911; James W. Covington, “Florida Seminoles: 1900-1920,” *Florida Historical Quarterly* 53/2 (1974):181-197; Laws of Florida – 1917, Chapter 7310 (No. 52); James W. Covington, “Trail Indians of Florida,” *Florida Historical Quarterly* 58/1 (1979):37-40.

⁸⁷⁸ Dir. Cammerer to Elbert E. Burlew, Mar. 13, 1934, NARA II, RG 79, NPS CCF, box 903.



Figure 19-1. Seminole camp on the Tamiami Canal, 1927

jungle waterways sitting in the bow of a dugout canoe guided by a Seminole, who fits so perfectly into the picture?” Coe was no doubt sincere in his desire to help the Seminole, although his language suggests he saw them more as romantic landscape features than anything else. He also had a knack for seizing upon any possible argument that might promote the park’s prospects. Interior officials picked up these same themes. In a radio address, Assistant Secretary Oscar L. Chapman was at pains to “assure all friends of the Seminoles that this tribe will not suffer through the establishment of the Everglades National Park. Rather, it will be a boon to these Indians.”⁸⁷⁹

Some prominent Floridians and federal legislators were less confident that the interests of the Seminoles would be protected. Mrs. Minnie Moore-Wilson, long a champion of the Seminoles and author of an early book on them, said: “Do insist that no plans for a national park be considered that do not recognize the rights of the Seminole Indian to abide within the ancient strongholds of his race.” In the debate on the Everglades park bill, Congressman René DeRouen (D-Louisiana) stated “by passing this bill we are giving them [the Seminole Indians] a home, and [putting them] in a position to live there, where they should live.” As enacted, the 1934 authorizing legislature protected “the existing rights” of the Seminoles as long as they did not conflict with the park’s purpose.⁸⁸⁰ Following the park’s establishment, the meaning of these existing rights was open to considerable debate within the NPS.

⁸⁷⁹ Ernest F. Coe to Henry R. Cloud, Field Representative, Office of Indian Affairs, Dec. 8, 1931, NARA II, RG 79, NPS CCF, box 234; Excerpt from radio address, Apr. 1, 1934, Gov. Sholtz papers, box 40. Coe’s game argument had already proven false in the 1930s; prey animals sense where they are protected and tend not to wander beyond the sanctuary boundaries.

⁸⁸⁰ “Recognize Rights of Seminole in Creation of National Park, Urge of Indians’ Benefactor,” *Florida Times-Union*, June 2, 1929; Cong. Rec. H9494 (1934).

Ascertaining what Florida Indians thought about the prospect of a national park in the Everglades in the 1930s is very difficult. Few Seminoles were fluent in English, and all statements attributed to them are filtered through whites' notions of what Indians could be expected to say and ought to sound like. Deaconess Harriet Bedell ministered to the Indians for 30 years and may have understood their position as well as any outsider. In 1936, she wrote Ernest Coe:

Neither I nor the Indians are against it [the park]. As I told you, I am not telling the Indians what to do. I cannot do this but in talking with them they tell me they will be glad to help in any way but are not willing to move from their present villages and they will fight against going on a reservation. They are opposed to the park crossing the Tamiami Trail. They think it should end at Pinecrest, south of the Trail.⁸⁸¹

When the Florida cabinet in 1937 was preparing to formally abrogate the Monroe County reservation and replace it with one in Broward County, a council of elders from the Big Cypress and Tamiami Trail camps protested against any idea of moving them to the new reservation. They seemed less concerned about losing the Monroe County reservation, which they mainly used to hunt and fish, than being able to stay in their existing camps farther north in the Big Cypress and along the Tamiami Trail. Because enforcement of game laws in Monroe County was virtually nonexistent in the 1930s, the formal elimination of the reservation there likely did not interfere with hunting by Indians (or whites).⁸⁸²

At the time that Everglades National Park was authorized, federal Indian policy was undergoing major changes. President Roosevelt's reform-minded commissioner of Indian Affairs, John C. Collier, took advantage of the New Deal relief agencies, like the WPA and the CCC, to give Indians work. In 1934, he helped pass the Indian Reorganization Act.⁸⁸³ The act's thrust was to give tribes more control over their land and business activities and end the previous government policy of converting communal tribal land to individual ownership. Collier and his boss, Secretary of the Interior Harold Ickes, took a particular interest in the Indians of Florida. Under Collier, the existing Big Cypress Reservation was expanded and a new reservation, the Brighton Reservation, was established in Glades County, northwest of Lake Okeechobee. Ickes and Collier met with a group of about 160 Seminoles in West Palm Beach in March 1935. The West Palm Beach Chamber of Commerce organized this event, which was described in the press as a "pow-wow" and featured a "Seminole sun dance." The Indians offered terms of a proposed peace treaty with the federal government. After this

881 Harriet M. Bedell to Ernest F. Coe, Apr. 21, 1936, CP, EVER 13803.

882 "War Talk Sweeps Glades as Indians Protest Removal," *Miami Tribune*, Apr. 11, 1937.

883 Also known as the Wheeler-Howard Act.

meeting, Ickes told a radio audience “Everglades National Park would contribute also to the economic and social rehabilitation of the Seminole Indians, for whose welfare I have a great concern.”⁸⁸⁴

The reaction of Seminoles from the Big Cypress country to the visit of Ickes and Collier underscored how little Washington officials understood the linguistic, geographic, and cultural complexities among Florida Indians. The great majority of the Indians who met with the secretary were from the area around Lake Okeechobee. Big Cypress/Everglades area Indians, who were not invited to West Palm Beach, branded the event a “fake” and a “burlesque.” With the assistance of W. Stanley Hanson, a Mikasuki-speaking white employee of the Office of Indian Affairs, they drafted a petition to Congress, the Secretary of the Interior, and state officials. Signed by Cory Osceola, William McKinley Osceola, Richard Osceola, Charlie Billie, Josie Billie, and Chestnut Billie, the petition declared that the Big Cypress Indians had no interest in a treaty with, or aid from, the national government. They wished to live “as our fathers lived . . . free from the ever-changing and hindering policies of the white man.” Although lumped together as Seminoles by whites, the Lake Okeechobee area Indians and Big Cypress Indians lived differently and in many cases spoke mutually unintelligible languages (figure 19-2, a Miccosukee in a cypress canoe). The Big Cypress Indians predominantly spoke Mikasuki, a Hitchiti dialect. Some of the Indians living around the lake spoke Mikasuki; others spoke Muskogee. During the New Deal, the Office of Indian Affairs promoted large cattle raising operations on the Brighton and Big Cypress Reservations. The nonreservation Big Cypress Indians stuck to their traditional lifeways and had no interest in large-scale, market-oriented enterprises like stock raising. This divergence in economic activity served to accentuate the cultural differences between the two groups.⁸⁸⁵

NPS-Indian Relations Following Establishment

The park’s establishment in 1947 forced the NPS to give more thought to the future of the Indians living in and near it. At the time, Indians appear to have maintained few camps deep inside the park. Dan Beard reported that Jimmie Tommy had a camp about five miles south of the end of the Humble Oil Road (present-day Shark Valley Road), John Jumper a “temporary” camp near the headwaters of Shark River, and Jim Tiger and William McKinley Osceola had camps on the south side of Tamiami Trail.

884 Harry A. Kersey Jr., *The Florida Seminoles and the New Deal* (Boca Raton: Florida Atlantic University Press, 1989), xi-xii, 75-78; “Secretary Ickes Reveals Program to Aid Seminoles,” *Palm Beach Post*, Mar. 19, 1935; “Seminoles Present Peace Pact Details,” *Miami Herald*, Apr. 4, 1935; DOI press release, Mar. 31, 1935, CP, EVER 22302.

885 “Seminoles May Get New Lands in Everglades,” *Florida Times-Union*, Mar. 24, 1935; “Seminole Pact at Palm Beach Called a ‘Fake,’” *Miami Daily News*, Mar. 23, 1935.



Figure 19-2. A Miccosukee in a cypress canoe

In later decades, members of the Miccosukee Tribe stated that they had more than the two camps within the “central areas” of the park mentioned by Beard and that the NPS pressured them to abandon them. This claim is hard to evaluate, because the only contemporary documentation is from the NPS.⁸⁸⁶

First as manager of the wildlife refuge and then park superintendent, Beard worked with Kenneth Marmon, superintendent of the Seminole Agency in Florida, to contact Indians in the area. In May 1947, Beard met with John Jumper, Jim Tiger, and William McKinley Osceola. Then and later, he told Tiger and Osceola they could remain in their camps along the trail, and Jumper agreed to relocate to a new camp along the trail, completing the move by October 1947. Although the NPS announced no policy on the matter, it allowed the Indian camps within the park along the south side of the Tamiami Trail to remain. In the park’s early years, the NPS moved cautiously, aware that Congress had protected the existing rights of the Seminoles when

⁸⁸⁶ Daniel B. Beard to James Silver, FWS, May 30, 1947, NARA II, RG 79, NPS CCF, box 901; Statements of Tribal Chairman Billy Cypress and Tribal General Counsel Dexter Lehtinen, *Hearing Before the Committee on National Parks and Public Lands of the Committee on Resources, House of Representatives*, Sept. 25, 1997, No. 105-65, 29-32.

the park was created, but unsure of just what that entailed. Additionally, it was clear that the Indians living along the Tamiami Trail would vigorously resist any attempt to move them. In 1949, Beard believed there might be one or two “overnight” camps still being maintained deeper within the park. The NPS did insist that hunting and frogging in the park by Seminoles (and all others) cease. Available records indicate that illegal hunting by whites was a far greater problem in the early years than hunting by Indians.⁸⁸⁷

Beard and his successor Warren Hamilton reported having mostly good relations with neighboring Indians through the 1950s. Beard described his May 1947 meeting as “entirely cordial.” In March 1957, Beard and three other park staff were invited to meet in a chickee with more than a dozen Indians at a “hidden” village. They spent an afternoon exchanging views on NPS philosophies and Indian philosophies. Bill Doctor, who acted as translator, reported that the Indians liked what they heard. Oral tradition among the Miccosukees paints a different picture of the relationship. That tradition describes Beard telling the Indians at an early meeting that he was going “drive you pickaninnies” out of the park.”⁸⁸⁸ It is impossible at this remove to know just what Beard told the Seminoles. It is significant that some 60 years later, it is this threat and language that the Indians remember.

Interpreting the Native American Presence

As the NPS began planning an interpretive program for the park, Superintendent Beard considered including some “Seminole culture exhibits.” From the beginning, the Service focused its interpretive program on the natural environment. The Service seems never to have given serious consideration to Ernest Coe’s idea of employing colorful Indian guides, although some Miccosukees expressed an interest. Superintendent Beard thought it would remain a minor emphasis, but believed that “complete avoidance of the Seminole in the [interpretive] program . . . seems unwise to me.” He briefly floated the idea of retaining the camps of John Jumper or Jimmie Tommie as historical exhibits, with dugout canoes, pumpkin gardens, and even “clothes hung up to dry.” This idea was soon dropped, probably because of the difficulty and potential

⁸⁸⁷ Kenneth A. Marmon, Supt., Seminole Agency, to Daniel B. Beard, Apr. 24, 1947, Daniel B. Beard to James Silver, RD, FWS, May 30, 1947, NARA II, RG 79, NPS CCF, box 901; Daniel Beard to RDR1, Oct. 8, 1947. NARA Ph, RG 79, 79-58A-360, box 7.

⁸⁸⁸ Daniel B. Beard to James Silver, RD, FWS, May 30, 1947, NARA II, RG 79, NPS CCF, box 901; Daniel Beard to RDR1, Oct. 8, 1947. NARA Ph, RG 79, 79-58A-360, box 7; SMR, Mar. 1957; Supt. Kimball, personal communication, Oct. 30, 2013. Present at the 1957 meeting were Beard, the asst. supt., the asst. park naturalist, the Tamiami District ranger, medicine men Ingraham Billy, Frank Charlie, and Jimmy Billy, and council members Willy Jim, John Fu, Henry Billy, Wilson Doctor, Jack Cloy, Tom Buster, Frank Jimmy, Jimmy Doctor, Albert Osceola, Concho Billy, and Billy Doctor.

resource damage involved in bringing visitors to the camps. Throughout his superintendency, Beard remained interested in the idea of a Seminole museum or Seminole camp exhibit, preferably along the Tamiami Trail. Park managers understood that “quite a number of the hammocks in the Tamiami area” contained evidence of past Seminole occupancy, and thus Shark Valley emerged as a logical spot for interpreting Seminole history and culture. The park’s 1979 Master Plan restated the goal of using a visitor center at Shark Valley to “introduce visitors to Indian culture.” NPS management moved away from the idea of a Seminole camp as an exhibit out of distaste for the idea of displaying living Indians to visitors. Congress never funded a major visitor center at Shark Valley, and the park therefore did not mount a permanent exhibit on Seminole culture. The Seminole presence was briefly mentioned in the exhibits at Flamingo. Overall, it seems that the Indians were not very comfortable with the idea of the NPS interpreting their culture. In 1983, the Miccosukee Tribe opened its own Miccosukee Museum of Natural and Tribal History on the Tamiami Trail. The park also included an exhibit on Miccosukee life in the Ernest Coe Visitor Center, which opened in late 1996 (see chapter 20).⁸⁸⁹

U.S. Indian Policy in the 1950s

U.S. policy toward Native Americans was again changing after World War II. In 1947, the Office of Indian Affairs within Interior became the Bureau of Indian Affairs (BIA), and Congress set up the Indian Claims Commission, allowing tribes to seek compensation for past wrongs. In 1950, twelve reservation Seminoles hired attorneys to file a \$50,000,000 claim against the federal government. Additionally, in the 1950s, under President Eisenhower and a conservative Congress, the BIA moved to limit or end its responsibilities to many tribes, including Florida Seminoles. The mostly Mikasuki-speaking Indians living along the Tamiami Trail and in camps in the Big Cypress were disturbed by these developments. These individuals were more interested in gaining land than monetary damages. In addition, they believed that the reservation Indians, with their horse and cattle operations and closer contact with whites, did not understand them and could not adequately represent them. As the interests of the reservation Indians and Big Cypress/Everglades Indians diverged in the 1950s, both groups moved to achieve official federal government recognition. By 1954, many of the nonreservation Big Cypress Indians had set up their own council, the “General

⁸⁸⁹ Kenneth Marmon, Supt, Seminole Agency, to Daniel Beard, Apr. 24, 1947, NARA II, RG 79, NPS CCF, box 901; Supt. Beard to Dir., May 11, 1948, NARA Ph, RG 79, 79-58-360, box 7; Refuge Mgr. Beard to RDR1, May 8, 1947, Supt. Hamilton to RDR1, Dec. 23, 1958, NARA Ph, RG 79, 79-67-A-1022; Acting Supt., ENP, to RDR1, May 27, 1958, NARA Ph, RG 79, 79-66-A-661, box 7; NPS, *Everglades National Park Master Plan*, 1979; “Indian Life at One with Nature in the Everglades,” *Atlanta Journal-Constitution*, Jan. 9, 2005; Sandy Dayhoff, personal communication, Nov. 8, 2013.

Council of the Mikasuki Tribe of Seminole Indians.” Leaders in this effort were Ingraham Billie, Buffalo Tiger, George Osceola, and Jimmie Billie. As described below, this ultimately resulted in the 1962 federal recognition of the Miccosukee Tribe of Indians of Florida. The tribe adopted the Miccosukee spelling to avoid confusion with the language that they spoke, generally spelled Mikasuki.⁸⁹⁰

Federal and state officials were slow to grasp that the Miccosukee contingent represented a sizable minority of Florida Indians. The Indian Claims Commission continued to insist that the reservation Indians who filed the 1950 monetary claim represented all Florida Indians. In March 1954, two groups of reservation Indians and a group representing Miccosukee interests went to Washington to protest against the proposed end of federal aid. The Miccosukee leaders George Osceola, Jimmy Billie, and Buffalo Tiger presented a “Buckskin Declaration” to a representative of President Eisenhower, asking that a federal representative come to Florida and that their separate status be recognized. With help from the Florida congressional delegation, the Florida Indians managed to hold on to their three federally administered reservations and their federal aid. In August 1957, the federal government recognized the Seminole Tribe of Florida, consisting of Indians from the three federal reservations and a few others. The government and Seminole tribal leaders invited the Indians who self-identified as Miccosukee to become members, but they declined. This left almost all the Miccosukee living in homes on land that they did not own.⁸⁹¹

In September 1958, Miccosukee leaders made a “final offer” to settle their claims with the state and national governments. Most of their requests were directed at the state, but they also wanted the right to frog commercially in Everglades National Park, and fish, camp, and cut timber for their own noncommercial use. Park Superintendent Warren Hamilton expressed surprise at these requests, observing that only one Miccosukee, Jimmy Tiger, had ever asked to frog or farm in the interior of the park. NPS Director Conrad Wirth saw these as requests for “special privileges” and declined to grant them, stating that NPS policy would be applied equally to all. To bolster their case for federal recognition, the Miccosukee mounted a sophisticated public relations campaign. In 1959, the tribe invited 36 leaders representing 100,000 American Indians to a conference at a camp on the Tamiami Trail. The assembled leaders talked about seeking recognition from the United Nations if the U.S. government was unresponsive. The same year, a Miccosukee delegation met with Fidel Castro in Havana. Buffalo

890 Covington, “Trail Indians,” 41-45.

891 Covington, “Trail Indians,” 43-48; Harry Kersey, *An Assumption of Sovereignty: Social and Political Transformations Among the Florida Seminole, 1953-1979* (Lincoln: University of Nebraska Press, 1996), 195-196.

Tiger later commented that only after the media coverage of these events were his phone calls to state and federal officials returned.⁸⁹²

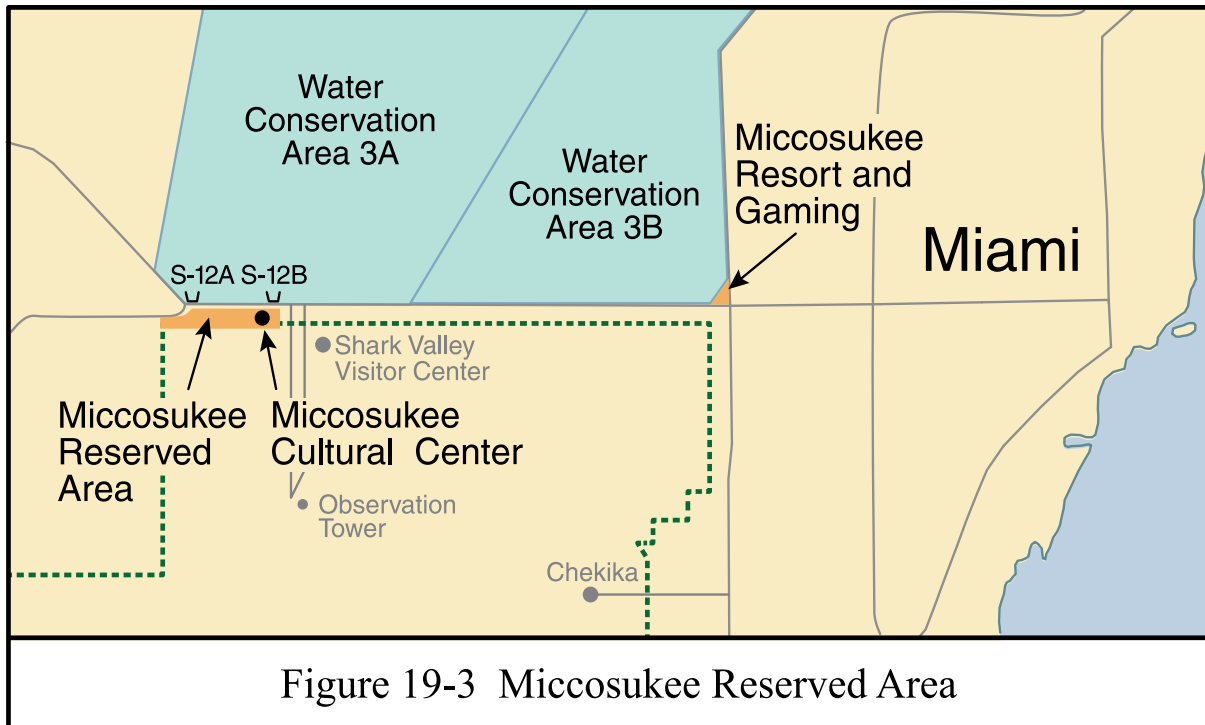
The Miccosukee Become a Federally Recognized Tribe

In late 1961, a group of Miccosukee leaders met at Jimmie Tiger's camp to draw up a tribal constitution. On January 11, 1962, the Secretary of the Interior formally recognized the Miccosukee Tribe of Indians of Florida, separate and distinct from the Seminole Tribe. A few dozen Florida Indians, most living near Naples, declined to join either tribe and are sometimes known as traditional Seminoles or independent Seminoles. A key player in the campaign to achieve federal recognition was Buffalo Tiger, who served as tribal chairman from 1961 to 1985. With the Miccosukees having achieved federal recognition and the water control structures of the Central and Southern Florida Project nearing completion, the state and federal governments acted to regularize relations with the tribe and provide them with facilities. The state divided the reservation created in 1937 in Broward and Palm Beach Counties, assigning the northern 28,000 acres to the Seminoles and the southern 76,000 acres to the Miccosukees. Most of the acreage given to the Miccosukee lay within WCA 3. Florida also ultimately granted the Miccosukee a perpetual lease on an additional 189,000 acres in WCA 3. In 1962, the state ceded three small parcels on the north side of the Tamiami Trail to the tribe. The tribe constructed a restaurant and a gas station/convenience store on these tracts. Also in 1962, the Department of the Interior for the first time officially recognized the Miccosukee settlements on park land. The director of the NPS and the commissioner of Indian affairs signed a special use permit (SUP) covering a five-and-one-half-mile-long strip on the south side of the Tamiami Trail, where Miccosukee families had been living since the late 1920s.⁸⁹³

This Miccosukee Reserved Area consisted of a tract some 500 feet wide running from just west of the park's Shark Valley developed area to the point where the park boundary turned south from the Loop Road (figure 19-3, Miccosukee Reserved Area). The initial SUP was only a page and one-half and not very detailed. It specified that:

892 Commissioner, BIA, to Dir., NPS, Oct. 6, 1958, Supt. to RDR1, Nov. 3, 1958, Dir., NPS, to Commissioner, BIA, Nov. 14, 1958, NARA Ph, RG 79, 79-067-1-1022, box 83; Covington, "Trail Indians," 51-52; Buffalo Tiger and Harry A. Kersey Jr., *Buffalo Tiger: A Life in the Everglades* (Lincoln: University of Nebraska Press, 2002), 88-90.

893 Covington, "Trail Indians," 54; Kersey, *An Assumption*, 195-197; Dir. Wirth to SOI, Aug. 21, 1962, NARA II, RG 48, Office of the SOI, CCF, box 327; Buffalo Tiger and Kersey, 90-95.



The lands will be for the use of the Bureau of Indian Affairs to provide places for the Seminole [sic – this was corrected to Miccosukee in later versions] Indians to live, make and sell handicrafts, and for such administrative and educational facilities as the Bureau of Indian Affairs may require.

The entire Miccosukee SUP area was wetland, so constructing any structure required first filling some part of the wet prairie to create a pad as a foundation. The SUP contained two loosely worded provisions meant to regulate building: “[A]ll improvements will be so designed as to be in harmony with the scenic values of the Park” and “No construction activity, dredging or filling will be carried on which will interfere with the free flow of water from the north through or over Park lands.” The SUP, however, did not require advance approval by the NPS of construction activity.⁸⁹⁴

The tribe developed an administrative center at the eastern end of the reserved area, with housing activity mostly farther west. Before 1962, most Miccosukee children did not attend school. The BIA put up a temporary school building in December 1962, with an initial enrollment of 19 children. A permanent two-room school with a cafeteria opened in September 1965. Later additions to the administrative area included a

⁸⁹⁴ Use Permit, Aug. 29, 1962, NARA II, RG 48, Office of the SOI, CCF, box 327. Two years later, the park reluctantly agreed to grant a second special use permit to the Miccosukee to bury tribal members on a hammock within the park. RDSE to Supt., July 9, 1964, NARA Ph, RG 79, 79-69-5662, box 11.

tribal headquarters, and a community building with a gymnasium. In 1971, the Miccosukee became one of the first recognized tribes to establish a tribal corporation and assume control of all the programs and services previously provided by the BIA. From this point, a federal agent was no longer assigned to the tribe. The Florida Indian Claims Settlement Act of 1982 (P.L. 97-399) ratified the agreement between the tribe and the state of Florida on land claims. It also provided for the Broward reservation and the restaurant and gas station parcels to become federal reservation land, held in trust by the secretary of the interior for the Miccosukee.⁸⁹⁵

Shortly after the tribe took responsibility for its own operations, the NPS moved to establish a new SUP for the reserved area, with the tribe rather than the BIA as the other signatory. The new permit covered the period from January 1973 to January 2014. Park managers now better understood the implications of having the reserved area between the flow-way structures of WCA 3 and the northwest Shark Slough; they sought to ensure that development in the area not adversely affect water deliveries needed by the park. The new SUP therefore required prior approval from the NPS for any “construction, dredging or filling . . . that will affect the water quality or interfere with the free flow of water from the North through or over the park lands.” Further, the tribe agreed to provide the park superintendent with “all plans and specifications” for any construction that it planned and to give the NPS “a detailed description” of a project’s impacts on “air and water quality, scenic and aesthetic features, historical and archeological features, and wildlife.” The intent of the new SUP was to give the NPS more input into decisions on development in the reserved area that potentially affected park resources. Although more comprehensive, the permit lacked specificity on what form tribal submittals to the park should take, the time period for park consideration of submittals, and the consequences of failure by either side to abide by the permit’s terms.⁸⁹⁶

Evolution of the Park’s Relationship with the Tribe

Up to the 1980s, park management’s relationships with the tribe appear to have been largely amicable, at least on the surface. The tribe has had its own police force since the middle 1970s, and park rangers and Miccosukee police routinely cooperate, under the terms of a memorandum of understanding. Park and tribal fire management teams also work together. The park included the tribal school in its environmental education program, and park staff assisted with crowd control and other needs for

⁸⁹⁵ Miccosukee Tribe of Indians of Florida, “The Miccosukee Tribe of Indians of Florida,” n.d. [1976?], EVER 56572, ser. II; Covington, “Trail Indians”; *Miccosukee Tribe of Indians of Florida v. State of Florida and Florida Department of Transportation, et al.*, Docket No. 6285–Civ–Paine.

⁸⁹⁶ Special Use Permit, Everglades National Park and Miccosukee Tribe of Indians of Florida, Jan. 1973, EVER 56572, ser. II.

special tribal events. Assessing the relationship in 1978, Superintendent John Good believed that “the general atmosphere has been respectful and mutually considerate.” Most tribal members had low incomes and lived in modest chickees or manufactured houses, which had limited impact on the environment. In the 1970s, it was estimated that Florida Indians on average earned one-half what whites did. In the main, park operations and Miccosukee life went on in two separate, adjacent spheres.⁸⁹⁷

Increased revenues from the tribe’s Tamiami Trail restaurant and service station and more importantly from gaming operations brought a number of changes. The tribe opened a bingo parlor seating 2,000 at the corner of the Tamiami Trail and Krome Avenue (known as “Dade Corners”) in September 1990. The tribe has steadily expanded that operation, adding gaming machines and poker tables (figure 19-4, Miccosukee resort at Dade Corners). In June 1999, it opened an elaborate resort complex



at the site, featuring 300 hotel rooms, an indoor pool, high-quality dining, a spa, and an 1,800-seat arena for live and pay-per-view events. The Miccosukee also operate a profitable service station/rest stop on I-75 where it runs through their Broward County reservation. This economic activity substantially increased the income of tribal members. The data are confidential, but estimates of yearly payments to members have run as high as

Figure 19-4. Miccosukee resort at Dade Corners, 2012

⁸⁹⁷ Supt. Good to RDSE, Mar. 29, 1978, Supt. Ring to Judith L. McCluney, Jan. 31, 1997, EVER 56572, ser. II; “Crisis in Red and White,” *Miami Herald*, Dec. 31, 1972; Memorandum of Understanding between NPS and Miccosukee Tribe of Indians of Florida, Mar. 16, 1990, EVER 22965. A hint of underlying tensions in the relationship can be found in a 1966 incident. The SMR for Dec. 1966 notes that children of NPS staff at the Tamiami Ranger Station had developed hookworm, attributed to Miccosukee dogs that roamed freely in the area. The report noted “the Miccosukee health problems are now the Park Service health problems.”

\$61,000. As the tribe's wealth grew, members looked to build larger, modern homes in the reserved area.⁸⁹⁸

The Housing Issue

In 1990, the tribe moved forward with plans to build 45 additional houses in the reserved area, affecting a little more than 13 acres. The location of the reserved area just south of flood control structures 12-A and 12-B made this proposed development of great concern to the park. Water released from WCA 3A via these floodways passes across the Miccosukee lands before entering northwestern Shark Slough. Building 45 houses and their associated septic fields had the potential to affect the flow of surface water reaching the park and its quality. The tribe began building foundation pads for the new houses without notifying the park of its intentions, as required by the SUP, and without obtaining a permit from the U.S. Army Corps of Engineers, required under section 404 of the Clean Water Act. The NPS, the Corps, and state agencies worked with the tribe to obtain the necessary permit, and construction proceeded. As part of the mitigation for filling in wetlands for housing, the tribe agreed to prepare a comprehensive land use plan for the reserved area. In the wake of this incident, NPS managers grew increasingly concerned that the tribe was treating the reserved area as sovereign tribal land and ignoring its obligations under the SUP. Rather than deal with piecemeal construction activity, the Service wanted to see a professionally prepared comprehensive land use plan that would give it a better idea of the cumulative impacts of construction activity.⁸⁹⁹

By 1993, the tribe was ready to construct more houses. It submitted a conceptual use plan to NPS that contained schematic drawings for 49 new houses. Park managers judged the plan inadequate, but were slow to communicate their concerns to tribal officials. In part, this was because they were preoccupied with recovery efforts following Hurricane Andrew. A number of key park personnel who had worked closely with the tribe left after Andrew, and the loss of these established relationships was felt. Eager to build better houses, the tribe in March 1994 informed the NPS of its intention to seek a section 404 permit for new housing. In late April, it applied to the Corps for a permit for 65 houses strung out along the Loop Road west of existing residential development. The NPS informed the Corps that it had not approved any additional housing in the reserved area and asked that the permit be denied. Still looking to get

898 "Miccosukee Tribe Banking on Bingo," *Miami Herald*, Sep. 27, 1990; "From Everglades Defender to Developer, Tribe is Stepping Out," *Los Angeles Times*, June 3, 1999; "Glittering Resort Shows Miccosukee Transformation," *Atlanta Journal-Constitution*, June 13, 1999; "IRS Investigates Tribe over Gambling Profits," *South Florida Sun-Sentinel*, June 29, 2010.

899 SAR, 1990; Deputy Assoc. Solicitor David Watts to Deputy Solicitor, DOI, June 20, 1996, Supt. Ring to Judith L. McCluney, Jan. 31, 1997, EVER 56572, ser. II.

an acceptable comprehensive land use plan, the park in October 1994 sent the tribe information on preparing such a plan.⁹⁰⁰

Convinced that the park was unnecessarily delaying its housing plans, the tribe in 1994 filed suit in federal court asking that the Everglades superintendent be ordered to approve the tribe's construction plans. Former U.S. attorney Dexter Lehtinen had become the tribe's counsel in 1992 and would remain in that role until May 2010. Lehtinen and Billy Cypress, who was tribal chairman from 1987 to 2009, increasingly used lawsuits to further the tribe's interests. For its part, the park continued to press the tribe for a comprehensive land use plan. The judge overseeing the housing lawsuit directed the NPS to speed up its review process, and the park in June 1996 produced an environmental assessment with its preferred layout for 95 new residences. To reduce the impact on water flow, the park's plan called for 30 houses along the Loop Road, with the remainder scattered in already-developed areas. The tribe found this configuration unacceptable. In October 1996, Secretary of the Interior Babbitt intervened, resulting in an agreement that allowed for the construction of the 30 houses along the Loop Road. The suit over the remaining houses continued.⁹⁰¹

Housing was not the only issue that strained relations between the tribe and the park in this period. The Miccosukee had long been unhappy about the maintenance of high water levels in WCA 3, much of which was their reservation land or leased to them by the state. The high water limited the tribe's use of the land, degraded tree islands and other natural features, and killed many deer. Heavy rains hit South Florida in fall 1994, including those associated with Tropical Storm Gordon. To alleviate flooding in the WCA and the reserved area, the tribe requested that the S-12 and S-333 water control structures along the southern boundary of WCA 3 be opened and vegetation behind the structures be cut. The Corps, the SFWMD, and the park agreed to some limited flood-reduction measures, but the park opposed the major steps requested by the tribe. The NPS believed opening the S-12s would unnaturally raise water levels in the western Shark Slough, threatening the habitat of the Cape Sable seaside sparrow, and that vegetation cutting would speed the flow of unwanted nutrients into the park. On March 16, 1995, the tribe brought suit in federal court against Interior, the Corps, and the SFWMD alleging that agency actions constituted a breach of trust and violated the tribe's constitutional rights. In addition to the agencies, NPS superintendent Richard Ring was sued in his individual capacity in what is known as a Bivens action. Because of his determined efforts to protect the park's values and hold the tribe to the terms of the SUP, Ring became a particular target for the Miccosukees' accumulated

900 Elaine Hall, interview by author, June 28, 2012.

901 *Miccosukee Tribe of Indians v. the United States*, No. 94-CIV; Miccosukee Tribal Suits and Actions to Delay the Restoration, n.d. [late 1999], EVER 56572, ser. II; "U.S. Approves Tribal Housing in Everglades; Disagreement Remains on More Construction," *Washington Post*, Oct. 27, 1996.

grievances. After extensive discovery proceedings and hearings, the court eventually ruled in favor of the defendants.⁹⁰²

The Miccosukee Reserved Area Act of 1998

The dispute over housing played out alongside the controversy over flooding of tribal lands. Believing that the NPS was determined to keep the tribe from exercising full sovereignty over its ancestral lands, the Miccosukee sought federal legislation to conclusively establish their rights in the reserved area. Tribal counsel Dexter Lehtinen was married to Florida Congresswoman Ileana Ros-Lehtinen, and ultimately this connection helped to achieve legislation favorable to the tribe. In September 1996, Florida Representatives Alcee Hastings, Carrie Meek, Lincoln Diaz-Balart, and Dan Miller introduced a bill amending the 1934 act establishing the park. Offered near the end of the second session of the 104th Congress, this bill largely represented a statement of intent and had little chance of passage. The bill would have given full reservation status to the SUP area and eliminated the need for NPS approval of construction activity. In September 1997, the House Subcommittee on National Parks and Public Lands convened a hearing on the SUP area, which ultimately resulted in the passage of the 1998 Miccosukee Reserved Area Act. In opening the hearing, Subcommittee Chair James V. Hansen (R-Utah) expressed his hope that a frank discussion would lead to a solution reconciling the tribe's development needs with the park's mission of protecting natural resources.⁹⁰³

At the hearing, the tribe and the NPS presented their positions. Reflecting many decades of frustration, Chairman Cypress flatly stated that "the NPS works as an agent of our destruction." He accused high Interior officials of threatening to evict the Miccosukee when the permit expired in 2014. Cypress asked that the tribe be "guaranteed rights of self-government [in the reserved area] . . . without paternalistic and misguided Park Service employees telling them what's good for them." Deputy Interior Solicitor Edward Cohen told the subcommittee members that the reserved area "is located immediately downstream of structures that deliver the Park's water from the north" and reminded members that the NPS needed "to balance development in

902 *Miccosukee Tribe of Indians of Florida v. United States*, No. 95-0532-CIV-Davis, 980 F. Supp. 448 (1997), http://www.leagle.com/xmlResult.aspx?page=4&xmldoc=19971428980F-Supp448_11360.xml&docbase=CSLWAR2-1986-2006&SizeDisp=7. In 1971, the U.S. Supreme Court in *Bivens v. Six Unknown Named Federal Agents* (403 U.S. 388) recognized a cause of action against federal officials as individuals for violations of constitutional rights.

903 H.R. 4199, "A Bill to Amend the Act Entitled An Act to Provide for the Establishment of the Everglades National Park," 104th cong., 2d sess., Sept. 26, 1996; *Hearing before the Subcommittee on National Parks and Public Lands of the Committee on Resources, House of Representatives Concerning the Miccosukee Tribe's Ongoing Negotiations with the National Park Service Regarding the Special Use Permit Area*, No. 105-65 (1997), 1.

the . . . permit area with the protection and perpetuation of Park resources.” He noted that discussions with the tribe leading to a legislated solution were under way and believed an acceptable solution was within reach.⁹⁰⁴

In November 1997, Congressman Hastings introduced a bill converting the special use area into the “Tamiami Indian Reservation.” Senator Connie Mack introduced an identical resolution in the Senate. This bill voided the special use permit and granted the Miccosukee tribe full sovereignty over the strip along the Tamiami Trail, enlarging it to 666 acres. The bill acknowledged that the tribe would need to obtain section 404 permits for construction activity from the Corps of Engineers, but contained no other language that safeguarded water flows and water quality. The NPS and a number of environmental groups opposed this bill, believing it left far too many issues unresolved. Of particular concern to the NPS was a reverter clause contained in the state’s original conveyance of the land embracing the Miccosukee strip to the federal government. The clause provided that the land would revert to the state if it ever ceased to be used as a national park. In its initial form, the bill declared the Tamiami Trail Reservation to be compatible with Everglades National Park, but did not specify that the reservation remained part of the park. Other areas of concern were the visual effect of development on the visitor experience at Shark Valley and the precedent that the act would establish. Of paramount importance to the NPS was getting language into the act that would allow it to prevent development in the reserved area that would impede surface water flow. Negotiations between Interior and tribal representatives continued into 1998. Deputy Interior Solicitor Edward Cohen, Park Deputy Superintendent Larry Belli and park Legal Affairs Specialist Elaine Hall were heavily involved in these talks. Superintendent Ring largely stayed in background because of the tribe’s attitude toward him.⁹⁰⁵

These talks between Interior and the tribe led to a rewritten bill that was signed into law October 30, 1998, as the Miccosukee Reserved Area Act. The act gave the tribe the authority to “govern its own affairs” within the Miccosukee Reserved Area (MRA), which was made 500 feet deeper, going from 333 to 666 acres. It also gained “the exclusive right to use and develop the MRA in perpetuity . . . for purposes of the administration, education, housing and cultural activities of the Tribe.” Congress specifically stipulated that the MRA remained part of Everglades National Park and included a number of provisions to ensure the protection of park values. The tribe was required to “prevent and abate any significant cumulative adverse environmental impact on the Park resulting from development or other activities within the MRA.”

904 *Hearing*, No. 105-65, 29, 31.

905 H.R. 3055, A Bill to Deem the Activities of the Miccosukee Tribe on the Tamiami Indian Reservation to Be Consistent with the Purposes of Everglades National Park, Nov. 13, 1997; S. 1419, Nov. 7, 1997; Asst. Sec. for Fish, Wildlife and Parks to Congressman James V. Hansen, May 5, 1998, EVER 56572, ser. II; Belli and Hall interviews.

The act clearly stated that the tribe would take no action within the MRA that would interfere with the “quantity, timing, or distribution” of water flows into the park. The tribe was to develop procedures for outside comment on actions that potentially affected the environment and to set water quality standards at least as restrictive as those for the park. The act imposed height limits on buildings within the MRA and required the tribe to consider the effects of any structure on the visual experience from the Shark Valley visitor area. The Corps of Engineers was required to consult with Interior before granting section 404 permits for the MRA. The NPS probably conceded more in the final text of the act than it would have liked, but the Miccosukee were widely seen as having suffered historically, and there was considerable pressure to accommodate their desires. The agency made sure that the language protecting water flows from WCA 3 across the MRA and into the park was part of the act. When the bill cleared the House, Congressman Hastings stated that it provided the Miccosukee “what we promised them when we passed the park bill in 1934.”⁹⁰⁶

Passage of the 1998 Miccosukee Reserved Area Act did not magically transform the park’s relationship with the tribe. Cooperation between park staff and the tribe on law enforcement matters and fire management continues to be strong. The major issues continue to be those involving development on the reserved area. It also seems that the tribe at times blames the NPS for action by other government agencies. High water levels in Water Conservation Area 3, for example, are chronically opposed by the tribe, but they are the result of decision by the Corps and the SFWMD, not the NPS. The preferred alternative in the park’s draft general management commits the Service to making the effort to work cooperatively with the tribe to coordinate educational and other efforts.⁹⁰⁷ Relations between the tribe and the park have improved somewhat in recent years, but the legacy of suspicion built up over decades has not disappeared.

The continuing frustration of some Florida Indians with the presence of Everglades National Park in their ancestral domain was highlighted in a 2008 incident. On the morning of March 19 of that year, Cecil Osceola, unaffiliated with either the Miccosukee or Seminole tribes, arrived at the park’s Shark Valley entrance at the wheel of a large front loader. Osceola was wearing a traditional patchwork shirt and moccasins. He told rangers that he intended to start building a house in Shark Valley at 11 a.m., and showed them a document from 1960 that he said gave him the right to build there. After discussions with park rangers and two Miccosukee tribal police officers, Osceola agreed to talk with Superintendent Dan Kimball. The superintendent was contacted at a meeting at the South Florida Natural Resources Center and drove immediately

⁹⁰⁶ Miccosukee Reserved Area Act, P. L. 105-313; Ring interview; 144 Cong. Rec. H10588 (Oct. 12, 1998); Belli and Hall interviews.

⁹⁰⁷ *Draft GMP*, 73.

to Shark Valley. Osceola seems to have anticipated negotiations, since he brought his own chair with him. Kimball and Osceola spoke for some time. Osceola left when the superintendent agreed to personally look into the question and meet with him again. In a later meeting, Kimball showed him three sites in Big Cypress National Preserve where he could build, and Mr. Osceola accepted that solution. Dan Kimball concluded that getting along with park neighbors at times required a willingness “to just stick in there and keep talking.”⁹⁰⁸

White Residents

At the 1947 establishment of Everglades National Park, the NPS confronted a small white population within the park boundary that the agency believed was incompatible with administering the area for the nation’s benefit. A number of the residents were descendants of the pioneering families who moved to the area around 1900. Nearby residents were accustomed to hunting, trapping, and fishing virtually without restraint in the Everglades and adjacent waters. From the perspective of many local residents in the late 1940s into 1980s, the history of NPS management of the area largely unfolded as a story of losing one by one many of their customary uses. The NPS, on the other hand, had a mission to preserve the park as wilderness and protect its resources. The NPS embarked on a series of measures over the decades—displacing Flamingo residents, enforcing game laws, eliminating commercial fishing, ending agriculture in the Hole-in-the-Donut, expanding the park into the East Everglades—that left a legacy of bitterness among some South Florida residents. No community, however, has uniform opinions, and it should be remembered that other local residents supported the park’s protective measures.

The serious cultural divide that separated NPS professionals and many Everglades residents fairly jumps from the pages of agency documents from the 1940s and 1950s. NPS Chief of Development Thomas C. Vint described Flamingo as a “sea-coast slum” and its citizens as “human flotsam” (figure 19-5, a vanished way of life at Flamingo). Regional Director Allen noted:

Bit by bit we are removing from the national park area those troublesome characters who spearheaded the sabotage of the wildlife features. . . . Our men have gone to places like Flamingo and even more isolated shore line camps on the Gulf coast and day or night they have faced without fear characters who would need no motive to kill a man.⁹⁰⁹

908 “Native American Asserts Land Claim in Park,” printout from Inside NPS website, Mar. 2008; Kimball interview.

909 Supt. Beard to RDR1, Apr. 23, 1949, EVER 22965; RDR1 Thomas Allen to Dir. Drury, Aug. 16, 1950, NARA II, RG 79, NPS Dir. Recs., Drury, box 7.



Figure 19-5. A vanished way of life at Flamingo

NPS officials valued order, cleanliness, and strict adherence to the law. They had little understanding of the Everglades way of life, which was decidedly informal and relied on natural resources for subsistence and cash income, regardless of regulations made in remote places like Tallahassee or Washington, D.C. NPS authorities were slow to grasp that Everglades residents had their own understanding of the environment gained through years of living on the land, and that some of their practices, like burning uplands, actually were beneficial. Superintendent Beard was half-amused and half-appalled by Flamingo nicknames: “Boob” Weeks, “Barrelhead” House, “Cootie” Roberts, and others he was unwilling to commit to paper. In a 1952 article in *National Parks Magazine*, Beard acknowledged that Flamingo residents “knew something of plain, practical conservation,” but devoted more attention to other practices, such as distilling “aquadent,” a strong spirit made from sugarcane, and shooting white ibis, locally known as Chokoloskee chicken.⁹¹⁰

In the early decades, some local residents threatened park personnel, although no assaults ever occurred. Others harassed them in large and small ways. Superintendent Beard referred to airboatmen circl[ing] around our boats and practically thumb[ing]

⁹¹⁰ Daniel B. Beard, “Return of the Gill Net to Florida Bay,” *National Parks Magazine* 26/110 (July-Sep. 1952), 110-111, 130. Lloyd House got the nickname Barrelhead because he paid “cash on the barrelhead” for fish that others caught. James H. Parker, Narrative of James H. Parker Regarding Everglades National Park, Nov. 20, 1997, EVER-00886.

their noses at our feeble attempts of law enforcement.” In 1951, the park entrance gate and sign were destroyed, and the park plane was burned in its hangar in 1961.⁹¹¹ Fire Management Officer Rick Anderson, who grew up in the area, has spoken of the complicated relationship with the NPS presence:

These Park Service actions were seen as incursions onto our land, even though everybody knew full well that it wasn’t ours. But it was our way of life, I think, that was being threatened. One thing that was really clear to us early on was that the rangers didn’t know the backcountry anywhere near as well as we did. Being mischievous, as teenagers, we gave the rangers a pretty hard time. For example, if we found their boats tied up somewhere we would just untie them. [Limiting the mobility of the rangers] was helpful to other people that we knew who were doing other things in the backcountry of the Everglades. You can maybe see it as a great irony – or maybe coincidence - that I went to work for the same outfit that I “tortured.”⁹¹²

Farm operators and some migrant laborers protested when agriculture was ended in the Hole-in-the-Donut. Large-scale farming began there only in the mid-1950s with the use of rock-plowing. Scattered tomato farming was done as far back as the 1910s, but on limited acreage and only in relatively dry years. The end of agriculture affected a relative few; nevertheless, a reporter for the *South Dade News Leader* saw a pattern:

If Everglades National Park has its way, come June 30, “Donut Tomatoes” will pass into the obscurity already assigned by the park to such facets of human history in the area as buttonwood charcoal kilns, stilt-mounted fishermen’s houses, Ingraham Highway, Royal Palm State Park and other vestiges of humanity in the park over the last 150 years.⁹¹³

The elimination of commercial fishing at the end of 1985 provoked considerable local anger, especially in Everglades City. The NPS believed that by giving six years’ notice of the step it was allowing enough time for fishermen to make the transition to other livelihoods. Locals argued that they had no other viable occupations, and few were willing to move away to find work. Kenny Brown, a third generation Chokoloskee resident, observed, “Maybe this generation is supposed to move away, but we have roots set down. The Browns are buried here. Where are we supposed to go?” Buddy Roberts, who had been forced out of Flamingo, cited the promises about fishing made back in the 1930s. Later, some Everglades residents would claim they were somehow forced to deal drugs when commercial fishing was banned in the park. Undercutting

911 Supt. Beard to EVER staff, May 19, 1952, NARA Ph, RG 79, 79-58-A-360; SMR, June 1951.

912 Anderson interview.

913 “June 30—That’s Deadline for ‘Donut’ Farming Halt,” *South Dade News Leader*, June 9, 1975.

that argument is the fact that residents got into the drug trade in 1978 or earlier, before the fishing ban was announced. Jack Morehead, superintendent at the time of the drug busts, noted that the fishermen's case for reopening commercial fishing in the park was seriously undermined when the extent of the drug activity among fishermen was revealed. Nonetheless, the fishing ban was seen by some as an example of NPS bad faith.⁹¹⁴

Another source of conflict arose in the 1980s when it became clear that an area of more than 100,000 acres on the northeast boundary of the park was critically important for maintaining water flows into the park. Known as the East Everglades, this area lay south of the Tamiami Trail and west of Krome Avenue. Local residents were accustomed to hunting in this area, using airboats and establishing camps on hammocks and other high ground. In the southeastern portion of the East Everglades, a number of individuals had built houses and established plant nurseries. This area west of the L-31N perimeter levee and just north of Southwest 168th Street was called the 8.5 Square Mile Area. As the NPS moved to get congressional approval to purchase most of the East Everglades and add it to the park, some locals again protested the demise of traditional uses of the land. One member of the Airboat Association of Florida wrote about a camp on Crandon Hammock that could accommodate up to 20 "rowdy rednecks" during hunting season:

Take a good look 'cause the camp will be destroyed by the National Park Service very soon. Even though man has utilized this hammock for centuries, the NPS has always maintained the erroneous notion that the "natural state" excludes humans.⁹¹⁵

The use of the term redneck in this post underscores how some locals felt they were looked down upon by the NPS, the South Florida Water Management District and other agencies.

In the 8.5 Square Mile Area, a fight raged for more than two decades over the fate of the community (figure 19-6, "Flooding on the Way"). Many of the 600 plus East Everglades residents were of Cuban origin, and some charged they were the victims of ethnic discrimination. As resident Lorraine Valladares put it in a public meeting: "This is the only house my husband, who is Cuban, has. He had one in Cuba, but they took it. So are you going to take this one?" In the end, a compromise was reached where most of the community was protected with levees, while residents of the western portion were bought out so the land could be flooded.⁹¹⁶

⁹¹⁴ "Buddy Roberts: Fighting for His Homeland with National Park Service," *Miami News*, June 18, 1980; "Welcoming Mr. Matthiessen," *Miami Herald*, Nov. 8, 1997; "Renegade as Wild as the Glades," *Miami Herald*, June 18, 1995; Morehead interview.

⁹¹⁵ GatorDan, "Crandon Hammock," printout of a web post, 1990s, EVER-00955.

⁹¹⁶ Kirk Semple, "The Last Frontier," *Miami New Times*, Jan. 5-11, 1996.

Local attitudes toward the park have changed over time. Almost all of the displaced Flamingo residents are now dead, and the commercial fishing fight ended almost three decades ago. Time has somewhat softened the blows. As golf courses, condominiums, and shopping malls proliferate, more residents have come to believe that there was a value in setting aside Everglades National Park. Old-timers still laugh at some park efforts, but there may be more understanding. Rick Anderson has put it this way:

I do have an elderly uncle who asks “Is the government still paying you to set them palmettos on fire?” I say yes, they are. Then he says, “You know, we used to do that for free, but they called it a crime.” But, people know what’s going on with the map of Florida. It’s come to where Florida – the new Florida - has come up to the boundaries of their world.⁹¹⁷

Spanish Speakers

Since 1960, an influx of Spanish speakers has dramatically changed the demographics and cultural contours of South Florida. From 1960 to 2011, Miami-Dade County’s population of Hispanic origin grew from about 50,000 (5.3 percent) to 1.6 million (64.5 percent). The initial wave of immigration was from Cuba, but in recent decades there has been substantial immigration from Mexico and Central America and some from Puerto Rico and South America as well. Generalizations are perilous, but in the main, the new Spanish-speaking population had different traditions of park use and limited connections to Everglades National Park. Use of Everglades National Park by people of Hispanic origin has remained low. A visitor use survey conducted in 2008 showed that 7 percent of winter visitors and 5 percent of spring visitors were Hispanic. The questionnaire used in the survey was not distributed at the Chekika Day Use Area, which is heavily by locals of Hispanic background; Hispanics thus may have been undercounted. The South Florida Hispanic population is overwhelmingly urban, and many members may have concerns about safety in the unfamiliar terrain of the Everglades.⁹¹⁸

In recent decades the park has sought ways to engage this population. Given the political and economic power of citizens of Hispanic origin in many areas of Florida, support for park values will be important in achieving future goals, notably maintaining a commitment to Everglades restoration. Initial efforts focused on

⁹¹⁷ Anderson interview.

⁹¹⁸ U.S. Census Bureau, <http://quickfacts.census.gov/qfd/states/12/12086.html>; Finnerty interview; Eleonora Papadogiannaki, Nancy C. Holmes, Michael A. Schuett, and Steven J. Hollenhorst, *Everglades National Park Visitor Study, Winter and Spring 2008* (Moscow, Id.: University of Idaho Park Studies Unit, Nov. 2008), 17, <http://www.nps.gov/ever/parkmgmt/upload/EVER%20Visitor%20Study%202008.pdf>.



Flooding on the Way!

WHAT'S MORE IMPORTANT ?

Water in your living room or the Cape Sable Seaside Sparrow ?

The Corps of Engineers and the Department of Interior have been working for several years to find a way to manage water in the Everglades so as to protect the habitat of the Cape Sable Seaside Sparrow (an endangered species) while still providing flood protection for the citizens of the area. Their differences were so great that a professional facilitator had to be called in to mediate between the two agencies. No local interests were allowed to participate.

Out of that mediation came a proposed Environmental Impact Statement that endorses a solution that will pump more water into South Miami-Dade County canal system. **That's BAD !** More water in the canals means less capacity to absorb and drain storm water and more likelihood that your homes and fields will be flooded — again and again and again.

The Corps will hold a public meeting in Homestead to discuss this issue. It will be held Monday, October 29, 2001 at 6:30 pm in the Cooperative Extension Office at 18710 SW 288th Street. If you are sick and tired of being flooded, it's time you tell the Corps, the Fish and Wildlife Service, the Department of Interior and the South Florida Water Management District that enough is enough!

**DADE COUNTY FARM BUREAU
1850 Old Dixie Highway
Homestead, Florida 33033
305-246-5514**

Figure 19-6. "Flooding on the Way"

translating park interpretive materials into Spanish and have since expanded to steps like the formation of the South Florida National Parks Trust (see chapter 22). The NPS has made a conscious effort to recruit leaders from the Hispanic Community for the trust's board of trustees. The 2007 reopening of the Chekika Day Use Area was another important step.⁹¹⁹

Haitians

South Florida is home to a sizable population of Haitian immigrants. In 2010, Miami-Dade County had 118,000 residents of Haitian origin and Broward County had 102,000. Little research seems to have been done on the attitudes of Haitian Americans toward national parks in general or Everglades National Park in particular. Another predominantly urban population, Haitians may share an unfamiliarity and uneasiness with the broad natural areas of the park. The park has translated a number of materials, including its Junior Ranger activities guide, into Haitian Creole.⁹²⁰

The 1996 Social Science Research Plan

Aware of the many issues posed by the large, growing, and diverse surrounding communities, Everglades and the other South Florida National Parks in the mid-1990s undertook a social science research plan. The plan was prepared by the NPS Social Science Program in cooperation with the Florida Atlantic University/Florida International University Joint Center for Environmental and Urban Problems. The plan's goals were to identify social science research needs, propose a research agenda and specific research projects, and advance a strategy, schedule, and budget for the projected research. In developing the plan, the team preparing it conducted six workshops attended by NPS managers, scientists, local officials, and interested citizens. Only 27 people participated in the three workshops that were open to the public. Research recommendations focused on obtaining substantially more information on park visitors, community and stakeholder populations, and the socioeconomic impacts of the parks. Everglades National Park was interested in gaining more data on foreign visitors and the park's visitor carrying capacity. The total cost of implementing the recommended

⁹¹⁹ Finnerty and Kimball interviews.

⁹²⁰ Center for the Study of Brooklyn, *Haitian Demographic Information*, Jan. 2010, http://www.brooklyn.cuny.edu/pub/departments/csb/documents/csb/Haitian_Demographic_Information.pdf.

research was \$546,000 (\$789,000 in 2012 dollars). Little of the research suggested in the plan has been carried out to date.⁹²¹

⁹²¹ Gary E. Machlis, Jean E. McKendry, and Michele E. Correia, *A Social Science Plan for South Florida National Park Service Units* (N.p.: National Park Service, October 1996), <http://www.nature.nps.gov/socialscience/docs/archive/SFlorida.pdf>.

Chapter 20: Interpretive and Educational Programs

Interpretive efforts at Everglades National Park are shaped by the nearly universal recognition that the Everglades is a subtle landscape, without the awe-inspiring geological features of most western parks. NPS interpretive planners repeatedly have observed that visitors need to be educated to appreciate the nuances of Everglades environments. This 1978 observation is representative: “Visitors are generally unprepared to understand and appreciate the fascinating though subtle, values of the Everglades.”⁹²² Planners also understood that wildlife, particularly the wading birds in winter, would always be a primary draw. In the park’s first three decades, managers sometimes took extraordinary steps to ensure an adequate wildlife display. The NPS was surprised when strong summer visitation developed in the 1950s. This led them to emphasize broader ecological relationships in the summer, when the wildlife show was less dazzling. For decades, the natural environment was the overwhelming focus of interpretation. At Everglades, the park naturalist had responsibility for interpretation until 1982, when a new position, chief of interpretation, was created.⁹²³ In recent decades, the human occupation of the Everglades gained a larger role in the interpretive program. As the implementation of the Central & South Florida water control plan degraded conditions in Everglades National Park, park managers increasingly relied on interpretation as a broad educational tool. Interpreters sought to explain the ecological relationships of South Florida and the dependence of human communities on nature. The aim was to use the interpretive program to build a broad constituency in Florida for responsible development and environmental protection. This constituency-building goal was a big factor in Everglades developing the most vigorous and long-lived environmental education program within the Service.

Early Interpretive Efforts and Planning

Preoccupied with asserting authority over the park and lacking funds, Superintendent Beard and his small staff relied heavily on others in the early years for interpretive efforts. The Tropical Audubon Society began offering bird-watching tours in the Everglades National Wildlife Preserve in winter 1946/1947. These continued after

⁹²² Everglades National Park Division of Interpretation, Project Briefing Book, EVER 58222.

⁹²³ Everglades’ first park naturalist was Willard E. Dilley, who was promoted from ranger to that position in July 1948. In March 1955, Ernst T. Christensen became park naturalist, remaining in the position until July 1966. Christensen played a major role in developing the park’s initial interpretive program. SMR, July 1948 and Mar. 1955; Ernst T. Christensen, “In a Sense This Is a Swan Song,” *The Anhinga*, July 1966.

the park's establishment and were a significant form of personal-service interpretation for several years. Charles M. Brookfield, long-time president of Tropical Audubon, led many of these tours. As of winter 1950/1951, Audubon was offering one- and two-day tours at \$10 and \$20, respectively, exclusive of food and lodging. Tourists were driven by station wagon to Coot Bay and Key Largo and then taken on boats to rookeries and other locations (figure 20-1, An early Audubon boat tour). Superintendent Beard praised Audubon's tours, which continued through the winter of 1961/1962. The tours, however, served only a few visitors, and the NPS was eager to establish its own interpretive program.⁹²⁴

The Everglades National Park Commission produced the first park brochure, which became available in May 1948. Superintendent Beard was the primary author with some help from John Pennekamp. The four-page brochure acknowledged that



Figure 20-1. An early Audubon tour boat

⁹²⁴ "Audubon Unit Provides Tour in Everglades," *Chicago Tribune*, Dec. 17, 1950; Daniel Beard, Special Report on Concessions at Everglades National Park, July 28, 1953, NARA Ph, RG 79, 79-62-A-420; SMR, Nov. 1962.

the park was in a formative stage and lacked facilities. The Everglades was touted as “essentially a biological park which will feature unique vegetation and wildlife.” The copy also stressed the damage inflicted by fire, hunting, trapping, and plant collecting and urged visitors to help protect park resources. The first park brochure produced by the NPS was available in January 1951. When possible, rangers handed out the brochure from a chickee-style checking station at the park entrance on Pine Island (figure 7-14).⁹²⁵

Royal Palm State Park on Paradise Key long had been the focus of visitor activity in the Everglades. The NPS understood the attraction of this area and realized that it would be years before it could build visitor facilities elsewhere in the park. By winter 1949/1950, the park had a visitor contact station and temporary museum in the existing Royal Palm Lodge. A highlight of the exhibits was a Seminole dugout discovered by Superintendent Beard’s son, Daniel C. Beard. Also open were the nearby Gumbo Limbo and Anhinga Trails, the latter partially raised on a boardwalk above the marsh. The first park naturalist, Willard E. Dilley, and rangers led tours on these two trails when they could; otherwise visitors relied on a mimeographed sheet. Beard noted that the Anhinga Trail gave “the park visitor his first opportunity for intimate contact with the wildlife of the area [and] has . . . exceeded our expectations in its public appeal The wildlife of the area . . . performed, grunted, squawked, and wallowed with increasing lack of fear before a most appreciative audience.” The park could only estimate visitation until it installed road counters in January 1949, when 13,000 visitors were reported. (Appendix B contains yearly visitation figures.) Winter Sundays brought as many as 500 to Royal Palm.⁹²⁶

The wildlife show has always been a big draw at the park, and park managers worked to make it worthwhile. Superintendent Beard struggled to keep fish in the pond at Royal Palm. His solution has entered the lore of the Everglades:

Another sign is at Royal Palm where fishermen kept catching our “exhibit” specimens. Warning signs did not help. We tried talking to people and they often became irritated. So, several small signs at water level height were put out. They showed an egret eating a fish and bore the legend: “Fishing within one mile of Royal Palm Station is reserved for the birds.” We have had no fishermen or trouble of any kind since.⁹²⁷ (figure 20-2)

⁹²⁵ NPS, “Everglades National Park, Florida,” May 1948, NARA Ph, RG 79, 79-58-A-360; SMR, May 1948 and Feb. 1951.

⁹²⁶ SMR, Jan. and Dec. 1949,

⁹²⁷ Supt. Beard to RDR1, Aug. 2, 1954, NARA Ph, RG 79, 79-62-A-305. Chief Ranger George Fry noted that in 1952/1953, “Hot Shot” Lund and his wife Flossie operated the Coot Bay concession for the company.



Figure 20-2. Fishing reserved for the birds

In the dry years of the 1960s, the park resorted to other measures to maintain a wildlife display. As early as February 1962, park staff pumped groundwater into the pond and slough at Royal Palm to keep birds and alligators from abandoning this heavily visited area. Very rarely, visitors or their pets got too close to the wildlife show. In summer 1959, for example, a small dog jumped into the pond at the Royal Palm Visitor Center. "An alligator and the visitor reached for the dog at the same time. The dog escaped the 'gator, but the visitor was caught and received minor lacerations."⁹²⁸

Beginning in December 1950, National Park Concessions, Inc., which operated in other national parks, ran a gas station and snack bar at Coot Bay. Sport fishing charter boats and sightseeing boat tours also were available, with rangers providing interpretation on the sightseeing cruises when possible. All visitor reception activity at Coot Bay ended when the Flamingo complex opened in December 1957. Bus companies based in Miami, such as Greyhound and Grayline, brought visitors into the park on tours. Presumably any interpretation was provided by the tour operators; there is no record of rangers being involved.⁹²⁹

The NPS produced a number of documents in the park's early years that touched on interpretive planning. These included an interpretive development plan as part of the first master plan, which was approved in January 1953, and a 1957 museum prospectus. A major planning assumption was that most visitors would enter the park

⁹²⁸ SMR, Aug. 1959 and Feb. 1962.

⁹²⁹ SMR, Feb. 1948, Dec. 1950, and Feb. 1952.

from the east, using state route 27, which branched off U.S. 1 at Florida City.⁹³⁰ Other key points were that the main visitor center at the park entrance, when in place, would give visitors a brief orientation to the park and its values; that many visitors would guide themselves through the park, relying on brochures and wayside markers; and that Royal Palm and Flamingo would be the two spots offering more in-depth visitor experiences, including museum exhibits, self-guiding trails, and ranger-led activities. The NPS planned eventually to have a good-sized visitor center along the Tamiami Trail, while Everglades City and Key Largo were seen as secondary entrances to the park with more limited visitor contact stations and exhibits. The park began to implement its interpretive plans with the two trails at Royal Palm and a small museum at the new Royal Palm station, which opened in December 1951. The exhibits in this first NPS-constructed visitor facility included some of Superintendent Dan Beard's paintings of birds.⁹³¹

When the park opened, NPS managers anticipated that summertime visitation would consist largely of local fishermen. They expected to be able to bring on seasonal rangers for the winter season and give out self-guiding brochures the rest of the year. By summer 1953, Superintendent Beard was noting that his small permanent staff was under significant strain from the unexpected stream of hot-weather visitors. Summer talks by rangers are first mentioned in 1957; they emphasized the ecological relationships of the Everglades, largely because wildlife was hard to find in the summer. As described in chapter 7, park planners initially expected that visitors would have little interest in camping, but soon learned otherwise. As in other parks, campgrounds became the locus for campfire talks and other ranger programs.⁹³²

Following these early initiatives, the park's interpretive programs expanded greatly. The development of the various types of interpretation are examined below.

Personal Services

From its earliest days, the NPS believed that visitors are best served by personal contacts with rangers. Museum exhibits, waysides, and literature all had their roles, but a lasting connection between visitor and park was most effectively made through face-to-face interaction. In the words of the 1959 Mission 66 Prospectus for Everglades: "The highest form of visitor service is that rendered by a well-trained, competent man in the uniform of the National Park Service." Note that an all-male ranger force was assumed. Everglades National Park through the years has relied on a core of

930 State route 27 from Florida City to the park was renumbered route 9336 in 1984.

931 SMR, Oct. and Dec. 1951; Supt. Beard to RDR1, Dec. 14, 1951, NARA Ph, RG 79, 79-58A-360; Revised Interpretive Development Outline, June 26, 1958, NARA Ph, RG 79, 79-68-A-636.

932 SMR, Apr. 1957 and Aug. 1959.

permanent interpretive staff and a (usually) larger contingent of seasonal employees in the winter months. When agency budgets grew tighter, the park relied increasingly on lower-salaried park guides and then volunteers, rather than rangers, for visitor orientation and some personal service interpretation. The park has consistently emphasized training for seasonal employees and volunteers. Training for seasonals, originally one week and two weeks as of this writing, typically takes place in December at the beginning of the winter season. Park naturalists and scientists have consistently been involved in the training, getting seasonals out in the field to help them understand the various Everglades environments. The training also aims to take seasonals to all the main public access points, so that a seasonal based at Flamingo, for example, can let a visitor know what is available at Shark Valley and Everglades City.⁹³³

Personal service interpretation began in Everglades National Park with traditional activities like ranger nature walks and campfire programs (figure 20-3, visitors on the Anhinga Trail, 1950s). As mentioned above, ranger-naturalists also gave talks on sight-seeing tour boats. By around 1970, ranger-led programs had expanded to include venturing away from marked trails. These adventures, known as slough slogs and swamp tromps, allowed “visitors to explore the park slowly, quietly and at close range.” Another opportunity to experience the “real” Everglades were guided overnight backpack trips, where a ranger led groups of up to 15 on a six-mile hike to a hammock campground.⁹³⁴



Figure 20-3. Visitors on the Anhinga Trail, early 1950s

Isolated from urban light pollution, areas like Flamingo and Mahogany Hammock lend themselves to star-gazing. Special astronomy-oriented programs have been offered, particularly in January and February 1986, when Halley’s Comet made its appearance.⁹³⁵

In the 1950s, the park had just two to three permanent

⁹³³ Mission 66 for Everglades National Park, August 1959, NARA Ph, RG 79, 79-66-A-661; Ali-son Gantt, interview by author, June 1, 2012.

⁹³⁴ Resume of Interpretive Operations, Jan. 30, 1976, EVER 22965; “A Look at the Real Everglades,” *Miami News*, Jan. 3, 1980.

⁹³⁵ “Tonight is Comet’s Last Hurrah This Century,” *Miami Herald*, Apr. 10, 1986.

interpreters, designated as naturalists, and three or four seasonals, known as rangers or ranger-naturalists. The permanent and seasonal staffs grew steadily in the 1960s and 1970s, reaching highs of around a dozen permanents and 40 seasonals by the mid-1970s. In the late 1990s, the number of permanents and seasonals in the interpretive division were more nearly equal. When budgets for interpretation were cut, the park at times had to reassign interpreters to other park divisions, but usually were able to bring them back to interpretation eventually. Beginning in the 1960s, the park began hiring lower-salaried park aides to staff the visitor centers. Some aides were women, the first women in NPS uniforms at the park (figure 20-4, park receptionist and naturalists). In the 2000s, volunteers took on an increasing share of the interpretive load; in 2007, volunteers accounted for more than 14,000 hours of interpretive activity.⁹³⁶



Figure 20-4. Park receptionist and naturalists, 1960s

Visitor Contact Points/Museum Exhibits

As funding from the Mission 66 program became available, development continued at Everglades National Park (see chapter 7). The Flamingo Visitor Center and its museum exhibits opened to the public in December 1957 and had 13,000 visitors in its first month of operation. At the time, the NPS saw this as the major museum in the park. Themes covered in the exhibits were “geology, hurricane influence, ecology

⁹³⁶ SMR, Feb. 1956 and July 1958; Acting Supt., ENP, to Dir, Apr. 10, 1970, HFC; SAR, 2007; Servicewide Interpretive Reports for Everglades National Park, 1999 through 2010.

of Cape Sable, ecology of a bird rookery, web of aquatic life, rare species, the white man in the area, plume hunting, and a summary of the general park story” (figure 20-5, Flamingo exhibits, circa 1960). Given the many themes, the treatment of each was brief. Everglades Park Company operated all the concessions at Flamingo: the motel, restaurant, gift shop, marina, boat rentals, and sightseeing boat rides. The boat tours were two hours in length, initially cost \$3.00, and featured talks by rangers or concessionaire personnel.⁹³⁷



Figure 20-5. Flamingo exhibits, circa 1960

A novel interpretive feature begun in the late 1950s that gained national attention were ranger-led Boat-a-Cades. These seven-hour tours for private motorboat owners left winter mornings from Flamingo at 9 a.m. and followed a 65-mile route through inland waterways on the park's west side. The tours sometimes also left from Everglades City. The park reduced damage to resources by limiting participation to small boats with a draft of two feet or less (figure 20-6, Boat-a-Cade). The Boat-a-Cades continued through the winter of 1964-1965 at least. As early as 1966, Everglades Park Company, the Flamingo concessionaire, was offering tram excursions on park roads such as the Rowdy Bend Road and Snake Bight Road. These trips had either

an NPS or concessionaire interpreter and operated into the 1990s.⁹³⁸

The Service replaced the museum exhibits at Flamingo in 1985/1986, with the fabrication handled by Creative Dimensions, Inc. At this time, staff discovered that an Audubon print of a great white heron, on display since the museum opened, was a

⁹³⁷ Museum Prospectus and Interpretive Plan, July 1956, NARA Ph, RG 79, 79-68-A-636; “Deep in the Florida Everglades,” *New York Times*, Dec. 8, 1957; George Hartzog, Acting Chief, Concessions Management, to Carroll E. Shoop, Sep. 11, 1952, NARA Ph, RG 79, 79-62-A-420.

⁹³⁸ “Boat-a-Cade in Everglades Set Saturday,” *Miami News*, March 30, 1961; “Boat-a-Cades Unlock Everglades Wilderness,” *Motor Boating*, Oct. 1962, 37.



Figure 20-6. Boat-a-Cade

hand-colored lithograph from the original Havell edition of 1835. The print was sent to the Harpers Ferry conservation lab and then placed in curatorial storage.⁹³⁹

Royal Palm Hammock and the Anhinga Trail have remained a premier visitor attraction throughout the park's history. The Anhinga Trail was substantially lengthened in 1961. In 1979, the Service redid the exhibits at the Royal Palm Visitor Center. These new exhibits included four wall and four ceiling panels with reproductions of wildlife paintings by noted modernist artist Charley Harper. Reproductions of his art also adorned panels along the Anhinga and Gumbo Limbo trails.⁹⁴⁰

Main Entrance (Parachute Key) Visitor Center

Interpretive planners in the 1950s saw the visitor center just outside the park entrance station as a place where visitors would receive a brief orientation to the park. When the visitor center opened in 1961, it featured a high-ceilinged space, 74 feet by 146 feet in plan, which was not air conditioned. The space was divided between a 120-seat auditorium and a visitor contact/exhibit area. In the early years, an introductory slide show ran in the auditorium. Because of the high light levels, no artifacts could be displayed, and exhibits featured photographs of the park's major natural areas: sawgrass marsh, a tree hammock, pineland, and Florida Bay. Hurricane Betsy in September 1965 damaged the visitor center, which was closed for repairs and remodeling until

⁹³⁹ SAR, 1975, 1985, 1988, 1995; SMR, May 1966.

⁹⁴⁰ SMR, Nov. 1961; SAR, 1979; ENP Wayside Exhibit Plan, 1984, EVER 22965.

May 1966. A large painted mural of the Everglades ecosystem by Bernard P. Thomas was the highlight of new exhibits installed at that time (figure 20-7. Bernhard P. Thomas at work). The NPS selected Thomas from 34 artists in a competition. The artist flew over the park, visited the backcountry in an airboat, and spent 40 days painting the mural while visitors observed him. Thomas was told to represent salinity, elevation, temperature, and fire in his work. He did so by depicting the park's major terrestrial ecosystems: a mangrove forest, a sawgrass marsh, a hardwood hammock, and a pine upland during a prescribed burn. The exhibits were redone again in 1972/1973, and a film replaced the old slide program. The exhibits got another revamping in 1985. The original visitor center had to be replaced after Hurricane Andrew in 1992.⁹⁴¹



Figure 20-7. Bernard P. Thomas at work on the mural in the main visitor center, 1966

The opening of the Ernest F. Coe Visitor Center in 1996 gave the NPS a chance to provide considerably more in-depth interpretation than was provided in the 1961 facility. Just inside the entrance is an exhibit panel that orients the visitor to the park and its four other visitor centers. The ceiling in the central portion of the visitor center rises to the full height of the hip-roofed building. As the visitor enters this soaring space, her attention is drawn to two dioramas placed on a central island. A large diorama of an alligator hole tells the story of the sawgrass marshes in winter, accompanied by full-sized bird models poised as if about to alight and the recorded roar of a bull alligator (figure 20-8, exhibits at Coe Visitor Center). A smaller diorama interprets the Everglades in summer. Next to that is an alcove with a mural of the marsh and several spyglasses projecting from it at different heights. As a recording tells the visitor of

⁹⁴¹ Museum Specialist Sutton to Chief, Museum Branch, WASO, Nov. 4, 1958, HFC; "Everglades Visitor Center Open for Business," *New York Times*, Jan. 22, 1961; SMR, May 1966; SAR, 1972, 1985, and 2004; Audio of a talk given by Thomas shortly after completing the mural, EVER 5600.



Figure 20-8. Exhibits in the Ernest F Coe Visitor Center

the park's birdlife, he can peer through a glass at backlit bird photos. An exhibit on a wall of the room provides an overview of the various ecosystems of the park. A small exhibit allows the visitor to listen to the views of various Everglades stakeholders: a farmer, homeowner, fisherman, conservationist, and ranger. The visitor center includes an 81-seat auditorium for films and talks and a separate room dedicated to changing exhibits. This space frequently hosts exhibits by artists from a program called Artists in Residence in the Everglades (AIRIE) (see discussion below in this chapter). In September 2012, the park installed a freestanding vitrine that tells the story of the Nike missile base and the soldiers stationed there, using objects mostly donated by veterans.⁹⁴²

Toward the back of the visitor center, near the exit to a raised outdoor viewing deck, is a striking mosaic map set in the floor. Each tile color represents a different physiographic region of South Florida: estuaries; freshwater sloughs, pinelands, etc. An idealized cross section of the peninsula and a color key mounted on a nearby wall help the visitor to grasp the subtleties of the different regions. Visitors get a glimpse of a large pond through a wall of glass or can exit to the deck for a better view of the pond and its vegetation. Three wayside panels interpret the origins of the park, the

⁹⁴² Ryan Meyer, personal communication, Oct. 23, 2013.

Atlantic coastal ridge, and the creation of the pond from the borrow pit that provided a foundation for the demolished and extant visitor centers.

The exhibits in the Coe Visitor Center convey a limited amount of information on the human presence in the Everglades. A small wall panel captioned “People of the Everglades” does not provide a comprehensive view of this topic, addressing only the Native American presence from the nineteenth century on. Rather than placing the Seminole and Miccosukee peoples in the context of a southeastern cultural tradition that embraced the preconquest groups in Florida as well as those farther north, the exhibit emphasizes discontinuity. The panel tells of the Tequesta and Calusa leaving Florida in the 1700s and the Seminole and Miccosukee “eventually occupy[ing] the area abandoned by these groups.”⁹⁴³ Nowhere in the visitor center is there any mention of the white settlers of the Everglades, the fishing communities, truck farming on the coastal prairies, or the exploitation of tanbark and other resources. In 2013, the only way a visitor could get information on the Gladesmen and fishermen of the Everglades was by purchasing one of several books offered in the Everglades Discovery shop.

The Everglades Discovery shop, operated by the Everglades Association, offers a selection of books for adults and young readers on the natural and cultural history of the area, plus a variety of souvenir items, all of which must be approved by the park. The shop features attractive openwork metal doors depicting wildlife and birds of the Everglades, designed and fabricated by Art’s Work Unlimited of Miami (figure 24-3. Everglades Discovery doors).⁹⁴⁴

Waysides

The park’s interpretive plan envisioned a general orientation at the main visitor center. The visitor experience would then be deepened through waysides on the main park road and the nature trails at Royal Palm, Mahogany Hammock, etc. (figure 20-9, Mahogany Hammock trailhead) A wrap up of park interpretive themes would then be provided at the Flamingo museum. In early 1962, park managers articulated this scheme, stating that “visitors start their experience of the Everglades at the Visitor Center with a road map and a viewing of either the wide screen movie or a companion slide program which give a general orientation.” They then guided themselves through the park relying on waysides placed along the main park road and the park’s six nature trails. “[T]he whole Park story is summed up in the museum at Flamingo.”⁹⁴⁵

⁹⁴³ The tribe consulted on and approved the exhibit text, working with the park’s education coordinator, Sandy Dayhoff. Sandy Dayhoff, personal communication, Nov. 8, 2013.

⁹⁴⁴ Metal artists Art Ballard and Phil Heermance established Art’s Work Unlimited, Inc., in Miami in the 1980s. <http://www.artsworkunlimited.com/home.html>.

⁹⁴⁵ ENHA newsletter, Jan. 1962, FNPMA papers.



Figure 20-9. Mahogany Hammock trailhead, 2010

Waysides along the main park road were in place soon after the road opened in 1957. Waysides on the Anhinga and Gumbo Limbo Trails had been in place for several years. By winter 1959/1960, the Mahogany Hammock boardwalk trail, the Pa-Hay-Okee boardwalk trail and River of Grass overlook, the Mangrove Trail and Coastal Prairie Pinelands Trails were in operation. The West Lake Shelter and interpretive panels were finished in September 1964. Waysides have employed various construction materials over the years. Early versions were wood or plastic. In the 1960s, many of these were replaced by “metal-photo” waysides produced by Federal Prison Industries. Another large-scale replacement of waysides occurred in the 1980s. In 2001, the park embarked on an eight-phase project to place or replace some 247 wayside exhibits along park roads and trails, using porcelain enamel panels (figure 20-10, a porcelain-enamel wayside, 2012). As early as 1972, the park was augmenting the waysides by broadcasting information on AM radio transmitters and renting cassette tapes that visitors could play in their vehicles. The tape was narrated by actor Eddie Albert (1906-2005), best remembered for his role in the television series *Green Acres*.⁹⁴⁶

⁹⁴⁶ SMR, Oct. 1959, Sep. 1963, Sep. 1964, and Dec. 1964; RDSE to Supt., July 18, 1984, EVER 22965; SAR, 1972, 2001, 2007.



Figure 20-10. A porcelain-enamel wayside, 2010

Shark Valley

Plans dating back to the 1950s called for a full-blown visitor center at Shark Valley, but to date there has never been more than a small (circa 1,000 square feet) facility there. The canal adjacent to the west segment of the road and surrounding marshes typically provide excellent wildlife viewing opportunities, especially in the dry season. As recounted above in chapter 7, the NPS in early 1965 opened the 14.7-mile Shark Valley Loop Road, with the striking, modernist poured concrete observation/fire tower at the turning point. At first, visitors were allowed to drive the seven miles to the tower. Rangers also led autocades to the tower and back. Shark Valley had 17 wayside-type exhibits in these years. From 1968 to 1971, the area had to be closed because of persistent high water.

After extensive road repairs, the NPS decided to close the Loop Road to visitors' vehicles and offer tram tours instead. Trams began operating in March 1972. At first, interpretation came via a 24-minute audio tape, but soon park interpreters were riding the trams. There was no additional charge beyond the entrance fee (\$2 in 1972) for tram rides (figure 20-11, NPS tram). Director George Hartzog was eager for the tram tours to begin, and the contracting process was rushed. Purchased from Minna Trams, Inc., the trams needed considerable modification after they arrived. Some of their problems may have resulted from the poor condition of the Loop Road. Most of the



Figure 20-11. A Shark Valley tram operated by the National Park Service

tram operators were members of the Miccosukee Tribe in this period.⁹⁴⁷ In 1974, the park purchased 20 bicycles, which were loaned free of charge to visitors for use on the Loop Road. Biking has remained a consistently popular activity on the road, with bicycles now rented out by the concessionaire. By 1981, more than 525,000 visitors had taken a tram ride. As of October 1, 1982, tram operations were turned over to a concessionaire, Gettysburg Tours, which instituted a charge for the rides. From this point, “NPS interpreters . . . operate[d] a small information center at Shark Valley, provide[d] interpretation on the trams and led guided walks.” The Everglades Natural History Association (ENHA) contributed \$3,000 toward the construction of a prefabricated building and began selling publications.⁹⁴⁸

The Shark Valley Loop Road continued to experience flooding in the wet season, and the NPS decided in 1986 to close the area so the roadbed could be elevated. The

⁹⁴⁷ The concessioner at present employs few, if any, tribal members, largely because the tribe has grown wealthy from gaming operations and the jobs at Shark Valley are not high-paying.

⁹⁴⁸ SMR, Dec. 1966; “Shark Valley Loop Road Dedicated, Opened for Use,” *South Dade News Leader*, May 16, 1972; Sandy Dayhoff, Chronology of Shark Valley, May 1, 1981, Draft Shark Valley Management Plan, Nov. 1981, EVER 22965; SAR 1982; ENHA Annual Report, FY1983 and FY1984, FNPMA papers; Jack Stark, interview by author, July 10, 2012.

area reopened in 1987, but the ENHA bookstore did not start operating again until December 1988. In 2013, the NPS erected a new combination visitor center/concessioner office and reconfigured the parking area. With its location on the Tamiami Trail between the Miami area and the Gulf Coast, Shark Valley has continued to be a very popular destination. In addition to conducting tram tours, rangers give talks at the visitor center and on trails; they also provide interpretation on special sunset and full-moon tram tours and moonlight bicycle tours.⁹⁴⁹

Everglades City

NPS plans called for Everglades City to be the western gateway to the park, primarily for visitors with private boats or those who wanted to take concessionaire boat tours. The Collier Corporation erected an amphitheater on land in the city that it donated to the NPS, and as of January 1956, rangers were giving talks there. Because of the demands placed on park interpreters from the large visitation via park's main entrance, the NPS could do this for just two winters and the amphitheater was abandoned. Local resident Sammy Hamilton received a concession contract to provide boat tours from Everglades City in 1959. Hamilton later incorporated as Everglades National Park Boat Tours, Inc., which continues to hold the concession contract as of this writing (see chapter 23). Rangers provide interpretive talks on the boats whenever possible; otherwise they are done by the boat captains. An NPS boat basin and two-story ranger station/concessionaire office opened in 1967. It had very limited space for exhibits, which at first were produced by park staff. New exhibits were installed in 1987. As the population of Florida's Gulf Coast continued to grow, the Everglades City operation was increasingly stressed. In 1980 for example, the Everglades City operation was staffed entirely by volunteers and donated time from NPS staff. The park produced a development concept plan for Everglades City in 1990 that called for the construction of a new visitor center. Congress directed the NPS to build this and designate it the Marjory Stoneman Douglas Visitor Center, but to date has not made any appropriation. The park did complete a \$140,000 renovation of the existing Everglades City facility, dedicated in April 1994. This project included enclosing the

949 "Shark Valley Loop Road to Close for 6-Month Repairs," *Miami Herald*, Apr. 10, 1986; Everglades National Park Statement for Interpretation, 1985, EVER-00619; ENHA Annual Report, FY1988, FNPMA papers; Everglades National Park Statement for Interpretation, 1995, EVER-00619; "Pedaling into the Past," *Miami Herald*, Jan. 27, 2005; Michael Jester, personal communication, Aug. 29, 2013.

main floor lobby and providing elevator access to new exhibits on the second floor that focused on the mangrove belt, birds, and marine life.⁹⁵⁰

Park staff formerly participated yearly in Everglades City's biggest event: the Everglades Seafood Festival. The event began in 1974 to raise funds for a children's park, drawing 500 people that first year. It has since grown into a three-day event held the first full weekend in February, with a carnival midway, local and out-of-town food vendors, and music, drawing from 50,000 to 70,000 visitors. From the festival's beginning through 1986, the park staffed a booth to provide information on opportunities to see the real Everglades.⁹⁵¹

Key Largo

Early Service plans for a visitor center and exhibits at Key Largo have never materialized. As described above in chapter 6, the park opened a ranger station on 14 acres of purchased land at Key Largo in 1954, and as of 1963, the park was planning a nature trail and basin for small boats there. For a brief period in the mid-1980s, the park offered rides on glass-bottomed boats and guided nature walks at Key Largo. At present, there is a wayside orientation panel near the ranger station. An interpretive outreach coordinator who works with the Monroe County schools also is stationed here. Since opening in 1960, John Pennekamp State Park has given visitors recreational and interpretive opportunities on Key Largo, lessening the urgency for the NPS to do so (figure 20-12, glass-bottomed tour boat, John Pennekamp State Park). The state park gives visitors a chance to experience the coral reefs that Ernest Coe always thought should be included in Everglades National Park. Visitors also can take advantage of the numerous private marinas, scuba-diving operations, and other tourist-oriented businesses throughout the keys.⁹⁵²

A Key Largo visitor center is not a park priority as of this writing; some believe it should not be contemplated, because it would act to draw even more visitors to the crowded keys. The preferred alternative in the park's draft GMP calls for the following at Key Largo: a visitor information kiosk, a venue for a boater education/permitting function, a launch area for canoes and kayaks, and an interpretive trail through

950 SMR, Jan. 1956, Dec. 1957; SAR, 1981, 1985, and 1987; Everglades National Park Protection and Expansion Act of 1989, P.L. 101-229; "Everglades National Park Holds Open House at Newly Renovated Everglades City Visitor Center," NPS media release, Mar. 29, 1994, EVER-01385; "E-City Opens Spruced-Up Visitor Center," *Naples Daily News*, Apr. 21, 1994; Everglades National Park Statement for Interpretation, 1995.

951 "Everglades City Calm Once More," *New York Times*, Dec. 26, 1974; "Hush Puppies Replace Drugs in Florida Town," *Los Angeles Times*, Feb. 9, 1995; SAR, 1986.

952 Asst. Dir. A. Clark Stratton to Sam Mase of *St. Petersburg Times*, Dec. 3, 1963, NARA Ph, RG 79, 79-68-A-636; "Everglades Park Offers Glass-Bottom Boat Tours," *Miami Herald*, Dec. 24, 1986; Joe Browder, Environmental Policy Center, to Ernie Dickerman, TWS, Apr. 19, 1974, TWS papers; Melissa Memory, personal communication, June 26, 2013.



Figure 20-12. Glass-bottomed tour boat, John Pennekamp State Park

hammock vegetation. The NPS also hopes to pursue the concept of a multi-agency visitor orientation facility somewhere in the upper keys.⁹⁵³

Temporary Exhibits

Temporary exhibits are routinely mounted in all of the park's visitor centers, generally tied to current issues or anniversaries. For example, the main visitor center had an exhibit on Marjory Stoneman Douglas in the months after her death in 1998, and the 40th, 50th, and 60th anniversaries of the park's dedication were marked by temporary exhibits. Following passage of the Comprehensive Everglades Restoration Plan in December 2000, all of the park's visitor centers had exhibits on the need for and objectives of the restoration effort.⁹⁵⁴

Publications

As mentioned, the first NPS-produced park brochure became available in January 1951. The park brochure has traditionally been the primary printed piece distributed to

⁹⁵³ Draft GMP, 70.

⁹⁵⁴ "Final Arrangements and Memorial Gathering Planned for Marjory Stoneman Douglas," NPS media release, May 15, 1998, EVER 58222; FY2001 Servicewide Interpretive Report for Everglades National Park; "Everglades Turns 60!!!," NPS media release, Dec. 5, 2007, EVER 58222.

visitors, and the Everglades brochure has gone through a number of iterations (figure 20-13, park brochures through the years). The versions from the 1950s and 1960s were in an 8-1/2-inch by 4-inch format, generally 8 or 16 pages, and printed in one color. The brochure always included a park map along with an introduction to the park's values and features. In this period, the park also sold a more detailed 30-page guide in the same format, priced at 15 cents. The cover of a 1960s free brochure reproduced an existing illustration by the Dutch artist M. C. Escher that the Service received permission to use. The NPS minifold format was in use starting in 1967. This used a sans serif typeface throughout, few illustrations, and the park name printed in white on a solid blue cover. In 1969, the park distributed some 215,000 copies of the minifold. A park brochure in the NPS unigrid format, with full color illustrations, became available in 1978. The unigrid brochure has been revised several times, to reflect the addition of the East Everglades and other changes.⁹⁵⁵

At the time that the Flamingo complex opened in December 1957 or shortly thereafter, the park began distributing a winter activity schedule along with the park brochure. This publication informed visitors of ranger talks available at Royal Palm and Flamingo and the schedule for concessionaire sightseeing boat tours. As summer interpretation expanded, a summer schedule was also produced. For many years, the park's cooperating association, the Everglades Natural History Association (ENHA), handled the preparation and printing of this schedule, from information supplied by park staff.⁹⁵⁶ In 1976, 125,000 schedules were distributed. In winter 1982/1983, a tabloid-style newsprint publication, *Pa-Hay-Okee*, replaced the activity schedule, covering activities at Biscayne National Park as well as Everglades. A *Visitors Guide to South Florida's National Parks* took the place of *Pa-Hay-Okee* in winter 1988/1989. As the title suggests, the guide listed activities at Everglades, Biscayne, Fort Jefferson, and Big Cypress. As of 1998, 250,000 park guides were being distributed annually.⁹⁵⁷

In 1958, the ENHA established a joint publication program with the University of Miami Press to produce literature for park visitors.⁹⁵⁸ The first fruit of this arrangement was a 96-page paperback that became a classic of Everglades literature. Park biologist Bill Robertson's *Everglades: The Park Story* was released in July 1959 (figure 20-14, second printing of the Park Story). In graceful prose, Robertson described the landscape, natural history, and human occupation of the Everglades. The book was reprinted for the sixth time in 1973, when annual sales were about 6,500 copies, and

955 Acting Supt. Kennedy to Dir., Apr. 10, 1970, with enclosed 1969 Annual Report, Information and Interpretive Services, HFC; SAR, 1992 and 1998.

956 See chapter 24 for the history of the cooperating association, which is now known as the Florida National Parks and Monuments Association.

957 Resume of Interpretive Operations, Jan. 30, 1976, EVER 22965; SAR, 1982, 1988, and 1998; *The Anhinga*, June 1983; *Visitors Guide to South Florida National Parks*, vol. 1/no. 1, Winter 1988/1989, TWS papers.

958 Acting Supt. Fry to RDR1, June 16, 1958, NARA Ph, RG 79, 79-66-A-661.



Figure 20-13. Park brochures through the years

Everglades — The Park Story

by
William B. Robertson, Jr.



Published in cooperation with the
Everglades Natural History Association

UNIVERSITY OF MIAMI PRESS
CORAL GABLES 46, FLORIDA

Figure 20-14. Second printing of *Everglades - The Park Story*

a new and revised edition appeared in 1989. Robertson's gentle appreciation for the Everglades shines forth in his closing sentence:

In ways not simple to explain, American lives are richer because there is still room in the land for crocodiles to build their sandpile nests on the lonely Florida Bay beaches, and for deer to browse in their grace along the willow heads with perhaps a panther to stalk them.⁹⁵⁹

In the wake of Robertson's book, the association and the university press published several other books and pamphlets written by park staff or cooperators. In recent decades, trade publishers have produced numerous books on the Everglades and the park, making it less necessary for park staff to produce them. Some notable titles produced through the cooperating association include:

Frank C. Craighead, *Orchids and Other Airplants of Everglades National Park*, 1963
 Charlton Tebeau, *They Lived in the Park*, 1963 (reprinted in 1968 with the title *Man in the Everglades*)
 Alex Hawkes, *Guide to Plants of Everglades National Park*, 1965
 Gale Koschmann, *Turtle-lore from Everglades National Park and South Florida*, 1965
 John Ogden, *Checklist of Birds: Everglades National Park*, 1969
 George Stevenson, *Trees of Everglades National Park and the Florida Keys*, 1969
 William G Truesdell, *A Guide to the Wilderness Waterway in Everglades National Park*, 1969
 John O'Reilly, *Boater's Guide to the Upper Florida Keys*, 1970
 Jean Craighead George, *Everglades Wildguide*, 1972
 George Robinson, *Motorist's Guide to Everglades National Park*, 1977
 Connie Toops, *The Alligator: Monarch of the Everglades*, 1979

Park staff have produced hundreds of other printed items for distribution to visitors and school groups. Single-sheet site bulletins are used for trail and boating maps and to provide basic information on plant and animal life, water issues, invasive species, threats to the park, closures of park areas, and the like.⁹⁶⁰

Junior Ranger Program

The park lacked a junior ranger program until 2000. Interpretive Ranger Allyson Gantt took the lead in developing the program, which took in Big Cypress and Biscayne as well as Everglades. Gantt and Rangers Joele Doty and Lisa Andrews collaborated to produce a 20-page activity book, first printed in 2004 (figure 20-15, Jr.

⁹⁵⁹ William B. Robertson Jr., *Everglades: The Park Story* (Coral Gables: University of Miami Press, 1959), 91; SAR, 1973 and 1990.

⁹⁶⁰ Everglades National Park Statement for Interpretation, 1995, EVER 302868.



Figure 20-15. Junior Ranger Booklet

Ranger booklet). The parks chose to focus on South Florida habitats. The aim was to encourage children to undertake place-based activities with their parents that would engage them with those habitats. One of the key requirements for earning a badge was doing at least one such activity. The book includes pages for children to record wildlife and plant sightings, as well as puzzles and word searches, all based on observation and interaction with habitats. After successfully completing the activities to a ranger's satisfaction and signing a conservation pledge, participants earn badge from each park; after garnering the three badges, they receive a patch. In 2007, the park produced Spanish and Haitian Creole versions of the Junior Ranger activity book.⁹⁶¹

Offsite Interpretation and Outreach

Park managers were aware from the beginning that large numbers of people in the Miami metropolitan area were only dimly aware that they had a national park on their doorstep. They began looking for ways to reach these people and encourage them to visit. Having park staff speak to naturalist groups, garden clubs, civic organizations, and the like has long been NPS policy, and Everglades has consistently done this. Park Naturalist Dilley began writing a weekly column, "This Week in Everglades National Park" for the *Homestead Leader-Enterprise* in summer 1952. In winter 1957/1958, radio station WSDB in Homestead began a twice-monthly half-hour program on the park, using park staff. Through the years, park staff have made themselves available for thousands of media interviews and appearances on radio and television.⁹⁶²

In 1993, the park began to produce and make available a series of 26-minute videos known as *Waterways*. Produced in partnership with NOAA's Florida Keys National Marine Sanctuary and the U.S. Environmental Protection Agency (EPA), *Waterways* episodes introduce viewers to the waters and lands of South Florida. The bulk of the funding comes from the NPS and the EPA. The programs aim to foster an understanding of science and restoration in the region's ecosystems, inspire curiosity and passion for their resources, and encourage conservation action. *Waterways* episodes are shown on more than 30 public and governmental stations in Florida and have also

⁹⁶¹ Gantt interview, SAR, 2000 and 2007; ENP junior ranger program, <http://www.nps.gov/ever/forkids/upload/Junior%20Ranger%20Book%20Minute.pdf>.

⁹⁶² SMR, Aug. 1952, Jan. 1958.

been shown on a network maintained by the New York State University System. More than 267 episodes have been produced as of this writing. Some of the topics covered are scientific research efforts, conservation-minded recreational practices, aspects of the Comprehensive Everglades Restoration Plan, and the threats posed by nonnative species. Although natural resources are the primary focus of *Waterways*, some episodes have focused on cultural resource projects, like the conservation work performed on cannons at Fort Jefferson in Dry Tortugas National Park. In 2008, the park began producing informational and interpretive videos for podcasting in an effort to reach new, especially younger, audiences. The informational podcasts help visitors plan a visit and the interpretive podcasts feature rangers discussing natural history topics. Both varieties prominently feature video of wildlife. On Earth Day 2008, the park hosted an electronic field trip, entitled “Turn Over a New Leaf.” The program focused on the conflict between invasive and native species and an estimated 35,000 students participated.⁹⁶³

In summer 2003, the Florida Department of Environmental Protection launched an educational radio station called the Everglades Radio Network. The network’s low-powered signal reaches from the Naples vicinity to at least the midpoint of the east-west stretch of Interstate 75 (Alligator Alley). Prerecorded programs on the wildlife and plants of the Everglades, threats to the environment, and the Comprehensive Everglades Restoration Plan repeat 24 hours a day. The network also broadcasts weather reports and can be used to provide emergency information during hurricanes and tropical storms. Staff from Everglades National Park and Big Cypress National Preserve (the latter traversed by I-75) assisted with the development of themes and topics for the broadcasts.⁹⁶⁴

Social Media

As more and more people rely on social media to plan trips and maintain contact with friends, the park has moved into this arena. While in decades past, park visitors might write in advance for a brochure, today visitors are as likely to visit a social media site using a cell phone or tablet for trip planning. The park has a presence on Facebook, Twitter, and Yelp. The park’s Facebook page provides information on visiting the park, links to media pieces on the park, and announcements, such as invitations

963 Alan Scott, interview by author, Oct. 6, 2011, and personal communication, Sep. 17, 2013; Nancy J. Russell, personal communication, June 26, 2013; Waterways Episode Production, Solicitation No. Q5283100054; “Waterways Back on the Air and Online!,” NPS media release, Jan. 30, 2012; “Armed with Podcasts, Park Eyes Younger Generation,” *Miami Herald*, Sep. 27, 2009; SAR, 2007; FY2008 Servicewide Interpretive Report for Everglades National Park.

964 “‘Glades Radio to Alert, Inform Drivers; Signal Targets Alligator Alley,” *South Florida Sun-Sentinel*, Apr. 14, 2003; Alan Scott, personal communication, Sep. 17, 2013.

for the public to volunteer at the park. Facebook users may write comments and post photographs of their visits to the park. At present, the park has more than 12,000 likes on Facebook and 6,000 Twitter followers. Yelp collects user reviews and comments about businesses and destinations; as of this writing, the park is beginning to get more Yelp reviews.⁹⁶⁵

Reaching Non-English Speakers and Disadvantaged Communities

Once Western European countries were launched on their remarkable economic recovery from World War II, their citizens began to visit American national parks in significant numbers. Many have found their way to the Everglades. Following the 1959 Cuban Revolution, Spanish speakers from that island began arriving in South Florida, and most ended up becoming American citizens. Immigration from other parts of Latin America and Haiti to the area has been a significant trend in recent decades. All of these developments have motivated the park to expand its interpretive activities to languages other than English. The draft of a site bulletin in Spanish from early 1963 is in the park archives, but it is uncertain whether it was actually printed. The earliest printed foreign language publication that has been located is a 1973 self-guiding brochure in French, *Au long de la route jusqu'à Flamingo*. A park staffer recommended the preparation of Spanish- and German-language versions; this is evidence that perhaps the park had nothing printed in Spanish at that time. In 1983, the park arranged a brief course in Spanish for park interpreters and gave them a list of common Spanish phrases. A survey conducted in winter 1989 indicated that 18 percent of park visitors were foreigners. At that time, the park had brochures available in Spanish, German, French, Italian, Dutch, and Japanese. As of this writing, Chinese, Portuguese, and Russian versions have been added. In 2002, a Spanish version of the *Visitors Guide to South Florida's National Parks* became available. Park Chief of Interpretation Alan Scott has noted that Everglades and other national parks seem to be highlighted in many European guidebooks. Efforts to engage and accommodate foreign visitors are likely to become increasingly important in the future.⁹⁶⁶

As the American population has become more diverse, the NPS has become increasingly aware that its parks historically have drawn the bulk of their visitors from the ranks of the white middle class. Service leaders realize that the future of the parks depends on attracting visitors from the African American, Hispanic American, and Asian American communities. It is particularly important to interest inner-city residents in

⁹⁶⁵ Alan Scott, personal communication, Sep. 17, 2013.

⁹⁶⁶ Jim Sanders, Mgmt. Asst., to District Interpreter, Pine Island, July 18, 1978, EVER 22965; SAR, 1983; Everglades National Park Statement for Interpretation, 1995, 29, EVER 22965; FY2002 Servicewide Interpretive Report for Everglades National Park; Scott interview.

the national parks. Urban dwellers frequently have little exposure to natural areas. Often, anxieties about the perceived dangers of national parks deter visits from urban residents. Everglades National Park has taken various steps to try to broaden its appeal and visitor base. These include encouraging inner-city schools to participate in the park's environmental education program and partnering with the National Parks Conservation Association in the national March for Parks program. Everglades has participated in this program since 2002. In 2009, for example, the program provided free bus transportation to the park from the Little Havana and Overtown neighborhoods of Miami and Florida City. Park staff provided a free tour of the HM-69 missile site and organized games and a raffle.⁹⁶⁷

Use of Interpretive Program to Raise Public Awareness of Environmental Issues

As the environmental degradation in the Everglades became increasingly apparent, superintendents used the interpretive program as an educational tool. Robert Arnberger, deputy superintendent under Michael Finley in the late 1980s, has described a well-thought-out strategy the two of them employed to use interpretation to inform visitors about threats to South Florida ecosystems and citizens' responsibilities to address those threats. As described in chapter 9, Finley at the same time was helping to craft a water-quality lawsuit against the state of Florida and pressuring the South Florida Water Management District to change water delivery schedules. He saw educating the public through interpretation as just one piece in an overall campaign to improve the condition of Everglades National Park. As one example, the 1988 Superintendent's Annual Report noted "Shark Valley tram tour interpretation focuses on critical issues relating to water quantity, quality, timing, and distribution, affording first-hand observation of the habitats affected by water conflicts." Waysides on critical issues also were produced.⁹⁶⁸

Increasing Emphasis on the Human Presence in the Everglades

Over the years, the park's interpretive program has given more weight to the human presence in the Everglades. In the park's first two decades, interpretation of both the Indian and white presence in the Everglades was limited. It was park policy to remove pioneer structures, so the history of white settlement could be interpreted only through photographs and text. In the 1950s, some thought was given to slicing

⁹⁶⁷ "Free Tour of Everglades Offered to Urban Miami-Dade Dwellers," *Miami Herald*, Mar. 26, 2009; Gantt interview.

⁹⁶⁸ Robert Arnberger, interview by author, Aug. 2, 2012; Finley interview; SAR, 1988, 1991.

open a prehistoric Native American mound as an exhibit. This idea did not seem likely to further protection of the resource and it was dropped. During the 1976 bicentennial year, the park increased its interpretation of “the role of man and his activities in south Florida.” As described above, the exhibits in the Ernest F. Coe Visitor Center deal only with the Seminole and Miccosukee, not the white, presence in the Everglades. In 2002, with the 40th anniversary of the Cuban Missile Crisis, the park invited former servicemen who were stationed at Nike Missile Base HM-69 to return to the site with their families. This led to opening the base to visitor tours in January 2009, a development that drew international attention. Tours have continued and have proven very popular with visitors. As funds become available, the park intends to rehabilitate the missile site and expand and enhance its interpretation for the public.⁹⁶⁹

Artists in Residence in the Everglades Program

The park’s Artists in Residence in the Everglades (AIRIE) program grew directly out of the Comprehensive Everglades Restoration Plan (CERP). Artist Donna Marxer, a Miami native who had long lived in New York, read about the CERP and decided that it needed an artistic component. It took her a while to get the attention of the NPS, but when a congressional inquiry was forwarded to the park superintendent in 2001, the park responded favorably. Park Interpretive Ranger Alan Scott worked with Marxer to get the effort going. Most such programs in national parks select one artist per year, but Everglades wanted to involve a greater number. It therefore limits residencies to a maximum of one month and aims to have five or more artists per year. The program is open to writers, photographers, and all kinds of visual artists. Applicants are reviewed by a panel of local artists and park staff, with the park making the final selections. The park provides lodging in the park. In most cases, each artist donates one original work to the park and gives public presentations on his/her work.⁹⁷⁰

The AIRIE program has proven tremendously successful both for the artists and the park. Artists get the chance to work in a unique environment away from everyday distractions, often finding exciting new directions in their work. Anne McCrary Sullivan, the second writer in residence in 2003, had been involved in other similar programs. She anticipated that she would spend most of her day in a cottage in the park and take an occasional walk. Instead:

⁹⁶⁹ Resume of Interpretive Operations, Jan. 30, 1976, EVER 22965; FY2009 Servicewide Interpretive Report for Everglades National Park; Draft GMP, 67.

⁹⁷⁰ Scott interview; “Everglades Program Aids Artists, Parks,” *Miami Herald*, Apr. 4, 2002. The park has a history of welcoming artists; in 1972, artists working in the park on their own were given smocks with the park logo, SAR, 1972.

By the third day I was a fanatic. Every morning I would pack a backpack with lunch and water and a journal, bird books and plant books, and a tape recorder. I'd go out and follow rangers around with the tape recorder, observe things, and look up things. Then I would go back at night and type up what I had written and transcribe what I had taped. The poems would emerge from that process. I've been writing about the Everglades ever since.

Following their residencies, artists become ambassadors for the park, reaching constituencies like fellow artists and art collectors, who might not otherwise know much about the Everglades. An interaction with someone who has lived in the park can work wonders in dispelling common misconceptions about the Everglades. In 2009, a nonprofit organization, AIRIE, Inc., was created to manage the program in partnership with the park and raise funds to support it. Donna Marxer relinquished her position as chair of the board in 2011, and was replaced by Anne McCrary Sullivan. A local artist, Christy Gast, became president. Gast wrote a proposal that resulted in a three-year, \$30,000 matching grant from the John S. and James L. Knight Foundation. With this and other funding sources, AIRIE, Inc., hopes to mount traveling exhibitions of resident artists' work and produce publications. The group has found more local board members and expanded its partnerships with arts organizations in South Florida. As of this writing, some 100 artists have participated in AIRIE. In 2012, internationally acclaimed American artist Mark Dion was an AIRIE. Dion sees the artist's role as one of "challenging the dominant culture," and his fantastical curiosity cabinets examine and challenge the way in which knowledge of nature is "constructed."⁹⁷¹ (Figure 20-16, AIRIE artist Lisa Elmaleh photograph entitled *Slash Pines*.)

Environmental Education

In the 1960s, school groups regularly visited the park, going mostly to the Anhinga Trail and the Mahogany Hammock Trail where rangers presented programs. In 1963, the park noted that it welcomed 300 students from an all-black Miami public school, at a time when public education was strictly segregated by race throughout Florida. This traditional sort of school field trip assumed a different character in the 1970s. As described in chapter 9, public concern over damage to America's natural environment had grown substantially in the 1960s. This concern led to the passage of the National Environmental Policy Act and the creation of the federal Environmental Protection Agency, both in 1970. The NPS, as custodian of the nation's premier natural areas, saw environmental education as a fitting addition to its mission in this period.

⁹⁷¹ Anne Sullivan, personal communication, July 13, 1012; Scott interview; AIRIE, Inc., website, <http://airie.org/>; Public Broadcasting System website, <http://www.pbs.org/art21/artists/mark-dion>; Melissa Memory, personal communication, June 26, 2013.



Figure 20-16. AERIE artist Lisa Elmaleh photograph "Slash Pines"

NPS Director George Hartzog supported the idea, and the Service announced the National Environmental Education Development (NEED) program in 1968. NEED was primarily designed to bring schoolchildren into parks for direct experiences of the natural world, leading them to a personal sense of stewardship for the resources. Young people were the main audience, but the program also targeted other visitors.⁹⁷²

Environmental education began in Everglades National Park in spring 1971 in partnership with the Dade County schools. A six-week pilot program brought urban grade school students to Shark Valley for a "Day-in-the-Glades." The outings were largely unstructured, with students being bused to the observation tower, interacting with rangers, going on a scavenger hunt, and viewing wildlife (figure 20-17, environmental ed group). The highlight of the day was fishing with a cane pole from a pier in a borrow-pit lake. The program was well received by students and teachers, and park interpretive staff began planning to expand the program and make it truly educational.

⁹⁷² SMR, Nov. 1963; ENP Supt. to Harriet Ehrhard, Dade County Public Schools, May 13, 1971, "History of NPS Education Program" (N.p.: NPS, [1991?], EVER-00886; Ronald F. Lee, *Family Tree of the National Park System* (Washington, D.C.: NPS, 1972), http://www.cr.nps.gov/history/online_books/lee3/lee6.htm.



Figure 20-17. Environmental Education group, 1970s

The fishing component was difficult to properly manage and of limited educational value; it was dropped in 1973. General visitation also was high at Shark Valley and sometimes conflicted with school visits, prompting interpreters to seek other areas in the park. During the 1972/1973 academic year, the park designated National Environmental Study Areas (NESA's) on Long Pine Key and Sandfly Island and began using them for day programs. For the Sandfly Island program, children were taken by boat from Everglades City.⁹⁷³

Under Chief of Interpretation George Robinson and his assistant Bruce McHenry, the park's environmental education program rapidly gained momentum. Soon, schools in Broward, Collier, Monroe, and Lee Counties were participating. In 1973, the park started overnight camping programs at the Flamingo and Long Pine campgrounds. Fifth and sixth graders were participants in this program. In 1974, the park decided to require teacher workshops for all the environmental education programs and also produced curriculum-based guidebooks. The purpose of the workshops was

⁹⁷³ Dayhoff interview, Jan. 24, 2012.

to give teachers a clear understanding of the roles of all participants, provide them with advance knowledge of the program site, and distribute information and materials. Teacher workshops have remained a key part of the program. As of January 1977, interpretive staff working on environmental education no longer had general interpretive responsibilities and could devote all of their energies to the educational program. From that time forward, the park has had an education coordinator, as of this writing called an education and outreach coordinator. Since 1984, the park has produced *School Visits to South Florida Parks*, a comprehensive catalog of workshops and programs at Everglades, Biscayne and Big Cypress.⁹⁷⁴

The environmental education program took a big step forward with the 1977 opening of the Loop Road Environmental Education Center. An old church camp occupied five acres along the Loop Road within the recently established Big Cypress National Preserve, which at the time was being administered by Everglades National Park. Everglades Ranger Sandy Dayhoff and her husband, Big Cypress Ranger Fred Dayhoff, who lived next to the camp, got the idea of converting it to an environmental education center. The site was on the edge of a hardwood hammock and close to a number of other environments—sawgrass prairie, pineland, and cypress swamp. It also had several usable, if dilapidated, buildings, a pond, utility connections, and was easily accessible from Miami, an hour to the east, and Naples, an hour and one-half to the west. Sandy Dayhoff wrote up a proposal, and Superintendent John Good said, “Okay, Dayhoff, go on and try it.” As Sandy remembers it:

We proceeded to clear the land ourselves. My husband and I did it. My neighbor came down with his bulldozer, and we cleared it off and set up to do a camping program. The old building that was our office was full of termites and had an asbestos ceiling.⁹⁷⁵

The Dayhoffs, other park staff, and volunteers improved existing trails and laid out new ones, naming them Tree Snail, Arch, Bladderwort, and Still Trails.⁹⁷⁶ Because the ground-level tents used at first easily flooded in a heavy rain, reservists from the 915th Civil Engineering Squadron at Homestead Air Force Base constructed permanent tent platforms. On more than one stormy night, campers ended up huddled in the old house on the property. A children’s visitor center operated at the Loop Road center beginning in 1988. The center was staffed mostly by volunteers and had to be closed in 1991. In 1997, the park erected a small building containing an office and

⁹⁷⁴ Chronology of Environmental Education, 2011, EVER-00886; “School Visits to South Florida National Parks, 1998-99,” FNPMA records.

⁹⁷⁵ Dayhoff interview, Jan. 24, 2012; Sandy L. Dayhoff to Supt., Aug. 24, 1976; Sandy L. Dayhoff, Big Cypress Environmental Education Program, May 1977, EVER-00886.

⁹⁷⁶ Floating bladderwort, *Utricularia inflata*, grows in South Florida ponds, swamps, and canals. The remains of moonshine still on the site inspired the naming of that trail.

teacher resource room at Loop Road. From January 1978 until her retirement in 2006, Sandy Dayhoff kept the “The Old Log—A Journal of Tree Snail Hammock.” Over the years, interpreters, volunteers, and teachers added entries to the log. In 1995, Kristen Kram of Miami Springs Elementary School, contributed this poem:

In the morning the sun will rise,
Thinking of all the nature surprise.
I hear the birds in the sky,
As they are flying by.
I see the trees standing tall,
Without thinking of the mall.⁹⁷⁷

Once the Loop Road center was established, the interpretive staff looked to create a site for overnight experiences in the eastern part of the park. They got permission to use the Boy Scout camp on Research Road for a couple of years, and then in 1981 decided to create an environmental education center at Hidden Lake on the old Ingraham Highway. At first, Hidden Lake had permanent tent platforms, a thatched roof chickee-style shelter, and composting toilets. In 2004, the park built a 556-square-foot building at Hidden Lake, which houses the well head supplying water and serves as a shelter during storms.⁹⁷⁸

Throughout its history, the environmental education program has been innovative; many programs were tried and abandoned after a few years, while others have remained in place (figure 20-18, Environmental Ed activities, 1972-1973). A family camping program was in place for a single season at Loop Road in 1980. For high school students, the park ran a Students Toward Environmental Participation (STEP) camping program from 1975 to 1984 and day program at Royal Palm from 1988 to 1992. Because the park has limited land holdings in the Florida Keys, environmental education in the keys has largely taken the form of in-class programs, mainly in the Key West and Key Largo schools. Everglades staff also ran programs at Fort Jefferson. Since 1977, the park has run educational programs for children in the Miccosukee tribal school, both within the park and in classrooms. The only break came in 1991 through 1993 when staff changes and staff shortages in the Interpretive Division made it impossible to conduct the program. The park also worked to expand the environmental education program to students who couldn't visit the Everglades. Staff produced their first traveling exhibit in 1987. In 1996, they prepared an activity kit that was sent to every 4th grade in the state of Florida—more than 7,000 kits. In 2005, the

977 SAR, 1988; “Big Cypress National Preserve/Everglades National Park to Dedicate Renovated Environmental Education Facility at Loop Road,” NPS media release; March 17, 1998, “The Old Log [journal of activities at Loop Road facility],” EVER-00886.

978 Michael Jester, personal communication, Oct. 31, 2013.

park produced *Don't Let It Loose!*, an 80-page curriculum guide for grades five through eight on the dangers of releasing exotic species into the environment.⁹⁷⁹

Environmental education has not always had support from political appointees in Washington. During the Reagan administration, NPS Director William Penn Mott attempted to get the agency out of the environmental education business. One way the park coped was by temporarily removing the words "environmental education" from park signs. As federal funding for educational programs was cut, program managers increasingly sought foundation and other sources of money. Over the years, the National Park Foundation, the Pew Charitable Trusts, the South Florida Water Management District, the U.S. Army Corps of Engineers, the Curtis and Edith Munson Foundation, and the South Florida National Parks Trust, among others, have supported the park's program. In 2008, the Toyota Foundation gave the park a \$1 million, three-year grant along with five vehicles, including a Highlander Hybrid and a Prius, all to be used for the environmental education program. When the Toyota grant ran out, the park sought other donors. As of this writing, NPS funding covers only about one-half of the \$300,000 annual budget for the environmental education program.⁹⁸⁰

The park has always seen the environmental education program as one of its best methods for building a constituency for conservation and ecosystem restoration. As the park began pressing the South Florida Water Management District for altered water delivery schedules in the 1980s, ecosystem restoration was more heavily stressed with the schoolchildren. In 2004, the park partnered with the district and the Corps to produce *The Journey of Wayne Drop to the Everglades*, a 16-page, full-color booklet. The booklet followed the journey of a very personable drop of water from a cloud through the Kissimmee-Okeechobee-Everglades watershed to Florida Bay. The emphasis on conservation and citizen responsibility in the environmental education program seems to have borne fruit. Sandy Dayhoff and others speak of running into adults all over South Florida who say they have become conservation-minded voters because of a visit to the Everglades as grade schoolers.⁹⁸¹

The Everglades interpretive staff ended up traveling extensively to other parks training others in educational techniques. The park's environmental education program also attracted international attention, with educators from as far away as Burma

979 Chronology of Environmental Education, Everglades National Park, 2011, "Everglades National Park Ecology Week, 5th Grade," NPS media release, 1982, EVER-00886; ENP, <http://www.nps.gov/ever/forteachers/upload/Don't%20Let%20it%20Loose%20Curriculum%20Guide%202008.pdf>. Sandy Dayhoff tells of having to evade orders not to work during the government shut-down of 1996/1997 in order to get the kits out on schedule, helping the UPS driver load his truck. Dayhoff interview, Jan. 24, 2012.

980 "Toyota Announces Gift of \$1 Million, 5 Vehicles," *Miami Herald*, May 7, 2008; Gantt interview.

981 Dayhoff interview, Jan. 24, 2012; *The Journey of Wayne Drop to the Everglades*, Everglades Plan, http://www.evergladesplan.org/education/educ_docs/wayne_drop/waynedrop_eng.pdf.

Chapter 21: Resource and Visitor Protection

What is now known as the park's Division of Resource and Visitor Protection has evolved from a chief ranger supervising a staff of four or five rangers circa 1949 to a division with five major areas of responsibility and a year-round staff of about 75, supplemented by up to 25 seasonals.⁹⁸⁴ In the park's early years, the division faced the challenge of achieving basic resource protection goals in an area where many residents viewed the taking of fish, game, and plants as necessary and customary activities. Beyond the tasks common in all parks, such as protecting visitors, patrolling roads and waterways, providing emergency medical assistance, search and rescue, and resource management, rangers at Everglades have encountered special challenges arising out of the park's location at the tip of the Florida peninsula. These have included dealing with major agricultural and military inholdings and coping with the smuggling of drugs and refugees from other countries. As of today, the division's responsibilities are: law enforcement, fire and aviation, special park uses, the fee program, and dispatch.

Operations in the Early Years

On January 29, 1948, Earl Semingsen entered on duty as the park's first chief ranger, remaining in that position until August 1951. Among the early cadre of rangers were Paul Barnes, James B. Earle, Edward Stephanic, Ralph Maxwell, Erwin Winte (who retired from Everglades in 1974), and Barney Parker. Parker had been an Audubon warden and a warden in the Everglades National Wildlife Refuge. Ralph Miele, who started in winter 1951/1952 as a GS-2 fire control aid, retired from the park in 1980, having held a number of positions, including ranger-pilot. In the winter of 1949/1950, the park brought on four seasonal rangers. By summer 1950, the park had a chief ranger and six permanent rangers.⁹⁸⁵ Rangers in this period were wide-ranging generalists, handling law enforcement, resource management, visitor assistance, and anything else that arose. The Service had not yet distinguished interpretive rangers from law enforcement rangers, although some positions were classified as ranger-naturalists, which roughly paralleled the later interpretive ranger position.

At the time of his selection as park superintendent, Dan Beard envisioned three administrative districts for the park:

⁹⁸⁴ Previous names have included Ranger Services Division and Division of Law Enforcement and Visitor Protection.

⁹⁸⁵ SMR, Oct. and Nov. 1947, Jan. and Sep. 1948, Apr., Aug., and Nov. 1949, Apr. 1951; RDR1 to Dir., Aug. 16, 1950, NARA II, RG 79, NPS Dir. Recs., Drury, box 7; Miele interview.

Everglades land area, with headquarters at Royal Palm Lodge.
Cape Sable/West Coast, with headquarters in existing buildings at Coot Bay.
Florida Bay, with headquarters at Tavernier on Key Largo.

Beard hoped eventually to have a district ranger in each location, but acknowledged that initially the chief ranger would also serve as district ranger for the Everglades land area district (now known as the Pine Island District). The park rapidly established the Coot Bay and Royal Palm ranger stations, but did not find a headquarters location for the Florida Bay District until 1954, when it was established between mile markers 98 and 99 on Key Largo, several miles north of Tavernier. In January 1952, the park established a fourth district, the Tamiami District, locating its headquarters on the former Szady property, a service station and restaurant at the 40-mile-bend of the trail. The park also set up a patrol cabin on Lostmans River, at first in a houseboat borrowed from the U.S. Department of Agriculture. By January 1950, the park had built its own small structure there. After acquiring additional acreage in the northwest extension, the park in 1959 established a fifth district, the Gulf Coast District, with headquarters at Everglades City.⁹⁸⁶

Since 1959, there have been only minor adjustments to this arrangement of five administrative districts. Notably, the Tamiami District has at times been a subdistrict of the Pine Island District. In the early years after the East Everglades addition, there was an East Everglades District, but in 2004, the East Everglades was combined with the Tamiami District to form the Northeast District.⁹⁸⁷

As of this writing, the park is divided into the following five districts (figure 21-1, law enforcement districts):

- Pine Island District. This district includes the headquarters area, Long Pine Key, and the main road up to Mahogany Hammock.
- Flamingo District. The largest district, it extends southwest from Mahogany Hammock, including the Flamingo developed area and most of the backcountry that is accessed by water, and runs up the Gulf Coast to the south bank of Wood River.
- Gulf Coast District. This covers the west coast from Wood River north. The district is based at Everglades City and is a water-based district.
- Northeast District. The district includes the Tamiami Trail, the Shark Valley developed area, and the East Everglades.

⁹⁸⁶ Daniel B. Beard, A Proposal for the Protection and Administration of the Everglades National Park, Mar. 15, 1947, NARA Ph, RG 79, 79-58-A-360; SMR, Sep. 1949, Jan. 1950, Jan. 1952; "Resource Management & Visitor Protection & Safety, FY80," June 1979, EVER-01741.

⁹⁸⁷ "Resource Management & Visitor Protection & Safety, FY80," June 1979, EVER-01741; Bonnie Foist, interview by author, Oct. 10, 2011.

- Florida Bay District. Based out of Key Largo, this is almost wholly water-based.⁹⁸⁸

As of December 1, 1951, the United States assumed exclusive jurisdiction from the state of Florida over the lands, submerged lands, and waters included in Everglades National Park. This meant that park rangers became the law enforcement officers in the park, having responsibility for enforcing U.S. laws and departmental regulations. Local and county law enforcement officers would be called in only when they possessed special expertise that rangers lacked. Early in 1952, Thomas Hodson of Homestead was appointed U.S. commissioner for the park. Most violations in the park were brought before Hodson and his successors; more serious cases were handled by the U.S. attorney's office in Miami. In March 1952, Hodson handled the first case from the park, fining two men for using illegal fishing nets.⁹⁸⁹

In the 1980s, it became NPS policy to move to concurrent jurisdiction, where federal and state officers share jurisdiction within a park's boundary. After lengthy discussions with the state, an agreement was reached, and legislation was signed in Tallahassee on June 5, 1986, authorizing concurrent jurisdiction in Everglades National Park and the other NPS units in the state. Governor Bob Graham acknowledged the state's acceptance of concurrent jurisdiction by letter on October 27, 1986. When new lands come into NPS ownership, the park exercises proprietary jurisdiction until its agreement with the state can be amended to cover the acquired property.⁹⁹⁰

In the early years, Everglades rangers concentrated on asserting NPS authority over the lands and waters of the new park and protecting park resources (figure 21-2, rangers & staff, 1951/1952). Superintendent Beard noted that previously, protection had been given only to rookeries and not consistently. He described his job as "bringing a large area of difficult terrain under complete protection." Prior to 1947, the taking of alligators, deer, fur-bearing animals, frogs, sea turtles, tree snails, and plants had been almost wholly uncontrolled. NPS Regional Director Thomas Allen observed that the state of Florida had fish and game regulations on the books "which none of their men were brave enough to even attempt to enforce in the present Everglades National Park area." For local residents, taking deer and turtles for home consumption or alligators and frogs as marketable commodities was a long-established way of life. The NPS's mission was to end all of this activity in the new park. Park staff would accomplish this by education and warnings if possible, but would make arrests and seek convictions where necessary. As a new park, Everglades also had to buy boats, patrol cars, and other

⁹⁸⁸ Foist interview; Tom Iandimarino, personal communication, June 26, 2013.

⁹⁸⁹ Supt. Beard to Glenn C. Mincer, States Attorney, Miami, Feb. 11, 1952, EVER-01741; SMR, Feb., Mar. 1952.

⁹⁹⁰ 52 Fed. Reg. no. 22 (Feb. 3, 1987); SAR, 1986, Bruce Ganttt, personal communication, Nov. 29, 2012.

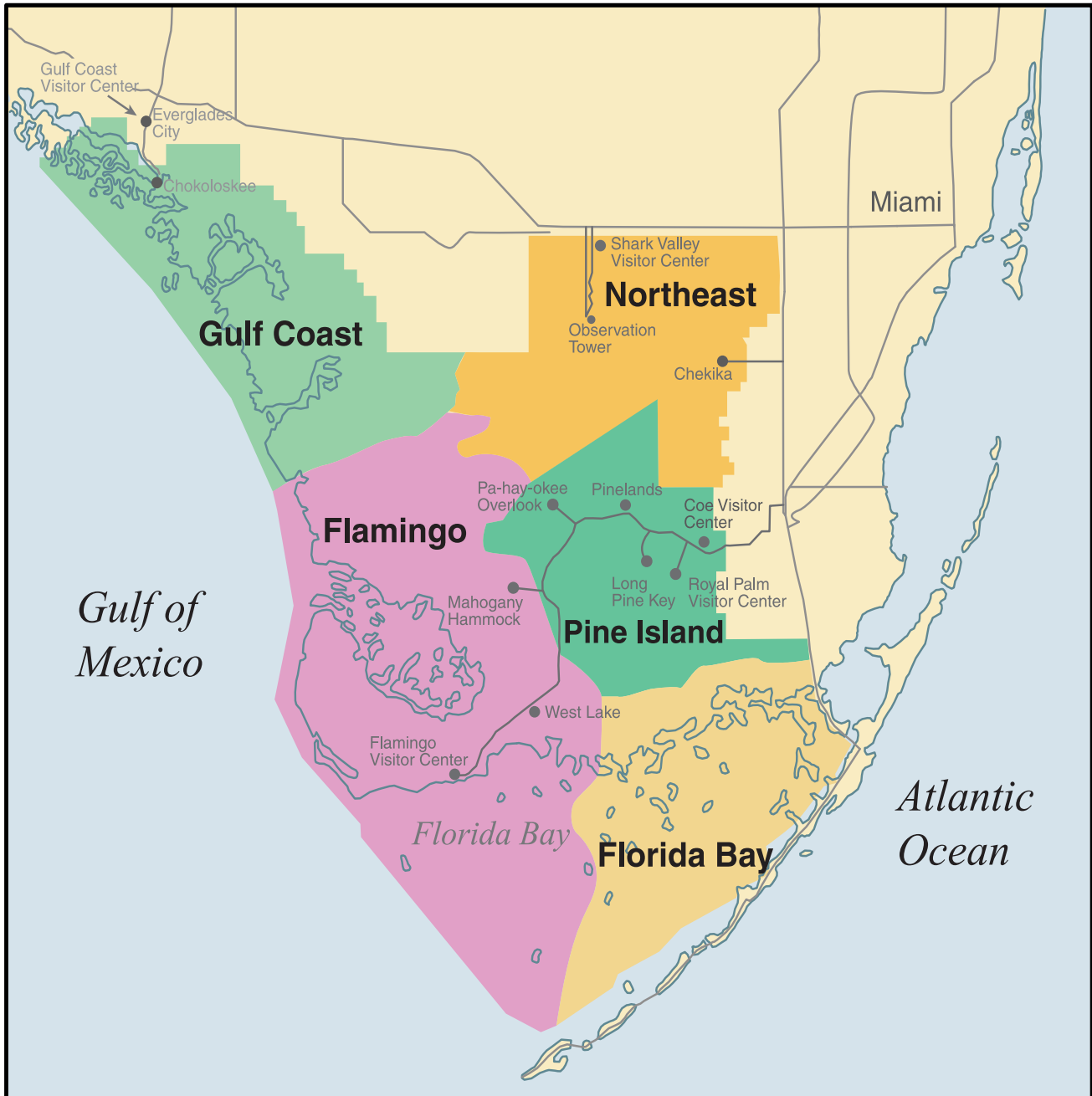


Figure 21-1 Law Enforcement Districts



Figure 21-2. Rangers and staff, winter 1951-1952

vehicles for its rangers. At first, hunters and trappers had vehicles specially adapted to the environment—airboats and swamp buggies—that the NPS lacked. Superintendent Beard moved to get this equip-

ment. By fall 1950, the park was running regular airboat patrols. Another early task was posting signs along the park boundary. These served as a warning to those who wanted to exploit resources and kept them from claiming they didn't know they were on park land.⁹⁹¹

The superintendents' monthly reports for the park's early years are full of references to rangers finding evidence of hunting in the park and sometimes confronting the hunters. Local residents, for example, were accustomed to taking sea turtles for food. In June 1948, Ranger Willard Dilley came upon seven Flamingo residents "turning turtles" on the Cape Sable beaches. Both sides were armed; after words were exchanged, the residents reluctantly returned to their boats and abandoned the hunt. Deer hunting was also quite popular. Superintendent Beard put a stop to some organized deer hunting that involved airplanes to spot the prey, airboats to bring the hunters in, and trucks waiting on the Tamiami Trail to haul away the carcasses. In 1951, rangers reported that locals were astonished that they were enforcing the state's stone crab season in park waters. In fall 1954, four men were found in the park on airboats with rifles and other accoutrements of the deer hunter. As the case moved forward, it emerged that the police chief of Homestead would have been in the party had he not been back at their base camp nursing a hangover. The four men were found guilty by a federal jury in Miami. Even after deer hunting had largely been stopped on federal property, it remained legal in season on the private inholdings in the Hole in the Donut. Hunters had to bring their rifles through the park's main entrance, requiring park staff to issue dozens of weapon permits each year. Rangers also had to patrol to make sure hunters stayed on private property.⁹⁹²

⁹⁹¹ Beard, "A Proposal"; RDR1 Allen to Dir., Aug. 16, 1950, NARA II, RG 79, NPS Dir. Recs., Drury, box 7; SMR, Feb. 1949, Jan. and Oct. 1950, Sep. 1951.

⁹⁹² SMR, June 1948, Apr. 1951, Dec. 1954, Nov. 1960.

Initially, the taking of alligators for their marketable hides was perhaps the most widespread resource violation that the NPS tried to stop. Selling gator hides to be used in purses and luggage historically was one of the few reliable sources of cash income for Everglades residents. Airboats and float planes made gator hunting considerably easier after World War II, and some hunters in the early 1950s even cleared primitive airstrips for small planes in the park. The valuable portion of the gator was the hide covering the belly. After cutting that away, the hunters left the carcasses, making it relatively easy for rangers to see where poaching had taken place. Much gator hunting took place at night, and it was very difficult to catch hunters in the act.⁹⁹³

The park banned private airboats as one protective step, and conducted day and night patrols, as staffing permitted, to stop gator hunting, sometimes using airplanes. Often the patrols were done in conjunction with Florida game wardens, who seemingly were emboldened by having federal officers to back them up. Much of the hunting was organized and supported by one major buyer of hides. Superintendent Beard learned his identity and put him out of business. As he put it, “The ringleader of the market hunters for alligators was smoked out in February [1950]. These ‘phantom’ hunters, swamp wise and army trained, have bothered the Service along west coast areas since the park was created.” Beard believed the regular operations of market hunters in the park had ended and noted with satisfaction: “The poaching fraternity plays cops and robbers with other people now, not with us.”⁹⁹⁴

Alligator hunting receded as an issue for park rangers until, paradoxically, Florida banned it. Florida prohibited all hunting of alligators as of July 29, 1961, causing prices for illegally obtained hides to skyrocket. In 1965, Ranger Richard Stokes told a reporter that hides were going for a minimum of \$5 a foot (2014 equivalent of \$38). In the 1960s, the park stepped up its enforcement efforts, as staffing allowed. By August 1962, the park was again using night patrols to try to stop poaching. From August to October 1965, it launched “Operation Protection,” which involved fielding four, two-man ranger teams to patrol against poachers. No hunters were caught, but the operation was felt to be a deterrent. Incoming Secretary of the Interior Walter Hickel in 1969 flew to the Everglades and announced a war on alligator poachers. Hickel promised the park a \$100,000 budget increase and 10 additional law enforcement rangers. Illegal taking of alligators largely ended after 1969, when Congress placed the species under the protection of the Lacey Act, making it a federal offense to transport the hides across state lines. As described in chapter 12, alligator populations grew

993 SMR, Oct. 1947, Apr. 1948, Sep. 1951.

994 SMR, Feb. 1950; Supt. Beard to park staff, May 19, 1952, NARA Ph, RG 79, 79-58-360.

tremendously after 1970, and Florida in 1986 instituted a limited hunting season on private lands.⁹⁹⁵

Resource protection in the park's early years sometimes involved practices that are today not sanctioned by NPS policy. In winter 1947/1948, park staff were very concerned that the large rookery at Rookery Branch in Shark River had failed to form for two consecutive years. Superintendent Beard received permission from Director Drury for his rangers to shoot vultures and crows in the vicinity with small caliber rifles.⁹⁹⁶

Evolution of the Division

Staffing in Resource and Visitor Protection increased gradually through the 1960s, surged in the 1970s, then held largely steady through the late 1990s, and has since receded (figure 21-3, ranger with fishermen, 1967). In 1962, the division had 17 per-



Figure 21-3. Ranger with fishermen, 1967

manent employees, all commissioned rangers except for a fire control aide and a clerk-stenographer. Eight years later, in 1970, the number of commissioned rangers was 14. By 1990, the park had 36 permanent rangers and nine seasonals. In recent years (2008 to 2010), limited funding has allowed the park to fill just 24 or 25 of 33 authorized full-time law

⁹⁹⁵ *Washington Evening Star*, March 17, 1965 [article title cut off], EVER 42054; Martha A. Strawn, *Alligators: Prehistoric Presence in the American Landscape* (Baltimore: Johns Hopkins University Press, 1997), 121, 142; SMR, July 1961, Aug. 1962, Oct. 1965; "Hickel Orders War on Gator Poachers," *Miami Herald*, Mar. 9, 1969; South Carolina Department of Natural Resources, <http://www.dnr.sc.gov/marine/mrri/acechar/specgal/gator.htm>.

⁹⁹⁶ Dir. Drury to RDR1, Dec. 30, 1947, EVER 22965.

enforcement ranger positions and six to eight seasonal ranger positions. In the mid-1970s, the Miccosukee Tribe of Indians of Florida established a police department. Until July 2000, the members of the Miccosukee force carried federal deputations, under a memorandum of understanding (MOU) with the NPS. This gave them the authority to enforce federal laws and DOI regulations in the Miccosukee permit area. The last five-year memorandum of understanding was signed in July 1995. In October 1998, the passage of the Miccosukee Reserved Area Act gave a new status to the tribal members living in the permit area, and the MOU was not renewed.⁹⁹⁷

The park's location next to a major metropolitan area means that urban crime at times spills over into it. In 1958, the superintendent noted that "riff-raff from the Miami area continue to be law enforcement and nuisance factors." The more serious crimes in the park have mostly been theft, vandalism, and bringing in banned weapons. Crimes against persons have typically been quite rare. The park had 22 larcenies from automobiles and 46 burglaries in 1974, but in 1986, just 30 crimes were reported to staff; more undoubtedly occurred but were not reported. Because of the number of areas within the park where visitors may park their cars, car clouts are difficult to prevent. Vandalism has fluctuated; 10 cases were noted in 1990, but as rangers began patrolling newly acquired lands in the East Everglades, vandalism spiked. To deter thefts from autos, the park in 1999 installed video cameras in the parking lot at the main visitor center. In 2002, rangers issued citations or made arrests for one burglary, 39 larcenies, and one case of arson. Through the years, speeding and unsafe driving on the main park road have been an issue. The road is shared by fishermen who often want to head expeditiously to Flamingo and nature lovers who brake for bird sightings. In recent decades, the road's speed limit has been 55 mph, with lower limits at intersections and congested areas. In 1988, the average speed of a ticketed violator was 74 mph. The speed limit on research road was reduced from 45 mph to 35 mph in 2008, largely to protect wildlife, which can enter the road suddenly. Yearly traffic incidents in the 2000s ranged between 900 and 1600. Rangers in recent years have stepped up safety inspections of private boats. Boating incidents in the 2000s ran from 1,200 to 3,400.⁹⁹⁸

The addition of some 107,000 acres in the East Everglades in the 1990s added substantially to the division's workload. The situation in this area in some ways resembled the situation prevailing throughout the Everglades when the park was established

⁹⁹⁷ ENP Master Plan, 1962; SAR 1974; Bruce Gantt, personal communication, July 29, 2013; NPS and Miccosukee Tribe of Indians of Florida, Memorandum of Understanding, July 13, 1995, Reed E. Detring, ENP Chief Ranger, to Anthony G. Zecca, Chief of Police, Miccosukee Tribe of Indians of Florida, ENP R&VP files.

⁹⁹⁸ SMR, July 1958; SAR, 1974, 186, 1988, 1999, 2003 through 2008; Superintendent's Compendium, 2008 and 2011, EVER 1827; Foist interview. Reported ranger contacts (incidents) with boaters and motorists are, of course, affected by available staffing; rangers are often called away from routine patrol for other duties.

in 1947. The area was on the western fringe of Dade County, and existing laws were not consistently enforced. Once the land was acquired, rangers would have to eliminate a number of incompatible uses. Pine Island District Ranger Bob Panko observed that the area “had been used for satanic rituals,⁹⁹⁹ paramilitary training, target practice, drug cultivation and importation, and the dumping of all kinds of trash.” Hunting and frogging were other common uses. He projected that the division would need at least eight additional commissioned rangers to police the new acreage. The 1993 superintendent’s annual report noted “East Everglades continues its tradition of presenting unusual and challenging enforcement situations. This includes investigation of 100 incidents of vandalism and malicious mischief to government property.” After all of the East Everglades acreage was acquired, law enforcement problems lessened.¹⁰⁰⁰

Search and rescue and the provision of emergency medical care are major division responsibilities. Almost all search and rescue efforts are water-based; few visitors venture very far into the backcountry on foot. Canoeists overdue in the backcountry and boaters who run out of gas or run aground in Florida Bay are the most common situations to require search and rescue operations. Search and rescue operations ran as high as 153 in 1980, but more recently have averaged 30 to 60 per year. The division has had an EMS coordinator position since at least the mid-1980s, and most rangers are certified emergency medical technicians. Medical emergencies range from visitors falling off bicycles to heart attacks. The division has a good working relationship with Miami/Dade Fire and Rescue, which dispatches medical evacuation helicopters when needed.¹⁰⁰¹

Natural Resource Management

In the early decades, the division had more resource management duties than it does now (figure 21-4, Moving a gator, 1960s). These included duties such as trapping and relocating raccoons that threatened turtle eggs, removing exotics like Australian pine, and monitoring and recording wildlife populations. After the 1976 creation of the South Florida Research Center, the center took on more of these responsibilities. At this writing resource and visitor protection continues to take part in field-level resource management activities. Some rangers find the opportunity to work with wildlife especially rewarding. Flamingo District Ranger Tony Terry has described his work with sea turtles in these terms:

⁹⁹⁹ It is unclear whether this is a value judgment or perhaps a misconception of the practices of the Santeria religion.

¹⁰⁰⁰ Robert A. Panko, Pine Island District Ranger, Funding Alternatives for East Everglades: A Report to Identify Problems and Recommend Funding Alternatives for FY92, EVER -00777.

¹⁰⁰¹ SAR, 1980, 1988, 1990, 2002; Foist interview.



Figure 21-4. Moving a gator, 1960s, photo by C. A. Mitchell

I called it a turtle rodeo back then. We used to go out and catch the loggerhead sea turtles by diving off the front of the boat and bringing them up to the surface, putting them on the john boat, cutting tumors off of them, taking a blood sample, and weighing them. I thought it was the most awesome thing--I can do this and arrest people in the same job?

Another example of ranger staff involvement in natural resource protection is curbing the commercial harvesting of saw palmetto berries. In 1993, law enforcement staff issued 40 citations to berry collectors, who were receiving up to 32 cents a pound (2014 equivalent of 53 cents) for the berries.¹⁰⁰²

Dispatch

The dispatch function, which entails maintaining and facilitating radio communications among park staff, is one of those vital but routine areas where documentation often is not retained. Superintendent Beard reported in January 1949 that the park's radio communications system was operating satisfactorily. The park's system has relied on repeaters placed on towers at Pine Island, Flamingo, Shark Valley and other locations. For a number of years, dispatch and fee collection at the main entrance were the responsibility of the Pine Island Ranger District. In 1988, the Chief Ranger's Office became responsible for the dispatch function, and in 1990 an operations center with new equipment for dispatch opened in the headquarters building. Dispatch handles radio communications for all four South Florida park units. It also handles occasional requests for assistance from other park units, notably Virgin Islands National Park. At this writing, dispatch has six full-time employees, so that the operations center can operate continuously. A former chief ranger, the late Bonnie Foist, described the dispatch staff as the park's unsung heroes.¹⁰⁰³

Special Park Uses/Permitting

The park issues commercial use authorizations (formerly known as incidental business permits),¹⁰⁰⁴ commercial filming/photography permits, and special use permits for certain activities occurring within its boundary. Commercial use authorizations cover guide fishermen who charge customers and guides who bring bird-watching or other organized groups into the park. Anyone wishing to film in the park for a project

¹⁰⁰² SAR, 1993.

¹⁰⁰³ SMR, Jan. 1949; SAR, 1980, 1988, 1990; Foist interview.

¹⁰⁰⁴ The NPS makes a distinction between commercial uses that typically begin and end outside of the park and concession activities, which generally involve a permanent presence within the park. The former are covered by commercial use authorizations and the latter by concession contracts.

aimed at a market audience needs a commercial filming/photography permit. Special use permits cover activities like weddings or charity events that benefit an individual or organization rather than the public at large. Requests for permits and authorizations must be reviewed for compliance with park policy and evaluated for their impact on resources and visitors.

All of these permitting activities are the responsibility of Resource and Visitor Protection Division at this writing. In 2008, the park established the position of special park uses program manager. This position oversees the issuance of permits and commercial use authorizations. As of this writing, a part-time permit examiner is on the staff, largely occupied with guide fishing permits. Processing the fishing guide permits, which recently have totaled 300 to 325 per year, occupy considerable staff time. All other commercial uses generally run to 25 to 40 per year. The park is a popular location for the filming of documentaries, advertisements, and other types of videos aimed at a market audience. In 2010, the park issued 31 filming permits. In February and August 2004, crews from Ken Burns's production team were in the park filming for his documentary. Because Burns was filming in multiple parks, the NPS Washington Office largely established the guidelines for his work. Ranger staff, of course, needed to be on hand to monitor the film crews.¹⁰⁰⁵

Fees

The park instituted modest fees for commercial vehicles (e.g., tour buses) that carried visitors in 1959, charging \$3.00 per passenger seat for a yearly permit. The park had no entrance fees for visitors in private automobiles or for camping until 1966. As of July 1, 1966, the park began charging a daily fee of 50 cents for an individual and \$1.00 per private vehicle entering at the main entrance. A 30-day pass was \$1.50 for an individual and \$3.00 for a vehicle. An annual pass was \$7.00 per vehicle. The daily fee for a vehicle was raised to \$2.00 within a year or so and in March 1987 became \$5.00 at the main entrance and \$3.00 at Shark Valley. In 1996, Congress established the fee demonstration program, which allowed parks to retain 80 percent of fee collections to address backlogged repair and maintenance needs. In the wake of this legislation, Everglades National Park in May 1997 established a daily vehicle fee of \$10.00 at the main entrance and \$8.00 at Shark Valley. In 2004, the fee at Shark Valley became \$10.00. At this writing, the vehicle fee for being in the park for from one to seven days remains \$10.00, with a fee of \$5.00 for a pedestrian or bicyclist. Yearly park passes are currently \$25.00. There has never been a fee at the Everglades City visitor contact point. The initial fees for camping in 1966 were \$2.25 per day for a drive-in campsite

¹⁰⁰⁵ SAR, 2008, 2010; Foist interview.

and \$1.50 for a walk-in site. In 1991, the fee for sites at Flamingo was \$8.00 a night and at Long Pine Key, \$10.00 a night. At present, a campsite at Long Pine Key or Flamingo costs \$16.00 per night; a site with an electrical hook-up at Flamingo goes for \$30.00.¹⁰⁰⁶

When the park began collecting a \$1 entry fee per car in 1966, seasonal rangers collected it, and the ranger division became responsible for this aspect of operations. For a number of years, it appears that fee collection was a responsibility of the Pine Island Ranger District. For a period in the 1990s, the park's administrative division handled the monetary aspects of fee collection. In 2003, a fee programs manager position was established within the Resource and Visitor Protection Division. As of this writing, the full-time fee program manager supervises seven permanent fee collectors and six to eight seasonal campground fee collectors. Revenues received from fees have to be weighed against the costs, chiefly personnel costs, of collecting the fees. Prior to fiscal year 2007, the main entrance station was open 24 hours a day, seven days a week, resulting in a high cost of collection. The hours were reduced to 16, then to 13 hours per day. As of fiscal year 2010, the park's cost of collection was 37 percent.¹⁰⁰⁷

Fire and Aviation

The park's extensive wildland fire program is a Resource and Visitor Protection Division responsibility and is covered in chapter 15. A fire management officer has charge of the fire program. Airplanes and helicopters are important tools in patrolling and conducting resource management and monitoring activities in the park. The division has had aircraft operations as a responsibility for the greater part of the park's history. In the early 1950s, the park rented aircraft when needed. Ranger-pilot Ralph Miele was responsible for getting the park its own airplane. Late one afternoon in 1958, Miele noticed that a Piper Supercub PA-18 based in Salt Lake City had appeared on a list of surplus federal property. He interrupted a conversation between Superintendent Beard and Assistant Superintendent George Fry to alert them of the opportunity. When Beard said he would write a letter about it, Miele observed that another agency surely would have claimed the plane by the time the letter arrived. After carefully considering the effect on his budget, Beard decided to incur the expense of sending a telegram, and Miele was soon on his way to Utah to fly the plane to Florida

1006 24 Fed. Reg. 2643 (Apr. 7, 1959); *The Anhinga*, Nov. 1966; SMR, July 1966; "New Entry Fees Announced for National Parks and Historic Sites," *Chicago Tribune*, Apr. 17, 1988; "Everglades National Park Reopens," NPS media release, Dec. 15, 1992, HFC; "National Parks Raise Fees for '97," *Chicago Tribune*, Dec. 31, 1996; Everglades National Park, <http://www.nps.gov/ever/planyourvisit/feesandreservations.htm>; "Concessioner to Operate Campgrounds at Everglades National Park," DOI press release, Dec. 22, 1968, HFC; Omnibus Consolidated Rescissions and Appropriations Act of 1996; Tenia Fleming, personal communication, July 30, 2013, based on files in EVER chief ranger's office.

1007 SAR, 2003, 2008, 2010; Foist interview.

(figure 21-5, the park's first airplane). On March 11, 1961, this plane was burned in an arson fire at its hangar at a civil aviation airport outside the park. The FBI, the Dade County Sheriff, and the Dade County Arson Squad investigated, but no suspects were ever identified. Ralph Miele, who was the park's ranger-pilot at the time, remained convinced that disgruntled park neighbors set the fire.¹⁰⁰⁸



Figure 21-5. The park's first airplane

The park got a replacement for the burned aircraft in July 1961, a four-seat Lake Aircraft amphibious airplane, which was based at Homestead Air Force Base, where it had more security. By 1981, the park had the Lake aircraft and a Widgeon plane. Within a few years, the Lake needed extensive repairs and the Widgeon became very costly to maintain and operate. In 1984, the NPS Office of Aircraft Services studied the air operations at EVER and BICY. Following its recommendations, the park sold its aircraft and began contracting for fixed-wing and helicopter flights.¹⁰⁰⁹

Policing the Activities of Inholders

Nike Missile Base

As related below in chapter 22, the U.S. Army opened a Nike Hercules surface-to-air missile base in the Hole-in-the Donut in 1965. The arrival of 100 to 125 mostly single young men at the base another dimension to ranger responsibilities. Bored soldiers are liable to create mischief, and surviving records indicate that those stationed inside the park occasionally did. In December 1966, two GIs were court-martialed and reduced in rank for driving the wrong way on the park entrance road and nearly causing an accident. The next month saw the following incident:

The Chief Ranger assisted ranger personnel in breaking up a drag race on the Long Pine Key Road. The 6 men involved, from the Missile Site in the Hole-in-the-Donut, were turned over to their Commanding Officer who reduced them in rank, gave them extra duty and restricted the men to the base.

¹⁰⁰⁸ SMR, Mar. 1961; Miele interview.

¹⁰⁰⁹ Miele interview; SMR, Mar. 1958, June 1961; SAR, 1981 and 1984.

Things remained lively up to the end of the Army's use of the site. In 1978, rangers responded to two case of soldiers reported away without leave. When the park later drained the pond in the borrow pit at the base, they discovered a number of automobiles dumped there by servicemen. Many of these appear to have been vehicles damaged in crashes within the park. If those same vehicles were then reported to insurance companies as stolen, who would know any better?¹⁰¹⁰

After the missile base became NPS property, law enforcement personnel began to use the berms at the launch area for target practice. It is also possible that Army personnel previously had used the berms for the same purpose. NPS personnel used the firing range from 1984 to 2000. This resulted in the accumulation of a significant amount of bullet fragments containing lead. An evaluation conducted in 2011 showed that two of three berms (Berms A and C) contained lead-impacted soil to the depth of two feet. The NPS contracted with PRC Environmental Corporation to conduct remediation at the site. In September 2012, the firm removed 250 tons of contaminated soil from Berm C and treated it with a reagent mixture containing phosphate and magnesium oxide. The original scope of work called for the treated soil to be removed to a landfill outside the park. Because some needed compliance documentation had not been prepared, the NPS directed the contractor to leave the treated soil at the site. When funding becomes available, the treated soil will be removed, the profile of the historic berms will be restored by laying down gravel, and further remediation at berm A will be undertaken.¹⁰¹¹

Iori Farms

The tomato-growing activities of the Iori brothers in the Hole in the Donut brought another contingent of mostly young men to the park. From late 1955 until the middle 1960s, farm laborers lived on-site in a bunkhouse and others commuted from outside the park, adding to traffic and weapon possession issues. In January 1959, rangers helped prevent an attempted hold-up of the payroll for the Iori farm workers. The chief ranger described the incident:

An attempted holdup of the Iori payroll was thwarted when advance notice leaked out. An off-duty Dade County deputy sheriff followed the payroll car and when the two hi-jacking cars attempted to force the payroll car off the road, the deputy moved in and drove off the "bandits." One of the holdup cars was caught in a Park Ranger road block thrown up and its occupants taken before the U.S.

1010 SMR, Dec. 1966, Jan. 1967; SAR, 1978; Steve Hach, *Cold War in South Florida Historic Resources Study* (Atlanta: NPS, 2004), 82.

1011 Ken Quinn, Mike Amstadt, and Mark Shoaf, TRC Environmental Corp., to Robert France, PRIZIM, Inc., Dec. 28, 2012, Categorical Exclusion Form, Characterization and Mitigation of Everglades National Park Small Arms Firing Range, July 13, 2011, ENP maintenance files.

Commissioner. Since these people could not be definitely tied in with the holdup, one of the men, found with a revolver on his person, was fined \$150, suspended on the condition that he stay out of the Park, and firearm confiscated.¹⁰¹²

In January 1961, the state health department temporarily closed the Iori camp for sanitation violations, and the chief ranger noted that the move lessened poaching and traffic problems until the camp reopened.¹⁰¹³

Running Illegal Drugs

Park rangers dealt with relatively few serious crimes until drug running emerged as a serious challenge in the late 1970s. Demand for marijuana as a recreational drug in the U.S. soared in the 1960s and 1970s. When U.S. and Mexican authorities cracked down on imports from Mexico in the 1970s, growers along the Caribbean coast of Colombia stepped in. By the late 1970s, an estimated 70 percent of the marijuana coming into the country originated in Colombia. The run across the Caribbean Sea and Gulf of Mexico from Colombia to Florida was a relatively easy one, and Southwest Florida was an ideal transshipment point. In some cases, boats from Florida went to Colombia to get cargoes; in others, large “mother ships” from South America rendezvoused offshore with smaller boats dispatched from the Florida coast. Private planes were also used in the trade. “Square grouper,” as the bales of weed were known locally, became a far more lucrative commodity than grouper that had fins. Marijuana was landed from Cape Sable to the Fort Myers area and many trips ran through or ended in the park (figure 21-6, Rangers with “square grouper”). As one superintendent observed, the park had 130 miles of unpatrolled coastline and uncounted numbers of inlets where illicit cargoes could be off-loaded. The park never had sufficient funding to maintain regular drug interdiction patrols, but routine patrolling for other reasons led to a significant number of seizures and a few arrests. Park rangers also worked with other law enforcement agencies to tackle a problem that affected the whole region.¹⁰¹⁴

The growing drug trade was reflected in the number of marijuana bales confiscated by park rangers. In 1978, marijuana with a street value of \$6 million was seized within the park, and the following year, the superintendent reported that “drug traffic is intensifying at an alarming rate.” He also made what became a common complaint—that drug runners had better vehicles, boats, radios, automatic weapons, night scopes, and radars than rangers. From 1980 through 1984, rangers seized between

1012 Monthly Narrative Report of Ranger Activities, Jan. 1959, EVER 28442.

1013 SMR, Sep. 1955, Jan. 1961.

1014 Dennis M. Hanratty and Sandra W. Meditz, eds., *Colombia: A Country Study* (Washington: GPO for the Library of Congress, 1980), <http://countrystudies.us/colombia/59.htm>; SAR, 1985.



Figure 21-6. Rangers with “square grouper”

700 and 900 marijuana bales annually. They made only a handful of arrests, because smugglers usually abandoned their cargoes and even their boats when discovered.¹⁰¹⁵

¹⁰¹⁵ SAR, 1979, 1980, 1981; Jason Houck, Chief Ranger's Office, to Supt., Oct. 29, 1984, EVER 58222.

A February 1982 memo from the Everglades City district naturalist gives some insight into this period. The naturalist and his colleague Ben Bailey were canoeing up Deen's Creek in the mangrove zone and reported this incident:

[A]bout half a mile up the creek, around the first bend, two T-boats were parked, and had about \$500,000 in bales. The tide was too low for the boats to move out. . . . Bailey and I backpedaled the Hell out of there – double time – and told the rangers. . . . Later that day, they arrested 2 of [sic] local natives & with the help of the deputies, etc., brought the boats back to the station. You'll probably read about it all in the *Miami Herald*.¹⁰¹⁶

Many of the fishermen and other mariners of Everglades City and Chokoloskee succumbed to the lure of easy money promised by the marijuana trade. Residents with an average annual income of \$17,000 could make \$10 to \$30 thousand for a single night's work running marijuana. Those with bigger boats and the nerve and canniness to sail to Columbia could make many multiples of those amounts. The live-and-let-live atmosphere of the area was conducive to tacit acceptance of the drug trade. Some in the tightly knit community of Everglades City, with its extensive kinship networks, saw marijuana running as no more serious an offense than rum running during prohibition. In any event, no one was going to turn his neighbor or his cousin in to authorities. Area residents became increasingly cavalier about flaunting their newfound wealth. When men who used to wear jeans and drive beat-up pickup trucks started sporting heavy gold necklaces and driving Lincolns, no one had much doubt about the source of the cash. U.S. Drug Enforcement Agency and local officials began an undercover investigation, with help from law enforcement rangers from the park's Gulf Coast District.¹⁰¹⁷

The beginning of the end of Everglades City's marijuana-fueled prosperity came on July 7, 1983. At 3:00 that morning, local, state, and federal authorities set up a roadblock on State Route 29, the only road to the city. They arrested 200 people and seized 14 fishing boats, two airplanes, 350,000 pounds of marijuana, and \$5 million in other assets. Smuggling did not immediately stop, and authorities patiently worked up additional evidence, then conducted more mass raids in summer 1984. In 1987, the state's attorney's office operated a fish house in Everglades City and used it to build relationships in the community and gather information on smuggling. Over time, by plea-bargaining with lower-level operatives in exchange for information on others and imposing sentences of up to 40 years on those who wouldn't inform, authorities largely ended organized drug running in and around Everglades City. Among those who refused to turn state's evidence was legendary Gladesman Loren "Totch" Brown. He

1016 District Naturalist, Everglades City, to Al, Karen, Feb. 15, 1982, EVER 22965.

1017 Lori Rozsa, "The Town That Dope Built," *Miami Herald*, Dec. 16, 1990; SAR, 1983.

forfeited cash and property worth more than \$3 million and served 18 months of a three-year sentence. Brown told a reporter, "I would die before I would testify against my friends." Community distrust and anger toward government were heightened by the tactics used by the authorities in combating the drug trade. As described previously in chapter 19, there was already considerable animosity over prior bans on commercial fishing and alligator hunting. To some in the community, the drug busts added to a sense of ill-usage by the authorities.¹⁰¹⁸

Closing down the Everglades City operations, increased patrols by the U.S. Coast Guard and Customs Service, and changes in American drug use patterns made drug trafficking a significantly smaller issue for the park by 1990. More high-quality marijuana began to be grown in the U.S., and recreational users turned increasingly to cocaine. Cocaine is a lot less bulky than marijuana and often was flown in on airplanes to airstrips strung across the country. There was no particular advantage in landing it in Southwest Florida. As of today, ranger involvement with illegal drugs is largely limited to the occasional citation for private use at campgrounds or elsewhere in the park.¹⁰¹⁹

Running Refugees

Following the 1959 Cuban Revolution, refugees traveling through park waters or landing on park lands became an issue for the ranger force. The superintendent noted in June 1962 that U.S. Border Patrol agents were in the park consulting with ranger staff on refugee issues. Over five decades, the flow of Cuban immigrants has fluctuated largely based on changing conditions in Cuba. Since 1995, U.S. law has granted special status to Cuban immigrants once they are on American soil. This provides a strong incentive for smugglers to land immigrants in a safe and prominent place and then high-tail it.¹⁰²⁰ People smugglers have generally preferred other landing spots in Florida rather than areas in the park, but the Cape Sable beaches are sometimes used. A group is dropped on the beach in the early morning, and usually a fishing boat captain notices them at first light and contacts the park. In the 2000s, the park averaged one or two human trafficking events per year. Each year from 2006 through 2009, one group of migrants ranging in size from 26 to 46 were landed at Cape Sable. Park rangers primarily provide humanitarian assistance to refugees. As one former chief ranger,

1018 SAR, 1983; "Everglades City Residents Tire of Town's Reputation as Drug Smuggling Have," *Miami Herald*, Nov. 25, 1984; "48 Named in Smuggling Indictments," *Miami Herald*, Oct. 13, 1989; "Hush Puppies Replace Drugs in Florida Town," *Los Angeles Times*, Jan. 9, 1995.

1019 SAR, 1988.

1020 It is illegal to smuggle aliens from any country into the United States. Individuals who are caught in the act of bringing in Cubans are not often prosecuted by the U.S. Attorney in Miami because many in the local community support running refugees from Cuba and it is difficult to convince a jury to return a conviction. 8 U.S.C. 1321; Melissa Memory, personal communication, June 28, 2013; Bruce Gantt, personal communication, July 29, 2013.

Bonnie Foist, put it: “We bring them to Flamingo, make sure they’re safe, give them water, contact the Border Patrol, and they come down and take them off our hands and process them.” Smugglers of people and drugs watch the activities of rangers in the Flamingo district closely, hoping to detect patterns of activity, so that they make runs when they are least likely to encounter a patrol. For this reason, the district ranger does his best to alter the schedules and reduce predictability.¹⁰²¹

Notable Accidents

Everglades National Park lies near Key West Naval Air Station, Homestead Air Force Base, Miami International Airport, and several civil aviation airfields. From time to time, aircraft go down in or near the park, requiring a response from park staff. Traveling Ingraham Highway, the only route to Flamingo for staff and visitors until 1957, could be hazardous and automobile accidents were not uncommon. Some of the more noteworthy plane crashes and automobile wrecks in the park are described below.

In June 1950, Park Biologist Joseph Moore was injured in a plane crash.¹⁰²²

On February 1, 1952, the park’s Chief Clerk James Smith was killed in an automobile accident that also took the life of the driver of the other vehicle. Smith was driving to the park in a government car when he collided with a truck at an unmarked intersection. Superintendent Beard called Smith the *de facto* executive officer for the park and lauded his contributions in getting the park up and running.¹⁰²³

In July 1952, a U.S. Marine Corps Hellcat fighter plane crashed in the park, killing the pilot, Captain Richard E. Otto. Rangers located the crash site and removed the pilot’s remains.¹⁰²⁴

In February 1953, three visitors from California were killed in car crash on Ingraham Highway, ending up in the canal alongside the road. Superintendent Beard and rangers helped recover their bodies.¹⁰²⁵

In June 1954, alert park staff helped rescue the sole survivor of the crash of two Marine Corps dive bombers over the Shark River portion of the park. Two single-engine Douglas Skyraiders from the Opa-Locka Marine Corps Base in Miami collided at an altitude of about 4,000 feet. Private William G. Collier was thrown from one plane and was able to pull the ripcord on his parachute. Smoke from the crash was seen by several park rangers. Acting Chief Ranger Ralph Maxwell sent a plane over the scene

1021 Everglades National Park Human Smuggling Activity, PowerPoint file, circa 2009, EVER 22965, SMR, June 1962; Foist and Terry interviews.

1022 SMR, June 1950.

1023 SMR Feb. 1952.

1024 SMR, July 1952.

1025 SMR, Feb. 1953.

and the pilot saw a flare launched by the injured Collier from his life raft. A U.S. Coast Guard helicopter brought him out and park rangers helped remove the bodies of Lieutenant Ray M. Holton, Lieutenant Harry Proodian, and Private John Costa. Some of the wreckage from this crash was never removed from the park, and the crash site has been recognized as an archeological site.¹⁰²⁶

On March 13, 1958, a six-engine B-47 Stratojet from Homestead Air Force Base, said to be on a routine training mission, exploded and crashed just east of Pine Island, killing the four crewmen on board. Debris from the crash was scattered over about a mile. The plane's crew were Major Leon F. Hatcher Jr., pilot; Lieutenant James Pennington, co-pilot; Major Frank H. White, instructor-pilot; and Captain George E. Reid, navigator. The March superintendent's report observed: "Rangers and Fire Control Aides assisted the Air Force by bringing out the bodies of the four airmen who were killed and transporting the investigating committee to the crash site in glades buggies." B-47s were the major carriers of American atomic bombs in this period. It is not known whether this plane was carrying them; the presence of an instructor on the flight suggests it probably was not.¹⁰²⁷

A major crash of a commercial airliner in the park occurred on February 12, 1963. Northwest Orient Flight 705 was a Boeing 720 jetliner bound for Portland, Oregon, with stops in Chicago, Spokane, and Seattle. The plane crashed in stormy weather 17 minutes after take-off from Miami International leaving a 10-mile debris field from just south of the seven-mile tower westward. All 43 passengers and crew on board were killed. Securing the site and assisting investigators from the Civil Aeronautics Board and the FBI put a heavy strain on ranger staff during the busy winter season. Rangers used swamp buggies to remove victims. Investigators were on the scene for some weeks as they partially reconstructed the plane.¹⁰²⁸

In August 1966, a private Cessna aircraft crashed in Florida Bay, with rangers assisting in the recovery of the bodies of the three passengers.¹⁰²⁹

On March 14, 1974, Earl Duvall, a pilot of the Miami Helicopter Service, and park biologists James Kushlan, and James Tilmant were severely burned in a helicopter crash in Shark Valley not far south of the Tamiami Trail.¹⁰³⁰

1026 SMR, June 1954; "Blast Blows Marine Clear as Planes Hit," *Chicago Tribune*, June 5, 1954; Ben Morgan, personal communication, Sep. 22, 2011; Everglades National Park, Archeological Sites Management Information System (ASMIS) database, EVER00246.

1027 SMR, Mar. 1958; "5 Airmen Are Killed in Bomber Explosions," Associated Press story in Oklahoma State University's *Daily Collegian*, n.d. [Mar. 1958].

1028 SMR, Feb. and Mar. 1963; Monthly Narrative Report for Ranger Service Division, Feb. 1963, EVER 28442; "43 Killed in Chicago Jet!," *Chicago Tribune*, Feb. 13, 1963.

1029 SMR, Aug. 1966.

1030 "3 Men Burned in 'Copter Crash," *South Dade News Leader*, March 15, 1974; Kushlan interview.

In September 1981, the son of a high-ranking Venezuelan official was killed in a crash in the park.¹⁰³¹

On February 2, 1982, two private planes, apparently returning from the Everglades Seafood Festival, collided over the park at around 5 pm, killing eight. This has been described as the worst private aviation disaster to that date in Florida.¹⁰³²

Three men were killed in February 1985 when their Piper Apache went down in Chokoloskee Bay shortly after taking off from Everglades City Airport. The victims were Peter Haines, Robert Anderson, and Kim Thompson.¹⁰³³

In April 1987, an apparently intoxicated student pilot took off from Key West in a Piper PA-28. He was killed when the plane crashed in the park, setting off a fire that burned 20 acres before park staff extinguished it.¹⁰³⁴

Four people were killed in two private plane accidents with a few days of each other in September 1989. On the 22nd, rangers on a routine helicopter patrol found the wreckage of Cessna 150 in Shark Valley. Killed in the accident were Faras Simi and Liliana Salamanca. Two days later, two Miami doctors, Irwin Lighterman and George Daniel, died in the crash of their Cessna 172 about a mile from the Shark Valley tower.¹⁰³⁵

On November 9, 1990, a twin-engined private plane crashed inland of Cape Sable, killing the three persons on board. The site was accessible only by helicopter, and park rangers assisted the Coast Guard in recovery operations.¹⁰³⁶

At the end of January 2004, a private twin-engined Beechcraft turboprop airplane went down in a densely vegetated section of the park about 30 miles southwest of Homestead. Saul Zadick and his 15-year-old son Timor were killed.¹⁰³⁷

Two major commercial plane crashes occurred in the Water Conservation Area 3B north of the park boundary. On December 29, 1972, just before midnight, a Lockheed L-1011 Tristar, Eastern Flight 401, en route from John F. Kennedy International Airport in New York to Miami, crashed, killing 101, with 75 surviving. The plane was on its final approach into Miami International Airport when the pilots apparently became distracted by a warning light and failed realize they were losing altitude. The plane came down some 300 yards from the Tamiami Trail. Many volunteers in airboats brought survivors from the crash scene. In the afternoon of May 11, 1996, Valu-Jet

1031 SAR, 1981.

1032 "2 Planes Crash in Everglades," Associated Press story in *Spokane Chronicle*, Feb. 8, 1982.

1033 "Bay Waters Stall Probe of Crash," *Miami Herald*, Feb. 16, 1985.

1034 "Crash Kills Pilot, Burns 20 Acres," *Miami Herald*, Apr. 18, 1987; "Flying High," *Miami Herald*, Aug. 30, 1987.

1035 "2 Doctors Killed in Glades Plane Crash," *Miami Herald*, Sep. 25, 1989.

1036 SAR, 1990; "3 Minnesotans Missing after Plane Crash in Florida," *St. Paul Pioneer Press*, Nov. 11, 1990.

1037 "2 Believed Dead in Plane Crash," *Miami Herald*, Feb. 1, 2004; "NTSB Official Says Weather May Have Been a Factor in 'Glades Plane Crash,'" *Sun-Sentinel*, Feb. 3, 2004.

Flight 592 went down killing all 110 on board. Early in the DC-9's course from Miami International Airport to Atlanta, smoke appeared in the cockpit and cabin. The pilots were on the way back to Miami when the plane went down about 12 miles from the airport and only about two miles from the site of the Eastern 401 crash. The crash impact created a large crater in the limestone underlying the marsh, making recovery of the fuselage and human remains very difficult.¹⁰³⁸

1038 "93 of 171 Aboard Jumbo Jet Survive Crash in the Everglades," Associated Press story in the *Merced Sun-Star*, Dec. 29, 1972; "Crater Yields Largest Pieces of ValuJet Wreckage," Associated Press story in *Beaver County Times*, June 4, 1996; William Langewiesche, "The Lessons of ValuJet 592," *Atlantic*, Mar. 1998.

Chapter 22:

Relationships with the Military

From the Seminole Wars to the present day, South Florida has been the scene of military and paramilitary operations.¹⁰³⁹ Between the park's authorization and establishment, the U.S. beefed up its military presence in South Florida both before and after the nation entered World War II. The issue of the effects of military overflights on park values, therefore, was present from before the park's establishment in 1947. That event coincided with the onset of the Cold War between the U.S. and the Soviet Union, ensuring that a substantial military presence would remain in South Florida. As the nation's only subtropical region, the Everglades emerged as a favored place to test jungle warfare technologies. In the 1960s, as Cuba drew closer to the Soviet Union, the Cold War affected Everglades National Park in a surprising number of ways, reaching a crescendo during the Cuban Missile Crisis of October 1962, which had a long aftermath.

During World War II, the U.S. military greatly expanded its presence in Florida and other areas of the South where cold weather was less likely to interfere with its operations. On the park's doorstep, the U.S. Army Air Force operated Homestead Air Field from 1942 until the end of the war. There had been a naval base at Key West since the 1820s; seaplanes were stationed there from 1917; and Naval Air Station Key West was established in 1940. The Navy established Naval Air Station Miami at Opa Locka Airport in 1939. During the Second World War, there were temporary air bases all around the area, including those at Hollywood and Boca Raton. In 1940, when the U.S. was improving its defense capabilities, the NPS intervened with the War Department to prevent 4,800 acres within the park's maximum proposed boundary from becoming a bombing range.¹⁰⁴⁰

Late in the war, Naval Air Station Miami was able to establish a bombing target on Otter Key, an 18-acre key located south of Rankin Bite and east of Flamingo.. This bombing target was thought to have been included in a permit issued by the state of Florida in September 1944, but research by a Department of Defense contractor in 2010 failed to confirm this. The contractor was unable to find any documentation concerning the establishment of the Otter Key bombing target or the extent of target construction activity on the key. The Navy released the bombing target in late 1945. Pilots from Naval Air Station Miami likely would have fired .30 and .50 mm ammunition at the target and may have dropped practice bombs. A site visit in 2010 found .30 mm projectiles at the site, but no explosives residue, no bomb debris, no target

1039 See chapter 1 for a brief summary of the Seminole Wars.

1040 "Bombing Tract Plan Given Up," *Miami Herald*, May 16, 1940.

remains, and no evidence of cratering from bombs. The contractor concluded that munitions constituents at the site did not represent a risk to humans or environmental receptors.¹⁰⁴¹

Homestead Air Force Base

As the nation went on a permanent war footing following the Korean War, the base at Homestead was reactivated in 1955 as Homestead Air Force Base (AFB).¹⁰⁴² The Air Force soon expanded the facility and made it a key Strategic Air Command (SAC) base. The SAC was created in March 1946 to project American air power around the world. Its equipment included medium- and long-range bombers and reconnaissance aircraft. SAC planes carried the nuclear weapons that the U.S. relied on as a deterrent, and this Air Force command took the lead in developing missile-based warheads in the 1950s. The superb flying weather, large over-water ranges, and nearby Avon Park Bombing Range in south-central Florida made Homestead an unmatched location for a SAC base. Homestead was base of operations for the 823rd Air Division, consisting of the 19th and 379th Bomber Wings, and the 407th Air Refueling Squadron. The bombers were B-47 Stratojets until 1960, when B-52 Stratofortresses began to arrive. In February 1962, Superintendent Warren Hamilton and his wife attended a luncheon and reception celebrating the arrival of the first B-52H at Homestead AFB. The bombers carried atomic weapons and stayed on ready alert, parked on the runway and ready to be airborne in minutes (figure 22-1, A B-52 bomber and its mission).¹⁰⁴³

In 1962, the 31st Tactical Fighter Wing moved to Homestead, which remained a SAC base until 1968, when the big bombers moved to Robbins Air Force Base in Georgia. In 1981, the fighter wing became the 31st Tactical Training Wing and began training F-4 pilots. In the 1980s, a reserve unit, the 482nd Tactical Fighter Wing, also began operating from Homestead. During this period, F-16s gradually replaced the F-4s. At its height, Homestead AFB employed 8,700 with an annual payroll of \$152 million. Estimated to pump about \$430 million into the local economy, the base was

1041 Parsons Infrastructure and Technology Group, *Final Site Inspection Report Otter Key Bomb Target, Monroe County, Florida, FUDS Project No. 104FL113401* (Jacksonville, Fla.: US-ACE, June 29, 2011), ES-1-ES-3, 1-1.

1042 In September 1946, the Air Force split off from the Army and became a coequal branch within the Department of Defense.

1043 Homestead Air Reserve Base, <http://www.homestead.afrc.af.mil/library/factsheets/factsheet.asp?id=3401>; Lindsay T. Peacock, *Strategic Air Command* (London: Arms & Armour Press, 1988), 38, 69, 91; Monika Mayr, *Everglades Betrayal: The Issue That Defeated Al Gore* (Minneapolis: Two Harbors Press, 2008), 3-4; SMR, Feb. 1962.



Figure 22-1. A B-52 bomber and its mission

a driver of South Dade's prosperity. The base remained a training facility until August 1992, when it took a direct hit from Hurricane Andrew (see below).¹⁰⁴⁴

The park and the Air Force base cooperated in a number of areas. Airmen and reservists frequently were available to assist with park projects. In March 1965, demolition experts from the base helped park staff blast emergency alligator holes during a prolonged drought. From 1973 through 1981, members of the 915th Civil Engineering Squadron from the base conducted exercises in the park on weekends. Groups ranging in size from 10 to 60 servicemen built tent platforms, repaired boardwalks, and did electrical work. In April 1981, the 915th left Homestead Air Force Base, and another reserve unit, the 482nd Fighter Wing, moved in. Both units have made substantial contributions to park operations over the years. In the 1950s and 1960s, the Air Force stored equipment and supplies for an emergency hospital at park headquarters and the Pine Island utility area. In the 1950s, park rangers were active participants in the

¹⁰⁴⁴ Homestead Air Reserve Base website; U.S. Air Force, *Final Supplemental Environmental Impact Statement, Disposal of Portions of Homestead Air Force Base* (Washington, D.C.: Air Force, Dec. 2000), 8; Mayr, 3-4.

Ground Observer Corps program. Rangers scanned the skies for approaching enemy aircraft, participating in drills and tests of the system.¹⁰⁴⁵

There were some less-than-ideal aspects of the base's proximity. On March 13, 1958, a B-47 crashed just east of Pine Island, killing the four crewmen aboard. If the plane was carrying nuclear bombs, presumably they were recovered. In 1967, the park was contacting the Air Force about removing some target darts that had been dropped in the park. Overflights by military planes were by far the most vexing and persistent issue for park managers. These flights disturbed wildlife, degraded the visitor experience, and were incompatible with wilderness values.¹⁰⁴⁶

Military Overflights

Overflights became a more pressing issue with the arrival of the fighter wing at Homestead in the 1960s. The F-4 can fly at twice the speed of sound, creating sonic booms. The park began contacting the Air Force in 1967 about the noise from overflights. In 1968 the superintendent wrote the Homestead commander with a strong plea to end low-level flights and avoid certain areas entirely. He provided maps of major bird nesting areas and visitor concentrations he wanted avoided. It appears that low-level flights of B-52s over the park stopped for a period. Problems, especially with the fighter jets, continued. Air Force representatives repeatedly stated that pilots had instructions never to fly below 1,000 feet over the park, but pilots seem often to have ignored this regulation. In early 1970, the park believed the Air Force had committed to move low-level training routes away from the park, but agreed-upon changes were not implemented.¹⁰⁴⁷

Overflights remained an on-and-off concern until July 1987, when the park learned that the Air Force was planning a military operations area (moa) over South Florida. The preferred alternative in the environmental impact statement placed the moa entirely over Everglades National Park and Big Cypress National Preserve. Projected operations included flights as low as 100 feet at high subsonic speeds of 400 to 500 miles per hour. The Air Force had not involved the NPS in any of the preliminary planning process. Superintendent Michael Finley enlisted the aid of environmental groups, 18 of which signed a letter of protest to the Secretary of the Air Force. In a fine turn of phrase, Finley also told the press that the plan was "tantamount to

1045 SMR, March 1965; Correspondence in Flamingo maintenance files, EVER-01814; SMR, Apr. 1965; Supt. Hamilton to RDR1, Mar. 30, 1962, NARA Ph, RG 79, 79-69-5662; Air Force Historical Research Agency website, <http://www.afhra.af.mil/factsheets/factsheet.asp?id=10057>; Steve Hach, *The Cold War in South Florida* (Atlanta: NPS, 2004), 43-44. Hach's work provides the most comprehensive account of Cold War military activity in and near the four South Florida parks.

1046 SMR, Mar. 1958 and Apr. 1967.

1047 Background Paper, Military Overflights, Sep. 1998, EVER 56572.

proposing roller derby in the Sistine Chapel.” The Florida cabinet also weighed in against the proposal. In November 1988, the Air Force bowed to the pressure and announced it planned the moa for an area between Lake Okeechobee and I-75 (Alligator Alley).¹⁰⁴⁸

From 1989 until August 1992, park staff continued to record low-level military operations over the park. A training route continued to take jets on their way to the Avon Park bombing range over parts of the park. Low-level helicopter missions using aircraft with blacked-out markings and refueling missions were observed at night. The Air Force provided little information, at one point telling park staff the observed exercises were classified. After Hurricane Andrew, Homestead AFB became a reserve installation, lessening the impact (see below).¹⁰⁴⁹

Testing Military Technology

The subtropical environment of Everglades National Park and its remoteness meant that the military and its contractors persistently wanted to test equipment there or use it as a monitoring station. Much of this work was secret and official records refer to it only elliptically or not at all. Flamingo was the site of quite a bit of activity from 1960 through 1963. Some of this involved the Army Signal Research and Development Laboratory and its contractor LORAC Services Corporation, which measured “magnetic currents” in the earth when nuclear tests were conducted in the Pacific. This involved the construction of a temporary 100-foot tower. Conductron Corporation was reported in the park in 1963 and 1964 doing a classified “study of electro-magnetic wave propagation through vegetation” under a contract with the Air Force. In 1967, the Army’s Aberdeen Proving Grounds got permission “to again conduct classified work” in the park. In winter 1969/1970, the Massachusetts Institute of Technology was doing electronics work for the Air Force on Long Pine Key “in direct support of Southeast Asia radar surveillance problems.” This required the erection of temporary towers.¹⁰⁵⁰ Park records from the 1950s and 1960s contain many tantalizing references to classified work. Many different units from all of the services were

1048 Background Paper, Military Overflights, Sep. 1998, EVER 56572; “Plan to Use Everglades for Fighter Training Opposed,” *Atlanta Journal Constitution*, Feb. 21, 1988; “State Cabinet Opposes Jet Training over Glades,” *Miami Herald*, Feb. 24, 1988; “Air Force Targets New Training Site,” *Tampa Tribune*, Nov. 2, 1988.

1049 Background Paper, Military Overflights, Sep. 1998, EVER 56572; Asst. Supt. to Supt., Apr. 7, 1989, EVER 58222.

1050 Acting Supt. to RDSE, Aug. 20, 1962, Supt. Joseph to RDSE, Nov. 27, 1963, Supt. Hamilton to the Director, May 16, 1963; SMR, Dec. 1966, NARA Ph, RG 79, 79-70-A-4751; Charles W. Calahane, Massachusetts Institute of Technology, to Supt. Allin, Dec. 9, 1969, EVER 22965; SMR, Apr. 1963. The military also made extensive use of Dry Tortugas National Park. For example, the Everglades superintendent noted in April 1963 that the Air Force had placed “a mobile communications unit on Loggerhead Key on a temporary basis.”

involved in this work. Frequently, park files do not identify the unit, but merely note that the “U.S. Army” was operating in the park. This vagueness makes tracking down particular projects in military archives extremely difficult, even when the documents have been declassified. The full extent of the Cold War-related military activities in the park will probably never be known.

Perhaps the most interesting military research use of the park during the Cold War was the creation of a replica Viet Cong village on Palma Vista Hammock to test infrared sensing technology. The U.S. in 1964 had about 25,000 servicemen in South Vietnam supporting a government under attack by Viet Cong guerrillas, who were backed by a Communist North Vietnamese government. The Air Force hoped that infrared sensors in low-flying aircraft would help them target guerilla encampments in the jungles of Southeast Asia. The Air Force Avionics Laboratory contracted the testing to the HRB Singer Corporation, which began searching for a suitable testing location in South Florida. Singer concluded that Palma Vista Hammock had the needed vegetation cover, road access, and degree of security to conduct this classified work. The company informed Superintendent Stanley Joseph in summer 1964 that it would seek a special use permit for the testing.¹⁰⁵¹

The NPS initially denied the permit request, considering the proposed use contrary to park values, but the national defense argument proved too strong to resist and the work went forward in 1965. Singer constructed huts of poles and grass, foot bridges, and lean-tos and dug some earthworks and foxholes. It hired men from a local temporary-labor agency and had them simulate camp activities, including building wood and charcoal fires. Park rangers assisted the company and kept an eye on their activities. Aircraft, including DC-3s, made passes at night, flying at altitudes of 500 feet and lower. No copy of the special use permit has been located; presumably Singer was required to remove all traces of its activities at the hammock when the testing was concluded.¹⁰⁵²

The Cuban Revolution Reverberates in South Florida

The Cuban Revolution brought the Cold War home to many Americans and had a significant impact on Everglades National Park. An armed rebel group, led by Fidel Castro, began a campaign against the corrupt regime of Cuban dictator Fulgencio Batista in 1953. The movement’s first recorded impact on the park came in March 1958, when rangers apprehended three armed Cubans along Shark Valley’s seven-mile

1051 Supt. Joseph to RDSE, Sep. 2, 1964, NARA Ph, RG 79, 79-69-5662.

1052 Supt. Joseph to RDSE, Sept. 2, 1964, NARA Ph, RG 79, 79-69-5662; Col. Edward B. Giller, USAF, to Dir. Hartzog, Nov. 11, 1964, NARA II, RG 79, NPS AF, box 584; SMR, Jan. and Oct. 1965, Feb. 1966.

road who said they were training to overthrow Batista. Castro's group assumed power in Havana on New Year's Day, 1959. Batista's repressive regime had largely benefitted wealthy Cubans at the expense of the average citizen, and Castro at first had widespread support on the island. As Castro moved to the left, nationalizing companies and acting against the interests of U.S. companies, the U.S. government cut off its aid. Castro began to jail or kill his domestic opponents and turned increasingly to the Soviet Union for backing. The overthrow of Batista became the unacknowledged policy of the U.S. government, and South Florida and the Everglades became a staging ground for anti-Castro activity.¹⁰⁵³

An early impact of the Cuban Revolution on Everglades National Park was the landing of Cuban refugees. Park staff conferred regularly with the U.S. Border Patrol on the refugee situation starting in 1960. Tens of thousands of refugees arrived in South Florida and many started planning and training to overthrow Castro. Remote and minimally patrolled, the Everglades and Florida Bay became a hotbed of shadowy exile activity, often financed and led by the U.S. Central Intelligence Agency (CIA). Keys within the park and remote inlets were used as rendezvous points, weapon caches, and training sites. Some of this activity made its way into official park records, but it is safe to assume that most of these clandestine operations were not recorded. By mid-1960, the U.S. government had in place a campaign of sabotage against the Castro government and was beginning to organize and train an invasion force of exiles. In February 1961, park rangers found eight Cubans engaged in target practice just off the Tamiami Trail in the park. They may have been an independent group or part of the CIA-supported invasion force that landed in the Bay of Pigs on Cuba's south coast on April 17, 1961. The Cuban Army was ready for the attack and all of the exiles ended up killed or captured. As security against future attacks, Castro drew closer to the Soviet Union, leading to the placement of Soviet missiles on the island and the event that became known as the Cuban Missile Crisis.¹⁰⁵⁴

The Cuban Missile Crisis and its Aftermath

Hoping to forestall future invasions following the Bay of Pigs, Castro was happy to accept a beefed-up Soviet military presence on the island. An American U-2 reconnaissance plane on October 14, 1962, detected the presence of Soviet intermediate-range missiles on Cuba. A threat of this magnitude so close to the mainland was unacceptable to the U.S. government. As tensions mounted, troops, planes, surface-to-air missiles, and other equipment poured into South Florida. President John

¹⁰⁵³ Hach, 13-16.

¹⁰⁵⁴ SMR, Sep. 1960, Feb. and Nov. 1961, June 1962; Hach, 16-21.

F. Kennedy on October 22 announced a blockade of Cuba and ordered the Navy to stop and board any suspicious ship heading to the island. The U.S. military operated at a high level of readiness and prepared to invade Cuba if the Soviets refused to remove the missiles. SAC sent its bombers to scattered sites around the country to make them less vulnerable to attack. It also implemented an airborne alert, with B-52s carrying nuclear bombs constantly in the air. In the park, plans for an emergency evacuation of personnel were hastily drawn up. On Oct. 25, a Soviet surface-to-air missile shot down a U-2 plane from the 4080th Strategic Reconnaissance Wing over Cuba, killing its pilot. Negotiations ended the crisis before any further escalation. By October 27, the Soviets had agreed to dismantle the Cuban missile sites in return for a U.S. pledge not to invade the island in future. The U.S. also agreed to remove from Turkey some missiles aimed at the Soviet Union, in a side deal that was kept secret from the American people for several years.¹⁰⁵⁵

The events of October 1962 had lasting effects on Everglades National Park, ranging from an increased emphasis on civil defense to the acceptance of a permanent military installation inside the park's authorized boundary. As described below, the base arose on property not yet owned by the NPS. The emergence of Cuba as a Soviet ally made South Florida even more of a target in the event of war, either one started by Castro on his own or as part of a coordinated eastern bloc offensive. The park prepared a "Nuclear Attack Survival Plan" that was distributed to all employees in February 1963. The plan was modeled on the park's hurricane warning plan, with color-coded alert levels. A red alert would be declared if a nuclear bomb had fallen in the Homestead-Miami area. The plan's authors noted helpfully, "This will be self-evident." Flamingo was designated as an evacuation center, and four staff members would establish a checkpoint at West Lake to administer a "radiological metering test" to all seeking refuge. Among other tasks, the district ranger was directed to "set up a fishing detail who will . . . begin the catching, cleaning and refrigerating of fish to augment other food supplies." In his cover memo, Superintendent Hamilton blandly asserted that if a nuclear attack occurred, "undoubtedly all park employees would take it in stride as each of you has done in past emergencies."¹⁰⁵⁶

Surface-to-air missiles were an important part of the defenses of South Florida during and after the missile crisis. The area previously had not been part of the national air defense network, and the Army in October and November 1962 had to scramble to arrange temporary installations for Nike Hercules and HAWK surface-to-air missiles

1055 Hach, 21-23; SMR, Oct. 1962; J. C. Hopkins and Sheldon A. Goldberg, *The Development of the Strategic Air Command, 1946-1986* (Offutt AFB, Neb.: USAF, 1986), 107-109. On November 26, President Kennedy visited Homestead AFB and presented the Outstanding Unit Award to the 4080th Strategic Reconnaissance Wing in recognition of its reconnaissance missions over Cuba.

1056 Supt. to All Employees, Feb. 8, 1963, transmitting Nuclear Attack Survival Plan, NARA Ph, RG 79, 79-69-5662.

(SAMs). The Nike Hercules was a two-stage, solid-fuel SAM primarily targeted against bombers but with some capability against ballistic missiles. The 41-foot-long missiles could carry both conventional and nuclear warheads. Nike-Hercules units were widely deployed around major U.S. population centers and military bases in the 1950s and 1960s. The HAWK was a medium-range SAM mounted on wheeled or tracked vehicles, making it semimobile. The missiles were 16-and-1/2-feet long and carried conventional warheads. The Army set up four temporary Nike sites in Dade County in fall 1962. Battery C/2/52 went in near Carol City north of Miami, and Battery D/2/52 was located in north Dade County near the Broward County line. A third battery, A/2/52, set up shop on fields hastily leased from a farmer along State Route 27 just outside the park's main entrance. Upon its return from nuclear tests in the Pacific, Battery B/2/52 began operating near A/2/52. Headquarters for the batteries was established in Princeton, Florida. The army set up a number HAWK sites in and around Homestead Air Force Base and at Key West.¹⁰⁵⁷

In early 1963, the Army decided to make its South Florida missile sites permanent. To keep down costs, the military looked for sites already in federal government ownership. The park first learned of this new direction in March when rangers encountered four military officers in civilian clothes in an unmarked car in the Hole-in-the-Donut scouting locations. The Army wanted to move Battery A/2/52 from its temporary location to a fixed site inside the park's boundary. Superintendent Warren Hamilton quickly notified the Southeast Regional Office and the matter soon had reached the highest NPS levels in Washington. The Service did not want this incompatible use within the park boundary, but the Army had an ace up its sleeve. The 700 acres that the Army needed were a part of the 4,400 acres that had come into Farmers Home Administration ownership when the Iori Farms tomato-growing operation went bankrupt (see chapter 6). The Defense Department threatened to block the transfer of this large tract to the NPS if it did not get the missile base. The Senate Committee on Interior and Insular Affairs told Interior, Agriculture, and Defense to work something out. As Interior put it to the National Parks Association, "We felt that we could not oppose the use of part of this land for a Nike site without raising serious questions concerning the national defense and at the same time jeopardizing enactment of legislation needed to acquire the greater portion for the park." The NPS ended up acquiescing in the issuance of a special use permit to the Army by the Farmers Home Administration, to which it became a party when the administration conveyed the land to the NPS. At this same period, the Army decided to permanently locate Battery B/2/52 on Key Largo, at a site designated as HM-40. The site became

¹⁰⁵⁷ Hach, 75-76.

operational in 1965 and was decommissioned in June 1979. Most of that site is now part of the Crocodile Lake National Wildlife Refuge.¹⁰⁵⁸

Nike Base HM-69

The Army designated the new Nike Hercules installation in the park HM-69 (Homestead-Miami 69). Each such installation consisted of a launch area and a control area, ideally located about one mile from each other. The launch area contained missile shelter buildings, a missile assembly and test building, a ready building, kennels for guard dogs, and various utility and storage buildings. The high water table in the Everglades meant that missiles could not be kept underground as they were elsewhere, but had to be stored in above-ground shelters. Each of the three shelters at HM-69 was surrounded by a U-shaped earthen berm to contain blast effects. The control area had an administration/barracks building, a general warehouse, generator building, towers and antennae for radars, and miscellaneous support buildings (figure



Figure 22-2. HM-69 radars

22-2, HM-69 radars). HM-69 lay toward the end of Line Pine Key Road (now Research Road). By April 1964, the Army Corps of Engineers had begun construction of the site. Limestone for building pads was obtained on-site, leaving borrow pits that filled with water and became ponds. Park staff met frequently with Army personnel and contractors to coordinate construction activity and keep damage to a minimum. Florida Power & Light crews were in the park extending an above-ground power line to Long Pine Key and the missile base. During the construction period, servicemen from the temporary missile site outside the park gates helped fight fires in the park. By July 1965, Battery A/2/52 had completed its move to the permanent base. Staff at the base typically ranged from 125 to 150.¹⁰⁵⁹

As historian Steve Hach has shown, duty at the South Florida missile bases had numerous drawbacks. Most of the sites were far from recreational opportunities, and the climate and mosquitoes could be brutal. After the initial excitement of deploying in the face of the enemy nearby in Cuba faded, tedium set in. As related above in

¹⁰⁵⁸ Supt. to RDSE, Mar. 22, 1963, Acting Asst. Dir. Jackson E. Price to Howard Bertsch, Farmers Home Administration, Apr. 8, 1964, Asst. SOI to Mr. and Mrs. David R. Rock, Aug. 3, 1964, NARA Ph, RG 79, 79-69-662; Acting Asst. Dir. Thomas F. Flynn Jr. to Anthony Wayne Smith, NPA, July 21, 1964, NARA II, RG 79, NPS AF, box 1627; Hach, 57. The National Parks Association complained of the Service's "meek attitude" in not more forcefully resisting the Nike base, *National Parks Magazine*, Sep. 1964, 18.

¹⁰⁵⁹ SMR, Apr. and Oct., 1964, May and July 1965; Drawing 160/60318A, NPS TIC.

chapter 21, park rangers had to deal with some infractions by soldiers. Other soldiers found more constructive use for their off-duty hours. Two at Battery A in the early 1970s built and launched working models of Army and NASA rockets. The servicemen also assisted with numerous construction and maintenance projects in the park. When the old Iori bunkhouse across the road from the HM-69 administration building became a Youth Conservation Corps (YCC) facility in 1973, the enrollees took their meals in the Army mess hall. HM-69 servicemen worked with and directed some of the YCC projects.¹⁰⁶⁰

As the U.S. and the Soviet Union moved more and more of their nuclear arsenals to intercontinental ballistic missiles, the Nike Hercules program, focused mostly on bringing down bombers, lost its reason for existence. The South Florida bases were the last in the U.S. to be decommissioned. The Army decided in 1979 to deactivate HM-69 and it removed its missiles from the base in 1980. After a couple of years of indecision, the Army finally agreed in 1982 to relinquish its special use permit and proceeded to remove property from the site. Park managers were already using the missile shelters at the launch area for equipment storage during hurricane season. The park converted the administration building to offices for resource management staff in the 1980s with help from Air Force reserve units from Homestead AFB. Some smaller buildings were demolished and the borrow pit was filled in, after a number of servicemen's wrecked autos were removed from it.¹⁰⁶¹ The presence of an active SAM base in the park for almost 15 years was something the NPS never sought, but was forced to accept. Because the 700 acres involved had already been rockplowed for agriculture, the subsequent use by the Army was probably less destructive than it might have been. The park has gotten good use from the administration building (now the Daniel Beard Center). The former missile shelters continue to be used for equipment storage in hurricane season and the base is now interpreted to the public.

The Nike site was placed on the National Register of Historic Places on July 27, 2004, at the national level of significance. On October 23rd of that year, the park held a ceremony commemorating the designation and unveiled a plaque on the wall of the Beard Center. As described in chapter 20, the park began interpretive tours of the Nike base in January 2009. A 2011 historic structure report for the site recommended preservation as the proposed treatment for the launch area and rehabilitation for the control area.¹⁰⁶²

1060 Hach, 76-82; SMR, Aug. 1965, Dec. 1966, Jan. 1967; "Success Realized in Youth Conservation/U.S. Army at Everglades National Park," NPS media release, Aug. 30, 1973, EVER 58222.

1061 SAR, 1980 through 1983.

1062 "A New Mission for a Missile Base," *Miami Herald*, Oct. 23, 2004; Wiss, Janney, Elstner Associates, Inc., *HM-69 Nike Missile Site, Everglades National Park, Florida, Historic Structure Report* (Atlanta: NPS, Oct. 2011), 4.

Although the Cold War is over, the hostility between the U.S. and Cuban governments has not ended as of this writing. As related above in chapter 21, small groups of refugees still occasionally leave the island and end up being left in the park. The U.S. in 1985 began broadcasting to the people of Cuba over Radio Marti, with the stated purpose of providing “a contrast to Cuban media and provid[ing] its listeners with an uncensored view of current events.” The station’s transmitters are housed on blimp, known locally as Fat Albert, which is moored at Cudjoe Key. In January 1991, Fat Albert broke loose and landed in the park. Rangers helped retrieve its remains from the mangroves at Shark Point.¹⁰⁶³

The Fate of Homestead Air Force Base

The Base Realignment and Closure (BRAC) Commission in 1991 recommended that Homestead AFB be closed. In August 1992, Hurricane Andrew virtually destroyed the base, adding to the argument for closure. In July 1993, President Bill Clinton sent his list of military installations to be closed, including Homestead, to Congress, which approved it.¹⁰⁶⁴ The Air Force decided to retain 900 of the base’s 3,000 acres for use as an air reserve base. This left 1,632 acres available for reuse, with the understanding that other users would need to share the runway with the air reserve base. Approximately 500 acres were buffer or wetlands that could not be developed. No federal agency expressed an interest in the surplus land, but Miami-Dade County did. Under BRAC procedures, the county became the local redevelopment authority and had to come up with a community reuse plan. The county’s plan called for the surplus acreage to become a regional commercial airport (commuter aviation, private jets, and cargo planes) with associated businesses. As part of the redevelopment process, the county was required to prepare an environmental impact statement (EIS) to analyze the environmental consequences of the reuse plan and propose mitigation measures. In part because the Clinton administration had promised rapid action on making the base available for alternate uses, the EIS was completed in record time. On October 26, 1994, an Air Force record of decision approved the transfer of 1,632 acres to Miami-Dade County for use as a regional airport and associated activities.¹⁰⁶⁵

¹⁰⁶³ Terry interview; “Crews Retrieve Transmitting Equipment Off TV Marti Blimp Stuck in Mangroves,” *Miami Herald*, Jan. 26, 1991.

¹⁰⁶⁴ The Base Realignment and Closure (BRAC) process was developed in the late 1980s to get around some of the intense political fights that typically accompany the decommissioning of military bases. A BRAC Commission was created that periodically comes up with a list of bases to be closed. The list then goes to the president. If he approves the list, it is sent to Congress. Congress cannot tinker with the list and must either accept it in toto or reject it.

¹⁰⁶⁵ Mayr, 14-16.

A commercial airport at Homestead clearly had serious potential impacts on Biscayne and Everglades National Parks. The NPS had been minimally consulted as the community reuse plan was developed, and it was soon apparent that the EIS had not adequately examined many questions, including groundwater runoff into Biscayne Bay and noise pollution from some 200,000 flights per year. Everglades managers were particularly concerned about the effects of jet noise on wildlife and visitors in a park that was overwhelmingly wilderness. In addition, the plan had been developed without public involvement and seemed to favor businessmen closely tied to county politicians. In July 1994, the Metro-Dade Commission gave a right of first refusal on the base redevelopment to Homestead Air Base Developers, Inc. (HABDI), without competitive bidding. Several HABDI principals were leaders of the Latin Builders Association, which for years had made campaign contributions to Metro-Dade Commission members, notably Miami Mayor Alex Penelas. HABDI unveiled its plans for the site in November 1994; they were much more extensive than previously revealed and included construction of a second runway.¹⁰⁶⁶

The Biscayne, Everglades, and Big Cypress superintendents, national environmental groups, and many local residents demanded a more thorough examination of the environmental impacts of the proposed commercial airport. In fall 1996, Everglades Superintendent Richard Ring briefed Assistant Secretary of the Interior George Frampton about the threats to the South Florida parks. Politically, the issue was a delicate one. The county commission and important Latin business leaders promised that the commercial airport would bring thousands of jobs to South Dade County. Cuban Americans who supported business and jobs were an important voting group but so were environmentally oriented voters. Although there was considerable concern in the DOI and the EPA over the redevelopment plan, at this point it appeared to have support from the White House. It also had the strong backing of Senator Bob Graham and the Florida cabinet. At the January 1997 meeting of the Everglades Coalition, Katie McGinty, chair of the federal Council on Environmental Quality, announced that a supplemental environmental impact statement (SEIS) would be prepared. This first SEIS was limited in scope and recommended that a second SEIS, fully examining the impacts of a commercial airport, be prepared. The secretary of the Air Force signed a record of decision in February 1998 that required the second EIS.¹⁰⁶⁷

The Air Force and the Federal Aviation Agency (FAA) were the lead agencies on the second SEIS, while the NPS, the Fish and Wildlife Service, and the U.S. EPA were cooperating agencies. Representing the NPS on the SEIS team were Nat Wood

1066 Supt., Biscayne National Park, to RDSE, Sep. 12, 1994, EVER 56572; "Air Base's Hand-Over Is Delayed, Environmental Concerns Cited," *Miami Herald*, Jan. 17, 1997; Mayr, 17-26.

1067 Nathaniel P. Reed to Paul Tudor Jones, June 5, 1997, NPR papers; "First Phase Approved for Homestead Airport," *Miami Herald*, Mar. 25, 1998; Mayr, 55-62.

from WASO, William Schmidt, NPS expert on noise impacts, Karen Ferro, management assistant at Everglades, Wendy O'Sullivan and Pat Lynch, chief, natural resources and management assistant, respectively, from Biscayne National Park. William Leary and Don Jodrey from DOI also participated. Team meetings were often acrimonious, with FAA representative Ralph Thompson II at times "radiat[ing] contempt" for Bill Schmidt. The FAA refused to consider any modifications to its methods for noise analysis. Ferro reported to her superintendent, "I am concerned that this whole process gives the determination of impacts, including those on parklands, to the FAA. . . . [O]ur methodology is dismissed out of hand." The team produced four alternatives: a regional airport (the Dade/HABDI plan), a commercial spaceport, a wetlands project with an aquarium, and an ecologically sensitive resort complex. Although the SEIS concluded that the regional airport would have greater environmental impacts than any of the other alternatives, it concluded that the proposed alternative of a regional airport would have no significant impact on Everglades and Biscayne National Parks.¹⁰⁶⁸

Most environmentalists expressed outrage at the SEIS's conclusions. More importantly, both Secretary Babbitt and EPA administrator Carol Browner publically opposed the regional commercial airport. Normally, a disagreement between Defense and Interior would be decided in the White House, but 2000 was an election year. The airport controversy presented a dilemma for Vice President Al Gore, who was running for president, in part on his record as an environmentalist. Florida was an important swing state in his contest with Texas Governor George W. Bush. Had the second SEIS come out against the regional airport, Gore would have had some political cover. As it was, he felt that any stance he took would alienate a key Florida constituency: Cuban Americans if he opposed Mayor Penelas's airport plan and the environmentally conscious if he supported it. Gore took the classic politician's course: he waffled. In advance of Florida's Democratic presidential primary in March 2000, Gore would only say, "I would urge the continued discussion of how a balanced solution can be found that can help the community without hurting the environment." In the words of *Miami Herald* columnist Carl Hiassen, "the environmental vice president has elected to wimp out." Gore remained noncommittal on the issue through the general election, providing an opening for Green Party candidate Ralph Nader. Joe Browder, whose role in the fight against the Big Cypress Jetport is covered in chapter 9, was among those who explained to Nader how he could use the redevelopment issue in his campaign. At rallies in Florida, Nader blasted Gore on the airport, specifically mentioning the consequences for the national parks. Bush ended up winning Florida by 537 votes.

1068 Mayr, 81-106, quotes at 83 and 90.

We will never know how many of Nader's 97,488 Florida votes would have gone to Gore had he taken a different airport stance.¹⁰⁶⁹

In January 2001, after the U.S. Supreme Court had stopped the Florida recount and assured the election of George Bush, the Clinton administration announced a decision. As a result of negotiations between SOI Babbitt and Secretary of the Air Force Whitten Peters, the Air Force produced a record of decision that conveyed the surplus acreage to Miami-Dade County for a mixed-use development that excluded an airport. A key statement was: "The Air Force will not allow the environmental impacts of a commercial airport in this unique location when other viable alternatives for economic development and jobs exist." Miami-Dade County and HABDI took legal action against the decision, but the county dropped out as a plaintiff in December 2001 and the case was dismissed in March 2006.¹⁰⁷⁰ A 14-year fight thus came to an end with a result that seemed like the obvious solution to many all along.

1069 Carl Hiassen, "Green Al's Turning a Pale Shade of Yellow: A Veep Wimp-Out on the Airport Flap," *Miami Herald*, Feb. 27, 2000; "Nader Finds Allies in Fired-Up Crowd," *Miami Herald*, Nov. 5, 2000; Mayr, 102-111, 129-131; Atlas of U.S. Presidential Elections, <http://uselectionatlas.org/RESULTS/state.php?year=2000&fips=12&f=0&off=0&elect=0>; "Park Official Dislikes Homestead Airport Plan," *Miami Herald*, Dec. 31, 1999; Joe Browder, interview by Nancy Russell, Dec. 7, 2007.

1070 Second Supplemental Record of Decision, Disposal of Portions of Former Homestead AFB, Jan. 15, 2001, EVER 56572; "U.S. Bans Airport Near Everglades," *New York Times*, Jan. 17, 2001; "Miami-Dade Abandons Airport Plan," *Miami Herald*, Dec. 6, 2001; Mayr, 137-142.

Chapter 23: Concessions and Special Park Uses

Concession operations have historically played a major role in the program of visitor activities at Everglades National Park. A large concession operation did business at Flamingo from 1957 until 2005, when two hurricanes drastically curtailed it. A concessioner has operated the trams at Shark Valley since 1982. Interpretive boat tours at Everglades City have been handled by the same concessioner since 1959. The Shark Valley and Everglades City concession activities seem likely to continue to operate much as they have in the past. As of this writing, the park is engaged in a planning process to determine the nature of future visitor services at Flamingo, including the scope of concession activities. Activities that are not ongoing or do not require a land base in the park are currently handled under special use permits or commercial use authorizations. Special use permits cover uses that primarily benefit an individual or group rather than the public at large. Examples are weddings, bike or hiking club outings, and commercial filming. Commercial use authorizations cover for-profit operations based outside of the park that operate within the park. At Everglades, these include charter fishing boat operators and canoe rental outfits. Scientific research and collecting permits, formerly called collecting permits, cover outside scientific researchers working in the park. In the park's early decades, special use permits also were granted for the testing of military-related technologies (see chapter 22).

Early Concession Operations

Following park establishment in 1947, Superintendent Beard referred to the efforts of Lloyd House and others at Flamingo to provide food and rooms to visitors as “wildcat” concessions. These operations had no official sanction from the government, and the NPS believed they reflected poorly on the Service. It moved quickly to buy out all the Flamingo residents and end these efforts. The NPS granted a concession to National Park Concessions Inc., which had previous experience in a number of national parks, to sell food, gasoline and other necessities at Coot Bay beginning in December 1950. The firm lost money on this operation and was more than glad to turn it over in 1955 to the Everglades Park Company, when the latter was the successful bidder on the Flamingo concession (see below). As of winter 1951/1952, Willard M. Fletcher and Gordon H. Needham had separate concession contracts to take visitors on sightseeing boats from Coot Bay (figure 23-1 Coot Bay concessions, circa 1949). The park extended several other short-term special use permits for bait



Figure 23-1. Coot Bay concession, circa 1949

and charter boat operators at Coot Bay in the early years before the Flamingo visitor use area was opened.¹⁰⁷¹

Flamingo Concession

As described in chapter 7, the NPS decided early on to concentrate many visitor services at Flamingo. The Service awarded a 20-year concession contract for operations there to Everglades Park Company (EPC). A group of Miami businessmen led by Robert Knight formed this company specifically to bid on the Flamingo contract. The contract, which covered lodging, a restaurant, a gift shop, marina operations, boat rentals, interpretive boat tours, and a gas station, went into effect January 1, 1956. Assistant Superintendent George Fry described the Knight group as being “green in the concession business,” but he and Superintendent Beard believed they were motivated

¹⁰⁷¹ SMR, May 1949, Dec. 1950, Feb. and June 1952; E. V. Buschman to Asst. RDR1 Daniel Tobin, Feb. 4, 1953, NARA Ph, RG 79, 79-62-A-305; George B. Hartzog, Acting Chief, Concessions Management, to Carroll E. Shoop, Sep. 11, 1952, NARA Ph, RG 79, 79-62-A-420.

and willing to learn how to run a successful operation. Most of the marina functions at Flamingo were up and running in March 1957, with the lodge and visitor center opening in December.¹⁰⁷² From December 1968 to January 1970, in a period when the Nixon administration was encouraging private operation of public facilities, the EPC operated the Flamingo and Long Pine Key campgrounds. After this brief experiment, the NPS again became the operator of the campgrounds. That is still the case as of this writing, but current planning calls for both campgrounds to be part of the next concession contract that is advertised (see chapter 26 for ongoing park planning).¹⁰⁷³

The EPC did a good business renting small boats to fishermen and selling gasoline and other supplies to private boat owners who put in at Flamingo. The firm, however, experienced difficulties with its labor-intensive lodging and food service operations from the very beginning (figure 23-2, coffee shop at Flamingo). Everyone understood that it would be a highly seasonal operation; the motel was expected to be



Figure 23-2. Coffee shop at Flamingo

¹⁰⁷² Knight's other partners were his brother-in-law George A. Pegram, A. M. Tyler, W. T. Rose, and Alan B. Kessler. The inaugural motel rates were \$12 for first floor rooms and \$14 for second floor rooms. Supt. Beard to Dir., Dec. 1, 1955, NARA Ph, RG 79, 79-67-A-1022, box 69; Acting Dir. Allen to Asst. SOI Lewis, NARA Ph, RG 79, Nov. 22, 1954, NARA Ph, RG 79, 79-62-1-420; Supt. Beard to park staff, Feb. 27, 1957, NARA Ph, RG 79, 79-68-A-2955; George Fry, "George Fry the Legend," 140, George Fry papers.

¹⁰⁷³ "Concessioner to Operate Campgrounds at Everglades National Park," NPS media release, Dec. 22, 1968, HFC; "U.S. Park Service to Run All Everglades Campgrounds," unsourced newspaper clipping, Jan. 2, 1970, Miami Public Library clipping file; William Gordon, personal communication, Aug. 14, 2013.

full in January and half empty in August. Attracting and retaining a competent staff was complicated by the facility's location 50 miles from the nearest towns (Homestead and Florida City) at the end of a dead-end road. South Florida had long been a prime tourist destination, and job opportunities for hospitality workers were plentiful. If a waiter chose to work at Flamingo rather than on Miami Beach, the reason did not always bear looking into. As early as March 1958, Superintendent Beard was reporting that the EPC was experiencing heavy employee turnover. The discovery of several "hardened criminals" among the staff later in the year led to a requirement that all incoming employees be fingerprinted. The EPC also found it difficult to recruit and retain competent managers for its remote operation. Additionally, the NPS may have overestimated what visitors would want at Flamingo; a snack shop or cafeteria might have been a better bet than a full-service, sit-down restaurant. All of these factors resulted in persistent losses for the EPC, including one of \$58,000 in 1958 and \$88,000 in 1962.¹⁰⁷⁴

For decades, renting houseboats at Flamingo has been a popular visitor activity (figure 23-3 houseboat rental brochure). In the early 1960s, the EPC began renting 30-foot houseboats by the day or week. By the late 1970s, this concession had been turned over to the Flamingo Houseboat Corporation, owned by Tom and Sue Healy, who offered eight houseboats for rental. Each of their boats was equipped with "an alcohol stove, ice box, pots and pans, utensils, dinnerware, linen and towels." The Flamingo Houseboat Corporation filed for bankruptcy protection in July 1982, and ended its houseboat rental operation in 1983. The Flamingo concessioner at that time, Everglades Park Catering Company, subsequently took over the houseboat operation. Houseboat rentals continued under this company and its successor corporations through December 2008. Everglades National Park Boat Tours, Inc., then took over the Flamingo concession and began renting two houseboats. The prospectus for the Flamingo concession released by the NPS in early 2013 included houseboat rentals.¹⁰⁷⁵

The EPC made several changes in the mid-1960s in hopes of increasing its profitability (figure 23-4, Everglades Park Company brochure). It expanded the coffee shop by 45 seats, constructed 60 additional motel rooms, and added 24 housekeeping cottages. These changes seem to have been beneficial, but increases in gas prices in the 1970s caused a decrease in usage of the Flamingo facilities, and the operation again struggled, with the park reporting an increase in visitor complaints. Such complaints seem to have been a perennial feature. One Everglades superintendent has described

1074 SMR, Mar. and Sep. 1958; Everglades Park Company to Dir Wirth, May 25, 1959, NARA Ph, RG 79, 79-68-A-2955, box 44; Everglades Park Company, Financial Statements, Sept. 30, 1962, NARA Ph, RG 79, 79-70-A-4751, box 1; Stark interview.

1075 "Houseboat Tour Delightfully Different," *Chicago Tribune*, Jan. 27, 1963; "Houseboats Great Way to See Real Florida," *Boca Raton News*, Jan. 12, 1979; SAR, 1982, 1983, 1993; William Gordon, personal communication, Aug. 26, 2013.

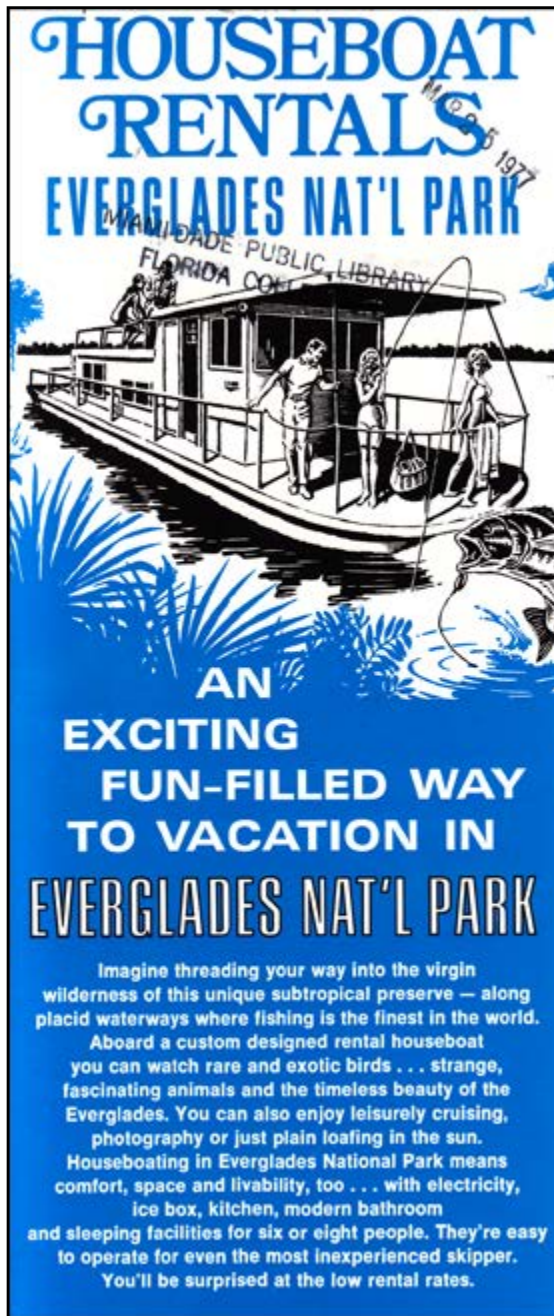


Figure 23-3. Houseboat rental brochure

Flamingo as the “worst concession operation in the history of the National Park Service.” One company promotional ploy, the selling of “deeds” to one square foot of park land, was stopped when the NPS learned of it (figure 23-5, Everglades Park Company deed). When its original 20-year contract was coming to an end, the EPC, which had been a subsidiary of General Host Corporation since 1968, expressed no interest in bidding on a new contract. The NPS got no response to an initial concession prospectus issued in 1974. A revised prospectus drew some bidders, and in 1975, the Service awarded a contract to Everglades Park Catering Company (EPCC), a subsidiary of Restaurant Associates, Inc. EPCC’s contract took effect on October 1, 1975. A 1977 analysis by a consulting firm showed that the concessioner was not making large enough profits to afford necessary facility renovations. In a bid to help the company turn a profit, the NPS in 1978 purchased all the concessioner’s buildings for \$1.3 million. This added significantly to the park’s maintenance responsibilities. The park did not believe that the \$70,000 increase it received in its maintenance budget fully covered the added costs.¹⁰⁷⁶

In June 1984, EPCC sold its Flamingo concession contract to T. W.

¹⁰⁷⁶ SMR, Jan., Mar., and Oct. 1964; Stark interview; NPS Dir. to J. Alan Cross Jr., Everglades National Park Company, Mar. 11, 1966, EVER 22965; Centaur Management Consultants, Inc., “Analysis of Flamingo Concession Operation in Everglades National Park,” HFC; SAR, 1972 through 1975, 1978.



Figure 23-4. Everglades Park Company Flamingo brochure

Services of Chicago. The firm changed its name to T. W. Recreational Services as of June 1987. Then, in 1995, Amfac Corporation purchased T. W. Recreational Services. Amfac in 2002 changed its name to Xanterra Parks and Resorts Corporation. Throughout these ownership changes, the Flamingo concession continued to experience ups and downs. At bottom, the park did not receive enough in concessioner franchise fees or in its maintenance budget to make needed upgrades at Flamingo. The facilities, built in the 1950s and 1960s, increasingly showed signs of wear and tear. In 1990, the concessioner constructed additional employee housing, freeing up rooms in the lodge for public rental. Hurricane Andrew in 1992 depressed tourism, and the company reported a 25 percent decline in lodge stays. A decade later, Xanterra Corporation reported losses of \$45,000 in 2003 and \$24,000 in 2004. A 2004 analysis by PricewaterhouseCoopers indicated that Flamingo could not be profitable in its existing configuration.¹⁰⁷⁷

¹⁰⁷⁷ SAR, 1984, 1985, 1990, 1991, 1993; Summary of Concession Operations, Everglades and Dry Tortugas National Parks, EVER 22965; PricewaterhouseCoopers to Henry Benedetti, Chief, Concessions, NPS SERO, Sep. 28, 2004, EVER 22965.

The Flamingo concession, then, was already in difficulty when hurricanes Katrina and Wilma in 2005 made the motel, restaurant, and housekeeping cabins unusable.¹⁰⁷⁸ Given the age of the structures and the prohibitive cost of reconstruction to contemporary standards, the NPS decided to demolish them. After repairs to some marina structures, Xanterra Corporation continued to operate the marina store, sight-seeing boat tours, and canoe, kayak, and skiff rentals. Xanterra wanted to end its operations at Flamingo, and the park put out a request for proposals for a short-term (three-year) concession contract for Flamingo. There was no response, and the NPS ended up offering financial and other incentives to Xanterra to convince it to continue to operate at Flamingo through December 31, 2008. The Everglades City concession was then operating on a year-to-year renewal basis, and the park decided to combine the Everglades City and Flamingo concession operations into a single request for proposals. Everglades City had consistently been a profitable concession operation, and



Figure 23-5. Everglades Park Company deed, 1965

¹⁰⁷⁸ Hurricane Donna in September 1960 shut down most of the Flamingo concession operations for three months. See chapter 16.

the thought was that firms might be willing to take on the more doubtful Flamingo job if Everglades City was part of the deal. The NPS offered a package with a 10-year term for Everglades City and five years for Flamingo. In 2008, the Service awarded the concession to Everglades National Park Boat Tours, Inc., owned by Sammy Hamilton Jr. The Hamilton family has been operating the Everglades City concession since 1959 (see below). At this writing, sightseeing boat tours; rental of canoes, skiffs, kayaks, houseboats, and bicycles, and marina services are available at Flamingo. In winter 2010/2011, the concessioner began offering casual dining at the Buttonwood Café.¹⁰⁷⁹

Public interest in the future of visitor services at Flamingo has remained strong following the demolition of the old lodge and cabin buildings. The NPS started a planning process in October 2006 to come up with a commercial services plan and environmental assessment (CSP/EA) for Flamingo. The stated goal of the CSP/EA was “to determine necessary and appropriate commercial services for the Flamingo area in accordance with all applicable laws and policies, while providing a viable long-term business opportunity for the concessioner(s) ultimately selected to operate the facilities.” A host of considerations, many of them unknown or of little importance when the Service first developed Flamingo in the 1950s, came into play in crafting the CSP/EA. The impacts of development on the fragile coastal environment are much better understood today than 50 years ago, as are the often costly methods of protecting structures from winds and hurricane storm surge. Planning for the long-range impacts of sea level rise is a particular challenge in a coastal environment such as Flamingo.¹⁰⁸⁰

The preferred alternative from the commercial services plan has been incorporated into all alternatives in the park’s draft general management plan (GMP). Planning for the redevelopment of Flamingo calls for a significantly smaller footprint and the restoration of natural conditions on some 50 acres that were previously developed or landscaped. Redevelopment also will be compatible with the existing Mission 66 historic landscape, and the historic visitor center and gas station will be retained. There is to be a lodge with 30 units, 24 cabin units, and 40 ecotents. Ecotents are permanent, sometimes movable, tents with minimal impact on the natural environment. They typically have canvas walls, are raised above the ground on platforms, may use recycled materials, and sometimes have features such as solar water heaters for showering. A prototype ecotent, developed by the park in partnership with the University of Miami and the South Florida National Parks Trust, was rented to visitors from December 14, 2012, to April 14, 2013. The number of campsites at Flamingo will be reduced to 130

1079 SAR, 2005 through 2009; Keith Whisenant, interview by author, May 24, 2011; “Mayor Hamilton Awarded Long-Term Contract to Run Everglades Boat Tours,” *Naples Daily News*, Jan. 3, 2009; Everglades National Park Boat Tours, <http://evergladesnationalparkboattoursflamingo.com/canoe.php>; William Gordon, personal communication, Jan. 23, 2013.

1080 NPS, *Flamingo Commercial Services Plan Finding of No Significant Impact*, July 2008, http://www.nps.gov/ever/parkmgmt/upload/FlamingoCSP_FONSI_08July23.pdf.

tent sites and 40 recreational vehicle sites. There will be eight houseboats available for rental. Because of the high cost of construction at Flamingo and the current challenging budgetary environment, the redevelopment of Flamingo will proceed in stages.¹⁰⁸¹

In January 2013, the NPS released a prospectus for commercial visitor services at Flamingo. The Service solicited proposals for the provision of “lodging, camping, tour boat, canoe/kayak rentals, skiff rentals, houseboat rentals, bicycle rentals, boat slip rentals, food and beverage, retail, boat transfer service, and other visitor services.” The term of the proposed contract was set at 10 years, with a franchise fee of 4.7 percent. This prospectus failed to elicit any proposals. At present, the NPS is revising the prospectus based on feedback it got on the unsuccessful 2013 offering. A new prospectus is expected to be released that provides a term longer than 10 years and provides more flexibility for potential concessioners.¹⁰⁸²

Everglades City

In 1959, Sammy Hamilton Sr., of a family that had been in Everglades City since at least 1920, received the contract to operate sightseeing cruises from Everglades City. Later his son, Sammy Hamilton Jr., took over the firm. Until the NPS built a small visitor center in the winter of 1966/1967, the boats left from a private dock. Once the visitor center went up, Hamilton expanded operations to include a gift and snack shop and boat rentals. In 1984, Sammy Hamilton Jr. and some other family members incorporated under the name of Everglades National Park Boat Tours, Inc. (ENPBT). The younger Hamilton developed a measure of political renown and has served multiple terms as mayor of Everglades City. ENPBT has generally operated successfully. From time to time, the Service has raised concerns over the condition of boats and the quality of the interpretation provided by employees. By 1990, Hamilton was operating four vessels, the *Panther I*, *Panther II*, *Manatee I*, and *Manatee II*, and carrying about 50,000 passengers annually (figure 23-6, Concession boat).¹⁰⁸³

ENPBT's long-term contract with the NPS expired in 1991, and the firm continued to operate under repeated short-term contract extensions. In 2002, the Service issued a prospectus seeking bids for a seven-year concession contract at Everglades City. Soon thereafter, on December 30, 2002, the *Panther I* sank in shallow water in the Ten Thousand Islands while carrying 33 sightseers. There were no serious injuries, but the passengers went into the water without life jackets and had to be rescued by a

1081 NPS, *Flamingo Commercial Services Plan*; “Everglades National Park to Try Moveable ‘Eco-Tents’ for Flamingo Area Lodging,” *National Parks Traveler*, Dec. 14, 2012.

1082 “Everglades National Park Requesting Proposals for Commercial Visitor Services at Flamingo,” NPS media release, Jan. 29, 2013; Fred Herling, personal communication, Aug. 22, 2013.

1083 SAR, 1984, 1988, 1990.



Figure 23-6. Concessioner boat at Everglades City

commercial fisherman. The Coast Guard investigated and determined that the accident was the result of previous damage to the vessel's hull that had never been reported. The Coast Guard found other violations and imposed a \$60,000 fine on ENPBT. Following this incident, the NPS in consultation with the National Transportation Safety Administration prepared a new concession prospectus, issued in 2003. ENPBT and five other firms bid on the contract, and the Service announced its award to Guest Services, Inc., of Fairfax, Virginia.¹⁰⁸⁴

ENPBT contested the award to Guest Services, filing suit in the Court of Federal Claims in Washington, D.C. While the case was pending, the NPS rescinded the award to Guest Services, put the bidding process on hold, and allowed ENPBT to continue operating on yet another contract extension. The Service ended up having to reimburse Guest Services for costs incurred. The firm was disappointed over the Service's decisions, but muted its criticism because it had NPS contracts in other parts of the

¹⁰⁸⁴ "Tour Boat Captain Charged in Sinking," *Miami Herald*, May 25, 2003; "Owner of Boat That Sank Blamed," *Miami Herald*, Mar. 10, 2004; Draft Concession Contract No. CC-EVER002-04, between NPS and Guest Services, Inc., Fairfax, Virginia, EVER 22965; Fred Herling, personal communication, June 26, 2014.

country that it did not want to jeopardize. ENPBT's lawsuit was dismissed, without prejudice, on June 14, 2005. The NPS waited a couple of years and then issued a new prospectus. Sammy Hamilton and the other ENPBT investors were eager to hold on to a lucrative contract, which had grossed \$1 million in 2004. Concerned that he might lose out, Hamilton got the Collier County Commission to pass a resolution urging the NPS to give the contract to an "established local business." As related above, in early 2009, the NPS awarded a contract to ENPBT covering both Everglades City and Flamingo. At this writing, ENPBT offers guided boat tours and boat rentals and operates a gift and snack shop at Everglades City.¹⁰⁸⁵

Shark Valley

As indicated in chapter 20, Gettysburg Tours, Inc., doing business as Shark Valley Tours, Inc., took over the tram operation at Shark Valley from the park in 1982. Gettysburg Tours subsequently created a subsidiary, TRF Concession Specialists of Florida, Inc., to run the operation. High water at times stopped the trams from running, including a 19-month closure that ended in December 1987, when the new, elevated Shark Valley Road was opened. Located on the heavily traveled Tamiami Trail, the Shark Valley tram tours have been enduringly popular. Gross revenues reached \$445,000 in 1988 and topped \$1 million by 2004. The contract with TRF has been renewed several times; a recently executed contract runs to 2021. The concessioner completed new buildings in 2003. As of this writing the concessioner offers the tram rides, bicycle rentals, and limited retail and vending services at Shark Valley.¹⁰⁸⁶

Commercial Airboat Operations in the East Everglades

In passing the Everglades National Park Protection and Expansion Act of 1989, Congress expressed its intent that existing commercial airboat operations in the expansion area continue. The act authorized the NPS to grant concession contracts at existing locations, subject to any regulations necessary to protect the "biological resources of the area." At that time, airboat rides were being offered at Everglades Safari, Frog City, Glades Park, and Coopertown. Coopertown has been in operation

¹⁰⁸⁵ "Everglades City Mayor Losing Contract with Park Service, Says He'll Wage Legal Battle," *Naples Daily News*, Apr. 28, 2001; Briefing Statement, Concession Operations, Feb. 7, 2006, EVER 22965; "Mayor Hamilton Awarded Long-Term Contract to Run Everglades Boat Tours," *Naples Daily News*, Jan. 3, 2009; Everglades National Park Boat Tours, <http://evergladesnationalparkboat-toursgulfcoast.com/>.

¹⁰⁸⁶ SAR, 1988, 1990; NPS briefing statement, Feb. 7, 2006, EVER 22965; SAR, 1988, 1990; Shark Valley Tram Tours, <http://www.sharkvalleytramtours.com/about.html>; William Gordon, personal communication, Jan. 23, 2013.

since 1945 and bills itself as the “original airboat tour.” Some of the operators sold souvenirs, kept small zoos, and had restaurants offering local specialties like frog legs and gator tail. Under the preferred alternative in the park’s GMP, the park intends to purchase the land of the existing airboat operators and grant up to four airboat concession contracts. The park’s goal is to consolidate concession operations and confine tours to some subset of the existing airboat trails. The interpretive talks given by concessioner staff would have to meet NPS standards.¹⁰⁸⁷

Special Park Uses

In the park’s early years, activities not covered under concession contracts were covered under special use permits. These were used for a wide range of activities, including guide fishing, specimen collecting for scientific purposes, carrying firearms across park land to private land, and conducting secret testing of new technologies for the American military (see chapter 22). In 1964, the park decided to require no-fee permits from all commercial, charter, and guide fishermen. This requirement went into effect in 1965. At some point, permits for fishermen and other commercial operators who used the park but operated from land bases outside the park became known as incidental business permits. Commercial fishing in the park ended on December 31, 1985, but guide fishermen continued to ply park waters. In 1986, the park was issuing 169 permits to guides and charter boat captains. As of March 31, 1996, the park began charging \$250 for a two-year permit guide fishing permit. In the National Parks Omnibus Management Act of 1998, Congress created the category of commercial use authorization (CUA) to replace the incidental business permit. As of this writing, the park issues approximately 350 guide fishermen permits per year and a handful of CUAs for canoe rental outfits and tour guides. The Resource and Visitor Protection Division administers the CUA programs.¹⁰⁸⁸

In recent decades, the park has received more and more requests to do commercial filming and hold special events in the park. Many of the latter are requests to hold weddings, family reunions, or charity biking events (Figure 23-7, Bicycle event in the park, 2010). In 1985, for example, the park issued 32 filming permits. Responsibility for filming permits and special use permits has variously been lodged in the

¹⁰⁸⁷ Everglades National Park Protection and Expansion Act, P.L. 101-229, Dec. 13, 1989; George Frederick and Bob Panko, Preliminary Visit to East Everglades Commercial Attractions, June 24, 1991, EVER 22965; *Draft GMP*, 71-72.

¹⁰⁸⁸ ENP Annual Aquatic Resources Report for 1968, EVER 42242, ser. IV; SAR, 1986; “Glades Fishing Guides Must Buy \$250 Permit,” *Miami Herald*, Feb. 2, 1996; Foist interview; P.L. 105-391, Nov. 13, 1998; SAR, 1991.

superintendent's office and the Resource and Visitor Protection Division. As of this writing, the Resource and Visitor Protection Division issues both types of permits.¹⁰⁸⁹

A final category of permit is the scientific research and collecting permit, which covers scientific or scholarly investigations or educational activities by outsiders. Among the activities requiring a permit are natural or cultural resource surveys, inventories, monitoring, and research and sociological research, and any kind of data and specimen collection. All applications for permit are reviewed for impact on park resources and compliance with applicable laws and regulations. The South Florida Natural Resource Center coordinates the research permit program.



Figure 23-7. A bicycling event in the park, 2010

1089 SAR, 1985 and 1988; Foist interview. Everglades National Park issues permits for both itself and Dry Tortugas National Park; it is not always clear from records whether totals given represent both parks or only Everglades.

Chapter 24: Cooperating Associations, Friends Groups, Employee Groups, Volunteers, Youth Conservation Corps

Cooperating Association

Superintendent Beard was eager to form a cooperating association for the new park. He received approval from the Washington office, and articles of incorporation for the Everglades Natural History Association were drawn up. The association held its first meeting at the Royal Palm Lodge on November 5, 1951. The group's mission was "promoting [the] historical, scientific, educational and interpretive activities of Everglades National Park." This was to be accomplished through publishing literature, acquiring material and equipment for scientific and interpretive programs, assisting with the park library, and helping preserve objects and data important to the park. The initial annual membership fee was set at \$3.00. The first chair of the association's board of directors was park biologist Joseph C. Moore and the first executive secretary, park chief naturalist Willard Dilley. Until 1980, the park chief naturalist consistently held the executive secretary position. At that point, the by-laws were changed to specify that the position be held by someone not in the employ of the NPS.¹⁰⁹⁰

Once established, the association began planning a quarterly journal devoted to the many aspects of Everglades environments. The *Florida Historical Quarterly* was adopted as a model, but the new publication was aimed at a more general audience. The first issue of *Everglades Natural History* appeared in March 1953 (figure 24-1, *Everglades Natural History* cover). The association lost money on the quarterly and was forced to end publication with the June 1955 issue. During its brief life, the journal published more than 60 articles, including contributions by park employees Moore, Dilley, and Bill Robertson. There was also a piece on Everglades fire, entitled, "Let 'er Burn," by Superintendent Beard. Many other contributions were from South Florida naturalists. With the journal's demise, a prime benefit of membership was lost, and the annual membership fee was reduced to \$1.00.¹⁰⁹¹

As the park opened its visitor contact points, the association handled sales of literature, film, slides, postcards, etc. Because the association's book publishing activities were an important aspect of the interpretive program, they are addressed in chapter

¹⁰⁹⁰ Articles of Incorporation, ENHA, 1951, Supt. Beard to Dir., Nov. 6, 1951, Acting Dir. Tolson to ENHA, NARA Ph, RG 79, 79-58-A-360.

¹⁰⁹¹ Minutes, Meetings of ENHA, June 15, 1952, July 29, 1952, and Feb. 27, 1956; Fourth Annual Meeting of ENHA, Feb. 27, 1956, FNPMA records.

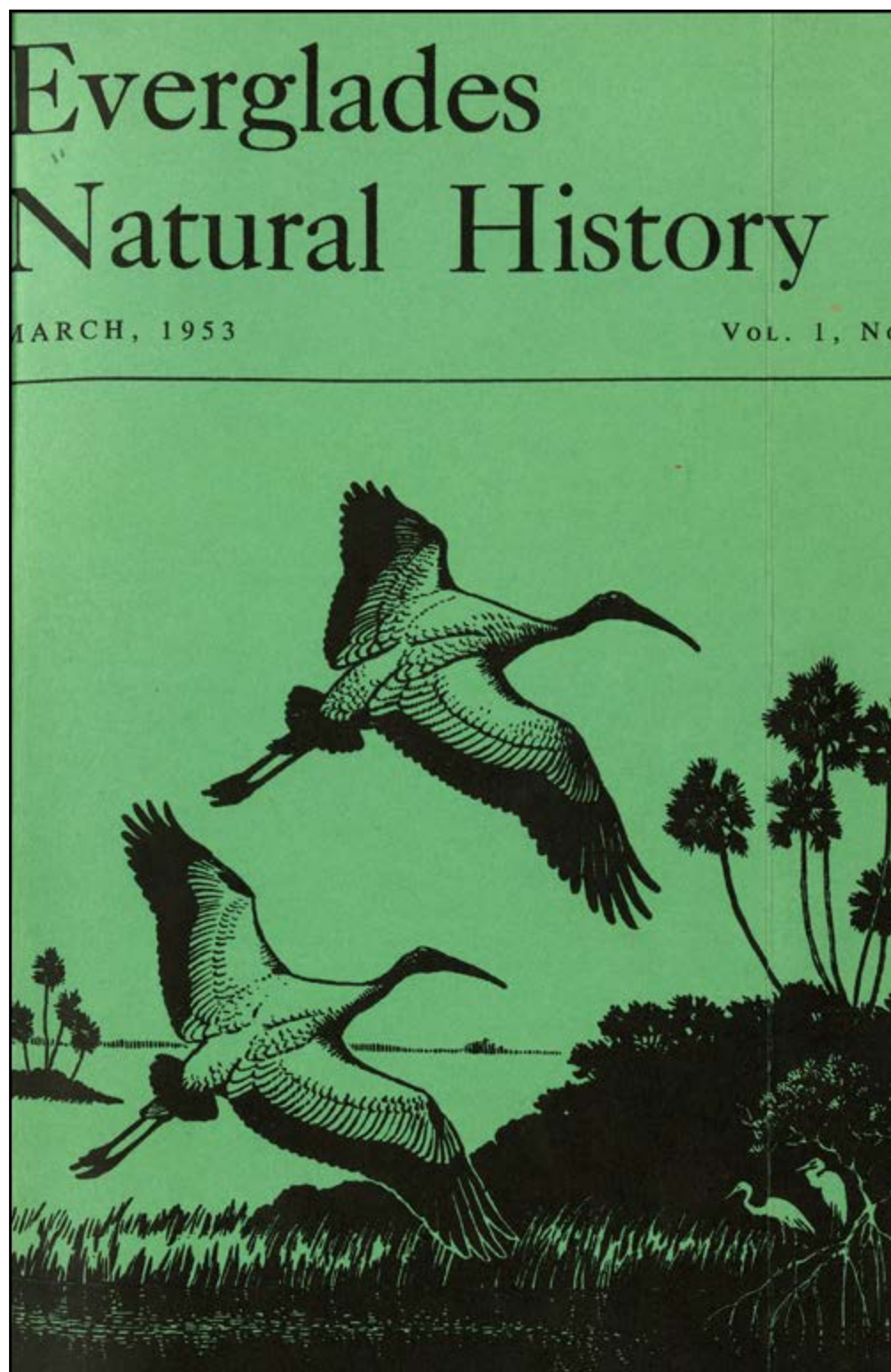


Figure 24-1. *Everglades Natural History* cover

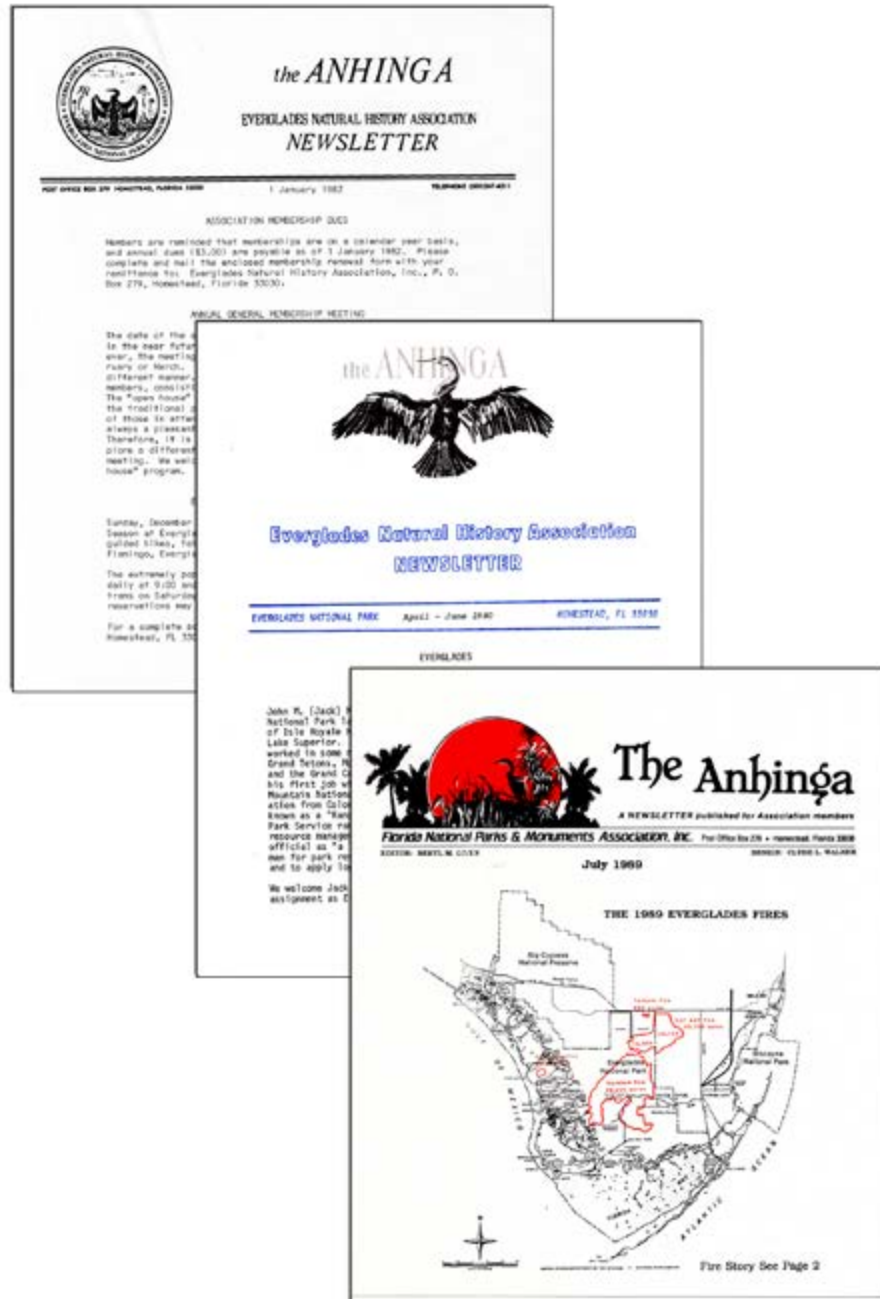
20. The association began selling snacks and postcards at the Royal Palm Visitor Center in the 1950s and added a more comprehensive bookstore in 1979. Bookshops opened at the headquarters visitor center in 1961, at Everglades City in 1967, and at Shark Valley in 1983. As long as the concessionaire operated a gift shop at Flamingo, the association had no role there. The park's interpretive staff from time to time believed that the concessionaire was not stocking appropriate literature and urged them to do better. In 1973, the association began selling a limited number of items at Fort Jefferson.¹⁰⁹²

Cooperating association bookstores are considered extensions of a park's interpretive program, and associations are also expected to donate a portion of their net income to the park. By 1955, the ENHA had enough sales to begin making modest contributions to park interpretation and science activities. In calculating the value of its aid, the association included both cash contributions and the value of the hours its employees devoted to visitor orientation. The annual contribution passed \$10,000 in 1960 and \$100,000 in 1990. Notably, the ENHA bought hundreds of books for the park library, at times paid the salary of a part-time park librarian, bought equipment for park scientists, and helped defray the costs of the annual Coot Bay Christmas bird count. Cooperating with park interpreters, the association produced numerous trail guides and site bulletins. Once the park's environmental education program was established, it produced many teacher's guides and activity materials for it. From time to time, the association extended no-interest loans to other park cooperating associations around the country.¹⁰⁹³

Until the mid-1970s, many ENHA members were enthusiastic local park supporters and natural history buffs who enjoyed the opportunity to get together with their peers. In the early decades, a highlight for members was the annual membership meeting and fish fry held each winter at the chickee in the Pine Island residential area. Membership in the association fluctuated between 150 and 250 through the 1970s, and about three-quarters were South Florida residents. From that point, membership declined, and the association became more of a business operation geared to support of the park than a group for professional and amateur natural historians. The ENHA started a monthly newsletter in January 1962, with the goal of "revitalizing the Association membership and providing regular contact with the members." The newsletter took on the name of *The Anhinga* in May 1963 (figure 24-2, *The Anhinga* through the years). The newsletter covered park programs, association events, and "occurrences and data of natural history significance." The ENHA tried to keep to the monthly schedule, but at times got *The Anhinga* out only every other month. By 1996, the last

1092 FNPMA 1992 Annual Report; ENHA FY73 Annual Financial Report, FNPMA records.

1093 Minutes, ENHA Meeting, Oct. 21, 1969; FNPMA Annual Report, FY89, FNPMA records.

Figure 24-2. *The Anhinga* through the years

year in which it was produced, the newsletter generally ran to four pages. As of this writing, the association newsletter has been revived in an on-line version.¹⁰⁹⁴

The ENPA was designated the cooperating association for both Biscayne National Park (1980) and Big Cypress National Preserve (1985). This expansion to two other units made the existing name inappropriate. Effective March 11, 1986, the association became the Florida National Parks and Monuments Association, doing business as the Everglades Association. In winter 1989/1990, the association constructed a 4,000-square-foot warehouse and office building in the Pine Island area of the park, giving it adequate storage space for the first time in its history.¹⁰⁹⁵

The construction of the new Ernest F. Coe Visitor Center gave the association the opportunity to plan and design a new sales area. The association invested \$82,634 to create the Everglades Discovery sales outlet just inside the entrance to the new visitor center. Doors by Art's Works of Miami (Figure 24-3, Doors of the Everglades Discovery shop). Membership dues have increased over the years; at this writing the minimum category of membership runs \$35.00 a year¹⁰⁹⁶

When Alan Scott became chief of interpretation in 2008, he believed that the Everglades Association (EA) had been marking time for a number of years. Scott had worked in parks where the cooperating associations had been more dynamic. These associations, for example, developed their own products, which were sold only at their outlets. Scott learned that the EA would work with a vendor to develop a product, only to see the product sold at competing retail outlets outside the park. The park found the association's director unresponsive to suggestions for improvement. Finally, for a number of years, the EA had been unable to make financial donations to the parks it served. At Scott's initiative, the park brought in a five-member team of NPS interpretive specialists and the director of the Great Smoky Mountains Association to conduct a review of the EA's operations.¹⁰⁹⁷

The review team acknowledged the dedication of association employees and the devastating effects that the hurricanes of 2005 had on visitation and EA sales. Nevertheless, it concluded that "the association appears to be failing in its governance, its business practices, and its level of cooperation with the parks." The team provided a detailed set of recommendations in all areas of the association's operations. In the area

1094 Minutes of Annual Board of Directors Meeting, Oct. 11, 1962; ENHA newsletter, January 1962, FNPMA records; http://www.evergladesassociation.org/newsletter/December_2011_Association_Newsletter.pdf.

1095 ENHA Annual Report, FY1985, Dec. 1985, ENHA papers; FNPMA Annual Report, FY1990, FNPMA records.

1096 FNPMA Annual Report, FY97, FNPMA records.

1097 Scott interview; Everglades Association Review, June 8-12, 2009, FNPMA records. The members of the review team were Rose Fenell, NPS cooperating association coordinator; Terry Maddox, executive director, Great Smoky Mountains Association; Melissa English-Rias, interpretive specialist, NPS SER; Tom Richter, chief of Interpretation and Education, NPS Midwest Region; and Don Wollenhaupt, chief of interpretation and education, SER.



Figure 24-3. The doors of the Everglades Discovery shop in the Ernest F. Coe Visitor Center

of governance, it emphasized that the EA's board of directors, rather than its president, should set policy; that board members should have set terms; and that the president should have no role in selecting board members. Product development suggestions included making adequate investments in research and development, embracing new technology, and working closely with park staff. The EA's president rebutted every one of the team's suggestions but failed in his efforts to get the board to sign off on his response. After the review, the board began taking a more active role in operations and soon hired a new executive director.¹⁰⁹⁸

South Florida National Parks Trust

In the early 2000s, Everglades Superintendent Maureen Finnerty, Biscayne Superintendent Linda Canzanelli, and others saw the need for a new affiliated organization that could help raise funds for and increase public awareness of the national parks in South Florida. Park managers were especially eager to reach out to local communities,

¹⁰⁹⁸ RDSE to Supts., ENP, Biscayne National Park, and Big Cypress National Preserve, July 20, 2009, EVER 22965; Scott interview; Everglades Association Review, FNPMA records.

many of which historically had taken little interest in the parks. By this time, Hispanics represented three-quarters of the South Florida population, and the superintendents were eager to recruit Hispanic leaders for the board of the new organization. As superintendent of Olympic National Park in the early 1990s, Finnerty had been instrumental in establishing Washington's National Park Fund, which supported Olympic, North Cascades, and Mount Rainier National Parks. She thus had a model that she thought could be successfully applied in Florida.¹⁰⁹⁹

The South Florida National Parks Trust was formed as a not-for-profit 501(c)(3) organization, affiliated with the National Parks Foundation, in 2002. It articulated its purpose in these words:

The Trust was created to raise friends and funds to help these National Parks conserve unique ecosystems and cultural resources; provide visitors with the opportunity to experience these ecosystems; advocate responsible stewardship and community sustainability; and educate future generations of community leaders about the value of these treasures.

The group has a 15-member board, and Robert Chisholm, a Miami architect and urban planner, was its first chair. The trust received an initial shot of funding from \$1.8 million in penalties imposed on a cruise line that was convicted of dumping garbage and bilge water in federal waters. These funds were earmarked for specific uses and could not be used as an endowment for the trust. The trust has provided substantial support to the park's environmental education program. Other programs it has assisted with funding episodes of the "Waterways" television program, boater education in Florida Bay, viewing scopes at Flamingo, an underwater camera at Shark Valley, and podcasts. The trust received another \$500,000 in January 2012 from penalties imposed on the Antillean Marine Shipping Corporation for polluting waters with oil and other environmental violations.¹¹⁰⁰

Employee Groups

Everglades National Park Wives Club

A park group that speaks volumes about 1950s gender roles is the Everglades National Park Wives Club. This group formed in 1959, when the park seems to have

1099 Maureen Finnerty, interview by author, June 20, 2012.

1100 "New Group Seeks to Help Parks," *Miami Herald*, Jan. 22, 2004; "A Buddy System for 3 Parks," *Miami Herald*, Nov. 14, 2004; undated [circa 2004] brochure for South Florida National Parks Trust, EVER 56572; "Miami River Shipping Company Fined \$1 million for Oil Pollution," *Miami Herald*, Jan. 20, 2012; Melissa Memory, personal communication, June 26, 2013.

had no uniformed female employees. The group's first president was Elaine Hamilton, wife of Superintendent Warren Hamilton. The club met monthly from September to May, focusing on practical advice for families and social activities. Dues were \$1.50 per year. Often the meeting would include a presentation, such as a cooking or flower-arranging demonstration. The women also did charitable work, like making decorations for trays for the local hospital. Members occasionally arranged outings to supper clubs for dining and dancing with their husbands. When the main visitor center opened in 1961, the park began to employ women as uniformed park guides. The wives group changed its name to the Everglades National Park Ladies Club and welcomed female employees into its ranks. The group seems to have disbanded in 1979; the last monthly meeting minutes in the park archives are dated January 1979, when park public affairs chief Pat Tolle was the club treasurer.

A major concern of the club was preparing families for life in Everglades National Park, a setting quite foreign to most new arrivals. Club members prepared a guide for new families around 1964. They took pains to reassure readers that hurricanes and snakes were not problems, asserting that "the average native of Florida is no more concerned with an approaching hurricane than our northern friends are of a prospective blizzard." The climate was touted as "almost perfect." The booklet had information, including photos and floor plans, of park housing, as well as guidance about schools, churches, taxes, and medical facilities. Newcomers were advised that good doctors were at least 35 miles distant and that children needed to be driven 10 miles to the closest bus stop.¹¹⁰¹

Employee Association

The wives/ladies club may have served as a substitute for an employees' association. Within a decade of the club's disappearance, the Everglades Employee Association was established. It came into being on October 1, 1987, following the adoption of by-laws and the election of officers. The association's purpose was stated as "promot[ing] harmonious relations among employees" of Everglades, Fort Jefferson, and the Everglades Natural History Association. The association was to organize the annual winter holiday party and retirement parties and send flowers for births, deaths, and hospitalizations. Membership meeting were to be at least quarterly. Annual dues were set at \$1.00 per grade level.¹¹⁰²

The Everglades Employee Association has continued to operate along much the same lines as when it was founded. Membership has been extended to volunteers, and meetings are monthly. Annual dues are no longer on a sliding scale; they are \$10 for

1101 Untitled, undated booklet, circa 1964, EVER 60322.

1102 SAR, 1987; Asst. Supt. to All Employees, June 11, 1987, EVER-00994.

permanent employees, \$5 for seasonal and term employees, and \$2 for volunteers. The association handles snack sales in the headquarters and Daniel Beard Center break rooms and raises funds through bake sales, T-shirt sales, and the like. The officers of the association also administer the Supplemental Assistance for Employees (SAFE) Fund. This fund was created from donations that came in following Hurricane Andrew in 1992. It has continued to function, and is authorized to make small loans to employees in specified situations, such as nonreceipt of a salary check or family emergency.¹¹⁰³

Volunteer Programs

The park began using donated labor from scout and military groups in the 1950s.¹¹⁰⁴ From the 1950s through the early 1970s, Girl Scouts volunteered in the park as Everglades Ranger Aides. The scouts guided visitors on the Anhinga Trail, helped out at special public events, and did some maintenance chores, among other duties.¹¹⁰⁵ Later, in the early 1970s, a formal Volunteer-in-the-Park (VIP) program was put into place. Over the decades, volunteers have worked in nearly all aspects of park operations, including interpretation, resource management, research, facility management, administration, and visitor protection. In some years, the interpretation division has accounted for one-third or more of all volunteer hours. Campground hosts, who often work most or all of a season in exchange for a camper hook-up and utilities, are a particularly valuable category of volunteer. The VIP program is coordinated by an employee of the park's interpretive division. In the mid-1970s, the park confined VIPs to "enrichment" activities and did not give them responsibilities usually handled by permanent staff. As park budgets have dwindled, this kind of restriction has been abandoned. The park does all it can to recognize VIP contributions, instituting an annual banquet for them in 1989 (Figure 24-4, VIPs painting tire stops).¹¹⁰⁶

Some volunteers have come back to the Everglades year after year and made substantial contributions to park operations. Donna and John Buckley are an outstanding example. The Buckleys began coming to the park in the mid-1970s, bringing groups of students from Michigan for guided canoe expeditions in the park. After ten years of that, they decided they wanted to spend their winters in the park as volunteers. They bought a pontoon boat and drove it down to the Everglades in late 1986. At first, park managers had indistinct notions about how to use the Buckleys and merely asked them

1103 By-Laws, Everglades Employee Association, September 2003, Everglades Employee Assn. records.

1104 See chapter 22 for more on military volunteers.

1105 SMR, Dec. 1955; George Fry, 130; Acting Supt. to Dir., Apr. 10, 1970, HFC.

1106 ENP Chief of Interpretation to All Div. Chiefs, Jan. 10, 1975, EVER 22965; SAR, 1990.



Figure 24-4, VIPs painting tire stops at Chekika, 2011

to keep an eye on the Cane Patch backcountry campsite and surrounding areas. Over the course of more than 25 winters, the couple has become an invaluable presence on the Gulf Coast side of the park. The Buckleys have rescued numerous lost or stranded boaters, kept waterways open by clearing vegetation, monitored natural resources, and advised and educated backcountry users, preventing them from getting into difficulty. They have played a significant role in manatee conservation. The state of Florida attempts to do a necropsy on every dead manatee, and the Buckleys report manatee carcasses and protect them until a necropsy can be done.¹¹⁰⁷

The number of volunteers and their contributed hours have risen dramatically over time. In 1973, 25 volunteers contributed 2,100 hours. By 1983, 156 volunteers gave 11,056 hours. After hitting a high of 235 volunteers and 35,216 hours in 1992, the program declined in the late 1990s. Possibly this represented some fatigue experienced by park staff and volunteers following the intense labor and stress involved in recovering from Hurricane Andrew in 1993 and 1994. By the 2000s, the program was

¹¹⁰⁷ Donna and John Buckley, interview with Nancy Russell and Alan Scott, Mar. 19, 2011.

again expanding, reaching 1,675 volunteers and 65,326 hours in 2012 (Figure 24-5, VIP preparing to apply herbicide to an Australian pine).¹¹⁰⁸

Youth Conservation Corps

In 1970, Congress established the Youth Conservation Corps (YCC) to provide summer jobs for young people aged 16 to 18 doing conservation work on federal lands. The program was loosely modeled on the Civilian Conservation Corps of the New Deal, although on a vastly smaller scale. The program's goal was to accomplish needed conservation work in national parks and forests, while providing job training, especially to disadvantaged youths. Everglades National Park set up a YCC camp for 30 teens in the old Iori Farms bunkhouse in the Hole-in-the Donut in summer 1973. The park was able to handle 50 enrollees the following summer. With the conversion of the Iori bunkhouse for use by the South Florida Research Center in 1977, the Everglades no longer had lodging for YCC members, and the program ended after four summers.¹¹⁰⁹



Figure 24-5. A VIP preparing to apply herbicide to an Australian pine, 2013

¹¹⁰⁸ Personal communication, Kevin R. Bowles-Mohr, June 26, 2013.

¹¹⁰⁹ "Teen-Ager Conservation Corps for Summers Voted by House," *New York Times*, June 16, 1970; "Youth Corps Funded," *National Parks Magazine*, Mar. 1971; SAR, 1973, 1974, 1977.

Chapter 25: Special Events

Anniversaries

Anniversaries of the park's 1947 establishment and dedication emerged over time as important park events. The 10th anniversary of the park's establishment was celebrated quietly by park staff and a few invited guests. Superintendent Beard decided against having any public celebrations in 1957 because many of the park's Mission 66 construction projects were not complete. On June 17, 1957, Everglades National Park Commission member August Burghard gave a talk before the assembled park staff, and Superintendent Beard spoke about the park's future. In April 1958, an informal reunion of the Everglades National Park Commission took place at Flamingo. More than half of the members of the 1940s version of the commission attended, including John Pennekamp, Mrs. Mae Mann Jennings, Karl Bickel, and August Burghard. Ray Vinten, who had been instrumental in working out the 1940s deal with the state, and Albert Manucy came down from the Castillo de San Marcos. Other notable participants were Barron Collier Jr., Charles Brookfield of Tropical Audubon, and Will Preston of Florida Power & Light. Dan Beard had already been selected as the new superintendent at Olympic National Park, so it was an occasion for commission members and friends to say good-bye to the Beards.¹¹¹⁰

Celebration of the anniversary of the park's dedication became an annual event with the 20th anniversary in December 1967. Secretary of the Interior Stuart Udall was expected to be the keynote speaker but was unable to attend. Assistant Secretary for Fish, Wildlife and Parks Stanley Cain spoke in his stead. Cain stressed that of all the nation's national parks, Everglades was the only one that faced "an uncertain future." The announcement of the Everglades Park Company's plans for a \$2 million expansion of its operations at Flamingo dominated the proceedings. According to Joe Browder, then a Miami television reporter, so many concession company executives were on stage with Cain and NPS Director Hartzog that Superintendent Hamilton had to sit in the audience. Two flamingos from the flock maintained at Hialeah Race Course were released at this event. This was an odd choice, considering that flamingos had not been seen in the park for many decades. According to the *Miami Herald*, the

1110 "Tenth Anniversary of the Establishment of Everglades National Park Observed Today," NPS press release, June 17, 1957, RDR1 Elbert Cox to Dir., Oct. 25, 1957, Supt. CASA to RDR1, May 2, 1958, NARA Ph, RG 79, 79-A-661, box 22; Reunion Attendance List, Pennekamp papers, box 1.

birds seemed “perplexed” as they stumbled out of their cages and scurried into the bush.¹¹¹¹

The park observed most anniversary years by offering free admission and scheduling some special visitor programs, generally on the weekend that fell closest to December 6. In 1972, the park celebrated “25 Years of Everglades and 100 Years of National Parks,” it being the 100th anniversary of the establishment of Yellowstone National Park. The park admission fee was waived for Saturday and Sunday, December 9 and 10, and 87,000 visitors showed up. Park patrol and fire equipment was on display at the main visitor center, where the park ladies club served free coffee and donuts. (See chapter 24 for more on the ladies club.) One visitor noted the poignancy of remembering President’s Truman’s 1947 dedication speech while the former president lay critically ill in a Kansas City Hospital; Truman passed away on December 26, 1972.¹¹¹²

The park’s 40th anniversary coincided with the reopening of operations at Shark Valley, and the major events took place there. Shark Valley had been closed for 18 months while the Shark Valley Loop Road was reconstructed and raised and new facilities were erected, a \$2.7 million project. Senator Bob Graham was the keynote speaker and urged the audience to stay vigilant in protecting the park. NPS Director William Penn Mott Jr. was on hand and gave the park a pen that President Franklin Roosevelt had used to sign an executive order setting aside federal land for the park. The pen is now in the South Florida Collections Management Center. The park co-operating association, the Florida National Parks and Monuments Association, hosted the festivities and partly underwrote their cost.¹¹¹³ In August 1991, the park marked the 75th anniversary of the creation of the National Park Service by waiving the entrance fee for a day.¹¹¹⁴

50th Anniversary

The celebration of the park’s 50th anniversary year kicked off with the dedication of the new Ernest F. Coe Visitor Center in December 1996 (see chapter 6) and culminated in several days of festivities, December 4 through December 7, 1997. Many

1111 “‘Uncertain’ Everglades Future Alarms U.S. Interior Aide,” *Miami Herald*, Dec. 7, 1967, “Remarks of Dr. Stanley A. Cain,” DOI press release, Dec. 7, 1967, HFC; Browder interview. Flamingos had not visited the park for decades, so it was unclear why two were released.

1112 “Open House Planned at Everglades Park,” *Key West Citizen*, Dec. 8, 1972; “Timeless Glades Celebrates Birthday,” *Miami Herald*, Dec. 10, 1972; SAR, 1972.

1113 “Shark Valley Reopens; Nature Lovers Rededicate National Park,” *Miami Herald*, Dec. 7, 1987; Annual Report 1987/1988, Florida National Parks and Monuments Association, FNPMA records.

1114 “Everglades National Park celebrates 75th anniversary of National Park Service,” NPS media release, Aug. 15, 1991, EVER 58222.

local groups held exhibitions, talks, and other events throughout 1997, all keyed to the golden anniversary. Florida International University and the Historical Museum of Miami were among the institutions that hosted photo exhibits and lecture series. Cesar Becerra, head of a Miami historical consulting firm, Echoes of South Florida, produced a special newsletter, *Everglade Magazine*. The fifty weekly issues of the newsletter, edited by Maud Dillingham, contained reprinted pieces and newly commissioned articles on the history of the Everglades and the national park. The state declared November 1997 "Everglades Awareness Month," and Florida fourth graders focused on the region in science classes. The park sponsored an essay contest for Collier County students in the 7th through 12th grades, asking for 500 words on "Why Everglades National Park is important to my future." The National Audubon Society partnered with the park to sponsor a photography contest for youngsters less than 18 years of age.¹¹¹⁵ The commemorative year culminated in the first week of December 1997 with a number of public events in the park and nearby communities and a reunion of past and current park employees (figure 25-1, invitation to 50th anniversary).

The public events began with a roundtable discussion Friday morning featuring six former superintendents at the Keys Gate Golf and Tennis Club in Homestead. In order of their service they were Joe Brown, Jack E. Stark, John M. Good, John M. Morehead, Michael V. Finley, and Robert S. Chandler. Incumbent superintendent Richard Ring moderated. Most of the superintendents stressed the complexity of the Everglades ecosystem and its needs and the steep learning curve they faced upon appointment. Jack Stark emphasized that the Everglades remained a test of the country's commitment to the environment, observing, "as the Everglades goes, so goes the world It's the canary in the [coal] mine."¹¹¹⁶

Other Friday events included a children's stamp design contest, judged by Garnett McGee, creator of the 1947 commemorative stamp and a festival, "One Community . . . One Great Celebration," all in Florida City. Ending in fireworks, the festival featured food, music and historical displays. That afternoon in Chokoloskee, about 100 people observed a reenactment of the 1910 killing of Edgar Watson, an event known to many through Peter Matthiessen's 1990 historical novel, *Killing Mr. Watson*. From six to ten p.m., Everglades City blocked off its downtown for a celebration that included country and swing bands, food, and free movie screenings. On Saturday and Sunday, a Taste of the Everglades Festival ran in MacLeod Park in Everglades City,

1115 "Everglades: Fifty Year Anniversary," *Visitor's Guide to National Parks and Preserves of South Florida*, Summer 1997; "Photo Exhibit Marks Everglades' Anniversary," *Miami Herald*, Dec. 5, 1996; "Everglades Evangelist on Eve of Park's 50th Year," *Miami Herald*, Oct. 7, 1996; "Here's a Contest That's for the Birds," *Miami Herald*, July 20, 1997; Supt. Ring to Principal, Barron Collier High School, Sep. 16, 1997, EVER-01523.

1116 "Everglades Officials Celebrate 50th, Say 'As Park Goes, So Goes World,'" *South Florida Free Press*, Dec. 10-16, 1997.



figure 25-1. Invitation to 50th anniversary celebration

featuring live music, food booths, arts and crafts displays, storytelling, and antique cars and swamp buggies.¹¹¹⁷

The highlight of the anniversary was a Saturday afternoon rededication of the park on the same site in Everglades City that hosted the original dedication fifty years early. Vice President Al Gore was the keynote speaker before a crowd estimated at 2,800 (figure 25-2, VP Gore at 50th anniversary). The park and the Florida National Parks and Monuments Association did their best to recreate the ambience of the 1947 event, achieving what the *New York Times* described as “part political rally and part country fair.” Many dignitaries were on hand, including SOI Bruce Babbitt, Governor Lawton Chiles, Senator Bob Graham, and EPA Director Carol Browner. The vice president wished the park a happy birthday and affirmed the administration’s commitment to “preserving this park for all eternity and for all Americans.” Gore was on his way to a global climate conference in Kyoto, Japan, and noted the extreme vulnerability of the Everglades to destruction by human-induced sea level rise. He underscored

¹¹¹⁷ Program, “Everglades National Park 50th Anniversary Celebration,” EVER 58222; “Revisiting History,” *Miami Herald*, Dec. 4, 1997.

the administration's commitment to Everglades restoration as he announced a recently concluded deal to acquire 50,000 acres in the Everglades Agricultural Area.¹¹¹⁸ The fate of this "agreement in concept" among the federal and state governments, the South Florida Water Management District, and St. Joe Paper Company is detailed in chapter 28.

Close to 100 former park employees and perhaps 150 current employees participated in a reunion that coincided with the public anniversary events. Park Environmental Education Coordinator Sandy Dayhoff spent weeks tracking down former employees and getting invitations out. The highlight of the reunion was a dinner and social held Thursday evening [where?], December 4. Superintendent Ring introduced the six former superintendents, and attendees paid tribute to Dr. Bill Robertson, who



Figure 25-2. Vice President Gore at 50th anniversary festivities

was about to retire after 46 years on the park staff. The park organized a number of special tours over the next three days as part of the reunion, including a catered lunch at the Pine Island chickee. Former staff also participated in many of the public events.¹¹¹⁹

In 2007, the park scheduled a week-long celebration for its 60th anniversary, in part to let the local community know that it was back in business following

the hurricanes of 2005. Compared to previous anniversaries, this one had a stronger focus on the human history of the area. The celebration began at the main visitor center on Saturday, December 1, with an Everglades film festival, a ceremony marking the dedication of the aboriginal Mud Lake Canal as a National Historic Landmark, and a public conversation with Superintendent Dan Kimball and Congressman Mario

¹¹¹⁸ "In Celebration of the Everglades," *New York Times*, Dec. 26, 1997; "50 Years of Everglades National Park," *St. Petersburg Times*, Dec. 7, 1997; "Gore Announces Purchase of Plantation for Restoration of Imperiled Everglades," *Washington Post*, Dec. 7, 1997; Prepared text of VP Al Gore's remarks, Dec. 6, 1997, EVER-00952.

¹¹¹⁹ Program, "Everglades National Park Employee Reunion," EVER-00886.

Diaz-Balart. On Sunday, researchers gave talks on various cultural resource topics in Homestead, and special talks and tours took place at Shark Valley. On December 6, Everglades City hosted a rededication ceremony and a panel of Floridians who had witnessed the original dedication. The festivities concluded on Sunday the 8th with a birthday party at the Royal Palm Visitor Center. Deputy Secretary of the Interior Lynn Scarlett participated in this event. The U.S. Senate and House passed resolutions formally recognizing the 60th anniversary.¹¹²⁰

Other Special Events

In 1982, the park celebrated its dual designation as a World Heritage Site and International Biosphere Reserve with the public unveiling of two plaques near the main visitor center (figure 27-1).

Southeast Regional Director Bob Baker was the master of ceremonies and NPS Director Russell Dickenson unveiled the plaques. Everglades champion Marjory Stoneman Douglas, UNESCO representative Dr. Francesco di Castri, and Assistant Secretary for Fish, Wildlife and Parks G. Ray Arnett delivered remarks. Buffalo Tiger, chair of the Tribal Council of the Miccosukee, also attended.¹¹²¹

Given Marjory Stoneman Douglas's long association with Everglades National Park and her efforts on its behalf, it was only to be expected that the park would celebrate her life when she passed away on May 14, 1998, at the age of 108. A public observance was held on May 23 at the Royal Palm Visitor Center, with Joe Browder delivering a eulogy. The park also created a temporary exhibit on her life in the main visitor center. Following Mrs. Douglas's wishes, Superintendent Richard Ring and Education Program Coordinator Sandy Dayhoff scattered her ashes over her beloved Everglades.¹¹²²

Dr. Bill Robertson was another individual with a long association with the Everglades. Following his death in January 2000, the park gave a program in his memory. Entitled "Remember a Man and Celebrate a Life," the event took place on February 26, 2000. The day featured remembrances and tributes at a luncheon, and the posthumous presentation of meritorious service award.¹¹²³

1120 Schedule of Events to Commemorate 60 Years of Resource Stewardship and Visitor Enjoyment, EVER 22965; "Everglades National Park Celebrates 60 Years," *Miami Herald*, Dec. 6, 2007; House Resolution 845 and Senate Resolution 392, 110th Cong., 2d Sess.; Melissa Memory, personal communication, June 26, 2013.

1121 Dedication Program, Apr. 6, 1982, FNPMA records.

1122 "Memorial Tribute to Marjory Stoneman Douglas," NPS media release, May 22, 1998; Supt. Ring to William T. Muir, May 23, 1998, EVER 58222. The park generally honors requests for ash-scattering, asking only that a permit be applied for.

1123 "William B. Robertson II, Glades Scientist," *Miami Herald*, Feb. 2, 2000; Program for Robertson tribute, Feb. 26, 2000, EVER 58222.

Marjory Stoneman Douglas wrote in her autobiography, *Voice of the River*, that a fitting memorial to Ernest Coe would be a representation in bronze of a Florida panther. As she put it, “I’d love to see a life-sized replica of a catamount The catamount is the same as the Florida panther.” On April 27, 1990, just such a bronze statue was dedicated at the Royal Palm Visitor Center (figure 25-3, panther sculpture). The Institute for Scientific Information commissioned the statue from noted wildlife sculptor Eric Berg, partly to honor Douglas’s 100th birthday. Douglas spoke at the dedication and also wrote the inscription on a plaque for the statue: “Dedicated to the memory of Ernest F. Coe, without whose startling vision, steely endurance and indomitable will there would be no Everglades National Park today.” The statue and plaque were later moved to the grounds of the new Ernest F. Coe Visitor Center.¹¹²⁴

In April 2005, the park conducted a day-long event commemorating 100th anniversary of Guy Bradley’s death.¹¹²⁵



Figure 25-3. Panther sculpture outside Ernest F. Coe Visitor Center

¹¹²⁴ Douglas with Rothchild, 135; SAR, 1990; Colby Stong, “Marjory Stoneman Douglas: A Life-long Passion for Preserving the Environment,” *The Scientist*, May 28, 1990. Douglas mentioned a bronze statue of a catamount in front of the Catamount Tavern in Bennington, Vermont. The tavern was frequented by Americans seeking to break from Britain in the 1770s.

¹¹²⁵ SAR, 2005.

Chapter 26: Organization, Budgets, Planning, Relationships with Other NPS Units

Organization

As Everglades National Park grew and added staff, its organizational structure became more elaborate. From early on, the complex political and institutional set-up in South Florida required the superintendent to largely devote himself to dealing with the SFWMD, the Corps, conservation groups, and public officials from the governor on down to the sheriff of Monroe County. This made the position of deputy or assistant superintendent very important; it became evident that internal park operations would be the purview of the deputy. Everglades got its first deputy superintendent, Allyn F. Hanks, in January 1953. The park has had a deputy or assistant superintendent position ever since, although it has been left vacant for extended periods. As one recent deputy put it, “the superintendent is out of the park probably more than he is in it,” and the deputy has responsibility for “keeping operations rolling day to day.”¹¹²⁶

The organizational structure approved by the regional office in 1950 recognized five divisions within the park: Engineering, Protection, Naturalist, Biologist, and the Office of Chief Clerk. Maintenance was not a separate division; an automobile mechanic reported to the chief clerk, while the remaining maintenance personnel were in the Protection Division. By 1971, Protection had become the Division of Visitor Protection and Resource Management, and the Office of the Chief Clerk became the Division of Administration. The Naturalist Division was now the Division of Interpretation and Visitor Services. The Biologist Division was the Natural Science Division, and there was a Division of Maintenance and Rehabilitation. In 1977, the new South Florida Research Center took over many of the functions of the Natural Science Division. Natural resource management functions since then have been divided between the SFNRC and the Division of Resource and Visitor Protection.

As of this writing, the major divisions in the park are unchanged from 1977; they are Interpretation, Resource and Visitor Protection, Administration, and Maintenance. There are four districts within Interpretation: Florida Bay, Pine Island, Flamingo, and Northwest (embracing Shark Valley and Gulf Coast). Education and outreach also falls under Interpretation. Under Resource and Visitor Protection are five districts: Pine Island, Flamingo, Florida Bay, Tamiami, and Gulf Coast. In addition, fire

1126 Whisenant interview.

management, fee management, and dispatch are in this division. Administration encompasses contracting, budgeting and finance, human resources, and information management. The Maintenance (Facility Management) Division has three districts (Pine Island, Flamingo, and Gulf Coast) and a professional services group. In addition to the four divisions, several smaller operations report directly to the Deputy Superintendent/ Superintendent:

- Cultural Resources, including the South Florida Collections Management Center
- Concessions Management
- Planning and Compliance
- Public Affairs Office

Finally, the director of the South Florida Natural Resource Center reports to the Everglades National Park superintendent. The site manager at Dry Tortugas National Park reports to the deputy superintendent.¹¹²⁷

Budgets

Everglades National Park was established at a time when the Service was still suffering from the drastically reduced funding levels of World War II. Congress actually cut the NPS's operating program allocation by 12.4 percent in fiscal year 1948. The Service received a healthy increase for fiscal year 1950, but subsequent increases were small until 1956, when the agency received its full budget request for the first time since the war. Funding for the Everglades was barely adequate in the early 1950s. The park's budget was cut by 17 percent in fiscal year 1953, and Superintendent Beard complained that he had to detail rangers to collect garbage because he could not hire maintenance employees. The Mission 66 program began in 1957, and Everglades benefited greatly during its ten-year run. The vast majority of the funds went for the development of park infrastructure, however, and allocations for personnel, planning, and research generally remained inadequate.¹¹²⁸

Budget shortfalls seemed to have had the greatest impact on staffing levels; there seems never to have been a period when Everglades was able to fill all of its allocated full-time positions. In 1974, for example, the park was able to fill 78 percent of its allocated positions. It was not much different 30 years later—the park had 47 unfilled positions in 2003. The late 1960s, when the federal budget was strained by spending on

¹¹²⁷ ENP organization charts, Oct. 10, 2006 and Jan. 2013, EVER 22965; Jester interview.

¹¹²⁸ Dwight F. Rettie, *Our National Park System: Caring for America's Greatest Natural and Historic Treasures* (Urbana: University of Illinois Press, 1995), 251; "National Park Service Appropriations," *National Parks Magazine*, Oct.-Dec. 1955, 191; SMR, Jan. 1952.

Great Society programs and the Vietnam War, was a particularly rough patch. In late 1968, Superintendent Raftery was forced to pull rangers from Fort Jefferson to handle winter crowds at Everglades and limit guided tours to five days a week. The high rates of inflation from 1973 through 1982 also presented challenges. Budgets increased, but seemingly never by enough to account for rising prices. From 1981 through 1989, President Reagan attempted to rein in federal spending, particularly funds for adding to federal land holdings. Everglades National Park's budget dropped 4.4 percent in fiscal year 1986 and by 15.6 percent in fiscal year 1989. As outlined above in chapter 11, the South Florida Research Center received increased funding following the enactment of the Comprehensive Everglades Restoration Plan in 2000, but funding for basic park operations remained flat (see Appendix C).¹¹²⁹

Planning

As recounted above in chapter 7, master planning for Everglades National Park began in the late 1940s. In this period, NPS frequently updated its master plans; this was especially the case in the Mission 66 era. The park in recent decades has continued to operate under the broad direction provided by its last master plan, approved in 1979. That plan noted that efforts to balance visitor enjoyment with resource protection had been "largely successful," adding "there is no valid reason to change the basic concept of development and use for the entire park." In 2000, the park began the process of preparing its first general management plan (GMP), which will replace the 1979 master plan. A GMP provides a broad conceptual framework to guide park decision-making over the course of 15 to 20 years. As a first step, the park entered into a project agreement with the NPS Denver Service Center for the services of its planners and began internal scoping sessions. By early 2003, the park was ready to begin involving the public in the GMP process. It began producing GMP newsletters as the primary means of keeping the public informed and soliciting its views. The first newsletter in January 2003 explained the GMP process and invited the public to participate. Those unable to attend public meetings were invited to write or email their comments. By this point, Everglades National Park Planner Fred Herling was coordinating the GMP process.¹¹³⁰

The planning team held six public meetings in 2003 and had separate meetings with representatives of public agencies and groups. About 230 people attended the

1129 SAR, 1974; "Budget Cuts Limit Visitors' Services in Everglades Park," *New York Times*, Nov. 17, 1968; "Everglades Has Funding Shortfall," *Miami Herald*, May 26, 2003; "Park May Get \$789,000 Boost to Ease Effects of Cutbacks," *Miami Herald*, Jan. 22, 2004.

1130 NPS, *Everglades National Park Master Plan*, May 1979, 2; SAR, 2000; ENP, *General Management Plan, Newsletter One*, Jan. 2003, EVER 22965; "Glades Plots Path for Next 20 Years," *Miami Herald*, Jan. 28, 2003.

public meetings and altogether, some 1,800 comments were received. Those who attended the meetings seemed most concerned about maintaining access to backcountry areas, particularly by motorboat, and having improved recreational facilities. Mary Munson, regional director for the National Parks Conservation Association saw a need for the NPS to “find new ways for the local folks to connect with the park.” In a second edition of the newsletter in September 2003, the park summarized the comments it had received and explained that the planning team would move on to formulating a series of alternatives describing future park conditions.¹¹³¹

Recovery from the hurricanes of 2005 put a heavy strain on park staff and set back the park's GMP process. In addition, the NPS decided to expand the scope of the GMP to include a wilderness study of the newly acquired East Everglades Expansion area. By law and policy, the NPS is required to evaluate the wilderness potential of undeveloped areas that are added to a park. The NPS believed that folding the wilderness study into the GMP process would save time and money; it also meant that new public meetings and a new public comment period were needed. The 2005 hurricanes damaged the Flamingo lodge and cottages beyond repair, and the park began the preparation of a commercial services plan (CSP) dealing with recreational services and overnight accommodations at Flamingo. The CSP had its own schedule for public involvement, and its final conclusions were to be integrated into the alternatives generated for the GMP.¹¹³²

The planning team spent much of 2006 and early 2007 preparing and reviewing GMP alternatives. In May 2007, the park released the four alternatives and sought public comment, holding six public workshops around South Florida. Possible restrictions on motorboat access to Florida Bay and other park waters to protect the seabed emerged as an issue of considerable interest. Many of the attendees at the public meetings were recreational fishermen. After evaluating comments, the park revised the preliminary alternatives and released them for public comment in February 2009. Seven public meetings were held in March and April. This new round of public comments led to further revision of the alternatives, which were then presented to the NPS Southeast Regional Office in February 2010. In the meantime, the nation had gained a new Democratic administration and a new NPS director, Jon Jarvis. After conferring with the director, the park decided the planning for Flamingo and Everglades City needed to be revisited. The high cost of the planned Flamingo lodging,

1131 ENP, *General Management Plan Newsletter* #2, Sep. 2003, EVER 22965; “Public Wants More of ‘Old’ Everglades,” *Miami Herald*, Feb. 29, 2003.

1132 ENP, *General Management Plan Newsletter* 3, June 2006.

the short season, and the susceptibility of both areas to hurricanes and sea-level rise needed further study.¹¹³³

The draft GMP underwent further revisions and was released for public comment in late February 2013. The park held public meetings in Homestead and Key Largo to present the latest draft and solicited comments on-line and by mail. Park staff devoted considerable time in 2013 and 2014 to analyzing public comments and making adjustments to the plan. As of this writing, the plan is undergoing review at the regional and Washington levels and final approval is pending.¹¹³⁴

Planning and Compliance Branch

In a park as large and complex as Everglades, many different planning documents are required. These range in scope from a GMP (described above) to plans for concessions, interpretation, integrated pest management, and the like. Additionally, many proposed activities in the park entail compliance with the National Environmental Protection Act (NEPA), the National Historic Preservation Act (NHPA), and the Wilderness Act. In the early to mid-1990s, a committee headed by Wildlife Biologist Skip Snow coordinated NEPA compliance. Snow was eager to devote more of his time to his core duties, and for about two years, NEPA compliance was handled on an ad hoc basis. In the late 1990s, Brien Culhane, then a special assistant to the superintendent largely working on park planning, was asked to head up a new branch, Planning and Compliance. The division “coordinates the development, completion, and implementation of all the various levels of planning documents required by law, policy or regulation” for Everglades and Dry Tortugas National Parks. Until October 2007, the branch had responsibility for compliance actions under both the NEPA and the NHPA. The park hired a cultural resources branch chief in October 2007, who then took lead responsibility for NHPA compliance, although Planning and Compliance continues to have a coordinating role. The Planning and Compliance Branch also had

1133 ENP, *Draft General Management Plan/East Everglades Wilderness Study*, May 2007 version, EVER 22965; “Anglers Make Spirited Pleas,” *Miami Herald*, June 10, 2007; “Park Education Necessary,” *Miami Herald*, Sep. 16, 2007; ENP media release, Mar. 2010, <http://parkplanning.nps.gov/projectHome.cfm?parkId=374&projectId=11170>; “Work on Long-Range General Management Plan for Everglades National Park Slows Down,” *National Parks Traveler*, Jan. 3, 2012, <http://www.nationalparkstraveler.com/2012/01/work-long-range-general-management-plan-everglades-national-park-slows-down9238>.

1134 NPS, “Media Availability of Draft Everglades National Park General Management Plan,” Mar. 12, 2013, <http://www.nps.gov/ever/parknews/media-availability-for-everglades-national-park-draft-general-management-plan.htm>; Fred Herling, personal communications, Aug. 22, 2013, and June 26, 2014.

responsibility for the South Florida Collections Management Center until the cultural resources branch was created.¹¹³⁵

The workload of the Planning and Compliance Branch is large and complex. Coordinating the development of the park's GMP and the Flamingo Commercial Services Plan has been a major focus in recent years. The East Everglades addition to the park required several studies that were supervised by the branch, including an archeology study, a survey and evaluation of hunting camps, and an inventory of airboat trails. Beginning in FY2007, the branch began to work on the issue of the seven-mile-long utility corridor owned by Florida Power and Light Company that runs through the East Everglades addition. The branch also coordinates resource-specific studies. These have included a manatee study, an aerial survey of boating and fishing activity in Florida Bay, and an assessment of sea grasses in Florida Bay. The results and recommendations of many of these studies then must be incorporated into the ongoing GMP effort. An increasing amount of the branch's time is being devoted to adjacent land issues. Branch staff must review and assess the impact of activities proposed for nearby properties that have could affect the park and its resources. In addition, the branch is involved in some major projects such as the Biscayne-Everglades Greenway.¹¹³⁶

Each year, the Planning and Compliance Branch is responsible for identifying and evaluating hundreds of undertakings that trigger the provisions of the NEPA, the NHPA, the Wilderness Act, and other legislation. Analysis of applications for wetlands mitigation on nearby properties under Section 404 of the Clean Water Act of 1972 is a major part of the workload. For projects within the park, decisions must be made about what level of documentation is required for NEPA and NHPA compliance, the appropriate disciplines consulted, and the process followed through to completion. Every year, some 11 to 20 proposed projects in the park in wilderness areas must be analyzed and a determination made of the minimum tools required to accomplish project objectives. Both the branch's planning and environmental compliance functions are hampered by a lack of staff and funding. Additionally, the branch consistently relies on advice and participation from experts in other park branches, who themselves are often stretched thin.¹¹³⁷

1135 Brien Culhane, interview by author, Oct. 7, 2011; Annual Reports, ENP Planning and Compliance Branch, FY2005-2010.

1136 Culhane interview; Annual Reports, ENP Planning and Compliance Branch, FY2005-2010.

1137 Culhane interview; Annual Reports, ENP Planning and Compliance Branch, FY2005-2010.

Relationships with Other NPS Units

At the 1947 establishment of Everglades National Park, Florida had three units of the National Park System: Fort Jefferson National Monument, Fort Matanzas National Monument, and Castillo de San Marcos National Monument. The Castillo and Fort Matanzas had been administered by the Department of the Army until transferred to the NPS in August 1933. President Franklin Roosevelt designated Fort Jef-



Figure 26-1. Fort Jefferson in Dry Tortugas National Park

ferson a national monument on January 4, 1935. Beginning January 1, 1942, C. Ray Vinten, based at the Castillo in Saint Augustine, held the position of coordinating superintendent for southeastern monuments. He had responsibility for the Castillo, Fort Matanzas, Fort Jefferson, and sites in Georgia and South Carolina. After World War II, new units kept being added to the system in the Southeast, including DeSoto National Memorial on Tampa Bay, authorized 1948, and Fort Caroline National Memorial on the St. Johns River east of Jacksonville, authorized 1950. The NPS in 1951 abolished the position of coordinating superintendent. By this time, Fort Jefferson had already been placed under the administration of the Everglades superintendent, effective December 1949 (figure 26-1, Fort Jefferson). In February 1958, the NPS director brought

clarity to this arrangement by formally designating the Everglades superintendent as the superintendent of Fort Jefferson as well. At times between 1949 and 1959, the site manager at Fort Jefferson was styled a superintendent in NPS literature, but he never had the formal designation. For a brief period, from August 20, 1969, to November 14, 1971, the NPS experimented with an Everglades Management Group. During this period, the Everglades superintendent had a coordinating role for DeSoto, the Castillo, Fort Matanzas, and Fort Caroline.¹¹³⁸

Fort Jefferson National Monument (Dry Tortugas National Park as of October 1992)

As indicated above, since 1958, the Everglades superintendent has also been superintendent of Fort Jefferson. The staff at Fort Jefferson has always been small. A site manager at the fort, reporting to the Everglades deputy superintendent, handles day-to-day operations. Recent deputies have spoken of trying to get to the fort for a couple of days every month, but usually only managing every third month. The Everglades/Fort Jefferson superintendent has generally become involved only in major issues affecting the fort. As an example, in the late 1980s, jet pilots from the Key West Naval Air Station were frequently triggering sonic booms in the air space over the fort. The booms detracted from the visitor experience and damaged the masonry of the fort. Superintendent Mike Finley, after failing to get results from the base commander, used his contacts in the media to make this a public issue and succeeded in stopping the sonic booms.¹¹³⁹

Professional staff at Everglades have at times devoted considerable attention to the Dry Tortugas. In the late 1990s and early 2000s, the planning and compliance branch took the lead for the NPS in planning and implementing the Dry Tortugas Research Natural Area, established in January 2007. This is a 46-square-mile portion of Dry Tortugas National Park where some activities, such as fishing and bottom anchoring, are excluded. The Research Natural Area adjoins the Tortugas Natural Reserve of the Florida Keys National Marine Sanctuary, which lies to the northwest. Together, these protected areas help to conserve “shallow water marine habitat, ensure species diversity, and enhance the productivity and sustainability of fish populations,” while providing unique educational and research opportunities.¹¹⁴⁰

1138 NPS Director to All Field Offices, Feb. 4, 1959, EVER 22965; C. Ray Vinten, interview by Boyd Evison, Apr. 6, 1971, St. Augustine Historical Society, 62; Historic Listing of National Park Service Officials, http://www.nps.gov/history/history/online_books/tolson/histlist.htm.

1139 Arnsberger interview, Benjamin interview, Finley interview, Culhane interview.

1140 NPS and FFWCC, *Assessing the Conservation Efficacy of the Dry Tortugas National Park Research Natural Area* (Homestead, Fla.: NPS and FFWCC, 2007), 1; Culhane interview. The story of the development of the marine sanctuary surrounding Dry Tortugas is beyond the scope of this history, but it should be noted that it was largely the work of Gary Davis while in the South Florida Research Center that ultimately produced the sanctuary.

Fort Jefferson has traditionally been a popular vacation and fishing destination for congressmen and other VIPs. Jack Stark, Everglades superintendent from 1971 to 1976, has related that taking care of the needs of congressmen visiting Fort Jefferson was important to his success as superintendent. NPS directors, dating to George Hartzog (1964 to 1972) if not earlier, have used trips to Fort Jefferson with congressmen and other decision makers to advocate for agency positions in a laidback atmosphere far from the distractions of Washington. For these reasons, agency policy has been to leave day-to-day operations at the Dry Tortugas to a site manager, under the watchful eye of the Everglades superintendent.¹¹⁴¹

Biscayne National Park

As recounted in chapter 9, the controversy over industrial development on the shores of Biscayne Bay became heated in the early 1960s. The Everglades superintendent and staff were involved in many public and private meetings concerning the fate of the bay and its islands. A desire to preserve portions of the area led to the October 1968 authorization and June 1970 establishment of Biscayne National Monument (redesignated Biscayne National Park in 1980) (figure 26-2, Coral in Biscayne National Park). Everglades staff had many responsibilities in getting the new unit up and running. Biscayne got its first superintendent, Dale Engquist, in April 1971. The Biscayne superintendent was administratively under the Everglades superintendent until November 1971.¹¹⁴²

Big Cypress National Preserve

Congress passed an act in October 1974 authorizing the establishment of Big Cypress National Preserve, adjoining Everglades National Park on the northwest (Figure 26-3, cypresses in Big Cypress National Park). Everglades staff had major responsibilities in planning for the new unit. Irvin L. Mortenson became the unit's first manager in October 1976, reporting to the superintendent of Everglades. Big Cypress remained administratively under Everglades National Park until 1986. Soon after arriving at Everglades, Superintendent Michael Finley reviewed the management relationship and determined that Big Cypress should be administratively distinct. The NPS Southeast Regional Office approved his recommendation and in 1986, Big Cypress

¹¹⁴¹ Stark interview; Ring interview.

¹¹⁴² SMR, Dec. 1962, June 1963, Apr. and Aug. 1966; Historic Listing of National Park Service Officials, http://www.nps.gov/history/history/online_books/tolson/histlist.htm.



Figure 26-2. Coral in Biscayne National Park

began reporting directly to the regional office (figure 28-3, Big Cypress). Because the preserve and the park are adjacent, staff and responsibilities at times are shared among the two units.¹¹⁴³

Biscayne-Everglades Greenway

In mid-2002, the city of Homestead began to explore the recreational opportunities of a dedicated bicycle trail connecting Biscayne and Everglades National Parks. The project took on the name of the Biscayne-Everglades Greenway. Both parks, Florida City, and the Miami-Dade Department of Parks & Recreation backed the plan. As of early 2012, the right-of-way and infrastructure for the trail were in place, and funding was being sought for trail amenities including a paved surface, parking, shelters, and other support facilities. Full implementation of the planners' vision will require \$30 million or more.¹¹⁴⁴

¹¹⁴³ SAR, 1974 and 1986; RDSE to Supt., Dec. 27, 1976, EVER 22965; Historic Listing of National Park Service Officials, http://www.nps.gov/history/history/online_books/tolson/histlist.htm.

¹¹⁴⁴ "Bike Paths a Vision in Progress," *Miami Herald*, Mar. 25, 2007; Rails-to-Trails Conservancy, http://www.railstotrails.org/resources/documents/ourWork/PromotingTrailUse/mgp/2012_Miami.pdf.

State Coordinator Responsibilities

For many decades, the NPS designated one superintendent in each state as state coordinator. This generally was the superintendent of the largest or most centrally located unit. The state coordinator monitored issues of potential political or environment concern to the NPS and was a liaison for the Service's external programs. For example, the state coordinator kept an eye on national historic landmark properties and designated staff to investigate candidates for designation as national natural landmarks. In May 1967, Superintendent Roger Allin directed park staff to evaluate Jupiter Island as a potential national natural landmark. The position of state coordinator no longer exists in the Southeast Region.¹¹⁴⁵



Figure 26-3. Cypresses in Big Cypress National Preserve

¹¹⁴⁵ SMR, Aug. 1966 and Aug. 1967; Supt. Good to Florida supts., Jan. 12, 1977, EVER 22965. See the NPS website for further information on the national natural landmarks program, <http://www.nature.nps.gov/nml/>.

Chapter 27: Park Designations and International Relationships

The significance of Everglades National Park has been recognized at the national and international levels through a number of formal designations. In addition, the park is involved in two formal binational partnerships, with the Bahamas National Trust and Brazil's Pantanal National Park.

National Register of Historic Places and National Historic Landmark Listings

As of this writing, the properties within Everglades National Park in the following table have been placed on the National Register of Historic Places. The second through the eighth sites and districts in the table are nominated under the historic contexts and registration requirements contained in a multiple property documentation



Figure 27-1. World Heritage plaque as first mounted, 1982

form, “Archeological Resources of Everglades National Park,” accepted November 5, 1996. As mentioned above in chapter 17, as of this writing, a contractor is preparing National Register documentation for Mission 66 era park resources. In May 2005, the Mud Lake Site was recognized as a National Historic Landmark. The eligibility of the Ten Thousand Islands as a National Historic Landmark is under consideration within the NPS.¹¹⁴⁶

¹¹⁴⁶ Melissa Memory, personal communication, June 26, 2013.

Name	Type	Date	Description
Turner River	Site	Dec. 14, 1978	A large site with 30 mounds; probably occupied from 200 BCE to AD 800.
Anhinga Trail	Site	Nov. 5, 1996	A low-lying site with artifacts from ~ AD 1400-1500.
Bear Lake Mounds	District	Nov. 5, 1996	Three sites from the Glades tradition.
Cane Patch	Site	Nov. 5, 1996	A black earth midden occupied from ~ AD 500 to 1400.
Monroe Lake	District	Nov. 5, 1996	Two earth middens from the Glades tradition.
Rookery Mound	Site	Nov. 5, 1996	An earth midden occupied from ~ AD 750 to 1700.
Shark River Slough	District	Nov. 5, 1996	Some 62 midden areas dating from ~ AD 1000 to 1947.
Ten Thousand Islands	District	Nov. 5, 1996	Some 70 prehistoric and historic sites on islands of this chain.
Nike Missile Site HM-69	District	July 27, 2004	A U.S. Army anti-aircraft missile installation with 22 contributing resources.
Mud Lake Canal	Site	Sep. 20, 2006	A 3.9-mile-long aboriginal transportation canal dating to at least AD 1200 to 1400.

International Biosphere Reserve

Everglades National Park and Dry Tortugas National Park were designated an International Biosphere Reserve on October 26, 1976. The United Nations Educational, Scientific and Cultural Organization (UNESCO) established the International Man and the Biosphere (MAB) program in 1971. The program was an outgrowth of the U.N.'s 1968 Conference on the Conservation and Rational Use of the Biosphere and was formally endorsed by U.N. member states at 1972's Conference on the Environment (sometimes called the first "Earth Summit"). The MAB program is an intergovernmental scientific endeavor that supplies the basis for improved relationships between people and their environments across the globe. The program emphasizes regional cooperation and has several subprograms focused on ecosystem types: mountains; drylands; tropical forests; urban systems; wetlands; and marine, island, and coastal ecosystems. An International Coordinating Council (ICC) defines the agenda for the MAB program. Under the 1995 Framework of the World Network of Biosphere Reserves and prior protocols, the ICC designates outstanding terrestrial and coastal marine ecosystems as biosphere reserves. More than just protected areas, the reserves are conceived as laboratories for activities and programs that promote biodiversity

and sustainable development. At this writing, the MAB program has recognized 580 biosphere reserves in 114 countries.¹¹⁴⁷

Everglades National Park was one of 20 U.S. sites proposed as biosphere reserves at a UNESCO-sponsored Man and the Biosphere conference held in Washington, D.C., in September 1974. (See chapter 24 for the 1982 ceremony celebrating the park's status as a biosphere reserve and world heritage site.).¹¹⁴⁸

World Heritage Site

Everglades National Park was designated a World Heritage Site on October 26, 1979, under the Convention Concerning the Protection of the World Cultural and Natural Heritage of the United Nations (figure 27-1, World Heritage plaque). UNESCO drew up the convention in November 1972 in order to create "an effective system of collective protection of the cultural and natural heritage of outstanding universal value." The convention established a World Heritage Committee, responsible for maintaining a List of World Heritage Sites and arranging for mutual assistance among nations in protecting sites of world importance. The committee was to have 21 members, with membership rotating among participating nations. The convention established procedures for participating nations to nominate sites to the World Heritage List. No site was to be placed on the list without the consent of the host nation. The convention went into effect in 1976, after 20 nations had ratified it. The United States was among the first states to ratify the convention. The enrollment of Everglades National Park as a World Heritage Site came at the third session of the World Heritage Committee, convened in Cairo and Luxor, Egypt, in October 1979.¹¹⁴⁹

The World Heritage Committee (WHC) meets annually to consider additions to the World Heritage List and other matters. Under Article 11 of the convention, the WHC maintains a List of World Heritage in Danger. Site threatened by "serious and specific dangers," such as the threat of disappearance or damage through development, war, or natural disaster, are candidates for the List of World Heritage in Danger. At its 17th session, convened in Cartagena, Columbia, in December 1993, the WHC placed Everglades National Park on the List of World Heritage in Danger. Park Superintendent Richard Ring presented a report at this session, noting that since the park had been listed in 1979 it had continued to be threatened by hydrological changes, surrounding development, and water pollution. He added that 1992's Hurricane Andrew

1147 UNESCO, Biosphere Reserves Network, <http://whc.unesco.org/en/convention>.

1148 "U.S. Aiding Study on Environment," *New York Times*, Sep. 18, 1974.

1149 UNESCO, Convention Concerning the Protection of the World Cultural and Natural Heritage, <http://whc.unesco.org/en/conventiontext>; Report of the WHC 3d Session, Oct. 22-26, 1979, <http://whc.unesco.org/archive/1979/cc-79-conf003-13e-pdf>.

had caused considerable damage. Although measures were being taken to restore the Everglades ecosystem, the outcome of these efforts was considered uncertain, and the U.S. delegation asked that the park be added to the endangered list. The International Union for the Conservation of Nature and Natural Resources (IUCN) concurred in this assessment, and Everglades National Park went on the endangered list.¹¹⁵⁰

Everglades National Park remained on the List of World Heritage in Danger until June 2007. At the 31st session of the WHC, convened in Christchurch, New Zealand, the U.S. delegation requested that the park be removed from the endangered list. This request was made by the co-leader of the U.S. delegation, Todd D. Willens, deputy assistant secretary for fish, wildlife, and parks in the Department of the Interior. Willens took this step on his own initiative; he later testified that he had not been directed to do so by his superiors in the department. He did confer with Louise V. Oliver, U.S. ambassador to UNESCO, who was the delegation's other co-leader. It was later revealed that Oliver, as the State Department representative, was chiefly concerned with any WHC decisions that had foreign policy implications. Because Everglades National Park was a site under the jurisdiction of the DOI, she deferred to Willens on the question of delisting the park. Several WHC members spoke in favor of the change in designation and none spoke in opposition. In announcing its decision, the WHC applauded the United States for the progress it had made in "rehabilitating" the Everglades, citing that progress as the reason for removing the park from the endangered list.¹¹⁵¹

The removal of Everglades National Park from the endangered list provoked considerable controversy. Jonathan Ullman, the Sierra Club's Everglades field representative, told a reporter that the Everglades was more threatened than ever. The editorial page of the *Orlando Sentinel* asked: "Exactly what world is the U.N. living in?" Florida Senator Bill Nelson branded the move political and called for Willens to resign. He believed that Willens had ignored an NPS recommendation that the park remain on the endangered list; this was denied by the George W. Bush administration. Senator Nelson thought that the move reflected the administration's lack of commitment to Everglades restoration and convened a Senate hearing in September 2007. Under questioning, Willens claimed that the decision was made by the WHC, but acknowledged that the committee almost always followed the wishes of the host nation. He stated that the U.S. government's report that he brought with him to the meeting did

1150 UNESCO, Report of the WHC 17th Session, Dec. 11-16, 1993, 20-21, <http://whc.unesco.org/archive/1993/whc-93-conf002-14e.pdf>.

1151 UNESCO, Report of the WHC 31st Session, June 23-July 2, 2007, <http://whc.unesco.org/archive/2007/whc07-31com-24e.pdf>; UNESCO press release, June 24, 2007, in *The Everglades: Protecting Natural Treasures Through International Organizations*, Hearing before the Subcommittee on International Operations and Organizations, Democracy and Human Relations, U.S. Senate, 110th Cong., 1st Sess., Sep. 19, 2007, www.gpo/fdsys/pkg/CHRG-110shrg44134/pdf/CHRG-110shrg44134.pdf; DOI fact sheet, "Background on World Heritage Convention, US participation, DOI leadership," 2008, EVER 22965.

indeed call for Everglades to be retained on the endangered list. It was entirely his decision to change “retain” to “remove” in that report. At the Senate hearing, a State Department representative testified that State was altering its procedures in the wake of what happened at the Christchurch meeting. In future, the State Department representative at WHC meetings would not agree to material changes to a draft report without consulting with superiors in Washington. Following the hearings, Senator Nelson wrote SOI Dirk Kempthorne complaining of the administration’s action in removing the Everglades from the endangered list. The secretary responded by defending the action, stating that the major purpose of including Everglades on the list had been to draw attention to the urgency of the problems there. The administration believed that purpose had been accomplished and there was therefore no reason to retain endangered status.¹¹⁵²

In March 2009, Senator Nelson asked President Obama’s SOI, Ken Salazar, to place Everglades National Park back on the endangered list. At the request of the U.S., the WHC, meeting in Brasilia, Brazil, in July 2010 restored Everglades National Park to the List of World Heritage in Danger.¹¹⁵³

Wetland of International Importance

The U.S. became a member of the Convention on Wetlands of International Importance in 1986. An international conference held in Ramsar, Iran, in January and February 1971 developed the convention (which is often referred to as the Ramsar Convention). The convention went into effect in 1975 after seven nations had ratified it. Signatories to the convention committed themselves to the conservation of wetlands and waterfowl through the establishment and maintenance of wetland nature reserves. Member countries nominate wetlands considered to be internationally significant for their ecology, botany, zoology, limnology, or hydrology to a List of Wetlands of International Importance. A Conference of Contracting Parties meets every three years; among its responsibilities is approving nominations to the List of Wetlands of International Importance. A Ramsar Secretariat, headquartered in Gland, Switzerland, is the convention’s administrative body. The secretariat maintains the list

1152 “Everglades National Park Removed from Danger List,” *Orlando Sentinel*, June 27, 2007; “Removing Everglades from List Riles Nelson,” *Orlando Sentinel*, Aug. 5, 2007; Senate hearing, *The Everglades: Protecting Natural Treasures*, 4-6, 19.

1153 “Salazar Applauds World Heritage Committee’s Decision to Return Everglades National Park to Danger List,” DOI press release, July 30, 2010.

and coordinates activities under the convention. As of this writing, the convention has 160 contracting parties and the list contains 2,000 wetlands.¹¹⁵⁴

Everglades National Park was approved as a Wetland of International Importance (Ramsar No. 374; Wetland International Site No. 4US005) on June 4, 1987. This action was taken by the third Conference of Cooperating Parties, meeting in Regina, Saskatchewan, Canada. The park was nominated under Ramsar criteria 1 through 4:

1. As containing “a representative, rare, or unique example of a natural or near-natural wetland type.
2. As containing endangered species.
3. As supporting “populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.”
4. As supporting species “at a critical stage in their life cycles.”¹¹⁵⁵

Cartagena Convention

In 2012, Everglades National Park received designation under the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, also known as the Cartagena Convention. The convention was adopted in Cartagena, Columbia, on March 23, 1983, and went into effect October 11, 1986. Under the convention, member states are committed to the goal of better protecting the marine environment and reducing harmful impacts to it. To date, 25 nations have ratified the convention.¹¹⁵⁶

Bahamas National Trust

The Bahamas National Trust was founded by an act of the Bahamian Parliament in 1959 as a membership organization with the mission of building and managing a system of national parks in the Bahamas. Its broad goal is to foster the permanent preservation of significant natural and historic sites in that nation. Everglades National Park Superintendent Dan Beard was a founding member of the trust. The trust’s organic act provided for a council of expert outside advisors, including several representatives from the United States, all of whom are full voting members of the

¹¹⁵⁴ Convention of Wetlands of International Importance Especially as Waterfowl Habitat, as Amended, Ramsar Convention website, http://www.ramsar.org/cda/en/ramsar-documents-texts-convention-on/main/ramsar/1-31-38%5E20671_4000_0.

¹¹⁵⁵ Ramsar Secretariat, *Handbook 17: Designating Ramsar Sites*, <http://www.ramsar.org/pdf/lib/hbk4-17.pdf>.

¹¹⁵⁶ Caribbean Environment Programme, <http://www.cep.unep.org/cartagena-convention>; NPS, *Everglades National Park State of Conservation* (Homestead, Fla.: NPS, 2013), 2, <http://www.nps.gov/ever/naturescience/upload/2013-EVER-State-of-Conservation-Report-Final-Deliverable-to-OIA.pdf>.

council. One of these was stipulated to be a representative of the NPS. Throughout the years, the Everglades superintendent, or sometimes the superintendent of another South Florida NPS unit, has served on the trust's council. The council meets once or twice a year, usually in Nassau, Bahamas (figure 27-2, mangroves at Inagua National Park, Bahamas).¹¹⁵⁷

In 1995, the NPS and the Bahamas National Trust acted to give a more formal status to their cooperative relationship via a memorandum of understanding (MOU). The MOU specified cooperation in “research, conservation, and management of natural and cultural resources and in planning, development, and management of protected heritage sites.” The term of the original agreement was five years; it has been regularly renewed and remains in effect at this writing. Individual projects are accomplished by annexes to the MOU. Projects handled in this fashion have included a natural history survey and park feasibility study for the Cay Sal Banks, an examination of the natural system impacts of Brazilian pepper, fire management, and NPS assistance in the development of general management plans for Bahamian national parks. The



Figure 27-2. Mangroves at Inagua National Park, Bahamas

¹¹⁵⁷ Bahamas National Trust website, http://www.bnt.bs/_m1714/Historical-Overview; Ring interview.

transfer of surplus equipment from Everglades National Park to the Bahamian national parks has also been accomplished via the MOU.¹¹⁵⁸

Relationship with Pantanal National Park in Brazil

In October 1997, Everglades National Park became a partner park with Pantanal National Park (Parque Nacional do Pantanal Matogrossense) in the state of Mato Grosso do Sul in Brazil (figure 27-3, Pantanal National Park). Often described as the world's largest contiguous wetland, the Pantanal embraces more than 75,000 square miles, mostly in Brazil, with smaller portions in Bolivia and Paraguay. A variety of ecosystems are found in the Pantanal, including seasonally inundated grasslands, swamps, and lagoons. The region supports a rich and diverse biota. In September 1981, Brazil made a national park of 520 square miles of the Pantanal lying between two rivers, the Baía de São Marcos and the Gurupi. Like Everglades National Park, Pantanal Na-



Figure 27-3. A scene in Pantanal National Park

tional Park has been designated a World Heritage Site, a Wetland of International Importance, and an International Biosphere Reserve. It was evident that the many similarities between the two ecosystem complexes meant that managers would benefit from sharing ideas and practices related to resource conservation and park administration. The Everglades-Pantanal Initiative held its first international workshop July 13-16, 1011, at

Everglades and on the campuses of Florida Atlantic University and Florida International University. Among the topics discussed were cooperation among institutions, the direction and organization of the initiative, and collaboration on grant proposals for research and education.¹¹⁵⁹

¹¹⁵⁸ MOU between NPS/DOI and Bahamas National Trust, Apr. 7, 1995; Annex I to MOU, June 13, 1996; Annex II to MOU, Jan. 17, 1997; Annex III to MOU, Aug. 5, 1997; Annex IV to MOU, Nov. 16, 1998; NPS Dir. Stanton Glenn Bannister, President, Bahamas National Trust, Mar. 30, 2000, EVER 22965.

¹¹⁵⁹ Partner Parks Declaration between the Everglades National Park and the Pantanal National Park, Oct. 14, 1997, EVER 22965; Website of Scott Markwith, Florida Atlantic University professor, <http://markwith.freHomepage.com>.

Chapter 28: The Everglades Becomes a Test Case for Ecosystem Restoration: The Road to CERP

As described in chapter 9, researchers in the 1970s and 1980s gained a greater understanding of the Everglades ecosystem and the negative effects caused by the operations of the Central & Southern Florida Flood Control Project (C&SF Project). Scientists increasingly began to view South Florida as one interconnected hydrologic and ecological system that needed to be managed holistically. At the national level, the developing fields of systems ecology and conservation biology gave birth to the concept of ecosystem management. Ecosystem management emphasizes the goal of maintaining viable populations of all species in an ecosystem, with the area encompassed within an ecosystem defined by its natural functioning rather than by political boundaries. The concept requires a systems perspective rather than a narrow focus (for example on one or a handful of species) as well as close cooperation among land managers within the ecosystem. Another key element is adaptive management, that is, adjusting management strategies based on the ongoing monitoring of the results obtained by various actions. Finally, ecosystem management tends to view humans as embedded within nature not set apart from it. As the concept of ecosystem management gained ground, ecosystem restoration was seen as a logical next step. Proponents of ecosystem restoration established the goal of returning an ecosystem to some prior, presumably healthier, condition. Usually this was defined as its condition before “novel” or “outside” forces began to have an effect.¹¹⁶⁰

Ecosystem management emerged as a particularly relevant approach for South Florida, with its mosaic of private, state, local, and federal land ownership. As ecosystem management gained traction as an idea, and many individuals and groups began pushing for restoration of the Everglades ecosystem, getting all the competing interests to the table became key. The Lehtinen lawsuit over water quality and other environmental controversies had engendered a lot of acrimony and distrust. Through Governor Lawton Chile’s Committee on a Sustainable South Florida, trust among various interests was rebuilt. Working with the Corps and the South Florida Water Management District (SFWMD), the committee was able to produce consensus recommendations for ecosystem restoration. These recommendations, backed strongly

¹¹⁶⁰ R. Edward Grumbine, “What is Ecosystem Management?,” *Conservation Biology* 8/1 (Mar. 1994):27-38; William R. Jordan III and George M. Lubick, *Making Nature Whole: A System of Ecosystem Restoration* (Washington, D.C., Island Press, 2011), 2-3, 170. It is evident that applying the concept of restoration to a natural system raises many questions, such as establishing a “reference state” or baseline condition for the Everglades ecosystem, given that ecosystems continually evolve.

by the Clinton/Gore administration, served as the basis for 2000's Comprehensive Everglades Restoration Plan (CERP). The CERP was projected to cost billions over a period of several decades. From the beginning, knowledgeable observers understood that maintaining political will and focus would be a key to the CERP's success.

Foundation Projects: Modified Water Deliveries and the C-111 Project

The Modified Water Deliveries and C-111 Projects described in chapter 9 laid the groundwork for what emerged in 2000 as the CERP. After the passage of the CERP, these two programs as well as the dechannelization of the Kissimmee River came to be called "foundation projects." CERP stipulated that certain new projects like the decompartmentalization of WCA 3 and water storage in quarries would receive no appropriations until "the completion of the project to improve water deliveries to Everglades National Park" as specified in the 1989 Everglades National Park Protection and Expansion Act. Before turning to a narrative of the events leading to CERP, the history of the progress on Mod Waters and the C-111 Project up to the 2010 CERP Report to Congress will be related.

8.5 Square Mile Area (8.5 SMA), Now Known as the Las Palmas Residential Area

Following the mandate of the 1989 Everglades National Park Protection and Expansion Act and subsequent acts, the iterative testing of experimental water deliveries to the park continued in the 1990s. The Service's goal of getting more water to the Northeast Shark Slough and Taylor Slough conflicted with the mission of the Corps and the SFWMD to provide flood protection for East Everglades residents and agricultural interests. This fundamental conundrum provided a clear demonstration of the lack of coordination between urban development policies and water management policies in the post-World-War-II period. During the 1990s, Everglades National Park managers and many environmentalists came to believe that buying up as much of the land as possible between the park's eastern boundary and the L-31 and C-111 Canals would bring the most environmental benefits for the park. The concept was sometimes described as creating an eastern flow-way. Residents of the 8.5 Square Mile Area (8.5 SMA) and Frog Pond farmers were assertive in resisting acquisition, filing a number of lawsuits. As described in chapter 9, Congress in 1989 had directed the Corps to prepare a general design memorandum (GDM) for both the Modified Waters Project and the C-111 Project. The Corps released its GDM for the Modified Waters Project in 1992. The GDM called for:

1. Flood mitigation in the 8.5 SMA including a pump station, a flood mitigation canal, and a perimeter levee.
2. Raising a portion of the Tamiami Trail to allow more water to flow south into the Northeast Shark Slough (NESS) section of the park, which would entail raising two Miccosukee camps to keep them from flooding.
3. Structural modifications to allow more water to flow from WCA 3A to 3B and from WCA 3B to Canal L-29, along with measures to limit seepage to the east from WCA 3B and the park (known as the conveyance and seepage control component).
4. A new operational plan that would allow 55 percent of total water releases to occur east of L-67, into the NESS.¹¹⁶¹

Not long after the release of the GDM, Hurricane Andrew struck South Florida, causing flooding in the 8.5 SMA. The storm both slowed overall progress on Mod Waters and reinforced a belief that the 8.5 SMA could never entirely escape a threat of flooding. In 1994, Congress amended the Everglades National Park Protection and Expansion Act to allow funds appropriated for construction of flood control works to be used instead to purchase land in the East Everglades, including the 8.5 SMA. A full buyout of the 8.5 SMA emerged as the NPS's preferred solution. That same year, Governor Lawton Chiles appointed a committee that ultimately recommended that only the western portion of the 8.5 SMA be acquired, allowing the bulk of the area's residents to remain, protected by a levee and other flood control works. The board of the SFWMD in November 1998 approved a complete buyout of the 8.5 SMA. Governor Jeb Bush (served 1999-2007) made new appointments the SFWMD Board, which promptly reversed the buyout decision. In July 2000, the Corps proposed a compromise solution, Alternative 6D, which involved the purchase of the western 40 percent of the 8.5 SMA, with the remaining, more heavily populated, 60 percent protected by a major perimeter levee. In 2003, Congress authorized the Corps to proceed with this alternative. The SFWMD then acquired the properties, some from willing sellers and some by eminent domain. Approximately 80 occupied tracts were purchased. More than 300 occupied tracts remained in the protected area (see figure 8-4). Land acquisition and construction of water control features was completed in 2008. A key feature was the location of pump station S-357 at the southern perimeter

¹¹⁶¹ See U.S. Army Corps of Engineers, *Modified Water Deliveries to Everglades National Park, Central and Southern Florida Project, Part 1, Agricultural and Conservation Areas, Supplement 54, General Design Memorandum and Environmental Impact Statement* (Jacksonville: Corps, 1992).

of the area; this pump discharges to a storm water treatment area (STA) that is part of the C-111 Project.¹¹⁶²

Tamiami Trail Modifications

The 1992 GDM for Mod Waters assumed that if two additional spillway structures (355A and S355B, completed in 1996) were constructed along the L-29 Canal east of the S-333, sufficient water could flow into the NESS portion of the park via culverts under the Tamiami Trail. Subsequent studies showed that forcing water through the culverts would require a higher water stage in Canal L-29. This higher water level threatened to damage the trail, which was not acceptable to the Florida Department of Transportation. Planners began to look at options for elevating all or a portion of the trail on a bridge and strengthening the trail where needed. Constructing a bridge along the entire 10.7-mile section of the trail between the L-67 extension and L-31N seemed the best option to many, but the cost, as much as \$1.6 billion, was prohibitive. Various alternatives were studied and discussed with the Florida Department of Transportation, the park, and other interested parties. The option finally authorized by Congress in 2009 had three components: 1) elevating a one-mile section of the trail, 2) raising and strengthening the remaining 9.7 miles of the trail so as to accommodate an 8.5-foot stage in Canal L-29, and 3) constructing spreader swales at the downstream openings of culverts 43 and 51. The spreader swales were meant to disperse water flows over a wider expanse, more closely imitating sheet flow. Construction of the one-mile bridge began in March 2010 under a contract awarded to Kiewit Construction Company and was completed in March 2013. Two Indian camps along the trail, Tigertail Camp and Osceola Camp, needed to be raised to protect them from the higher water stage. Tigertail Camp has been raised and discussions continue on raising

¹¹⁶² Testimony and prepared statement of William Leary, Sr. Counselor to Asst. Sec. for Fish, Wildlife and Parks, *Issues Regarding Everglades National Park and Surrounding Areas*, 1999, 28-31; Alfred R. Light, "Tales of the Tamiami Trail," 72-75; Godfrey, 388-389; Nathaniel P. Reed to Michael Hayden, Asst. Sec. for Fish, Wildlife, and Parks, Oct. 7, 1992, NPR papers, box 4; "E. Glades Buyout Ordered; Wetland Residents Protest Decision," *Miami Herald*, Nov. 13, 1998; "Demolition Under Way in Miami-Dade," *Florida Sun-Sentinel*, Mar. 3, 2004; SAR, 2004.

Osceola Camp. The spreader swale pilot project was suspended in 2010 because of cost concerns, but may be resumed in the future.¹¹⁶³

Because the one-mile Tamiami Trail bridge was expected to provide less than half of the water that the NESS needed, Congress in 2009 also directed the NPS to evaluate options for elevating additional portions of the trail. The NPS prepared an Final Environmental Impact Statement (FEIS) for what became known as the Tamiami Trail Modification: Next Steps Project, published April 26, 2011. The key finding of the FEIS was that another 5.5 miles of the trail needed to be raised. In the Consolidated Construction Act of 2012 (P.L. 112-74), Congress authorized construction of the Next Steps Project. NPS Director then directed the Service to focus its attention first on raising a 2.6-mile section of the trail approximately five miles west of the one-mile section already raised. In August 2013, Florida Governor Rick Scott committed the state to providing \$90 million, its one-half share of the total estimated construction cost. The project is expected to enter the design phase soon.¹¹⁶⁴

Because Mod Waters funding now has been fully committed, the construction of the Tamiami Trail one-mile bridge and the raising of the Osceola Camp will bring Mod Waters to a conclusion, without all of its original goals being met. The remaining unfinished business of Mod Waters includes: 1) Modification of Levees L-67A and L-67C and their associated borrow canals to restore connectivity between WCAs 3A and 3B, and 2) backfilling the remaining five miles of the L-67 extension. Further work on these unfinished aspects of Mod Waters will fall under the CERP or other authorizations.¹¹⁶⁵

C-111 Project

As described in chapter 9, tests 6 and 7 of the Experimental Water Deliveries Program involved both Northeast Shark Slough and Taylor Slough, the latter falling within the C-111 Project area. As required by the 1989 Everglades Preservation and Expansion Act, the Corps in May 1994 prepared a general reevaluation report (GRR)

¹¹⁶³ Audubon Florida, "Tamiami Trail One-Mile Bridge," Mar. 2013, <http://audubonoffloridanews.org/wp-content/uploads/2013/03/Tamiami-Trail-One-Mile-Bridge-March-2013.pdf>; NPS, *Tamiami Trail Modifications: Next Steps, Draft EIS* (Homestead, Fla.: NPS, April 2010), 2-1—2-3; see Omnibus Appropriations Act of 2009, 443-443. The alternative approved by Congress in 2009 was alternative 3.2.2.a from the Corps' 2008 *Modified Water Deliveries to Everglades National Park Tamiami Trail Modifications Final Limited Reevaluation Report and Environmental Assessment*.

www.saj.usace.army.mil/dp/mwdenp-c111/index.htm. Chapter 3 of the National Research Council's 2008 review has details. SAR, 2007, 2010; Corps and DOI, *Comprehensive Everglades Restoration Plan, 2010 Report to Congress*, D-4, http://www.evergladesplan.org/pm/pm_docs/rte_2010/rte_2010_final.pdf.

¹¹⁶⁴ Acting Supt. Shawn Benge to File, May 8, 2014, <http://parkplanning.nps.gov/document.cfm?parkID=374&projectID=26159&documentID=59569>.

¹¹⁶⁵ The Corps held public meetings on the L-67A and L-67C work in late 2008 before this aspect was dropped. SAR, 2009; *2010 CERP Report to Congress*, D-4.

for the C-111 Project. The goal of the GRR was to propose system modifications that would maintain the existing flood protection for private lands east of the L-31N and C-111 while providing more natural hydrologic conditions in the Taylor Slough and eastern panhandle areas of Everglades National Park (see figure 8-4). The preferred alternative in the GRR had the following components:

1. Construction or modification of nine canals.
2. Creation of a spreader canal along the lower portion of the C-111.
3. L-31 and S332D tieback levees.
4. Construction of five pump stations.
5. Degradations of the spoil mound along the southern edge of C-111, allowing water to flow into the park's eastern panhandle.
6. Construction of a new bridge over Taylor Slough for the park's main road.
7. Purchase of 11, 866 acres, including Frog Pond and Rocky Glades for use as water detention areas.

The cost of the proposed modifications was set at \$121 million with estimated annual operating costs of \$12 million. Included in the GRR was a recommendation for the preparation of a combined operational plan for Mod Waters (Shark River Slough) and the C-111 Project (Taylor Slough and eastern panhandle).¹¹⁶⁶

As described in chapter 9, the drawdown of canal levels to allow early planting of winter vegetables in the Frog Pond had been a source of bitter controversy (figure 28-1, tomato growing). When the area flooded in 1993 because of the high water stage maintained in canals, the farm operators sued the SFWMD.¹¹⁶⁷ This suit was unsuccessful, but the threat of litigation remained. Following the recommendation of the C-111 GRR, the SFWMD decided to purchase the Frog Pond acreage. The district at first was interested in only the western portion, but ultimately negotiated a purchase of the entire area for \$43 million. The order of taking accomplishing this purchase was filed February 7, 1995, and the deal closed in April 1996. The district, however, allowed the farmers to continue operations for a brief period under leases, before beginning to allow it to return to more natural functions. The acreage now functions as a water retention area.¹¹⁶⁸

Further progress on the C-111 Project was delayed largely because of concerns over the Cape Sable seaside sparrow, an endangered species. Iteration 7 of the Mod Waters ended prematurely in 2000, largely because of these concerns. The U.S. Fish and Wildlife Service (FWS) issued a preliminary biological opinion dated October

¹¹⁶⁶ Corps, *Canal 111 (C-111) Final Integrated General Reevaluation Report and EIS* (Jacksonville: Corps, May 1994), syllabus; "The Experimental Program," undated park fact sheet (~2011). Preferred Alternative 6A was developed with input from Everglades National Park.

¹¹⁶⁷ *South Dade Land Corporation v. Sullivan*, 853 F. Supp. 404.

¹¹⁶⁸ "Growers Buy Agricultural Land Near Everglades," *South Dade News Leader*, June 10, 1988; "\$43 Million Ends Farming in Frog Pond," *Miami Herald*, Apr. 12, 1996; Godfrey, 381.



Figure 28-1. Tomato growing in 2012

the combined operational plan for Mod Waters and the C-111 Project recommended in the 1994 GRR. The combined plan is expected to set guidelines for operations that will enhance ecosystem restoration while maintaining other project objectives. Based on past experience, the park expects that the development of the combined plan to “involve potentially contentious discussions” among affected agencies and the general public. The Corps began the scoping process for the combined operational plan in June 2011.¹¹⁶⁹

A portion of the C-111 Project was accomplished with the construction of two new bridges carrying the main park road over Taylor Slough. This construction project

27, 1995, stating that the contemplated operations threatened the sparrow’s critical habitat. The opinion directed the Corps to prepare a remedial action plan. Disagreement over the contents of this plan led to further negotiations, which produced two versions of an interim structural and operational plan (ISOP, 2000 and 2001). The ISOP continued to be discussed and adjusted until June 2002, when the Corps issued a final environmental impact statement for the Interim Operational Plan (IOP). The IOP built on the ISOP and made use of structural features from Mod Waters and the C-111 Project. The IOP represented a temporary approach, intended to be replaced by

¹¹⁶⁹ SFNRC, *An Assessment of the Interim Operation Plan* (Homestead, Fla.: SFNRC, 2005), 8-12; SAR, 2010.

was completed in October 2000 and dedicated in February 2001 (see chapter 7). The first water retention/detention zone features of the C-111 Project have been completed, and some spoil mounds along the lower reach of the C-111 Canal have been removed. The C-111 spreader canal was included as one of the ten initial CERP projects in 2000, with an estimated cost of \$94 million. Because of the complexities involved, the project later was split into an eastern and western component. Phase 1, the western component, involves creating a nine-mile hydrologic ridge along the eastern boundary of the park. Embraced in this component are two above-ground water detention areas with pumps and related structural modifications of the C-111, C-110, and L31E Canals. Construction on the \$30 million western component began in January 2010 and its completion was celebrated in February 2013. The eastern component is meant to improve water distribution in the Model Lands area east of the park. It likely will involve backfilling portions of the C-111 and a spreader canal.¹¹⁷⁰

The Clinton/Gore Administration Embraces Everglades Repair

William Jefferson Clinton had a mixed record on environmental issues as governor of Arkansas, but the environmental community was pleased with some of his campaign rhetoric and personnel choices. Environmentalists applauded his selection of Al Gore for vice president. Gore, author of *Earth in the Balance* (published June 1992) was among the most environmentally conscious of national politicians. The president also made Floridian Carol Browner administrator of the U.S. Environmental Protection Agency (EPA). She had headed the Florida Department of Environmental Regulation for two years and supported Everglades restoration. Clinton's choice for attorney general was Janet Reno, a South Floridian who knew and loved the Everglades. For the Department of the Interior, Clinton chose Bruce Babbitt, the former two-term governor of Arizona. Environmentalists at first did not know what to make of Babbitt. He had been the chair of the League of Conservation Voters but also a cofounder of the Democratic Leadership Council, which represented the more business-friendly wing of the party.¹¹⁷¹

Secretary Babbitt was the keynote speaker at the January 1993 annual meeting of the Everglades Coalition in Tallahassee. Park Superintendent Richard Ring worked

1170 Corps, C-111 Spreader Canal Phase 1 Project Implementation Briefing Memo, Jan. 2010; Corps, "C-111 Spreader Canal Western Project Fact Sheet," May 2009; Maj. Gen. Meredith W. B. Temple, Acting Chief of Engineers, to SOA, Jan. 2012, http://www.evergladesplan.org/pm/projects/project_docs/pdp_29_c11/013012_c111_chiefs_report.pdf; 2010 CERP Report to Congress, D-6; NPS, "First Restoration Component to Directly Benefit the Park," Feb. 5, 2013, <http://www.nps.gov/ever/parknews/first-restoration-component-to-directly-benefit-the-park.htm>.

1171 "Bill Clinton, Environmentalist?," *New York Times*, Jan. 5, 1993. Many believe that Browner was the principal author of *Earth in the Balance*.

with Jim Webb of The Wilderness Society to ensure that at luncheon the secretary was flanked by Ring and the Corps' district engineer, Col. Terrence "Rock" Salt. Ring and Salt described the plight of the Everglades and explained that the Restudy of the Central and Southern Florida Project had been authorized but not funded. Not long after the meeting, Babbitt moved to make the Everglades the administration's top environmental priority. He arranged for the Corps to reprogram \$2 million to start on the reconnaissance phase of the Restudy.¹¹⁷² The secretary came to understand that a number of federal agencies had responsibilities in South Florida and were spending billions, often without coordinating their efforts. In response, he formed the South Florida Ecosystem Task Force (Task Force) with high-level representatives from the Departments of Defense, Interior, Agriculture, Commerce, and Justice and the EPA. Under the Task Force at the field level was the South Florida Management and Coordination Working Group (Working Group). The Task Force was envisioned as a policy body, while the Working Group's goal was to build consensus among the agencies on various issues and coordinate the development of restoration alternatives. Babbitt and his assistant secretary for fish, wildlife, and parks, George

Frampton, saw the Working Group as a means of keeping pressure on the Corps to accelerate the Restudy and make sure it seriously addressed environmental goals. The Working Group met monthly and briefed the Task Force at least twice a year to keep the latter up-to-date and involved. Federal legislation was needed in 1995 to allow representatives of nonfederal interests, notably the Seminole and Miccosukee tribes, to become full participants. The Task Force and Working Group have been instrumental in guiding the development and implementation of CERP.¹¹⁷³

A basic issue with the Restudy was that its overarching purpose was declared to be ecosystem restoration while the C&SF Project remained a multiple-use endeavor. The easier part of the challenge was finding ways to store more fresh water, so that more water could flow to Everglades National Park and other protected natural areas while the growing needs of urban water users continued to be met.¹¹⁷⁴ It was well understood that there were limits to surface water storage. Shallow reservoirs like

1172 Under the Corps' planning process, a reconnaissance study was a preliminary step, followed by a feasibility study. The feasibility study would then go to Congress with a recommendation from the Corps's chief of engineers, and Congress would decide what to authorize and fund.

1173 "Babbitt to Form Task Force to Help Save the Everglades," *Palm Beach Post*, Feb. 23, 1993; Grunwald, 292-295; Richard Ring, interview by Brian Gridley, May 17, 2002, Michael Davis, interview by Brian Gridley Mar. 2, 2002, Terry Rice, interview by Brian Gridley, Mar. 8, 2001, George Frampton, interview by Brian Gridley, July 25, 2002, University of Florida Proctor Oral History Center; Godfrey, 306. The Task Force and Working Group formally came into being with the signing of an interagency agreement on September 23, 1993. It defined the Task Force mission as setting federal objectives for ecosystem restoration and "coordinat[ing] the development of consistent policies, strategies plans, programs, and priorities for addressing the environmental concerns of the South Florida Ecosystem."

1174 Because of soil subsidence and other issues, agriculture in the EAA was expected to decline over time and therefore need less water.

the WCAs lost much water to evapotranspiration and seepage. Secondly, maintaining high water levels in Lake Okeechobee and the WCAs degraded those environments. Additionally, purchasing agricultural land in the Everglades Agricultural Area for more water storage and treatment was expensive and carried political risks because it put people out of work. For these reasons, finding alternatives to shallow surface water reservoirs emerged as a key focus of the Restudy. Increasing the “natural” functioning of the ecosystem—providing more sheet flow and connectivity and improving water quality—was far more difficult than “increasing the water pie” via additional storage capacity. The chief way to restore more natural functioning was to remove water control structures—levees and canals—to encourage surface water flow (figure 28-2, North New River Canal). Removing engineering structures, however, increased the risk of flooding to residential areas and could limit the quantity of water in surface storage. To vastly oversimplify, in discussions surrounding the Restudy, engineers tended to focus on fine-tuning the managed water system while biologists and environmentalists focused on removing barriers and letting the water flow.

While Secretary Babbitt viewed the Restudy as the way to address the big picture of Everglades restoration, he also wanted to break the impasse over water quality. As



Figure 28-2. North New River Canal, 2011

described in chapter 9, the 1992 consent decree in the Lehtinen suit had committed the state to creating stormwater treatment areas and establishing regulations requiring

ranchers and sugar growers to adopt best management practices. The agricultural interests who had intervened in the original Lehtinen suit were not signatories to the consent decree and continued with lawsuits against the state.¹¹⁷⁵ In March 1992, the SFWMD adopted a Surface Water Improvement and Management (SWIM) Plan for the Everglades, which largely followed the terms of the consent decree and the 1991 Everglades Protection Act. Growers mounted legal challenges to the plan. The state Department of Environmental Regulation, the Miccosukee Tribe, the U.S. EPA, and several environmental groups were allowed to join that case as interveners. Florida's 1994 Everglades Forever Act put the force of law behind a number of the commitments embodied in the consent decree. It increased Florida's funding of land purchases, but it extended the deadline for establishing numerical phosphorous concentration standards to 2003 and the deadline for meeting the ppb targets until 2006. Several parts of the act were vague, and it included no mechanism for getting phosphorous to 10 ppb in federally protected areas, the level most scientists considered safe for the natural environment. The act had been introduced as the Marjory Stoneman Douglas Act, but when she learned of its final terms, the 103-year-old Everglades defender insisted that her name be removed.¹¹⁷⁶

Fearing that the water quality litigation would prove endless and get in the way of the Restudy effort, Babbitt began closed-door negotiations with the two major sugar growers in the EAA, Flo-Sun, Inc., and U.S. Sugar Corporation (Big Sugar) (figure 28-3, sugar cane in the Everglades Agricultural Area). In July 1993, the secretary held a news conference in the auditorium at Main Interior in Washington to announce a grand bargain. With NPS Director Roger Kennedy, state officials, and representatives of U.S. Sugar and Flo-Sun at his side, Babbitt unveiled a statement of principles meant to bring closure to the water quality disputes. The growers committed to paying from \$240 to \$320 million of the total cleanup costs over 20 years, considerably more than the consent decree had required. The statement called for expanding the STAs to 40,000 acres but provided for a five-year delay in meeting water quality standards. Environmental groups and the Miccosukee Tribe denounced the deal as a sell-out to Big Sugar. Environmentalists believed that the sugar growers had reaped the lion's share of the rewards from the C&SF Project for decades, while the urban taxpayers of Southeast Florida footed the bill and the ecosystem declined. They insisted that sugar interests needed to bear more of the cleanup cost, advocating that large acreages in the EAA be restored to marsh conditions. A few environmentalists believed the best solution was a complete elimination of sugar production in the EAA. By the end of the year, Secretary Babbitt's grand bargain had collapsed. Hoping that it would influence

1175 Ring interview with Gridley.

1176 Godfrey, 232. The state defined "the Everglades" as the three water conservation areas (including the Arthur R. Marshall Loxahatchee Wildlife Reserve) and Everglades National Park.



Figure 28-3. Sugar cane in the Everglades Agricultural Area, 2011

the other growers, the federal government concluded a separate agreement in January 1994 with Flo-Sun. The Everglades Coalition responded by beginning a campaign to place a new penny-a-pound tax on sugar. That effort ultimately failed. The acrimony created by the prolonged battle over water quality and the sugar tax complicated the effort to reach consensus on Everglades restoration goals.¹¹⁷⁷

The Governor's Commission for a Sustainable South Florida

A key step in creating a consensus on ecosystem restoration was the formation by Governor Lawton Chiles in March 1994 of the Governor's Commission for a Sustainable South Florida (GC). Chiles in large part hoped to get beyond the bitter atmosphere surrounding the water quality dispute and pursue larger goals. The 40-member GC had representatives from state and local government, agriculture and business, environmental groups, the SFWMD, and the Seminole and Miccosukee Tribes. Additionally there were nonvoting members from Interior, the Corps, EPA, and the National Oceanic and Atmospheric Administration. Everglades Superintendent Richard Ring was the ex-officio NPS member. Chiles chose Richard Pettigrew, former speaker of the Florida House of Representatives, to chair the GC. Participants in the process were unanimous in praising Pettigrew's painstaking efforts to foster trust among members through informal get-togethers and other means.¹¹⁷⁸

¹¹⁷⁷ Grunwald, 296-300; Hollander, 251-254; "A Compromise with Risks and Pratfalls?," *Miami Herald*, Aug. 15, 1993; Kathy Westra to Paul C. Pritchard, Pres., NPCA, July 13, 1993, Everglades Coalition to SOI Babbitt, July 30, 1993, NPCA papers, box 75.

¹¹⁷⁸ Grunwald, 300-301; Rice interview.

Between summer 1993 and fall 1994, the Corps worked on the reconnaissance phase of the Restudy of the C&SF Project. The main task during this phase was identifying the ecosystem's problems and laying out conceptual solutions. In Florida, District Engineer Salt chose Stuart Appelbaum to lead the Restudy team. Appelbaum was a civilian employee of the Corps, an expert in water resource planning. He decided early on to do everything he could to break down barriers between professional disciplines and agencies.¹¹⁷⁹ He wanted to put the engineers and the ecologists in the same room. With support from the Task Force, the Corps worked closely with the SFWMD and encouraged public participation in the planning process, something of a novelty for the Corps. The Corps had the benefit of a 1992 proposal for Everglades ecosystem restoration put together by the Everglades Coalition. The Science Sub-Group of the Working Group also produced a report on restoration goals in November 1993. Some saw the Sub-Group's report as unrealistic because it advocated a return to predrainage ecological conditions and said almost nothing about the flood control and water supply goals that the Corps was required to meet. The Corps released its Restudy reconnaissance report in November 1994. The report confidently stated that the "hydrologic function of the historic south Florida ecosystem can be recovered." The report recommended that a feasibility study be prepared and outlined the goals for that portion of the Restudy. Most of the report zeroed in on environmental restoration goals, calling in general terms for expanded surface water storage areas and the acquisition of from 80,000 to 260,000 acres to meet project goals. The authors believed that with those acquisitions, new engineering structures, and operational changes, the ecosystem could recover a substantial degree of its "natural" functioning. From the beginning an adaptive management approach was considered essential for a project that had so many uncertainties.¹¹⁸⁰

The Governor's Commission (GC) had been formed after the reconnaissance study was under way. In spring 1995, Col. Terry Rice (who had succeeded Salt as district commander in August 1994) urged the GC to come up with a more nuanced and detailed conceptual plan for Everglades restoration. Rice's career with the Corps had involved him in a number of foreign projects, and he had developed considerable political sensitivities. He realized that strong backing from all the interests represented on the GC was critical in getting any restoration plan approved by Congress. The GC got most of its technical advice from the staff of the SFWMD and the Corps. The Corps' Stuart Appelbaum and his team members spent the better part of a year facilitating the

1179 John Ogden, who was a biologist with ENP when the reconnaissance study began, moved to a position with the SFWMD in 1996. Ogden and Appelbaum interviews, University of Florida Proctor Oral History Center.

1180 Cathleen C. Vogel, "Central & Southern Florida Project Comprehensive Review Study: Road Map or Road Block for the Future?," *Water Resources Update* 11 (Spring 1998), 86-87; Appelbaum interview.

GC's work, essentially giving them a course in "Planning 101." On October 1, 1995, the GC presented a consensus statement on the direction that the Restudy should take. Then in August 1996, the GC released a more detailed Conceptual Plan for the Central & Southern Florida Project Restudy. The plan contained 40 options for restoration grouped under 13 thematic concepts. The GC's conceptual plan included almost all of the features that eventually were included in the CERP, such as aquifer storage and recovery and conversion of stone quarries to reservoirs.¹¹⁸¹

The Feasibility Study Phase

The Water Resources Development Act of 1996 (P.L. 104-303) authorized the Corps to proceed with the development of a Comprehensive Everglades Restoration Plan (CERP) via a feasibility study.¹¹⁸² The WRDA established goals for the CERP, reiterating the concept that the primary goal was ecosystem restoration and that no cost/benefit analysis was required. The act established the principle that project construction and operating costs would be shared 50/50 between the federal and state governments. It also mandated that nonfederal interests—the state of Florida and the two Florida tribes—be included in the process. The Corps wanted five or six years for the CERP feasibility study, but the administration mandated that the plan be presented to Congress by July 1, 1999. Clinton and Gore were determined to get the CERP passed as the crowning environmental achievement of their second term. In developing the CERP, Stuart Appelbaum's Restudy team identified alternatives, prioritized them, evaluated them, and established measures by which their success could be judged. Appelbaum created two subgroups: an alternative development group and an alternative evaluation group. To speed up the process, the results of modeling were placed on the web as PDF files to facilitate rapid review and comment. The Restudy team, with about 150 members at its peak, worked intensively to meet the July 1999 deadline. The Corps initially asked that park scientists be detailed to the team. Superintendent Ring thought this inappropriate, because the team's decisions had such important policy implications. Park scientists offered input and raised concerns throughout the development of the feasibility study. In January 1998, for example, SFNRC Chief Robert Johnson told the *Miami Herald* that the Corps was relying too heavily on adding additional water control structures and was refusing to do modeling on some of the park's preferred alternatives.¹¹⁸³

1181 Appelbaum interview; Rice interview.

1182 As described above in chapter 13, section 528 of the legislation also authorized additional studies, including the Florida Bay and Florida Keys Feasibility Study.

1183 Godfrey, 330-331, 395; Ring interview with author; "Conflict in the Glades: Scientists, Engineers at Odds over Restoration," *Miami Herald*, Jan. 4, 1998.

Finding that the two groups created to develop and evaluate alternatives had worked well, the Restudy team looked for a way to ensure that scientists would continue to have input, both while the CERP was developed and, crucially, as it was implemented. (Congress of course had not yet approved implementation, but the team was looking ahead). The desire for ongoing scientific input led to the formation of RECOVER, the REstoration, COordination, and VERification scientific advisory group. Stuart Appelbaum of the Corps and Biologist John Odgen of the SFWMD were the first co-leaders of RECOVER. RECOVER had members from a variety of agencies. Its role was and continues to be that of providing technical input on modeling and other issues, with the aim of helping to ensure that steps taken to implement CERP achieve the greatest environmental benefits. Further elaboration of the functions and membership of RECOVER was included in the CERP Programmatic Regulations (see below).¹¹⁸⁴

The development of the CERP depended heavily on the use of computer models. The models were used to predict the probable effects of the many variations of the CERP that were proposed and to come up with performance measures. The SFWMD had developed the first computer model for Everglades hydrology, known as the Natural System Model, in the late 1980s. This model replicated the conditions of the predrainage Everglades. A second model, the South Florida Water Management Model, replicated the system as modified by C&SF Project. These models focused on hydrology; both continued to be refined throughout the 1990s and were subjected to peer review. Another model, Across Trophic Landscape System Simulation (ATLSS) was developed to evaluate effects of various proposed modification of the system on multiple species. Members of the Restudy team understood that models are by their nature simplifications of reality and needed to be carefully evaluated. The results obtained from modeling depended on the validity of the assumptions and data that produced the models.¹¹⁸⁵

While the Restudy effort continued, the Clinton/Gore administration was eager to show some visible progress on the Everglades. Vice President Gore was scheduled to be the major speaker at Everglades National Park's 50th anniversary celebration and rededication in early December 1997 (see chapter 26). The Talisman Sugar Corporation, a subsidiary of the St. Joe Paper Company, had indicated a willingness to sell 52,000 acres of sugar property in the EAA. Conversion of EAA lands to reservoirs and filter marshes was emerging as a key feature in the Restudy, and the 1996 Farm Bill

1184 The late John Odgen told an interviewer that Appelbaum suggested that the group be called SWEAT, for System-wide Ecological Assessment Team. Finding SWEAT a less than compelling acronym, Odgen suggested RECOVER. Odgen interview.

1185 Corps and SFWMD, *Final Integrated Feasibility Report and Programmatic EIS, C&SF Project Comprehensive Review Study* (Jacksonville: Corps, Apr. 1999), xv-xvi; Michael Zimmerman, interview by Colleen Benoit and Mike Folkerts, Apr. 9, 2012.

had provided \$200 million for conservation-related land purchases. Urged on by the environmental community, the federal government worked out a deal with St. Joe and other EAA growers in time for Gore to triumphantly announce the Talisman deal at the rededication on December 6, 1997.¹¹⁸⁶

The Corps released its draft CERP feasibility study for agency technical review in October 1998. The study included a mammoth 10-volume, 4,000-page technical plan. Everglades National Park's science team prepared 44 pages of comments on the draft that were highly critical of the preferred CERP alternative. At bottom, they believed that the plan focused primarily on water storage and supply for urban and agricultural users and that ecosystem benefits came largely at the tail end of the project and were highly uncertain. They concluded that the plan "does not represent a restoration scenario for the southern, central and northern Everglades." The park had a December 31 deadline for forwarding its comments to the Corps. SFNRC Director Robert Johnson had deputy superintendent Larry Belli sign the cover letter for the comments on December 30, while Superintendent Ring was away from park headquarters. Park scientists had been raising these same concerns all along and Ring was familiar with their general tenor. Nevertheless, the superintendent felt the tone of the comments was overly negative. He attempted to soften the blow in a letter to the Corps emphasizing that the comments "are not the final position of Everglades National Park on the Restudy" and stressing that the NPS remained committed to the Restudy process and stood ready to cooperate to arrive at a plan acceptable to all.¹¹⁸⁷

Park staff shared their bluntly worded critique with representatives of conservation groups, and environmental consultant Joe Browder provided a copy to a *Miami Herald* reporter. A January 16 story in that paper caused quite a stir, alleging that the park officials had "ripped" the draft plan. Top officials in Interior and the Army were not happy that the NPS and FWS were so critical of the plan and that the controversy had gone public. At the January 1999 Everglades Coalition meeting, EPA Administrator Browner urged environmentalists to unite behind the restoration plan. The Corps and Interior attempted to assure the environmental community that the concerns would be addressed. Within the environmental community, the National Audubon Society (NAS) and its Florida affiliate had emerged as the strongest supporters of the administration's restoration efforts. Other groups like the Sierra Club and the Friends of the Everglades were far less sanguine. With the help of Joe Browder, the Sierra Club got six natural scientists with international reputations to do a quick review of

1186 Nathaniel P. Reed to Paul Tudor Jones, Nov. 17, 1997, NPR papers, box 6; "Gore, Other Dignitaries Help to Rededicate Park," *Miami Herald*, Dec. 7, 1997. See Godfrey, 410-412, for details of the Talisman deal.

1187 Acting Supt., ENP, to Col. Joe Miller, District Commander, Jacksonville District, Corps, Dec. 30, 1998, transmitting Comments of ENP on the Programmatic EIS and Alternative D13R, EVER 42242; Robert Johnson, interview by author, Oct. 11, 2012.

the feasibility study. Led by Stuart Pimm of the University of Tennessee, a biologist who specialized in endangered species, the team prepared a statement that blasted the plan and insisted it needed major revision.¹¹⁸⁸ Chief among its objections were that the plan lacked any real ecological restoration, that it relied too much on engineering fixes, and that the computer modeling underlying the plan was flawed. Pimm's group recommended that the National Research Council review the plan. Here, the administration's desire to get a consensus-based restoration plan through Congress before Clinton left office in January 2001 ran up against some scientists' and environmentalists' wish to proceed carefully toward a plan with maximum environmental benefits. Assistant Secretary Frampton believed that Pimm's group was very high-powered but lacked in-depth knowledge of South Florida. Fearing that no plan would satisfy the most strident environmentalists, Frampton continued to promote the consensus-based plan. Some environmental groups, notably the NAS and World Wildlife Fund, opposed further reviews that would delay action, but still pressed the administration to revise the plan.¹¹⁸⁹

Stuart Appelbaum's team and administration officials worked in early 1999 to address criticism of the plan and hold together the fragile coalition of interests backing it. The team did some more modeling based on input from park scientists, which indicated that an additional 245,000 acre-feet of water per year might be available for the park. It was too late in the process to change the 10-volume technical plan, but Michael Davis, deputy assistant secretary of the army for civil works made sure the chief of engineer's report that accompanied the technical plan make concessions to the park's point of view.¹¹⁹⁰ It was clear to everyone that Congress was unlikely to back a restoration plan if the park had strong objections. Superintendent Ring used this to maximum advantage, threatening to oppose the plan if it he believed it did not do enough for the park.¹¹⁹¹ The chief's report included language that promised an additional 245,000 acre-feet of water per year to the park. The perception that the park was getting special treatment after a consensus had been reached was upsetting to many, the Miccosukee in particular. Nonetheless, on July 1, 1999, Vice President Gore personally delivered the feasibility study and chief's report to Congress with a strong plea

1188 The other members of the team were Edward O. Wilson of Harvard, Paul Erlich of Stanford, Peter Raven, director of the Missouri Botanical Gardens, Gary Meffe of the University of Florida and editor of *Conservation Biology*, and Gordon Orians of the University of Washington.

1189 Joe Browder, interview by Nancy Russell, Dec. 7, 1999; "Park Attacks Plan to Restore Glades," *Miami Herald*, Jan. 16, 1999; "Sierra Club: Glades Restoration Plan Needs Review," *Miami Herald*, Jan. 23, 1999; "Big Ecological Guns Fault Plan for Everglades," *Miami Herald*, Jan. 30, 1999; The Everglades Foundation, National and Florida Audubon Societies, World Wildlife Fund, The Conservancy of Southwest Florida, and the National and Florida Wildlife Federations to Vice President Albert Gore, Feb. 2, 1999, NPR papers, box 8; Frampton interview.

1190 Typically the chief's report was a two- to three-page document that formally transmitted a report to Congress, but in the case of CERP it was 27 pages and more substantive. Rice interview.

1191 Grunwald, 326-327.

for its enactment into law. Restoration advocates got the jitters when a conservative, Bob Smith (R-N.H.), replaced conservation-minded moderate John Chafee (R-R.I.) as chair of the Senate Environment and Public Works Committee in October. Smith held committee hearings in Naples in conjunction with the January 2000 meeting of Everglades Coalition and committed himself to CERP. He announced “you will not find daylight” between him and Chafee on Everglades issues.¹¹⁹²

Final Passage of the CERP

In April, the administration sent the 2000 Water Resources Development Act, with CERP as its centerpiece, to Congress.¹¹⁹³ The state of Florida maintained its strong commitment to the plan. In May 2000, Governor Jeb Bush traveled to Everglades National Park and signed the state’s Everglades Restoration and Investment Act at Royal Palm. The act committed the state to spending \$2 billion over ten years to restore the Everglades ecosystem. This was clearly meant to show that the state was serious about the project. As *Miami Herald* columnist Carl Hiassen wrote, “the governor’s stance is important because it puts pressure on Congress” to do its part and pass the CERP.¹¹⁹⁴

Controversy continued to swirl around the CERP as it made its way through Congress. Chairman Smith asked for an opinion on water quality issues from the Government Accounting Office (GAO). The GAO noted that the CERP was far more conceptual than the typical Corps plan and might require additional projects not included in the feasibility study. Senators Smith, Graham, and Connie Mack (R-Fla.) worked hard to keep agricultural, urban, and environmental interests behind the plan. To prevent business interests from bolting, the law specified that nothing in the Chief’s Report (notably the 245,000 acre-feet of water for the park) would go forward without further study by the Corps. To appease environmentalists, the law specified that ecosystem restoration was the primary purpose of the act. The Senate report accompanying the bill contained language suggesting that 80 percent of the added water generated by the plan would go “for the benefit of natural systems.” The House threatened to derail the process by adding half a billion dollars of additional projects to the WRDA. This forced the bill to go to a conference committee, which removed the House additions. The final version of the bill passed Senate on a voice vote and the House by 312 to 2. President Clinton signed the bill on December 11, 2000, the same

¹¹⁹² Corps and SFWMD, *Central and South Florida Project, Comprehensive Review Study, Final Integrated Feasibility Report and Programmatic EIS* (Jacksonville: Corps, Apr. 1999); Appelbaum interview; Godfrey, 414.

¹¹⁹³ The committee hearings were held in Naples on Jan. 7, 2000.

¹¹⁹⁴ “Florida Commits to Everglades,” *Miami Herald*, May 17, 2000; Carl Hiassen, “A Contentious, Expensive Plumbing Job,” *Miami Herald*, May 21, 2000.

day that the U.S. Supreme Court stopped the recount in Florida, assuring that George W. Bush, rather than Al Gore, would be the next president.¹¹⁹⁵

The WRDA of 2000 proclaimed “the overarching objective of the Plan [CERP] is the restoration, preservation, and protection of the South Florida Ecosystem while providing for other water-related needs of the region.” (Figure 28-4, Metro Miami, a large consumer of water.) Significantly, the South Florida Ecosystem was defined by the act as all the land and water within the SFWMD. The plan contained 68 separate projects with a total estimated price tag of \$7.8 billion. Annual operating costs were placed at \$172 million. As mentioned above, both construction and operating costs were to be split 50/50 between the state and the federal governments. Completion of all the projects was expected to require 35 years. The act identified 10 initial construction projects expected to “provide the most immediate system-wide improvements in water quantity, quality and flow distribution.” Among the major elements of CERP were:

- 180,000 acres of surface water storage reservoirs.
- More than 300 aquifer storage and recovery (ASR) wells that could accept and store up to 1.6 billion gallons per day.
- 35,000 additional acres of stormwater treatment areas.
- Removal of 240 miles of internal levees and canals, including most of the Miami Canal within WCA 3.
- Rebuilding of 20 miles of the Tamiami Trail with bridges and culverts allowing more natural flow into Everglades National Park.
- Conversion of limestone quarries to water storage reservoirs.
- Two wastewater treatment plants in Miami-Dade County with the ability to cleanse water for discharge into wetlands.
- Seepage barriers along eastern edge of park.¹¹⁹⁶

Congress made sure that it would continue to be involved in CERP implementation, stipulating that each project would have to be congressionally approved via a project implementation report, before any funds were appropriated.¹¹⁹⁷

As was clear to the members of the Restudy team, a great deal of uncertainty was involved in the attempt to restore a complex ecosystem like the Everglades. The CERP’s approach to managing uncertainty had three major components: pilot projects, adaptive management strategies, and peer review. Many questions remained about the application of a number of the technologies employed in CERP projects. Aquifer

1195 “House Approves Plan to Restore Everglades,” *New York Times*, Nov. 4, 2000; “Glades Get New Life, Congress Approves \$7.8 Billion Renewal Plan,” *Miami Herald*, Nov. 4, 2000; Godfrey, 415.

1196 Title VI—Comprehensive Everglades Restoration, Water Resources Development Act of 2000, P. L. 106-541, Dec. 11, 2000. Hereafter WRDA 2000.

1197 Section 601(f)(1) of WRDA 2000.



Figure 28-4. Metro Miami, a large consumer of water

storage and recovery (ASR) wells, for example, had never been attempted at the scale called for in CERP. In recognition of the technological uncertainties, the CERP authorized pilot projects meant to test the technology in four key areas: ASR, in-ground reservoirs, seepage management, and wastewater reuse.¹¹⁹⁸

The CERP contained “an aggressive adaptive assessment strategy that includes independent peer review and a process for identifying and resolving uncertainties.” Congress wanted to be sure that, as conditions changed and experience was gained, managers would have the ability to change aspects of projects, cancel projects, and add new ones. The CERP and the regulations that implemented it were meant to ensure that the success of projects would be measured against performance criteria and adjustments made as the plan moved forward.¹¹⁹⁹

Part of the adaptive management framework outlined in the 2000 WRDA was an independent scientific review panel to review CERP progress. The panel was to be established by the Corps, Interior, and the state of Florida, in consultation with the Task Force. The act suggested that the National Academy of Sciences (NAS) or a similarly

¹¹⁹⁸ Title VI—Comprehensive Everglades Restoration, WRDA 2000.

¹¹⁹⁹ Title VI—Comprehensive Everglades Restoration, WRDA 2000; *Final Integrated Feasibility Report and Programmatic Environmental Impact Statement, C&SF Project Comprehensive Review Study*, Apr. 1999.

prestigious body coordinate the formation and work of the panel.¹²⁰⁰ The sole mission of the panel was to “review progress in meeting natural system restoration goals,” including the “assessment of ecological indicators and other measures of progress in restoring the ecology of the natural system.”

Prior to the passage of CERP, the DOI already had asked the NAS “to provide advice on scientific aspects of the design and implementation of CERP.” This led to the formation of the National Research Council Committee on the Restoration of the Greater Everglades Ecosystem (CROGEE). CROGEE’s mandate included reviewing CERP’s goals, the computer models used in its preparation, research requirements, and adaptive management strategies. CROGEE produced several reports including *Aquifer Storage and Recovery in the Comprehensive Everglades Restoration Plan* (2001) and *Adaptive Monitoring and Assessment for the Comprehensive Everglades Restoration Plan* (2003).¹²⁰¹

The 2000 WRDA specifically required that the independent review panel for CERP produce a biennial report that would go to Congress, the Department of the Army, DOI, and the governor of Florida. In June 2004, the Secretary of the Army concluded a cooperative agreement with the NASc to implement the review panel, the Committee on Independent Scientific Review of Everglades Restoration Progress (CISRERP). The NASc had the authority, with input from the Army, Interior, and the state of Florida, to appoint members to this “expert and objective” panel. The agreement had a term of five years and could be renewed. A number of well-respected scientists have served on the CISRERP. Wayne C. Huber, PhD, Civil Engineering, of Oregon State University, was the committee’s first chair. CISRERP produced reports in 2006, 2008, and 2010, and 2012. The 2014 report was not released in time to be included in this history.¹²⁰²

Implementation of the CERP

Several individuals who helped develop the CERP clearly understood that maintaining momentum for it over the required three to four decades would be a challenge. The coalition of environmental groups, governmental agencies, and agricultural and urban interests that had secured the plan’s passage was a tenuous one. Many environmentalists had serious qualms about putting the Corps, which was largely responsible

1200 The National Academy of Sciences along with the National Research Council, the National Academy of Engineering, and the Institute of Medicine make up the National Academies. All four are nonprofit corporations that provide independent expertise.

1201 See National Academies Press, <http://search.nap.edu/napsearch.php?term=crogee&x=15&y=13>.

1202 Cooperative Agreement W912EP-04-2-0001 between the National Academy of Science/ National Research Council and the U.S. Army Corps of Engineers, June 17, 2004, http://www.evergladesplan.org/pm/pm_docs/ind_rev_panel/doc_b_cano_W912EP-04-2-0001.pdf.

for the damage to the ecosystem, in charge of the restoration. They wanted the Department of the Interior to have that role.¹²⁰³ Some environmentalists also believed that water quality issues had been neglected in the CERP. Although Congress intended that the Department of Interior be intimately involved in the implementation of CERP, much would depend on the attitude of future administrations and Congresses. CERP passed at the tail end of the Clinton/Gore administration, and the commitment of the incoming George W. Bush administration to CERP was uncertain. Environmentalists were not encouraged by Bush's appointment of Gale Norton as secretary of the interior.¹²⁰⁴ Perhaps the most encouraging aspect of the politics of Everglades restoration was that the 2000 election had shown that many Florida voters cared about environmental issues.¹²⁰⁵

Once the CERP became law, several years were required to put in place an administrative process that would allow the huge, complex plan, involving multiple players, to move forward. In June 2001, President Bush joined his brother, Governor Jeb Bush, at Royal Palm in Everglades National Park to pledge his commitment to Everglades restoration and burnish his credentials as an environmentalist. He stated "I am here to join with your governor in the cause of preserving and protecting the Everglades." The president reaffirmed the commitment of the federal government to supply one-half of the restoration cost.¹²⁰⁶ In January 2002, as required by the 2000 WRDA, the president and his brother signed a legally binding agreement assuring that additional water provided by the CERP would not go to other users unless sufficient benefits had accrued first to the ecosystem.¹²⁰⁷ The 2000 act had also directed the Corps to prepare programmatic regulations that would serve to ensure the accomplishment of CERP's goals. Congress mandated that the governor of Florida and the SOI concur in the regulations. The Corps circulated an initial draft of the regulations dated December 2001 for comments. The DOI accomplished several changes to the initial version that

1203 See A. Clark and G. Dalrymple, "\$7.8 Billion for Everglades Restoration: Why Do Environmentalists Look So Worried?," *Population and Environment* 24/6 (2003):541-569.

1204 Norton had been an attorney with James Watt's Mountain States Legal Foundation and had served under him in the DOI in the Reagan administration. "Gale Norton is No James Watt: She's Even Worse," *Los Angeles Times*, Jan. 9, 2001.

1205 Some have argued that his refusal to take a stand on the proposal for a redeveloping Homestead Air Force Base as a commercial airport cost Gore Florida's electoral votes in the 2000 election. See Mayr's book.

1206 The president also used the occasion to announce his nomination of Fran Maniella, director of Florida's state park system, as director of the NPS. White House Office of the Press Secretary, "Remarks by the President at Royal Palm Visitors [sic] Center, June 4, 2001"; "Mixed Reaction to Bush Visit," *Miami Herald*, June 5, 2001.

1207 This pact is officially known as Comprehensive Everglades Restoration Plan Assurance of Project Benefits Agreement, dated Jan. 9, 2002.

enhanced its role in the restoration process.¹²⁰⁸ The draft, for example, provided that the Corps and SFWMD would consult with Interior and others on CERP implementation only “as appropriate,” a qualifier that was dropped in the final version. The final version also stipulated that the SOI and the governor of Florida would have to concur in the “pre-CERP baseline,” defined as the South Florida hydrological conditions prevailing as of the 2000 enactment of CERP. The initial version had left this important decision to the Corps and SFWMD. Surprisingly, the initial draft lacked a definition of “restoration.” The final regulations defined restoration as:

The recovery and protection of the South Florida ecosystem so that it once again achieves and sustains those essential hydrological and biological characteristics that defined the undisturbed Florida ecosystem. As authorized by Congress, the restored Florida ecosystem will be significantly healthier than the current system; however it will not completely replicate the undisturbed South Florida ecosystem.¹²⁰⁹

The Corps published a revised version of the programmatic regulations as a proposed rule in the Federal Register in August 2002. Interior had only a few technical changes to suggest, and the final regulations, running to 46 pages in the Code of Federal Regulations, were published in November 2003.¹²¹⁰

The stated purpose of the programmatic regulations was to “establish the processes necessary for implementing” the CERP and achieving its goals. Certain procedures and plan-related documents had been required by the 2000 WRDA. The act stated that no individual project could go forward until Congress had approved a project implementation report (PIR). The act further stated that each project would require a project cooperation agreement and an operating manual agreed to by the Corps and the SFWMD. The project process was further elaborated by the programmatic regulations, which defined the need for and role of guidance memoranda, program management plans, and project management plans. To address issues common to multiple CERP projects, the Corps and the SFWMD opted to prepare a master cooperation agreement to establish a framework of uniform terms and conditions for all projects. Because of the complexities involved, the discussions concerning this agreement were prolonged, and it was not signed until 2009. With the master agreement in place, the

¹²⁰⁸ Corps, *CERP Programmatic Regulations, Initial Draft*, December 2001. http://www.ev-ergladesplan.org/pm/pm_docs/prog_regulations/initial_draft_reg.pdf. Compare draft 385.15 with final, 385.10(b)(2) and draft 385.30 with final, 385.35. Michael Davis came up with the idea of programmatic regulations. Davis interview.

¹²⁰⁹ 33 C.F.R. 385.3. In the realm of ecosystem restoration, “undisturbed” is a tricky concept and it remained undefined in the regulations.

¹²¹⁰ Comprehensive Everglades Restoration Plan Assurance of Project Benefits Agreement, Jan. 9, 2002; “Bush Brothers Agree to Plan for Everglades,” *Los Angeles Times*, Jan. 10, 2002; Godfrey, 293-294; 33 C.F.R. 385; Terrence Salt, Senior Everglades Policy Advisor, DOI, to Col. Greg May, District Engineer, Oct. 1, 2002.

Corps and the District were able to proceed to the preparation of project partnership agreements for individual projects. The programmatic regulations stipulated that the Corps and the SFWMD “shall consult with and seek advice from the Department of the Interior [and other agencies] throughout the implementation process to ensure meaningful and timely input.” Finally, the programmatic regulations were to be reviewed at least every five years and revised as needed.¹²¹¹

The National Science Foundation’s Long-Term Ecological Research Program

Research sponsored by the National Science Foundation (NSF) has and will in the future be of major importance to the CERP. In 1980, the NSF created the Long-Term Ecological Research (LTER) network to support ecological research requiring long time spans and large spatial extents. The program involves a coordinated network of more than 25 field sites. One of these sites is the Florida Coastal Everglades LTER (FCE LTER), established in May 2000 and hosted by Florida International University. FCE LTER includes 140 people—scientists, students, and staff—working to better understand the ecosystem processes in the park’s two major drainage basins, Shark River Slough and Taylor Slough. The project’s research program includes an emphasis on the human dimensions of ecological systems. In particular, this involves investigating the social and economic processes that drive land use change and how these changes affect human communities. Some scholars associated with the FCE LTER see their research as a counterweight to the natural-systems-only bias that seems to have characterized Everglades restoration efforts.¹²¹²

Recession Impacts

While these procedural issues were being resolved, the economic and political environment of the United States changed dramatically. The Al Qaeda-sponsored attacks of September 11, 2001, were followed by U.S. wars in Afghanistan and Iraq. In 2001 and 2003, the George W. Bush administration passed major tax-cutting legislation. The combination of increased spending and reduced tax revenues turned federal budget surpluses into deficits. Through a combination of changed spending priorities and lack of a strong push from President Bush, Congress from 2001 through 2006

¹²¹¹ 33 C.F.R. 385.1, 385.10(b)(2); Master Agreement between the Department of the Army and SFWMD for Cooperation in Constructing and Operating, Maintaining, Repairing, Replacing, and Rehabilitating Projects Authorized to be Undertaken Pursuant to the CERP, Aug. 13, 2009.

¹²¹² National Science Foundation website, http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13449; Florida Coastal Everglades Long-Term Ecological Research website, <http://fcelter.fiu.edu/research/>; Melissa Memory, personal communication, June 26, 2013.

appropriated little for the implementation of CERP. In addition, the Florida senators who did so much to get CERP enacted both retired, Connie Mack in January 2001 and Bob Graham in January 2005. Then in fall 2008, the international financial system came within a hair's breadth of collapsing. The worst U.S. economic recession since the 1930s ensued, further reducing tax revenues at the state and federal levels. The recession and funding decisions by Florida Governor Rick Scott (inaugurated January 2011) limited the financial resources available to the SFWMD for moving forward with CERP.

From 1999 through 2006, federal appropriations for all Everglades projects (both CERP and non-CERP) came to \$2.3 billion, while the state of Florida spent \$4.8 billion. Frustrated with the slow progress on Everglades restoration, Governor Jeb Bush and SFWMD Executive Director Henry Dean in 2004 came up with a measure known as Acceler8. Under this program, the state allocated \$1.5 billion to give a boost to eight lagging CERP projects. Most of these projects focused on improving water storage in the upper Everglades and thus reducing the amount of fresh water flushed to the St. Lucie and Caloosahatchee estuaries. Three of the projects, however, had more tangible benefits for NPS areas: the C-111 spreader canal, the Picayune Strand (Southern Golden Gates) Restoration, and the Biscayne Bay Coastal Wetlands Project. The C-111 spreader canal is discussed above. The Picayune Strand Restoration involved removing the canal and road infrastructure from a large abandoned subdivision west of the Big Cypress National Preserve. The Biscayne Bay project involved restoring more natural water flows to Biscayne Bay and Biscayne National Park. Completion of the project was expected to improve salinity distribution near the shoreline, providing better habitat for marine species. The state had grown impatient with delays at the federal level and sought through Acceler8 to achieve considerable progress on CERP within six years. As former assistant secretary for fish and wildlife George Frampton pointed out at the time, the eight projects had been authorized by the 2000 WRDA but not federally funded.¹²¹³

Charlie Crist, who succeeded Jeb Bush as governor in January 2007, took Everglades restoration in a new direction. In June 2008, the governor unveiled a tentative agreement under which the state would buy out U.S. Sugar Corporation and wind up its operations in the EAA. The aim was to devote former agricultural land to water storage and treatment areas, enhancing north to south flow within the Everglades ecosystem. The initial deal called for the state to pay the company \$1.75 billion for 187,000 acres in the EAA and all of its buildings and equipment. Environmentalists

1213 Tom Swihart, *Florida's Water: A Fragile Resource in a Vulnerable State* (New York: RFF Press, 2011), 133; SFWMD, "Acceler8—An Overview, Oct. 2010, EVER 22965; "Two Bushes and the Everglades," *New York Times*, Nov. 10, 2004; Godfrey, 297-298; Environmental News Service, October 15, 2004, <http://www.ens-newswire.com/ens/oct2004/2004-10-15-10.html>.

were split on this move, with some seeing it as bailing out U.S. Sugar before soils in the EAA were depleted and could no longer support agriculture. Others saw the deal as diverting attention and funds from more important CERP projects. Florida's contracting economy soon forced the deal to be scaled back. In November 2008, the company's infrastructure assets were removed from the deal, which was restated as \$1.34 billion for 181,000 acres. In April 2009, the state announced that the deal had shrunk to 72,800 acres for \$536 million. When the deal closed in October 2010, the state could afford to acquire just 26,800 acres for \$197 million. Two large tracts were involved: 17,900 acres of citrus land in Hendry County and 8,900 acres of sugar cane land in Palm Beach County. The state also retained a 10-year option to purchase an additional 153,000 acres. The ultimate use of the lands acquired as either water reservoirs or stormwater treatment areas has not yet been decided.¹²¹⁴

Following the enactment of the CERP in 2000, Congress passed just two water resources development acts, in 2007 and 2014. This delay deprived the CERP of authorization and funding to proceed with needed projects. The 2007 act was passed over President Bush's veto and included a \$1.8 billion authorization for three CERP projects:

1. Picayune Strand, for environmental restoration, total cost \$375,330,000, with estimated federal share of \$187,420,000.
2. Indian River Lagoon, South, for ecosystem restoration, water supply, flood damage reduction, and protection of water, total cost \$1.365 billion, with estimated federal share of \$682.5 million.
3. Site 1 Impoundment, for environmental restoration, total cost \$80,840,000, with estimated federal share of \$40,420,000.

These projects, known as Generation 1 projects, are all on the periphery of the Everglades ecosystem, and it would be hard to find a scientist who believed they were high-priority endeavors in the bigger picture of Everglades restoration. Picayune Strand authorization allowed further progress on the project previously funded by the state under Acceler8. The Indian River Lagoon, South, project is a major effort to restore salinity conditions and water quality in the Indian River Lagoon and St. Lucie Estuary. The Site 1 Impoundment Project in Palm Beach County is designed to reduce water losses through seepage from the adjacent Arthur R. Marshall Loxahatchee National Wildlife Refuge, thus increasing the amount of water in the natural system. President Obama's economic stimulus program, enacted in early 2009 as the American Recovery and Reinvestment Act (ARRA) provided \$200 million for Everglades

1214 "Florida Buying Big Sugar Tract for Everglades," *New York Times*, June 25, 2008; "Everglades Deal Now Only Land, Not Assets," *New York Times*, Nov. 11, 2008; "Deal to Save Everglades May Help Sugar Firm," *New York Times*, Mar. 8, 2010; "Everglades Land is Finally Sold to State," *Jacksonville Times-Union*, Oct. 13, 2010; Godfrey, 302; *Progress*, 2014, 26.

projects. Projects funded by ARRA (both CERP and foundation) included Kissimmee River restoration, Picayune Strand, Site 1 Impoundment, and adaptive assessment and monitoring. Also funded was a Melaleuca and Other Exotic Plants Eradication Project.¹²¹⁵

Litigation over Everglades water quality, begun in 1988, was ongoing in the first decades of the twenty-first century. With strong support from sugar interests, the Florida legislature in 2003 amended the 1994 Everglades Forever Act. This act renamed the Everglades SWIM Plan the “Everglades Long-Term Plan.” It once again extended, to 2016, the deadline for meeting numerical phosphorous concentrations and stated that the Everglades Long-Term Plan “shall, to the maximum extent practicable, achieve water quality standards.” The extension of the deadline and use of the term “maximum extent practicable” were seen by many as weakening the state’s commitment to cleaning up Everglades water. Under the pressure of a lawsuit by the Miccosukee Tribe, the U.S. EPA in September 2010 ordered the state of Florida to take actions that would reduce the phosphorous concentration to 10 parts per billion in water discharged to the Everglades Protection Area. The Everglades Protection Area is defined as Everglades National Park, the Arthur R. Marshall Loxahatchee Wildlife Refuge, and the WCAs. In June 2012, the state came up with a Restoration Strategies Regional Water Quality Plan that the EPA and the federal court accepted. The plan calls for the state to create 6,500 acres of additional stormwater treatment areas. Implementing the plan requires substantial expenditures by the SFWMD, limiting its ability to fund CERP projects.¹²¹⁶

General frustration with the slow pace of Everglades restoration led the Corps and the SFWMD, in consultation with the state of Florida and DOI, in October 2011 to launch a new initiative: the Central Everglades Planning Project (CEPP). A growing concern that the core of the Everglades was continuing to deteriorate to the CEPP. The CEPP is meant to provide a more expedited path to a more natural sheetflow pattern in the central Everglades and to increase the amount of freshwater flow. Components of the CEPP include projects that have been talked about for decades. These include controlling seepage from the EAA into the water conservation areas, degrading levees including those separating WCA 3A and 3B, and removing the L-67 Extension Canal and Levee that extends into the park. The estimated CEPP price tag is \$1.8 billion. Recognizing that environmental conditions in the central Everglades continued to deteriorate, the Corps expedited its planning process for the CEPP. The

1215 Section 6004, Water Resources Development Act of 2007, Nov. 8, 2007, P. L. 110-114; American Recovery and Reinvestment Act, Feb. 17, 2009, P. L. 111-5; Corps and DOI, *2010 CERP Report to Congress* (Washington, D.C., Corps, Apr. 2011), 26, http://www.evergladesplan.org/pm/pm_docs/rtc_2010/rtc_2010_final.pdf; *Progress*, 2014, 59.

1216 Florida Statutes 2003, Everglades Forever Act, Ch. 2003-12; Godfrey, 297, 304; *Progress*, 2014, 26.

Corps released a draft Integrated Project Implementation Report and Environmental Impact Statement with a tentatively selected alternative for CEPP in 2013. As of this writing, the Corps has received approval to forward the report for review by the state of Florida and other federal agencies.¹²¹⁷

On June 10, 2014, President Obama signed the Water Resources Reform and Development Act (WWRDA). This act authorized four CERP projects. It had been hoped that some CEPP projects would be included, but the project report was not approved in time. Four new projects in WRRDA were:

1. The C-43 West Basin Storage Reservoir, meant to hold water in the Caloosahatchee River basin.
2. C-111 Spreader Canal, adding federal support to the existing state project.
3. Biscayne Bay Coastal Wetlands, partially funded by Acceler8.
4. Broward County Water Preserve Area, meant to capture and store surface water run-off.¹²¹⁸

Restoration Status and Prospects

The National Research Council released its fifth biennial report to Congress on Everglades restoration progress on June 27, 2014. It noted some impressive achievements, while acknowledging “increasingly frustrating financial, procedural, and policy constraints” that retarded progress. To begin with, the ultimate cost of the CERP is now projected at more than \$14 billion, and government coffers are still feeling the effects of the recession. The NRC team complimented the Corps and its partners on the rapid development of the CEPP report, but cautioned that project implementation needed to be equally rapid. It also remarked upon the notable success of a nonCERP restoration project, Kissimmee River dechannelization, where more than 15,000 acres of riverine habitat have been restored. The adoption of best management practices and the construction of stormwater treatment areas have accomplished a substantial reduction in nutrient loads in water entering the Everglades Protection Area. Much remains to be done, however, to meet the EPA-mandated target of 10 parts per billion. The bridging of the Tamiami Trail, mentioned previously, is another positive,

¹²¹⁷ USACE, Jacksonville District, *Central Everglades Planning Project Draft Integrated Project Implementation Report and Environmental Impact Statement* (Jacksonville, Fla.: USACE, August 2013), ES-2-ES-6; USACE, Jacksonville District, “Corps Approves Release of Final Report for Central Everglades Project,” May 23, 2014, http://www.evergladesplan.org/docs/2014/05/20140523_CEPPE-Notice.pdf.

¹²¹⁸ Water Resources Reform and Development Act of 2014, P.L. 113-449, June 10, 2014; *Progress*, 2014, 60; USACE, Caloosahatchee River (C-43) West Basin Storage Reservoir Fact Sheet, July 2013, http://www.evergladesplan.org/docs/fs_c43_july_2013_508.pdf; USACE website, <http://www.saj.usace.army.mil/Media/FactSheets/tabid/6073/Article/479986/broward-county-water-preserve-areas.aspx>.

but its ultimate success depends on ensuring that the water delivered to the park is clean. Some four miles of the nine-mile L-67 extension levee in the park have been eliminated. Aquifer Storage and Recovery pilot projects, involving cycle testing and monitoring, had been started at the Kissimmee River and Hillsboro Canal. It remains to be seen whether this innovative technology will deliver the hoped-for results.¹²¹⁹

Successful restoration has been defined as re-establishing the “defining characteristics of the original Everglades,” albeit in a natural Everglades system that is considerably smaller than the predrainage Everglades. The cited defining characteristics are sheetflow, low nutrient levels in freshwater wetlands, healthy productive estuaries, resilient plant communities, and abundant populations of native wetland animals. Substantial obstacles to re-establishing these characteristics remain. As scientists learn more about the historical Everglades ecosystem, it is apparent that plant communities in particular locations have changed over time. This raises questions about just what the target characteristics of a restored system should be. Adaptive management is a key component of the CERP, designed to give managers flexibility to alter projects as needed. Considerable uncertainties arise in applying adaptive management concepts



Figure 28-5. Sunset over Florida Bay

to civil engineering works that cost hundreds of millions of dollars and require many years to build. As nimble and flexible as engineers and scientists try to be, there are limits to the kind of midcourse corrections to CERP projects that can be accomplished. Curtis J. Richardson, professor of resource ecology at Duke University, has proclaimed that “the Everglades is the sentinel wetland for the world. If we cannot get this restoration right with all our money, engineering technology, environmental laws, and ecological knowledge, then the future of wetlands worldwide is endangered.”

¹²¹⁹ *Progress*, 2014, 57-58, 93, 101-102; *2010 CERP Report to Congress*, v, viii; “Dramatic Spread of Cattails Chewing Up River of Grass,” *Miami Herald*, Feb. 7, 2000.

Much is riding on the success of the CERP. If it is widely viewed as a failure, it seems unlikely that U.S. politicians will again support a major ecosystem restoration project anywhere else.¹²²⁰ The future health of Everglades National Park is in the balance (figure 28-5, Sunset over Florida Bay).

¹²²⁰ 2010 CERP Report to Congress, 3; Curtis J. Richardson, *The Everglades Experiments: Lessons for Ecosystem Restoration* (New York: Springer, 2008), 641; Michael Grunwald, "A Rescue Plan, Bold and Uncertain," *Washington Post*, June 22, 2002.

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A Note on Sources

This history relies predominantly on primary sources. Information on the archival collections and oral history interviews relied upon appears below. The secondary literature on the Everglades is vast, and an attempt to include all secondary sources in this bibliography would make it unwieldy. The bibliography includes all secondary source relied upon by the author. Of the hundreds of scientific papers on Everglades topics, only those relevant to the park's history and development are included. Many of the papers published by the NPS's South Florida Natural Resource Center are available online at: <http://www.nps.gov/ever/naturescience/sfnrcpublications.htm>. Omitted in the bibliography are most articles and books that focus chiefly on the recreational opportunities in Everglades National Park, children's literature, and novels with a setting in Everglades National Park. I have made use of a number of articles published in *Tequesta*, the journal of the Historical Association of Southern Florida. All *Tequesta* articles published since 1941 are available online at: <http://digitalcollections.fiu.edu/tequesta/index.htm>.

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- EVER 42054 ENP Newspaper Clippings Collection

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Appendix A: Federal Legislation

1. Act directing the NPS to investigate the Everglades area as a possible national park. Enacted March 1, 1929, P. L. 70-897.
2. Act authorizing Everglades National Park. Enacted May 30, 1934, P. L. 73-267.
3. Act allowing expenditure of federal funds for park administration and protection. Enacted August 21, 1937, P. L. 75-336.
4. Act allowing acceptance of land subject to reserved mineral rights. Enacted December 6, 1944, P. L. 78-463.
5. Act authorizing federal use of \$2 million appropriated by the state for land acquisition. Enacted October 10, 1949, P. L. 81-340.
6. Act establishing a new park boundary. Enacted July 2, 1958, P. L. 85-482.
7. Act authorizing transfer of funds to the Farmers Home Administration to make the foreclosed Iori Farms tract part of the park. Enacted September 12, 1964, P. L. 88-588.
8. Section 2 of the River Basin Monetary Authorization and Miscellaneous Civil Works Amendments Act of 1970 guaranteeing water deliveries to Everglades National Park. Enacted June 19, 1970, P. L. 91-282.
9. Section 401(3) of the National Parks and Recreation Act of 1978, designating wilderness areas in the park. Enacted November 10, 1978, P. L. 95-625.
10. Everglades National Park Protection and Expansion Act of 1989. Enacted December 13, 1989, P. L. 101-229.
11. Section 309(I) of the Water Resources Development Act of 1992 authorizing the Corps of Engineers to review the Central & Southern Florida Project. Enacted October 31, 1992, P. L. 102-580.
12. Amendment to the 1989 act allowing NPS funds to be used for buying property in the East Everglades. Enacted March 9, 1994, P. L. 103-219

13. Section 528 of the Water Resources Development Act of 1996 directing the Corps of Engineers to complete the feasibility phase of the review of the Central & Southern Florida Project by July 1, 1999. Enacted October 12, 1996, P. L. 104-303.
14. Marjory Stoneman Douglas Wilderness and Ernest F. Coe Visitor Center Designation Act. Enacted November 13, 1997, P. L. 105-82.
15. Miccosukee Reserved Area Act. Enacted October 30, 1998, P. L. 105-313
16. Title VI of the Water Resources Development Act of 2000 authorizing the Comprehensive Everglades Restoration Plan. Enacted December 11, 2000, P. L. 106-541.
17. An Act to Authorize the Exchange of Certain Land in Everglades National Park, December 23, 2004, P. L. 108-483.
18. Section 7107 of the Omnibus Public Land Management Act of 2009, authorizing the NPS to enter into an exchange of certain lands with the Florida Power & Light Company. Enacted March 30, 2009, P. L. 111-11.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 30, 1929

Referred to the Committee on the Public Lands

FEBRUARY 14, 1929

Committed to the Committee of the Whole House on the state of the Union
and ordered to be printed

AN ACT

To authorize the Secretary of the Interior to investigate and report to Congress on the advisability and practicability of establishing a national park to be known as the Tropic Everglades National Park in the State of Florida, and for other purposes.

- 1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That the Secretary of the Interior be, and he is hereby,
4 directed to investigate and report to Congress as to the
5 desirability and practicability of establishing a national park,
6 to be known as the Tropic Everglades National Park, in
7 the everglades of Dade, Monroe, and Collier Counties of
8 the State of Florida, for the benefit and enjoyment of the
9 people of the United States and to preserve said area in its

- 1 natural state: *Provided*, That such investigation shall be
 2 made without expense to the United States other than the
 3 salaries of any Government experts who may be assigned
 4 for that purpose.

Passed the Senate January 26, 1929.

Attest:

EDWIN P. THAYER,

Secretary.

70TH CONGRESS)
 2d Session) **S. 4704**

[Report No. 2517]

AN ACT

To authorize the Secretary of the Interior to investigate and report to Congress on the advisability and practicability of establishing a national park to be known as the Tropic Everglades National Park in the State of Florida, and for other purposes.

JANUARY 30, 1929

Referred to the Committee on the Public Lands

FEBRUARY 14, 1929

Committed to the Committee of the Whole House on the state of the Union and ordered to be printed

AN ACT

To provide for the establishment of the Everglades National Park in the State of Florida and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That when title to all the lands within boundaries to be determined by the Secretary of the Interior within the area of approximately two thousand square miles in the region of the Everglades of Dade, Monroe, and Collier Counties, in the State of Florida, recommended by said Secretary, in his report to Congress of December 3, 1930, pursuant to the Act of March 1, 1929 (45 Stat., pt. 1, p. 1443), shall have been vested in the United States, said lands shall be, and are hereby, established, dedicated, and set apart as a public park for the benefit and enjoyment of the people and shall be known as the Everglades National Park: *Provided*, That the United States shall not purchase by appropriation of public moneys any land within the aforesaid area, but such lands shall be secured by the United States only by public or private donation.

SEC. 2. The Secretary of the Interior is hereby authorized, in his discretion and upon submission of evidence of title satisfactory to him, to accept on behalf of the United States, title to the lands referred to in the previous section hereof as may be deemed by him necessary or desirable for national-park purposes: *Provided*, That no land for said park shall be accepted until exclusive jurisdiction over the entire park area, in form satisfactory to the Secretary of the Interior, shall have been ceded by the State of Florida to the United States.

SEC. 3. The administration, protection, and development of the aforesaid park shall be exercised under the direction of the Secretary of the Interior by the National Park Service, subject to the provisions of the Act of August 25, 1916 (39 Stat. 535), entitled "An Act to establish a National Park Service, and for other purposes", as amended: *Provided*, That the provisions of the Act approved June 10, 1920, known as the Federal Water Power Act, shall not apply to this park: *Provided further*, That nothing in this Act shall be construed to lessen any existing rights of the Seminole Indians which are not in conflict with the purposes for which the Everglades National Park is created: *And provided further*, That the United States shall not expend any public moneys for the administration, protection, or development of the aforesaid park within a period of five years from the date of approval of this Act.

SEC. 4. The said area or areas shall be permanently reserved as a wilderness, and no development of the project or plan for the entertainment of visitors shall be undertaken which will interfere with the preservation intact of the unique flora and fauna and the essential primitive natural conditions now prevailing in this area.

Approved, May 30, 1934.

(PUBLIC--No. 336--75th CONGRESS)

(CHAPTER 732---1st SESSION)

(H.R. 2014)

AN ACT

To amend an Act entitled "An Act to provide for the establishment of the Everglades National Park in the State of Florida, and for other purposes", approved May 30, 1934.

BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED, That section 3 of the Act entitled "An Act to provide for the establishment of the Everglades National Park in the State of Florida, and for other purposes", approved May 30, 1934, be, and the same is hereby, amended by striking therefrom the following words: "AND PROVIDED FURTHER, That the United States shall not expend any public moneys for the administration, protection, or development of the aforesaid park within a period of five years from the date of approval of this Act."

Approved, August 21, 1937.

[PUBLIC LAW 463—78TH CONGRESS]

[CHAPTER 508—2D SESSION]

[H. R. 5289]

AN ACT

To provide for the acceptance and protection by the United States of property within the authorized boundaries of the Everglades National Park project, Florida, pending the establishment of the park, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, (a) for the purpose of protecting the scenery, the wildlife, and other natural features of the region authorized to be established as the Everglades National Park by the Act of May 30, 1934 (48 Stat. 816; 16 U. S. C., secs. 410, 410a-410c), notwithstanding any provision contained in that Act, the Secretary of the Interior is authorized in his discretion to accept on behalf of the United States any land, submerged land, or interests therein, subject to such reservations of oil, gas, or mineral rights as the Secretary may approve, within the area of approximately two thousand square miles recommended by said Secretary in his report to the Congress of December 3, 1930, pursuant to the Act of March 1, 1929 (45 Stat. 1443): Provided, That no general development of the property accepted pursuant to this Act shall be undertaken nor shall the park be established until title satisfactory to the Secretary to a major portion of the lands, to be selected by him, within the aforesaid recommended area shall have been vested in the United States: Provided further, That until the property acquired by the United States pursuant to this Act has been cleared of the aforesaid reservations, the Secretary in his discretion shall furnish such protection thereover as may be necessary for the accomplishment of the purposes of this Act: And provided further, That in the event the park is not established within ten years from the date of the approval of this Act, or upon the abandonment of the park at any time after its establishment, title to any lands accepted pursuant to the provisions of this Act shall thereupon automatically revert in the State of Florida or other grantors of such property to the United States.

(b) Upon the execution of the aforesaid provisions relating to establishment thereof, the Everglades National Park shall be established by order of the Secretary which shall be published in the Federal Register.

Approved December 6, 1944.

(58 Stat. 794)

[PUBLIC LAW 340—81ST CONGRESS]

[CHAPTER 659—1ST SESSION]

[H. R. 4029]

AN ACT

To authorize the Secretary of the Interior to procure for the Everglades National Park with available funds, including those made available by the State of Florida, the remaining lands and interest in lands within the boundary agreed upon between the State of Florida and the Secretary of the Interior, within and a part of that authorized by the Act of May 30, 1934 (48 Stat. 816), and within which the State has already donated its lands, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, in order to consolidate the Federal ownership of lands within the boundary set forth in deed numbered 19035 executed December 28, 1944, by the trustees of the Internal Improvement Fund of the State of Florida, and accepted by the Secretary of the Interior on March 14, 1947, for Everglades National Park purposes, the said Secretary is hereby authorized, within the aforesaid boundary and with any funds made available for that purpose, to procure lands or interests therein by purchase or otherwise, subject, however, to the right of retention by owners of lands, interests in lands, interests in oil, gas, and mineral rights, or royalties, their heirs, executors, administrators, successors, or assigns (hereinafter referred to as "owners"), at their election, of the following:

(1) The reservation until October 9, 1958, of all oil, gas, and mineral rights or interests, including the right to lease, explore for, produce, store, and remove oil, gas, and other minerals from such lands: *Provided*, That if on or before said date, oil, gas, or other minerals are being produced in commercial quantities anywhere within the boundary set forth in aforesaid deed numbered 19035, then in that event the time of the reservation as set forth in this subsection shall automatically extend for all owners, regardless of whether such production is from land in which such owners have an interest, for so long as oil, gas, or other minerals are produced in commercial quantities anywhere within said boundary. To exercise this reservation, the owners, their lessees, agents, employees, and assigns shall have such right of ingress and egress to and from such lands as may be necessary; and

(2) After the termination of the reserved rights of owners as set forth in subsection (1) hereof, a further reservation of the right to customary royalties, applying at the time of production, in any oil, gas, or other minerals which may be produced from such lands at any time before January 1, 1985, should production ever be authorized by the Federal Government or its assigns.

SEC. 2. Unless consented to by an owner retaining the reservation set forth in subsection (1) of section 1 hereof, no action shall be taken by the Federal Government during the period of such reservation

to purchase, acquire, or otherwise terminate or interfere with any lease or leases which may be applicable to said owner's lands.

Sec. 3. Any reservations retained under the provisions of subsection (1) of section 1 hereof shall be exercised by the owners subject to reasonable rules and regulations which the Secretary may prescribe for the protection of the park, but which shall permit the reserved rights to be exercised so that the oil, gas, and minerals may be explored for, developed, extracted, and removed from the park area in accordance with sound conservation practices. All operations shall be carried on under such regulations as the Secretary may prescribe to protect the lands and areas for park purposes.

Sec. 4. In any action caused by the Secretary of the Interior to be commenced for the acquisition of lands under the provisions hereof, reasonable diligence shall be exercised by him to ascertain whether owners elect to retain reservations in accordance with the provisions of this Act. If, after the exercise of such reasonable diligence, owners cannot be located, or do not appear in judicial proceedings to acquire the lands, so that it may be ascertained whether they desire to retain reservations in accordance with the provisions hereof, the Secretary may acquire the fee simple title to their lands free and clear of reservations as set forth in subsections (1) and (2) of section 1 hereof.

Approved October 10, 1949.

(63 Stat. 733)

Public Law 85-482

AN ACT

July 2, 1958
[H. R. 6641]

To fix the boundary of Everglades National Park, Florida, to authorize the Secretary of the Interior to acquire land therein, and to provide for the transfer of certain land not included within said boundary, and for other purposes.

Everglades Na-
tional Park, Fla.
Boundary.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, notwithstanding section 1 of the Act of May 30, 1934 (48 Stat. 816, 16 U. S. C., sec 410), or any action taken pursuant to authority contained therein, the exterior boundary of Everglades National Park, Florida, is subject to the provisions of section 7 of this Act, hereby fixed to include the following described lands:

(1) Beginning at the intersection of the south right-of-way line of United States Highway Numbered 41, also known as the Tamiami Trail, and the west line of township 54 south, range 37 east, as shown on the Everglades National Park base map numbered NP-EVE-7109, revised August 10, 1949;

thence southerly along the west line of township 54 south, range 37 east, along the west line of Government lot 6 lying between township 54 south, and township 55 south, range 37 east, and along the west line of township 55 south, range 37 east, and township 56 south, range 37 east and along the west lines of sections 6, 7, and 18, township 57 south, range 37 east, to the southwest corner of section 18, said township and range;

thence easterly along the north line of sections 19, 20, 21, 22, and 23 of said township and range to the northeast corner of section 23;

thence southerly along the east line of sections 23, 26, and 35 of said township and range to the southeast corner of said section 35;

thence easterly along the south line of section 36, of said township and range, to the southeast corner of said section 36;

thence southerly along the east line of sections 1, 12, 13, 24, 25, and 36, township 58 south, range 37 east, and along the west line of sections 6, 7, and 18, township 59 south, range 38 east, to the northwest corner of section 19, said township and range;

thence easterly along the north line of sections 19, 20, 21, 22, 23, and 24 of township 59 south, range 38 east, and sections 19 and 20 of township 59 south, range 39 east, to the southwest right-of-way line of United States Highway Numbered 1;

thence southeasterly along the southwest right-of-way line of United States Highway Numbered 1 to a point which is the northerly point of a tract of land conveyed by the trustees of the internal improvement fund, State of Florida, to John E. Ravlin, and others, by deed dated November 5, 1943, recorded in deed book G16, page 72, in Monroe County public records;

thence following along the westerly and southerly boundary of said tract to its point of intersection with a line parallel with and 200 feet northwesterly from the centerline of Intracoastal Waterway near the southern point of said Ravlin tract;

thence southwesterly, following a line parallel to the centerline of said Intracoastal Waterway and 200 feet northwesterly from said centerline to a point due north of Long Key Light, approximately longitude 80 degrees 50 minutes west, latitude 24 degrees 51 minutes north;

thence northwesterly, following a line at all times parallel to the centerline of said Intracoastal Waterway and 200 feet north-easterly from said centerline to a point opposite the Oxford Bank

Light, approximately longitude 81 degrees 00 minutes 40 seconds west, latitude 24 degrees 59 minutes 10 seconds north;

thence northwesterly in a straight line to a point 3 miles due south of the most southernmost point of East Cape (Cape Sable);

thence due north in a straight line to a point 2 miles due south of the most southernmost point of East Cape (Cape Sable);

thence northwesterly in the Gulf of Mexico in a straight line to a point 2 miles due west of the southeast corner of fractional section 31 (Middle Cape), township 60 south, range 32 east;

thence northwesterly in a straight line to a point 2 miles due west of the most westernmost point of Northwest Cape (Cape Sable);

thence northeasterly in a straight line to a point 2 miles due west of the northwest corner of fractional section 6, township 59 south, range 32 east;

thence northwesterly in a straight line to a point 2 miles due west of the southwest corner of section 6, township 58 south, range 32 east;

thence northwesterly in a straight line to a point 2 miles due west of the northwest corner of fractional section 28, township 56 south, range 31 east;

thence northwesterly in a straight line to a point 3 miles due west of the southwest corner of fractional section 32, township 54 south, range 30 east;

thence northwesterly in a straight line to the southwest corner of section 28, township 53 south, range 28 east;

thence northerly along the west line of section 28, township 53 south, range 28 east, to the northwest corner of said section 28;

thence easterly along the north line of section 28, township 53 south, range 28 east, to the northeast corner of said section 28;

thence northerly along the west line of section 22, township 53 south, range 28 east, to the northwest corner of said section 22;

thence easterly along the north line of section 22, township 53 south, range 28 east, to the northeast corner of said section 22;

thence northerly along the west line of section 14, township 53 south, range 28 east, to the northwest corner of said section 14;

thence easterly along the north line of section 14, township 53 south, range 28 east, to the northeast corner of said section 14;

thence northerly along the west line of section 12, township 53 south, range 28 east, to the northwest corner of said section 12;

thence easterly along the north line of section 12, township 53 south, range 28 east, to the northeast corner of said section 12;

thence northerly along the west line of section 6, township 53 south, range 29 east, to the northwest corner of said section 6;

thence easterly along the north line of township 53 south, range 29 east, to the northeast corner of section 4, township 53 south, range 29 east;

thence southerly along the east lines of sections 4, 9, 16, and 21, township 53 south, range 29 east, to the southeast corner of the northeast quarter of said section 21;

thence easterly to the center of section 22, township 53 south, range 29 east;

thence southerly to the southeast corner of the southwest quarter of section 22, township 53 south, range 29 east;

thence easterly along the south line of section 22, township 53 south, range 29 east, to the southeast corner of said section 22;

thence southerly along the west line of section 26, township 53 south, range 29 east, to the southwest corner of the northwest quarter of said section 26;

thence easterly to the center of section 26, township 53 south, range 29 east;

thence southerly to the northwest corner of the southwest quarter of the southeast quarter of section 26, township 53 south, range 29 east;

thence easterly to the northeast corner of the southeast quarter of the southeast quarter of section 26, township 53 south, range 29 east;

thence southerly along the east line of section 26, township 53 south, range 29 east, to the southeast corner of said section 26;

thence easterly along the north line of section 36, township 53 south, range 29 east, to the northeast corner of the northwest quarter of said section 36;

thence southerly to the southwest corner of the northwest quarter of the southeast quarter of section 36, township 53 south, range 29 east;

thence easterly to the southeast corner of the northeast quarter of the southeast quarter of section 36, township 53 south, range 29 east;

thence continuing easterly to the southeast corner of the northwest quarter of the southwest quarter of section 31, township 53 south, range 30 east;

thence northerly to the northeast corner of the northwest quarter of the northwest quarter of section 31, township 53 south, range 30 east;

thence continuing northerly to the northeast corner of the southwest quarter of the southwest quarter of section 30, township 53 south, range 30 east;

thence westerly to the northeast corner of the southeast quarter of the southeast quarter of section 25, township 53 south, range 29 east;

thence northerly along the east lines of sections 25, 24, and 13, township 53 south, range 29 east, to the northeast corner of said section 13; thence easterly along the north lines of sections 18, 17, 16, 15, 14, and 13, to the northeast corner of section 13, township 53 south, range 30 east;

thence southerly along the east lines of sections 13, 24, 25, and 36 to the southeast corner section 36, township 53 south, range 30 east;

thence easterly along the north lines of sections 6, 5, and 4 to the northeast corner of section 4, township 54 south, range 31 east;

thence southerly along the east line of section 4 to the southeast corner of section 4, township 54 south, range 31 east;

thence easterly along the north line of section 10 to the northeast corner of section 10, township 54 south, range 31 east;

thence southerly along the east line of section 10 to the southeast corner of section 10, township 54 south, range 31 east;

thence easterly along the north line of section 14 to the northeast corner of section 14, township 54 south, range 31 east;

thence southerly along the east line of section 14 to the southeast corner of section 14, township 54 south, range 31 east;

thence easterly along the north line of section 24 to the northeast corner of section 24, township 54 south, range 31 east;

thence southerly along the east lines of sections 24 and 25 to the southeast corner of section 25, township 54 south, range 31 east;

thence easterly along the north lines of sections 31, 32, and 33 to the northeast corner of section 33, township 54 south, range 32 east;

thence southerly along the east line of section 33 to the southeast corner of section 33, township 54 south, range 32 east;

thence easterly along the north line of section 3, to the northeast corner of section 3, township 55 south, range 32 east;

thence southerly along the east lines of sections 3 and 10, to the southeast corner of section 10, township 55 south, range 32 east;

thence easterly along the north line of section 14, to the northeast corner of section 14, township 55 south, range 32 east;

thence southerly along the east line of section 14, to the southeast corner of section 14, township 55 south, range 32 east;

thence easterly along the north line of section 24, to the northeast corner of section 24, township 55 south, range 32 east;

thence southerly along the east lines of sections 24 and 25 to the northeast corner of the southeast quarter of section 25, township 55 south, range 32 east;

thence easterly along the north line of the south half of section 30 to the northeast corner of the south half of section 30, township 55 south, range 33 east;

thence southerly along the east lines of sections 30 and 31 to the southeast corner of section 31, township 55 south, range 33 east;

thence southerly along the east line of section 6, to the southeast corner of section 6, township 56 south, range 33 east;

thence easterly along the north lines of sections 8, 9, 10, 11, and 12, to the northeast corner of section 12, township 56 south, range 33 east;

thence easterly along the north lines of sections 7, 8, 9, 10, 11, and 12, to the northeast corner of section 12, township 56 south, range 34 east;

thence easterly along the north line of section 7 to the northeast corner of section 7, township 56 south, range 35 east;

thence northerly along the west line of section 5 to the northwest corner of section 5, township 56 south, range 35 east;

thence northerly along the west lines of sections 32, 29, 20, 17, 8, and 5 to the northwest corner of section 5, township 55 south, range 35 east;

thence northerly along the west lines of sections 32, 29, and 20 to the intersection of the south right-of-way line of the Loop Road, township 54 south, range 35 east;

thence easterly along the south right-of-way line of the Loop Road and the south right-of-way line of United States Highway Numbered 41, also known as the Tamiami Trail, through sections 20, 21, 22, 23, and 24, township 54 south, range 35 east, to the intersection of the east township line, township 54 south, range 35 east;

thence easterly along the south right-of-way line of United States Highway Numbered 41, also known as the Tamiami Trail, through sections 19, 20, 21, 22, 23, and 24, township 54 south, range 36 east, to the east township line of township 54 south, range 36 east;

thence easterly along the south right-of-way line of United States Highway Numbered 41, also known as the Tamiami Trail, across township 36½ east to the intersection of the west line of township 54 south, range 37 east, the point of beginning;

(2) Land acquired by the United States of America for furthering administration and use of the park by deeds dated January 25, 1954 (2), and February 27, 1954 (2), recorded in the public records of Monroe County, Florida, book OR-3, pages 302 to 308, inclusive, and book OR-2, pages 378 to 381, inclusive, respectively; and accepted by the National Park Service on April 7, 1954 (2), and April 5, 1954 (2), respectively; and

(3) Not to exceed 35 acres, to be acquired by donation only, in or in the vicinity of Everglades City, Florida, which the Secretary of the Interior may find necessary and suitable for furthering administration and use of the park.

Administration.

Land and water now in Federal ownership within said boundary shall continue to be administered as Everglades National Park; however, the land and water therein not in Federal ownership shall be administered as a part of the park only after being acquired as hereinafter provided.

Acquisition of land, water, etc.

SEC. 2. The authority of the Secretary of the Interior to acquire land and water for Everglades National Park shall hereafter be restricted to the area within the boundary described in section 1. Notwithstanding the proviso contained in section 1 of the Act of May 30, 1934 (48 Stat. 816, 16 U. S. C., sec. 410), or any other provision of law, the said Secretary is hereafter authorized, within the boundary fixed in this Act and with any funds made available for that purpose, to acquire land, water, and interests therein by purchase or otherwise subject to the proviso that no parcel within the following described area shall be acquired without the consent of its owner so long as it is used exclusively for agricultural purposes, including housing, directly incident thereto, or is lying fallow or remains in its natural state:

Consent of owner.

Beginning at the southwest corner of section 31, township 58 south, range 37 east;

thence southerly along the west line of sections 6 and 7, township 59 south, range 37 east, to the southeast corner of section 24, township 59 south, range 36 east;

thence westerly along the south lines of sections 24, 23, 22, 21, and 20, township 59 south, range 36 east, to the southwest corner of said section 20;

thence northerly along the west lines of sections 20, 17, 8, and 5, township 59 south, range 36 east, to the northwest corner of said section 5;

thence to the southwest corner of section 33, township 58 south, range 36 east;

thence northerly along the west lines of sections 33 and 28, township 58 south, range 36 east, to the northwest corner of said section 28;

thence easterly along the north lines of sections 28, 27, 26, and 25, township 58 south, range 36 east, to the northeast corner of said section 25;

thence southerly along the east line of section 25, township 58 south, range 36 east, to the point of intersection of the east line of said section 25 and the north line of section 18, township 58 south, range 37 east, extended westerly along the hiatus;

thence easterly across the hiatus to the northwest corner of section 18, township 58 south, range 37 east;

thence easterly along the north lines of sections 18, 17, and 16, township 58 south, range 37 east, to the northeast corner of said section 16;

thence southerly to the northeast corner of section 21, township 58 south, range 37 east;

thence westerly along the north lines of sections 21 and 20, township 58 south, range 37 east, to the northeast corner of the northwest quarter of said section 20;

thence southerly along the west line of the east half of section 20, township 58 south, range 37 east, to the southeast corner of the southwest quarter of said section 20;

thence westerly along the north lines of sections 29 and 30, township 58 south, range 37 east, to the northwest corner of said section 30;

thence southerly along the west lines of sections 30 and 31, township 58 south, range 37 east, to the southwest corner of said section 31; the point of beginning.

The authority to acquire land, water, and interests therein within the park boundary fixed in section 1 of this Act but outside the area designated in the Act of October 10, 1949 (63 Stat. 733), is further subject to the right of retention by the owners thereof, including owners of interests in oil, gas, and mineral rights or royalties, and by their heirs, executors, administrators, successors, and assigns, at their election of the following:

Reservations.

(1) The reservation until October 9, 1967, of all oil, gas, and mineral rights or interests, including the right to lease, explore for, produce, store, and remove oil, gas, and other minerals from such lands;

(2) In the event that on or before said date, oil, gas, or other minerals are being produced in commercial quantities anywhere within the boundary fixed in section 1 of this Act but outside the area designated in the Act of October 10, 1949, the time of the reservation provided in subsection (1) above shall automatically extend for all owners within said boundary and outside of said area regardless of whether such production is from land in which such owners have an interest, for so long as oil, gas, or other minerals are produced in commercial quantities anywhere within said boundary and outside of said area. To exercise this reservation, the owners, their lessees, agents, employees, and assigns shall have such right of ingress to and egress from such land and water as may be necessary; and

(3) After the termination of the reserved rights of owners as set forth in subsections (1) and (2) of this section, a further reservation of the right to customary royalties, applying at the time of production, in any oil, gas, or other minerals which may be produced from such land and water at any time before January 1, 1985, should production ever be authorized by the Federal Government or its assigns.

SEC. 3. Unless consented to by an owner retaining the reservation set forth in subsections (1) and (2) of section 2 of this Act, no action shall be taken by the Federal Government during the period of such reservation to purchase, acquire, or otherwise terminate or interfere with any lease or leases which may be applicable to said owner's land.

Restriction.

SEC. 4. Any reservations retained under the provisions of subsections (1) and (2) of section 2 of this Act shall be exercised by the owners subject to reasonable rules and regulations which the Secretary may prescribe for the protection of the park, but which shall permit the reserved rights to be exercised so that the oil, gas, and minerals may be explored for, developed, extracted, and removed from the park area in accordance with sound conservation practices. All operations shall be carried on under such regulations as the Secretary may prescribe to protect the land and area for park purposes.

Regulations.

SEC. 5. In acquiring any of the land or water within the area described in the first section of this Act the Secretary of the Interior shall exercise reasonable diligence to ascertain whether owners elect to retain reservations in accordance with the provisions of section 2 of this Act. If, after the exercise of such reasonable diligence, owners cannot be located, or do not appear in judicial proceedings to acquire the land and water, so that it may be ascertained whether they desire to retain reservations in accordance with the provisions hereof, the Secretary may acquire the fee simple title to their land free and clear of

Acquisition of fee simple title.

reservations as set forth in subsections (1), (2), and (3) of section 2 of this Act.

Drainage.

SEC. 6. Unless the Secretary, after notice and opportunity for hearing, shall find that the same is seriously detrimental to the preservation and propagation of the flora or fauna of Everglades National Park, he shall permit such drainage through the natural waterways of the park and the construction, operation, and maintenance of artificial works for conducting water thereto as is required for the reclamation by the State of Florida or any political subdivision thereof or any drainage district organized under its laws of lands lying easterly of the eastern boundary of the park in township 54 south, ranges 31 and 32 east, township 55 south, ranges 32 and 33 east, and township 56 south, range 33 east. He shall grant said permission, however, only after a master plan for the drainage of said lands has been approved by the State of Florida and after finding that the approved plan has engineering feasibility and is so designed as to minimize disruptions of the natural state of the park. Any right-of-way granted pursuant to this section shall be revocable upon breach of the conditions upon which it is granted, which conditions shall also be enforceable in any other appropriate manner, and the grantee shall be obligated to remove its improvements and to restore the land occupied by it to its previous condition in the event of such revocation.

Right-of-way.

Land, etc., exchange.

SEC. 7. The Secretary of the Interior is authorized to transfer to the State of Florida by quitclaim deed the land, water, and interests therein, previously acquired by the United States of America for Everglades National Park and not included within such park by section 1 of this Act, such transfer to be in exchange for the conveyance by the State of Florida to the United States of all land, water, and interests therein, owned by the State within the boundary of the park as described in section 1 of this Act: *Provided*, That exclusion of any land, water, and interests therein from the park boundary pursuant to section 1 of this Act shall be dependent upon the contemporaneous conveyance by the State to the United States of all land, water, and interests therein, owned by the State within the park boundary described in section 1 of this Act, including land, water, and interests therein, heretofore conveyed to the State for transfer to the United States for inclusion in Everglades National Park. The effectuation of the transfer provided for in this section shall be a condition precedent to the acquisition by the Secretary of any land, water, or interests therein held in private ownership within the boundaries set forth in section 1 of this Act and outside the area designated in the Act of October 10, 1949, except as such acquisition is by donation.

Appropriation.

SEC. 8. There are hereby authorized to be appropriated such sums, but not more than \$2,000,000 in all, as are required for the acquisition of land, water, and interests therein held in private ownership within the boundaries of Everglades National Park as fixed by section 1 of this Act and outside the area described in the Act of October 10, 1949.

Approved July 2, 1958.

Public Law 85-483

July 2, 1958
[H. R. 12164]

AN ACT

To permit use of Federal surplus foods in nonprofit summer camps for children.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That clause (3), sec-

AN ACT

To authorize the Secretary of the Interior to accept a transfer of certain lands within Everglades National Park, Dade County, Florida, for administration as a part of said park, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior is authorized to accept a transfer from the Administrator of the Farmers Home Administration, United States Department of Agriculture, which transfer is hereby authorized, of a tract of land consisting of approximately four thousand four hundred and twenty acres, lying within the boundaries of Everglades National Park, in Dade County, Florida, and more particularly described in the masters deed dated December 21, 1962, in the proceeding entitled “The Connecticut Mutual Life Insurance Company against Toni Iori, a single man; Peter Iori and Helen Iori, his wife, d/b/a Iori Bros., et al.,” No. 61C-3823, in the Circuit Court of the Eleventh Judicial Circuit of Florida, in and for Dade County, and recorded in the official records of said county in book 3494 at page 457, or in any modification of such masters deed, for administration as a part of the Everglades National Park. Such transfer will be made by the Farmers Home Administration, Department of Agriculture, to the Secretary of Interior, only after the Farmers Home Administration’s emergency credit revolving fund has been fully reimbursed for all cost incurred by it in connection with the aforesaid land. Such transfer may be accepted when title to the property is vested in the United States.

SEC. 2. There is hereby authorized to be appropriated to the emergency credit revolving fund, upon the transfer authorized in section 1, such sum as may be necessary but not in excess of \$452,000 to reimburse the fund for costs incurred by the Farmers Home Administration in connection with the aforesaid property.

Approved September 12, 1964.



Public Law 91-282
91st Congress, H. R. 15166
June 19, 1970

An Act

84 STAT. 310

Authorizing additional appropriations for prosecution of projects in certain comprehensive river basin plans for flood control, navigation, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, (a) in addition to previous authorizations, there is hereby authorized to be appropriated for the prosecution of the comprehensive plan of development of each river basin under the jurisdiction of the Secretary of the Army referred to in the first column below, which was basically authorized by the Act referred to by date of enactment in the second column below, an amount not to exceed that shown opposite such river basin in the third column below:

River Basin Monetary Authorization and Miscellaneous Civil Works Amendments Act of 1970.

Basin	Act of Congress	Amount
Alabama-Coosa River.....	Mar. 2, 1945	\$45,000,000
Arkansas River.....	June 28, 1938	85,000,000
Bracco River.....	Sept. 3, 1954	5,000,000
Columbia River.....	June 28, 1938	283,000,000
Lower Mississippi River.....	May 18, 1958	187,000,000
Missouri River.....	June 28, 1938	169,000,000
Ogish River.....	June 22, 1938	68,000,000
Quachita River.....	May 17, 1950	18,000,000
San Joaquin River.....	Dec. 27, 1944	18,000,000
South Platte River.....	May 17, 1950	21,000,000
Upper Mississippi River.....	June 28, 1938	2,000,000
White River.....	June 28, 1938	4,000,000

(b) The total amount authorized to be appropriated by this section shall not exceed \$810,000,000.

SEC. 2. In addition to previous authorizations, there is hereby authorized to be appropriated the sum of \$25,000,000 for the prosecution of the central and southern Florida comprehensive plan for flood control and other purposes approved in the Flood Control Act of 1948, and subsequent Acts of Congress: *Provided*, That not to exceed \$5,000,000 of this authorization shall be available solely for the accelerated construction of borrow canal L-70, canal C-308, canal C-119W, and pumping station S. 623, together with such other works in the plan of improvement as the Director of the National Park Service and the Chief of Engineers agree are necessary to meet the water requirements of the Everglades National Park: *Provided further*, That as soon as practicable and at any event upon completion of the works specified in the preceding proviso, delivery of water from the central and southern Florida project to the Everglades National Park shall be not less than 315,000 acre-feet annually, prorated according to the monthly schedule set forth in the National Park Service letter of October 20, 1967, to the Office of the Chief of Engineers, or 16.5 per centum of total deliveries from the project for all purposes including the park, whichever is less.

Central and southern Florida.

62 Stat. 1175;
82 Stat. 740.

AN ACT

To authorize additional appropriations for the acquisition of lands and interests in lands within the Sawtooth National Recreation Area in Idaho.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE AND TABLE OF CONTENTS

SECTION 1. This Act may be cited as the “National Parks and Recreation Act of 1978.”

[. . . .]

TITLE IV—WILDERNESS

DESIGNATION OF AREAS

SEC. 401. The following lands are hereby designated as wilderness in accordance with section 3(c) of the Wilderness Act (78 Stat. 890; 16 U.S.C. 1132(c)), and shall be administered by the Secretary in accordance with the applicable provisions of the Wilderness Act:

[. . . .]

(3) Everglades National Park, Florida, wilderness comprising approximately one million two hundred and ninety-six thousand five hundred acres and potential wilderness additions comprising approximately eighty-one thousand nine hundred acres, depicted on a map entitled “Wilderness Plan, Everglades National Park, Florida,” numbered 160-20,011 and dated June 1974, to be known as the Everglades Wilderness.

Approved November 10, 1978.

Public Law 101-229 [H.R.1727]

Everglades National Park Protection and Expansion Act of 1989 (Enrolled Bill [Final as Passed Both House and Senate])

***One Hundred First Congress of the United States of America
AT THE FIRST SESSION***

Begun and held at the City of Washington on Tuesday, the third day of January, one thousand nine hundred and eighty-nine

An Act

To modify the boundaries of the Everglades National Park and to provide for the protection of lands, waters, and natural resources within the park, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the 'Everglades National Park Protection and Expansion Act of 1989'.

TITLE I--EVERGLADES NATIONAL PARK EXPANSION

SEC. 101. FINDINGS, PURPOSES AND DEFINITION OF TERMS.

(a) FINDINGS- The Congress makes the following findings:

- (1) The Everglades National Park is a nationally and internationally significant resource and the park has been adversely affected and continues to be adversely affected by external factors which have altered the ecosystem including the natural hydrologic conditions within the park.
- (2) The existing boundary of Everglades National Park excludes the contiguous lands and waters of the Northeast Shark River Slough that are vital to long-term protection of the park and restoration of natural hydrologic conditions within the park.
- (3) Wildlife resources and their associated habitats have been adversely impacted by the alteration of natural hydrologic conditions within the park, which has contributed to an overall decline in fishery resources and a 90 percent population loss of wading birds.

- (4) Incorporation of the Northeast Shark River Slough and the East Everglades within the park will limit further losses suffered by the park due to habitat destruction outside the present park boundaries and will preserve valuable ecological resources for use and enjoyment by future generations.
- (5) The State of Florida and certain of its political subdivisions or agencies have indicated a willingness to transfer approximately 35,000 acres of lands under their jurisdiction to the park in order to protect lands and water within the park, and may so transfer additional lands in the future.
- (6) The State of Florida has proposed a joint Federal-State effort to protect Everglades National Park through the acquisition of additional lands.

(b) PURPOSE- The purposes of this Act are to—

- (1) increase the level of protection of the outstanding natural values of Everglades National Park and to enhance and restore the ecological values, natural hydrologic conditions, and public enjoyment of such area by adding the area commonly known as the Northeast Shark River Slough and the East Everglades to Everglades National Park; and
- (2) assure that the park is managed in order to maintain the natural abundance, diversity, and ecological integrity of native plants and animals, as well as the behavior of native animals, as a part of their ecosystem.

(c) DEFINITIONS- As used in this Act:

- (1) The term `Secretary' means the Secretary of the Interior.
- (2) The term `addition' means the approximately 107,600 acre area of the East Everglades area authorized to be added to Everglades National Park by this Act.
- (3) The term `park' means the area encompassing the existing boundary of Everglades National Park and the addition area described in paragraph (2).
- (4) The term `project' means the Central and Southern Florida Project.

SEC. 102. BOUNDARY MODIFICATION.

- (a) AREA INCLUDED- The park boundary is hereby modified to include approximately 107,600 acres as generally depicted on the map entitled `Boundary Map, Everglades National Park Addition, Dade County, Florida', numbered 160-20,013B and dated September 1989. The map shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior.

- (b) **BOUNDARY ADJUSTMENT**- The Secretary may from time to time make minor revisions in the boundaries of the park in accordance with section 7(c) of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601-4 and following). In exercising the boundary adjustment authority the Secretary shall ensure all actions will enhance resource preservation and shall not result in a net loss of acreage from the park.
- (c) **ACQUISITION**- (1) Within the boundaries of the addition described in subsection (a), the Secretary may acquire lands and interests in land by donation, purchase with donated or appropriated funds, or exchange. For purposes of acquiring property by exchange, the Secretary may, notwithstanding any other provision of law, exchange the approximately one acre of Federal land known as 'Gilberts' Marina' for non-Federal land of equal value located within the boundaries of the addition. Any lands or interests in land which are owned by the State of Florida or any political subdivision thereof, may be acquired only by donation.
- (3) It is the express intent of Congress that acquisition within the boundaries of the addition shall be completed not later than 5 years after the date of enactment of this section. The authority provided by this section shall remain in effect until all acquisition is completed.
- (d) **ACQUISITION OF TRACTS PARTIALLY OUTSIDE BOUNDARIES**- When any tract of land is only partly within boundaries referred to in subsection (a), the Secretary may acquire all or any portion of the land outside of such boundaries in order to minimize the payment of severance costs. Land so acquired outside of the boundaries may be exchanged by the Secretary for non-Federal lands within the boundaries, and any land so acquired and not utilized for exchange shall be reported to the General Services Administration for disposal under the Federal Property and Administrative Services Act of 1949 (63 Stat. 377).
- (e) **OFFERS TO SELL**- In exercising the authority to acquire property under this Act, the Secretary shall give prompt and careful consideration to any offer made by any person owning property within the boundaries of the addition to sell such property, if such owner notifies the Secretary that the continued ownership of such property is causing, or would result in undue hardship.
- (f) **AUTHORIZATION OF APPROPRIATIONS**- (1) Subject to the provisions of paragraph (2), there are hereby authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act.
- (2) With respect to land acquisition within the addition, not more than 80 percent of the cost of such acquisition may be provided by the Federal Government. Not less than 20 percent of such cost shall be provided by the State of Florida.

(g) ASSISTANCE- Upon the request of the Governor of the State of Florida, the Secretary is authorized to provide technical assistance and personnel to assist in the acquisition of lands and waters within the Kissimmee River/Lake Okeechobee/Everglades Hydrologic Basin, including the Big Cypress Swamp, through the provision of Federal land acquisition personnel, practices, and procedures. The State of Florida shall reimburse the Secretary for such assistance in such amounts and at such time as agreed upon by the Secretary and the State. Notwithstanding any other provision of law, reimbursement received by the Secretary for such assistance shall be retained by the Secretary and shall be available without further appropriation for purposes of carrying out any authorized activity of the Secretary within the boundaries of the park.

SEC. 103. ADMINISTRATION.

- (a) IN GENERAL- The Secretary shall administer the areas within the addition in accordance with this Act and other provisions of law applicable to the Everglades National Park, and with the provisions of law generally applicable to units of the national park system, including the Act entitled 'An Act to establish a National Park Service, and for other purposes', approved August 25, 1916 (39 Stat. 535; 16 U.S.C. 1-4). In order to further preserve and protect Everglades National Park, the Secretary shall utilize such other statutory authority as may be available to him for the preservation of wildlife and natural resources as he deems necessary to carry out the purposes of this Act.
- (b) PROTECTION OF ECOSYSTEM- The Secretary shall manage the park in order to maintain the natural abundance, diversity, and ecological integrity of native plants and animals, as well as the behavior of native animals, as a part of their ecosystem.
- (c) PROTECTION OF FLORA AND FAUNA- The park shall be closed to the operation of airboats—
 - (1) except as provided in subsection (d); and
 - (2) except that within a limited capacity and on designated routes within the addition, owners of record of registered airboats in use within the addition as of January 1, 1989, shall be issued nontransferable, nonrenewable permits, for their individual lifetimes, to operate personally-owned airboats for noncommercial use in accordance with rules prescribed by the Secretary to determine ownership and registration, establish uses, permit conditions, and penalties, and to protect the biological resources of the area.
- (d) CONCESSION CONTRACTS- The Secretary is authorized to negotiate and enter into concession contracts with the owners of commercial airboat and tour facilities in existence on or before January 1, 1989, located within the addition for the provision of such services at their current locations under such rules and conditions

as he may deem necessary for the accommodation of visitors and protection of biological resources of the area.

(e) VISITOR CENTER- The Secretary is authorized and directed to expedite the construction of the visitor center facility at Everglades City, Florida, as described in the Development Concept Plan, Gulf Coast, dated February 1989, and upon construction shall designate the visitor center facility as 'The Marjory Stoneman Douglas Center' in commemoration of the vision and leadership shown by Mrs. Douglas in the protection of the Everglades and Everglades National Park.

SEC. 104. MODIFICATION OF CERTAIN WATER PROJECTS.

(a) IMPROVED WATER DELIVERIES- (1) Upon completion of a final report by the Chief of the Army Corps of Engineers, the Secretary of the Army, in consultation with the Secretary, is authorized and directed to construct modifications to the Central and Southern Florida Project to improve water deliveries into the park and shall, to the extent practicable, take steps to restore the natural hydrological conditions within the park.

(3) Such modifications shall be based upon the findings of the Secretary's experimental program authorized in section 1302 of the 1984 Supplemental Appropriations Act (97 Stat. 1292) and generally as set forth in a General Design Memorandum to be prepared by the Jacksonville District entitled 'Modified Water Deliveries to Everglades National Park'. The Draft of such Memorandum and the Final Memorandum, as prepared by the Jacksonville District, shall be submitted as promptly as practicable to the Committee on Energy and Natural Resources and the Committee on Environment and Public Works of the United States Senate and the Committee on Interior and Insular Affairs and the Committee on Public Works and Transportation of the United States House of Representatives.

(4) Construction of project modifications authorized in this subsection and flood protection systems authorized in subsections (c) and (d) are justified by the environmental benefits to be derived by the Everglades ecosystem in general and by the park in particular and shall not require further economic justification.

(4) Nothing in this section shall be construed to limit the operation of project facilities to achieve their design objectives, as set forth in the Congressional authorization and any modifications thereof.

(b) DETERMINATION OF ADVERSE EFFECT- (1) Upon completion of the Final Memorandum referred to in subsection (a), the Secretary of the Army, in consultation with the South Florida Water Management District, shall make a determination as to whether the residential area within the East Everglades known as the 'Eight and One-Half Square Mile Area' or adjacent agricultural areas, all as

generally depicted on the map referred to in subsection 102(a), will be adversely affected by project modifications authorized in subsection (a).

(2) In determining whether adjacent agricultural areas will be adversely affected, the Secretary of the Army shall consider the impact of any flood protection system proposed to be implemented pursuant to subsection (c) on such agricultural areas.

(c) FLOOD PROTECTION; EIGHT AND ONE-HALF SQUARE MILE AREA- If the Secretary of the Army makes a determination pursuant to subsection (b) that the 'Eight and One-Half Square Mile Area' will be adversely affected, the Secretary of the Army is authorized and directed to construct a flood protection system for that portion of presently developed land within such area.

(d) FLOOD PROTECTION; ADJACENT AGRICULTURAL AREA- (1) If the Secretary of the Army determines pursuant to subsection (b) that an adjacent agricultural area will be adversely affected, the Secretary of the Army is authorized and directed to construct a flood protection system for such area. Such determination shall be based on a finding by the Secretary of the Army that:

(A) the adverse effect will be attributable solely to a project modification authorized in subsection (a) or to a flood protection system implemented pursuant to subsection (c), or both; and

(B) such modification or flood protection system will result in a substantial reduction in the economic utility of such area based on its present agricultural use.

(2) No project modification authorized in subsection (a) which the Secretary of the Army determines will cause an adverse effect pursuant to subsection (b) shall be made operational until the Secretary of the Army has implemented measures to prevent such adverse effect on the adjacent agricultural area: *Provided*, That the Secretary of the Army or the South Florida Water Management District may operate the modification to the extent that the Secretary of the Army determines that such operation will not adversely affect the adjacent agricultural area: *Provided further*, That any preventive measure shall be implemented in a manner that presents the least prospect of harm to the natural resources of the park.

(3) Any flood protection system implemented by the Secretary of the Army pursuant to this subsection shall be required only to provide for flood protection for present agricultural uses within such adjacent agricultural area.

(4) The acquisition of land authorized in section 102 shall not be considered a project modification.

(e) PERIODIC REVIEW- (1) Not later than 18 months after the completion of the project modifications authorized in subsection (a), and periodically thereafter, the

Secretary of the Army shall review the determination of adverse effect for adjacent agricultural areas.

(2) In conducting such review, the Secretary of the Army shall consult with all affected parties, including, but not limited to, the Secretary, the South Florida Water Management District and agricultural users within adjacent agricultural areas.

(4) If, on the basis of such review, the Secretary of the Army determines that an adjacent agricultural area has been, or will be adversely affected, the Secretary of the Army is authorized and directed, in accordance with the provisions of subsection (d), to construct a flood protection system for such area: *Provided*, That the provisions of subsection (d)(2) shall be applicable only to the extent that the Secretary, in consultation with the Secretary of the Army, determines that the park will not be adversely affected.

(5) The provisions of this subsection shall only be applicable if the Secretary of the Army has previously made a determination that such adjacent agricultural area will not be adversely affected.

(f) CURRENT CANAL OPERATING LEVELS- Nothing in this section shall be construed to require or prohibit the Secretary of the Army or the South Florida Water Management District from maintaining the water level within any project canal below the maximum authorized operating level as of the date of enactment of this Act.

(g) NO LIMITATION ON OTHER CLAIMS- If the Secretary of the Army makes a determination of no adverse effect pursuant to subsection (b), such determination shall not be considered as a limitation or prohibition against any available legal remedy which may otherwise be available.

(h) COORDINATION- The Secretary and the Secretary of the Army shall coordinate the construction program authorized under this section and the land acquisition program authorized in section 102 in such a manner as will permit both to proceed concurrently and as will avoid unreasonable interference with property interests prior to the acquisition of such interests by the Secretary under section 102.

(i) WEST DADE WELLFIELD- No Federal license, permit, approval, right-of-way or assistance shall be granted or issued with respect to the West Dade Wellfield (to be located in the Bird Drive Drainage Basin, as identified in the Comprehensive Development Master Plan for Dade County, Florida) until the Secretary, the Governor of the State of Florida, the South Florida Water Management District and Dade County, Florida enter into an agreement providing that the South Florida Water Management District's water use permit for the wellfield, if granted, must include the following limiting conditions: (1) the wellfield's peak pumpage rate shall not exceed 140,000,000 gallons per day; (2) the permit shall include reasonable, enforceable measures to limit demand on the wellfield in times of water shortage;

and (3) if, during times of water shortage, the District fails to limit demand on the wellfield pursuant to (2), or if the District limits demand on the wellfield pursuant to (2), but the Secretary certifies that operation of the wellfield is still causing significant adverse impacts on the resources of the Park, the Governor shall require the South Florida Water Management District to take necessary actions to alleviate the adverse impact, including, but not limited to, temporary reductions in the pumpage from the wellfield.

(j) PROTECTION OF NATURAL VALUES- The Secretary of the Army is directed in analysis, design and engineering associated with the development of a general design memorandum for works and operations in the 'C-111 basin' area of the East Everglades, to take all measures which are feasible and consistent with the purposes of the project to protect natural values associated with Everglades National Park. Upon completion of a general design memorandum for the area, the Secretary shall prepare and transmit a report to the Committee on Energy and Natural Resources and the Committee on Environment and Public Works of the United States Senate and the Committee on Interior and Insular Affairs and the Committee on Public Works and Transportation of the United States House of Representatives on the status of the natural resources of the C-111 basin and functionally related lands.

Public Law 102-580

AN ACT

To provide for the conservation and development of water and related resources, to authorize the United States Army Corps of Engineers civil works program to construct various projects for improvements to the Nation's infrastructure, and or other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE AND TABLE OF CONTENTS.

(a) Short Title.—This Act may be cited as the “Water Resources Development Act of 1992.”

[. . . .]

TITLE III—MISCELLANEOUS PROVISIONS

[. . . .]

SEC. 309. ADDITIONAL STUDIES.

[. . . .]

(I) CENTRAL AND SOUTHERN FLORIDA.—The Chief of Engineers shall review the report of the Chief of Engineers on central and southern Florida, published as House Document 643, 80th Congress, 2d Session, and other pertinent reports, with a view to determining whether modifications to the existing project are advisable at the present time due to significantly changed physical, biological, demographic, or economic conditions, with particular reference to modifying the project or its operation for improving the quality of the environment, improving protection of the aquifer, and improving the integrity, capability, and conservation of urban water supplies affected by the project or its operation.

Approved October 31, 1992.

Public Law 103-219
103d Congress

An Act

Mar. 9, 1994
[H.R. 3617]

To amend the Everglades National Park Protection and Expansion Act of 1989, and for other purposes.

Conservation.
Florida.
Public lands.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 104 of the Everglades National Park Protection and Expansion Act of 1989 (16 U.S.C. 410r-8) is hereby amended by adding at the end thereof the following new subsection:

“(k)(1) Notwithstanding any other provision of this Act, the Secretary is authorized to use funds appropriated pursuant to this Act, including any available funds appropriated to the National Park Service for construction in the Department of the Interior and Related Agencies Appropriations Acts for fiscal years 1991 through 1994 for project modifications by the Army Corps of Engineers, in such amounts as determined by the Secretary, to provide Federal assistance to the State of Florida (including political subdivisions of the State) for acquisition of lands described in paragraph (4).

“(2) With respect to any lands acquired pursuant to this subsection, the Secretary may provide not more than 25 percent of the total cost of such acquisition.

“(3) All funds made available pursuant to this subsection shall be transferred to the State of Florida or a political subdivision of the State, subject to an agreement that any lands acquired with such funds will be managed in perpetuity for the restoration of natural flows to the park or Florida Bay.

“(4) The lands referred to in paragraph (1) are those lands or interests therein adjacent to, or affecting the restoration of natural water flows to, the park or Florida Bay which are located east of the park and known as the Frog Pond, Rocky Glades Agricultural Area, and the Eight-and-One-Half Square-Mile Area.”.

Approved March 9, 1994.

LEGISLATIVE HISTORY—H.R. 3617:

SENATE REPORTS: No. 103-224 (Comm. on Energy and Natural Resources).

CONGRESSIONAL RECORD:

Vol. 139 (1993): Nov. 22, considered and passed House.

Vol. 140 (1994): Feb. 11, considered and passed Senate.

PUBLIC LAW 104-303—OCT. 12, 1996

WATER RESOURCES DEVELOPMENT ACT OF
1996

(b) **CONSULTATION WITH FEDERAL ENTITIES.**—Any project under subsection (a) that is located on lands owned by the United States shall be undertaken in consultation with the Federal entity with administrative jurisdiction over such lands.

(c) **FEDERAL SHARE.**—The Federal share of the cost of the activities conducted under subsection (a) shall be 50 percent; except that, with respect to projects located on lands owned by the United States, the Federal share shall be 100 percent.

(d) **EFFECT ON AUTHORITY OF SECRETARY OF THE INTERIOR.**—Nothing in this section is intended to affect the authority of the Secretary of the Interior under title IV of the Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1231 et seq.).

(e) **AUTHORIZATION OF APPROPRIATIONS.**—There is authorized to be appropriated to carry out this section \$1,500,000.

SEC. 527. FAULKNER ISLAND, CONNECTICUT.

In consultation with the Director of the United States Fish and Wildlife Service, the Secretary shall design and construct shoreline protection measures for the coastline adjacent to the Faulkner Island Lighthouse, Connecticut, at a total cost of \$4,500,000.

SEC. 528. EVERGLADES AND SOUTH FLORIDA ECOSYSTEM RESTORATION.

(a) **DEFINITIONS.**—In this section, the following definitions apply:

(1) **CENTRAL AND SOUTHERN FLORIDA PROJECT.**—The term “Central and Southern Florida Project” means the project for Central and Southern Florida authorized under the heading “CENTRAL AND SOUTHERN FLORIDA” in section 203 of the Flood Control Act of 1948 (62 Stat. 1176), and any modification to the project authorized by law.

(2) **COMMISSION.**—The term “Commission” means the Governor’s Commission for a Sustainable South Florida, established by Executive Order of the Governor dated March 3, 1994.

(3) **GOVERNOR.**—The term “Governor” means the Governor of the State of Florida.

(4) **SOUTH FLORIDA ECOSYSTEM.**—The term “South Florida ecosystem” means the area consisting of the lands and waters within the boundary of the South Florida Water Management District, including the Everglades, the Florida Keys, and the contiguous near-shore coastal waters of South Florida.

(5) **TASK FORCE.**—The term “Task Force” means the South Florida Ecosystem Restoration Task Force established by subsection (f).

(b) **RESTORATION ACTIVITIES.**—

(1) **COMPREHENSIVE PLAN.**—

(A) **DEVELOPMENT.**—

(i) **PURPOSE.**—The Secretary shall develop, as expeditiously as practicable, a proposed comprehensive plan for the purpose of restoring, preserving, and protecting the South Florida ecosystem. The comprehensive plan shall provide for the protection of water quality in, and the reduction of the loss of fresh water from, the Everglades. The comprehensive plan shall include such features as are necessary to provide for the water-related needs of the region, including flood control, the enhancement of water supplies, and

other objectives served by the Central and Southern Florida Project.

(ii) CONSIDERATIONS.—The comprehensive plan shall—

(I) be developed by the Secretary in cooperation with the non-Federal project sponsor and in consultation with the Task Force; and

(II) consider the conceptual framework specified in the report entitled “Conceptual Plan for the Central and Southern Florida Project Restudy”, published by the Commission and approved by the Governor.

(B) SUBMISSION.—Not later than July 1, 1999, the Secretary shall—

(i) complete the feasibility phase of the Central and Southern Florida Project comprehensive review study as authorized by section 309(l) of the Water Resources Development Act of 1992 (106 Stat. 4844), and by 2 resolutions of the Committee on Public Works and Transportation of the House of Representatives, dated September 24, 1992; and

(ii) submit to Congress the plan developed under subparagraph (A)(i) consisting of a feasibility report and a programmatic environmental impact statement covering the proposed Federal action set forth in the plan.

(C) ADDITIONAL STUDIES AND ANALYSES.—Notwithstanding the completion of the feasibility report under subparagraph (B), the Secretary shall continue to conduct such studies and analyses as are necessary, consistent with subparagraph (A)(i).

(2) USE OF EXISTING AUTHORITY FOR UNCONSTRUCTED PROJECT FEATURES.—The Secretary shall design and construct any features of the Central and Southern Florida Project that are authorized on the date of the enactment of this Act or that may be implemented in accordance with the Secretary’s authority to modify an authorized project, including features authorized under sections 315 and 316, with funds that are otherwise available, if the Secretary determines that the design and construction—

(A) will accelerate the restoration, preservation, and protection of the South Florida ecosystem;

(B) will be generally consistent with the conceptual framework described in paragraph (1)(A)(ii)(II); and

(C) will be compatible with the overall authorized purposes of the Central and Southern Florida Project.

(3) CRITICAL RESTORATION PROJECTS.—

(A) IN GENERAL.—In addition to the activities described in paragraphs (1) and (2), if the Secretary, in cooperation with the non-Federal project sponsor and the Task Force, determines that a restoration project for the South Florida ecosystem will produce independent, immediate, and substantial restoration, preservation, and protection benefits, and will be generally consistent with the conceptual framework described in paragraph (1)(A)(ii)(II), the Secretary shall proceed expeditiously with the implementation of the restoration project.

Reports.

(B) INITIATION OF PROJECTS.—After September 30, 1999, no new projects may be initiated under subparagraph (A).

(C) AUTHORIZATION OF APPROPRIATIONS.—

(i) IN GENERAL.—There is authorized to be appropriated to the Department of the Army to pay the Federal share of the cost of carrying out projects under subparagraph (A) \$75,000,000 for the period consisting of fiscal years 1997 through 1999.

(ii) FEDERAL SHARE.—The Federal share of the cost of carrying out any 1 project under subparagraph (A) shall be not more than \$25,000,000.

(4) GENERAL PROVISIONS.—

(A) WATER QUALITY.—In carrying out activities described in this subsection and sections 315 and 316, the Secretary—

(i) shall take into account the protection of water quality by considering applicable State water quality standards; and

(ii) may include in projects such features as are necessary to provide water to restore, preserve, and protect the South Florida ecosystem.

(B) COMPLIANCE WITH APPLICABLE LAW.—In carrying out the activities described in this subsection and subsection (c), the Secretary shall comply with any applicable Federal law, including the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) and the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.).

(C) PUBLIC PARTICIPATION.—In developing the comprehensive plan under paragraph (1) and carrying out the activities described in this subsection and subsection (c), the Secretary shall provide for public review and comment on the activities in accordance with applicable Federal law.

(c) INTEGRATION OF OTHER ACTIVITIES.—

(1) IN GENERAL.—In carrying out activities described in subsection (b), the Secretary shall integrate such activities with ongoing Federal and State projects and activities, including—

(A) the project for the ecosystem restoration of the Kissimmee River, Florida, authorized by section 101 of the Water Resources Development Act of 1992 (106 Stat. 4802);

(B) the project for modifications to improve water deliveries into Everglades National Park authorized by section 104 of the Everglades National Park Protection and Expansion Act of 1989 (16 U.S.C. 410r-8);

(C) activities under the Florida Keys National Marine Sanctuary and Protection Act (16 U.S.C. 1433 note; 104 Stat. 3089); and

(D) the Everglades Construction Project of the State of Florida.

(2) STATUTORY CONSTRUCTION.—

(A) EXISTING AUTHORITY.—Except as otherwise expressly provided in this section, nothing in this section affects any authority in effect on the date of the enactment of this Act, or any requirement of the authority, relating to participation in restoration activities in the South Florida

ecosystem, including the projects and activities specified in paragraph (1), by—

- (i) the Department of the Interior;
- (ii) the Department of Commerce;
- (iii) the Department of the Army;
- (iv) the Environmental Protection Agency;
- (v) the Department of Agriculture;
- (vi) the State of Florida; and
- (vii) the South Florida Water Management District.

(B) NEW AUTHORITY.—Nothing in this section confers any new regulatory authority on any Federal or non-Federal entity that carries out any activity authorized by this section.

(d) JUSTIFICATION.—

(1) IN GENERAL.—Notwithstanding section 209 of the Flood Control Act of 1970 (42 U.S.C. 1962-2) or any other provision of law, in carrying out the activities to restore, preserve, and protect the South Florida ecosystem described in subsection (b), the Secretary may determine that the activities—

(A) are justified by the environmental benefits derived by the South Florida ecosystem in general and the Everglades and Florida Bay in particular; and

(B) shall not need further economic justification if the Secretary determines that the activities are cost-effective.

(2) APPLICABILITY.—Paragraph (1) shall not apply to any separable element intended to produce benefits that are predominantly unrelated to the restoration, preservation, and protection of the South Florida ecosystem.

(e) COST SHARING.—

(1) IN GENERAL.—Except as provided in sections 315 and 316 and paragraph (2), the non-Federal share of the cost of activities described in subsection (b) shall be 50 percent.

(2) WATER QUALITY FEATURES.—

(A) IN GENERAL.—Except as provided in subparagraph (B), the non-Federal share of the cost of project features to improve water quality described in subsection (b) shall be 100 percent.

(B) EXCEPTION.—

(i) IN GENERAL.—Subject to clause (ii), if the Secretary determines that a project feature to improve water quality is essential to Everglades restoration, the non-Federal share of the cost of the feature shall be 50 percent.

(ii) APPLICABILITY.—Clause (i) shall not apply to any feature of the Everglades Construction Project of the State of Florida.

(3) OPERATION AND MAINTENANCE.—The operation and maintenance of projects carried out under this section shall be a non-Federal responsibility.

(4) CREDIT.—Regardless of the date of acquisition, the value of lands or interests in land acquired by non-Federal interests for any activity described in subsection (b) shall be included in the total cost of the activity and credited against the non-Federal share of the cost of the activity. Such value shall be determined by the Secretary.

(f) SOUTH FLORIDA ECOSYSTEM RESTORATION TASK FORCE.—

(1) ESTABLISHMENT AND MEMBERSHIP.—There is established the South Florida Ecosystem Restoration Task Force, which shall consist of the following members (or, in the case of a Federal agency, a designee at the level of assistant secretary or an equivalent level):

(A) The Secretary of the Interior, who shall serve as chairperson.

(B) The Secretary of Commerce.

(C) The Secretary.

(D) The Attorney General.

(E) The Administrator of the Environmental Protection Agency.

(F) The Secretary of Agriculture.

(G) The Secretary of Transportation.

(H) 1 representative of the Miccosukee Tribe of Indians of Florida, to be appointed by the Secretary of the Interior based on the recommendations of the tribal chairman.

(I) 1 representative of the Seminole Tribe of Florida, to be appointed by the Secretary of the Interior based on the recommendations of the tribal chairman.

(J) 2 representatives of the State of Florida, to be appointed by the Secretary of the Interior based on the recommendations of the Governor.

(K) 1 representative of the South Florida Water Management District, to be appointed by the Secretary of the Interior based on the recommendations of the Governor.

(L) 2 representatives of local government in the State of Florida, to be appointed by the Secretary of the Interior based on the recommendations of the Governor.

(2) DUTIES OF TASK FORCE.—The Task Force—

(A) shall consult with, and provide recommendations to, the Secretary during development of the comprehensive plan under subsection (b)(1);

(B) shall coordinate the development of consistent policies, strategies, plans, programs, projects, activities, and priorities for addressing the restoration, preservation, and protection of the South Florida ecosystem;

(C) shall exchange information regarding programs, projects, and activities of the agencies and entities represented on the Task Force to promote ecosystem restoration and maintenance;

(D) shall establish a Florida-based working group which shall include representatives of the agencies and entities represented on the Task Force as well as other governmental entities as appropriate for the purpose of formulating, recommending, coordinating, and implementing the policies, strategies, plans, programs, projects, activities, and priorities of the Task Force;

(E) may, and the working group described in subparagraph (D), may—

(i) establish such advisory bodies as are necessary to assist the Task Force in its duties, including public policy and scientific issues; and

(ii) select as an advisory body any entity, such as the Commission, that represents a broad variety of private and public interests;

(F) shall facilitate the resolution of interagency and intergovernmental conflicts associated with the restoration of the South Florida ecosystem among agencies and entities represented on the Task Force;

(G) shall coordinate scientific and other research associated with the restoration of the South Florida ecosystem;

(H) shall provide assistance and support to agencies and entities represented on the Task Force in their restoration activities;

(I) shall prepare an integrated financial plan and recommendations for coordinated budget requests for the funds proposed to be expended by agencies and entities represented on the Task Force for the restoration, preservation, and protection of the South Florida ecosystem; and

(J) shall submit a biennial report to Congress that summarizes—

(i) the activities of the Task Force;

(ii) the policies, strategies, plans, programs, projects, activities, and priorities planned, developed, or implemented for the restoration of the South Florida ecosystem; and

(iii) progress made toward the restoration.

(3) PROCEDURES AND ADVICE.—

(A) PUBLIC PARTICIPATION.—

(i) IN GENERAL.—The Task Force shall implement procedures to facilitate public participation in the advisory process, including providing advance notice of meetings, providing adequate opportunity for public input and comment, maintaining appropriate records, and making a record of the proceedings of meetings available for public inspection.

(ii) OVERSIGHT.—The Secretary of the Interior shall ensure that the procedures described in clause (i) are adopted and implemented and that the records described in clause (i) are accurately maintained and available for public inspection.

(B) ADVISORS TO THE TASK FORCE AND WORKING GROUP.—The Task Force or the working group described in paragraph (2)(D) may seek advice and input from any interested, knowledgeable, or affected party as the Task Force or working group, respectively, determines necessary to perform the duties described in paragraph (2).

(C) APPLICATION OF THE FEDERAL ADVISORY COMMITTEE ACT.—

(i) TASK FORCE AND WORKING GROUP.—The Task Force and the working group shall not be considered advisory committees under the Federal Advisory Committee Act (5 U.S.C. App.).

(ii) ADVISORS.—Seeking advice and input under subparagraph (B) shall not be subject to the Federal Advisory Committee Act (5 U.S.C. App.).

(4) COMPENSATION.—A member of the Task Force shall receive no compensation for the service of the member on the Task Force.

(5) TRAVEL EXPENSES.—Travel expenses incurred by a member of the Task Force in the performance of services for the

Reports.

Task Force shall be paid by the agency, tribe, or government that the member represents.

SEC. 529. TAMPA, FLORIDA.

The Secretary may enter into a cooperative agreement under section 229 with the Museum of Science and Industry, Tampa, Florida, to provide technical, planning, and design assistance to demonstrate the water quality functions found in wetlands, at an estimated total Federal cost of \$500,000.

SEC. 530. WATERSHED MANAGEMENT PLAN FOR DEEP RIVER BASIN, INDIANA.

(a) **DEVELOPMENT.**—The Secretary, in consultation with the Natural Resources Conservation Service of the Department of Agriculture, shall develop a watershed management plan for the Deep River Basin, Indiana, including Deep River, Lake George, Turkey Creek, and other related tributaries in Indiana.

(b) **CONTENTS.**—The plan to be developed by the Secretary under subsection (a) shall address specific concerns related to the Deep River Basin area, including—

- (1) sediment flow into Deep River, Turkey Creek, and other tributaries;
- (2) control of sediment quality in Lake George;
- (3) flooding problems;
- (4) the safety of the Lake George Dam; and
- (5) watershed management.

SEC. 531. SOUTHERN AND EASTERN KENTUCKY.

(a) **ESTABLISHMENT OF PROGRAM.**—The Secretary may establish a program for providing environmental assistance to non-Federal interests in southern and eastern Kentucky.

(b) **FORM OF ASSISTANCE.**—Assistance under this section may be in the form of design and construction assistance for water-related environmental infrastructure and resource protection and development projects in southern and eastern Kentucky, including projects for wastewater treatment and related facilities, water supply and related facilities, and surface water resource protection and development.

(c) **PUBLIC OWNERSHIP REQUIREMENT.**—The Secretary may provide assistance for a project under this section only if the project is publicly owned.

(d) **PROJECT COOPERATION AGREEMENTS.**—

(1) **IN GENERAL.**—Before providing assistance under this section, the Secretary shall enter into a project cooperation agreement with a non-Federal interest to provide for design and construction of the project to be carried out with such assistance.

(2) **REQUIREMENTS.**—Each agreement entered into under this subsection shall provide for the following:

(A) **PLAN.**—Development by the Secretary, in consultation with appropriate Federal and State officials, of a facilities development plan or resource protection plan, including appropriate plans and specifications.

(B) **LEGAL AND INSTITUTIONAL STRUCTURES.**—Establishment of such legal and institutional structures as are necessary to ensure the effective long-term operation of the project by the non-Federal interest.

(3) **COST SHARING.**—

Public Law 105-82
105th Congress

AN ACT

To designate the Marjory Stoneman Douglas Wilderness and the Ernest F. Coe Visitor Center.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “Marjory Stoneman Douglas Wilderness and Ernest F. Coe Visitor Center Designation Act.”

SEC. 2. FINDINGS AND PURPOSE.

(a) Findings.—Congress finds that—

(1)(A) Marjory Stoneman Douglas, through her book, “The Everglades: River of Grass” (published in 1947), defined the Everglades for the people of the United States and the world;

(B) Mrs. Douglas's book was the first to stimulate widespread understanding of the Everglades ecosystem and ultimately served to awaken the desire of the people of the United States to restore the ecosystem's health;

(C) in her 107th year, Mrs. Douglas is the sole surviving member of the original group of people who devoted decades of selfless effort to establish the Everglades National Park;

(D) when the water supply and ecology of the Everglades, both within and outside the park, became threatened by drainage and development, Mrs. Douglas dedicated the balance of her life to the defense of the Everglades through extraordinary personal effort and by inspiring countless other people to take action;

(E) for these and many other accomplishments, the President awarded Mrs. Douglas the Medal of Freedom on Earth Day, 1994; and

(2)(A) Ernest F. Coe (1886-1951) was a leader in the creation of Everglades National Park;

(B) Mr. Coe organized the Tropic Everglades National Park Association in 1928 and was widely regarded as the father of Everglades National Park;

(C) as a landscape architect, Mr. Coe's vision for the park recognized the need to protect south Florida's diverse wildlife and habitats for future generations;

(D) Mr. Coe's original park proposal included lands and waters subsequently protected within the Everglades National Park, the Big Cypress National Preserve, and the Florida Keys National Marine Sanctuary; and

(E)(i) Mr. Coe's leadership, selfless devotion, and commitment to achieving his vision culminated in the authorization of the Everglades National Park by Congress in 1934;

(ii) after authorization of the park, Mr. Coe fought tirelessly and lobbied strenuously for establishment of the park, finally realizing his dream in 1947; and

(iii) Mr. Coe accomplished much of the work described in this paragraph at his own expense, which dramatically demonstrated his commitment to establishment of Everglades National Park.

(b) Purpose.--It is the purpose of this Act to commemorate the vision, leadership, and enduring contributions of Marjory Stoneman Douglas and Ernest F. Coe to the protection of the Everglades and the establishment of Everglades National Park.

SEC. 3. MARJORY STONEMAN DOUGLAS WILDERNESS.

(a) REDESIGNATION.--Section 401(3) of the National Parks and Recreation Act of 1978 (Public Law 95-625; 92 Stat. 3490; 16 U.S.C. 1132 note) is amended by striking "to be known as the Everglades Wilderness" and inserting "to be known as the Marjory Stoneman Douglas Wilderness, to commemorate the vision and leadership shown by Mrs. Douglas in the protection of the Everglades and the establishment of the Everglades National Park".

(b) NOTICE OF REDESIGNATION.--The Secretary of the Interior shall provide such notification of the redesignation made by the amendment made by subsection (a) by signs, materials, maps, markers, interpretive programs, and other means (including changes in signs, materials, maps, and markers in existence before the date of enactment of this Act) as will adequately inform the public of the redesignation of the wilderness area and the reasons for the redesignation.

(c) REFERENCES.--Any reference in any law, regulation, document, record, map, or other paper of the United States to the "Everglades Wilderness" shall be deemed to be a reference to the "Marjory Stoneman Douglas Wilderness."

SEC. 4. ERNEST F. COE VISITOR CENTER.

(a) DESIGNATION.--Section 103 of the Everglades National Park Protection and Expansion Act of 1989 (16 U.S.C. 410r-7) is amended by adding at the end the following new subsection:

“(f) ERNEST F. COE VISITOR CENTER.--On completion of construction of the main visitor center facility at the headquarters of Everglades National Park, the Secretary shall designate the visitor center facility as the ‘Ernest F. Coe Visitor Center,’ to commemorate the vision and leadership shown by Mr. Coe in the establishment and protection of Everglades National Park.”.

SEC. 5. CONFORMING AND TECHNICAL AMENDMENTS.

Section 103 of the Everglades National Park Protection and Expansion Act of 1989 (16 U.S.C. 410r-7) is amended—

(1) in subsection (c)(2), by striking “personnally-owned” and inserting “personally-owned”; and

(2) in subsection (e), by striking “VISITOR CENTER” and inserting “MARJORY STONEMAN DOUGLAS VISITOR CENTER.”

Approved November 13, 1997.

PUBLIC LAW 105-313—OCT. 30, 1998

MICCOSUKEE RESERVED AREA ACT

Public Law 105–313
105th Congress

An Act

Oct. 30, 1998
[H.R. 3055]

To deem the activities of the Miccosukee Tribe on the Miccosukee Reserved Area to be consistent with the purposes of the Everglades National Park, and for other purposes.

Miccosukee
Reserved Area
Act.
Native
Americans.
Florida.
16 USC 410 note.
16 USC 410 note.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “Miccosukee Reserved Area Act”.

SEC. 2. FINDINGS.

Congress finds the following:

(1) Since 1964, the Miccosukee Tribe of Indians of Florida have lived and governed their own affairs on a strip of land on the northern edge of the Everglades National Park pursuant to permits from the National Park Service and other legal authority. The current permit expires in 2014.

(2) Since the commencement of the Tribe’s permitted use and occupancy of the Special Use Permit Area, the Tribe’s membership has grown, as have the needs and desires of the Tribe and its members for modern housing, governmental and administrative facilities, schools and cultural amenities, and related structures.

(3) The United States, the State of Florida, the Miccosukee Tribe, and the Seminole Tribe of Florida are participating in a major intergovernmental effort to restore the South Florida ecosystem, including the restoration of the environment of the Park.

(4) The Special Use Permit Area is located within the northern boundary of the Park, which is critical to the protection and restoration of the Everglades, as well as to the cultural values of the Miccosukee Tribe.

(5) The interests of both the Miccosukee Tribe and the United States would be enhanced by a further delineation of the rights and obligations of each with respect to the Special Use Permit Area and to the Park as a whole.

(6) The amount and location of land allocated to the Tribe fulfills the purposes of the Park.

(7) The use of the Miccosukee Reserved Area by the Miccosukee Tribe does not constitute an abandonment of the Park.

16 USC 410 note. **SEC. 3. PURPOSES.**

The purposes of this Act are as follows:

(1) To replace the special use permit with a legal framework under which the Tribe can live permanently and govern the Tribe's own affairs in a modern community within the Park.

(2) To protect the Park outside the boundaries of the Miccosukee Reserved Area from adverse effects of structures or activities within that area, and to support restoration of the South Florida ecosystem, including restoring the environment of the Park.

SEC. 4. DEFINITIONS.

16 USC 410 note.

In this Act:

(1) ADMINISTRATOR.—The term “Administrator” means the Administrator of the Environmental Protection Agency.

(2) EVERGLADES.—The term “Everglades” means the areas within the Florida Water Conservation Areas, Everglades National Park, and Big Cypress National Preserve.

(3) FEDERAL AGENCY.—The term “Federal agency” means an agency, as that term is defined in section 551(1) of title 5, United States Code.

(4) MICCOSUKEE RESERVED AREA; MRA.—

(A) IN GENERAL.—The term “Miccosukee Reserved Area” or “MRA” means, notwithstanding any other provision of law and subject to the limitations specified in section 6(d) of this Act, the portion of the Everglades National Park described in subparagraph (B) that is depicted on the map entitled “Miccosukee Reserved Area” numbered NPS-160/41,038, and dated September 30, 1998, copies of which shall be kept available for public inspection in the offices of the National Park Service, Department of the Interior, and shall be filed with appropriate officers of Miami-Dade County and the Miccosukee Tribe of Indians of Florida.

(B) DESCRIPTION.—The description of the lands referred to in subparagraph (A) is as follows: “Beginning at the western boundary of Everglades National Park at the west line of sec. 20, T. 54 S., R. 35 E., thence E. following the Northern boundary of said Park in T. 54 S., Rs. 35 and 36 E., to a point in sec. 19, T. 54 S., R. 36 E., 500 feet west of the existing road known as Seven Mile Road, thence 500 feet south from said point, thence west paralleling the Park boundary for 3,200 feet, thence south for 600 feet, thence west, paralleling the Park boundary to the west line of sec. 20, T. 54 S., R. 35 E., thence N. 1,100 feet to the point of beginning.”

(5) PARK.—The term “Park” means the Everglades National Park, including any additions to that Park.

(6) PERMIT.—The term “permit”, unless otherwise specified, means any federally issued permit, license, certificate of public convenience and necessity, or other permission of any kind.

(7) SECRETARY.—The term “Secretary” means the Secretary of the Interior or the designee of the Secretary.

(8) SOUTH FLORIDA ECOSYSTEM.—The term “South Florida ecosystem” has the meaning given that term in section 528(a)(4) of the Water Resources Development Act of 1996 (Public Law 104-303).

(9) SPECIAL USE PERMIT AREA.—The term “special use permit area” means the area of 333.3 acres on the northern boundary of the Park reserved for the use, occupancy, and governance of the Tribe under a special use permit before the date of the enactment of this Act.

(10) TRIBE.—The term “Tribe”, unless otherwise specified, means the Miccosukee Tribe of Indians of Florida, a tribe of American Indians recognized by the United States and organized under section 16 of the Act of June 18, 1934 (48 Stat. 987; 25 U.S.C. 476), and recognized by the State of Florida pursuant to chapter 285, Florida Statutes.

(11) TRIBAL.—The term “tribal” means of or pertaining to the Miccosukee Tribe of Indians of Florida.

(12) TRIBAL CHAIRMAN.—The term “tribal chairman” means the duly elected chairman of the Miccosukee Tribe of Indians of Florida, or the designee of that chairman.

16 USC 410 note. **SEC. 5. TRIBAL RIGHTS AND AUTHORITY ON THE MICCOSUKEE RESERVED AREA.**

(a) SPECIAL USE PERMIT TERMINATED.—

(1) TERMINATION.—The special use permit dated February 1, 1973, issued by the Secretary to the Tribe, and any amendments to that permit, are terminated.

(2) EXPANSION OF SPECIAL USE PERMIT AREA.—The geographical area contained in the former special use permit area referred to in paragraph (1) shall be expanded pursuant to this Act and known as the Miccosukee Reserved Area.

(3) GOVERNANCE OF AFFAIRS IN MICCOSUKEE RESERVED AREA.—Subject to the provisions of this Act and other applicable Federal law, the Tribe shall govern its own affairs and otherwise make laws and apply those laws in the MRA as though the MRA were a Federal Indian reservation.

(b) PERPETUAL USE AND OCCUPANCY.—The Tribe shall have the exclusive right to use and develop the MRA in perpetuity in a manner consistent with this Act for purposes of the administration, education, housing, and cultural activities of the Tribe, including commercial services necessary to support those purposes.

(c) INDIAN COUNTRY STATUS.—The MRA shall be—

(1) considered to be Indian country (as that term is defined in section 1151 of title 18, United States Code); and

(2) treated as a federally recognized Indian reservation solely for purposes of—

(A) determining the authority of the Tribe to govern its own affairs and otherwise make laws and apply those laws within the MRA; and

(B) the eligibility of the Tribe and its members for any Federal health, education, employment, economic assistance, revenue sharing, or social welfare programs, or any other similar Federal program for which Indians are eligible because of their—

(i) status as Indians; and

(ii) residence on or near an Indian reservation.

(d) EXCLUSIVE FEDERAL JURISDICTION PRESERVED.—The exclusive Federal legislative jurisdiction as applied to the MRA as in effect on the date of the enactment of this Act shall be preserved. The Act of August 15, 1953, 67 Stat. 588, chapter 505 and the amendments made by that Act, including section 1162 of title

18, United States Code, as added by that Act and section 1360 of title 28, United States Code, as added by that Act, shall not apply with respect to the MRA.

(e) OTHER RIGHTS PRESERVED.—Nothing in this Act shall affect any rights of the Tribe under Federal law, including the right to use other lands or waters within the Park for other purposes, including, fishing, boating, hiking, camping, cultural activities, or religious observances.

SEC. 6. PROTECTION OF EVERGLADES NATIONAL PARK.

16 USC 410 note.

(a) ENVIRONMENTAL PROTECTION AND ACCESS REQUIREMENTS.—

(1) IN GENERAL.—The MRA shall remain within the boundaries of the Park and be a part of the Park in a manner consistent with this Act.

(2) COMPLIANCE WITH APPLICABLE LAWS.—The Tribe shall be responsible for compliance with all applicable laws, except as otherwise provided by this Act.

(3) PREVENTION OF DEGRADATION; ABATEMENT.—

(A) PREVENTION OF DEGRADATION.—Pursuant to the requirements of the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), the Tribe shall prevent and abate degradation of the quality of surface or groundwater that is released into other parts of the Park, as follows:

(i) With respect to water entering the MRA which fails to meet applicable water quality standards approved by the Administrator under the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), actions of the Tribe shall not further degrade water quality.

(ii) With respect to water entering the MRA which meets applicable water quality standards approved by the Administrator under the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), the Tribe shall not cause the water to fail to comply with applicable water quality standards.

(B) PREVENTION AND ABATEMENT.—The Tribe shall prevent and abate disruption of the restoration or preservation of the quantity, timing, or distribution of surface or groundwater that would enter the MRA and flow, directly or indirectly, into other parts of the Park, but only to the extent that such disruption is caused by conditions, activities, or structures within the MRA.

(C) PREVENTION OF SIGNIFICANT PROPAGATION OF EXOTIC PLANTS AND ANIMALS.—The Tribe shall prevent significant propagation of exotic plants or animals outside the MRA that may otherwise be caused by conditions, activities, or structures within the MRA.

(D) PUBLIC ACCESS TO CERTAIN AREAS OF THE PARK.—The Tribe shall not impede public access to those areas of the Park outside the boundaries of the MRA, and to and from the Big Cypress National Preserve, except that the Tribe shall not be required to allow individuals who are not members of the Tribe access to the MRA other than Federal employees, agents, officers, and officials (as provided in this Act).

(E) PREVENTION OF SIGNIFICANT CUMULATIVE ADVERSE ENVIRONMENTAL IMPACTS.—

- (i) IN GENERAL.—The Tribe shall prevent and abate any significant cumulative adverse environmental impact on the Park outside the MRA resulting from development or other activities within the MRA.
- Deadline. (ii) PROCEDURES.—Not later than 12 months after the date of the enactment of this Act, the Tribe shall develop, publish, and implement procedures that shall ensure adequate public notice and opportunity to comment on major tribal actions within the MRA that may contribute to a significant cumulative adverse impact on the Everglades ecosystem.
- (iii) WRITTEN NOTICE.—The procedures in clause (ii) shall include timely written notice to the Secretary and consideration of the Secretary's comments.
- (F) WATER QUALITY STANDARDS.—
- Deadline. (i) IN GENERAL.—Not later than 12 months after the date of the enactment of this Act, the Tribe shall adopt and comply with water quality standards within the MRA that are at least as protective as the water quality standards for the area encompassed by Everglades National Park approved by the Administrator under the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.).
- (ii) TRIBAL WATER QUALITY STANDARDS.—The Tribe may not adopt water quality standards for the MRA under clause (i) that are more restrictive than the water quality standards adopted by the Tribe for contiguous reservation lands that are not within the Park.
- (iii) EFFECT OF FAILURE TO ADOPT OR PRESCRIBE STANDARDS.—In the event the Tribe fails to adopt water quality standards referred to in clause (i), the water quality standards applicable to the Everglades National Park, approved by the Administrator under the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), shall be deemed to apply by operation of Federal law to the MRA until such time as the Tribe adopts water quality standards that meet the requirements of this subparagraph.
- (iv) MODIFICATION OF STANDARDS.—If, after the date of the enactment of this Act, the standards referred to in clause (iii) are revised, not later than 1 year after those standards are revised, the Tribe shall make such revisions to water quality standards of the Tribe as are necessary to ensure that those water quality standards are at least as protective as the revised water quality standards approved by the Administrator.
- (v) EFFECT OF FAILURE TO MODIFY WATER QUALITY STANDARDS.—If the Tribe fails to revise water quality standards in accordance with clause (iv), the revised water quality standards applicable to the Everglades Park, approved by the Administrator under the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.) shall be deemed to apply by operation of Federal law to the MRA until such time as the Tribe adopts water quality standards that are at least as protective as

the revised water quality standards approved by the Administrator.

(G) NATURAL EASEMENTS.—The Tribe shall not engage in any construction, development, or improvement in any area that is designated as a natural easement.

(b) HEIGHT RESTRICTIONS.—

(1) RESTRICTIONS.—Except as provided in paragraphs (2) through (4), no structure constructed within the MRA shall exceed the height of 45 feet or exceed 2 stories, except that a structure within the Miccosukee Government Center, as shown on the map referred to in section 4(4), shall not exceed the height of 70 feet.

(2) EXCEPTIONS.—The following types of structures are exempt from the restrictions of this section to the extent necessary for the health, safety, or welfare of the tribal members, and for the utility of the structures:

(A) Water towers or standpipes.

(B) Radio towers.

(C) Utility lines.

(3) WAIVER.—The Secretary may waive the restrictions of this subsection if the Secretary finds that the needs of the Tribe for the structure that is taller than structures allowed under the restrictions would outweigh the adverse effects to the Park or its visitors.

(4) GRANDFATHER CLAUSE.—Any structure approved by the Secretary before the date of the enactment of this Act, and for which construction commences not later than 12 months after the date of the enactment of this Act, shall not be subject to the provisions of this subsection.

(5) MEASUREMENT.—The heights specified in this subsection shall be measured from mean sea level.

(c) OTHER CONDITIONS.—

(1) GAMING.—No class II or class III gaming (as those terms are defined in section 4 (7) and (8) of the Indian Gaming Regulatory Act (25 U.S.C. 2703 (7) and (8)) shall be conducted within the MRA.

(2) AVIATION.—

(A) IN GENERAL.—No commercial aviation may be conducted from or to the MRA.

(B) EMERGENCY OPERATORS.—Takeoffs and landings of aircraft shall be allowed for emergency operations and administrative use by the Tribe or the United States, including resource management and law enforcement.

(C) STATE AGENCIES AND OFFICIALS.—The Tribe may permit the State of Florida, as agencies or municipalities of the State of Florida to provide for takeoffs or landings of aircraft on the MRA for emergency operations or administrative purposes.

(3) VISUAL QUALITY.—

(A) IN GENERAL.—In the planning, use, and development of the MRA by the Tribe, the Tribe shall consider the quality of the visual experience from the Shark River Valley visitor use area, including limitations on the height and locations of billboards or other commercial signs or other advertisements visible from the Shark Valley visitor center, tram road, or observation tower.

(B) EXEMPTION OF MARKINGS.—The Tribe may exempt markings on a water tower or standpipe that merely identify the Tribe.

(d) EASEMENTS AND RANGER STATION.—Notwithstanding any other provision of this Act, the following provisions shall apply:

(1) NATURAL EASEMENTS.—

(A) IN GENERAL.—The use and occupancy of the MRA by the Tribe shall be perpetually subject to natural easements on parcels of land that are—

(i) bounded on the north and south by the boundaries of the MRA, specified in the legal description under section 4(4); and

(ii) bounded on the east and west by boundaries that run perpendicular to the northern and southern boundaries of the MRA, as provided in the description under subparagraph (B).

(B) DESCRIPTION.—The description referred to in subparagraph (A)(ii) is as follows:

(i) Easement number 1, being 445 feet wide with western boundary 525 feet, and eastern boundary 970 feet, east of the western boundary of the MRA.

(ii) Easement number 2, being 443 feet wide with western boundary 3,637 feet, and eastern boundary 4,080 feet, east of the western boundary of the MRA.

(iii) Easement number 3, being 320 feet wide with western boundary 5,380 feet, and eastern boundary 5,700 feet, east of the western boundary of the MRA.

(iv) Easement number 4, being 290 feet wide with western boundary 6,020 feet, and eastern boundary 6,310 feet, east of the western boundary of the MRA.

(v) Easement number 5, being 290 feet wide with western boundary 8,170 feet, and eastern boundary 8,460 feet, east of the western boundary of the MRA.

(vi) Easement number 6, being 312 feet wide with western boundary 8,920 feet, and eastern boundary 9,232 feet, east of the western boundary of the MRA.

(2) EXTENT OF EASEMENTS.—The aggregate extent of the east-west parcels of lands subject to easements under paragraph (1) shall not exceed 2,100 linear feet, as depicted on the map referred to in section 4(4).

(3) USE OF EASEMENTS.—At the discretion of the Secretary, the Secretary may use the natural easements specified in paragraph (1) to fulfill a hydrological or other environmental objective of the Everglades National Park.

(4) ADDITIONAL REQUIREMENTS.—In addition to providing for the easements specified in paragraph (1), the Tribe shall not impair or impede the continued function of the water control structures designated as “S-12A” and “S-12B”, located north of the MRA on the Tamiami Trail and any existing water flow ways under the Old Tamiami Trail.

(5) USE BY DEPARTMENT OF THE INTERIOR.—The Department of the Interior shall have a right, in perpetuity, to use and occupy, and to have vehicular and airboat access to, the Tamiami Ranger Station identified on the map referred to in section 4(4), except that the pad on which such station is constructed shall not be increased in size without the consent of the Tribe.

SEC. 7. IMPLEMENTATION PROCESS.

16 USC 410 note.

(a) **GOVERNMENT-TO-GOVERNMENT AGREEMENTS.**—The Secretary and the tribal chairman shall make reasonable, good faith efforts to implement the requirements of this Act. Those efforts may include government-to-government consultations, and the development of standards of performance and monitoring protocols.

(b) **FEDERAL MEDIATION AND CONCILIATION SERVICE.**—If the Secretary and the tribal chairman concur that they cannot reach agreement on any significant issue relating to the implementation of the requirements of this Act, the Secretary and the tribal chairman may jointly request that the Federal Mediation and Conciliation Service assist them in reaching a satisfactory agreement.

(c) **60-DAY TIME LIMIT.**—The Federal Mediation and Conciliation Service may conduct mediation or other nonbinding dispute resolution activities for a period not to exceed 60 days beginning on the date on which the Federal Mediation and Conciliation Service receives the request for assistance, unless the Secretary and the tribal chairman agree to an extension of period of time.

(d) **OTHER RIGHTS PRESERVED.**—The facilitated dispute resolution specified in this section shall not prejudice any right of the parties to—

(1) commence an action in a court of the United States at any time; or

(2) any other resolution process that is not prohibited by law.

SEC. 8. MISCELLANEOUS.

16 USC 410 note.

(a) **NO GENERAL APPLICABILITY.**—Nothing in this Act creates any right, interest, privilege, or immunity affecting any other Tribe or any other park or Federal lands.

(b) **NONINTERFERENCE WITH FEDERAL AGENTS.**—

(1) **IN GENERAL.**—Federal employees, agents, officers, and officials shall have a right of access to the MRA—

(A) to monitor compliance with the provisions of this Act; and

(B) for other purposes, as though it were a Federal Indian reservation.

(2) **STATUTORY CONSTRUCTION.**—Nothing in this Act shall authorize the Tribe or members or agents of the Tribe to interfere with any Federal employee, agent, officer, or official in the performance of official duties (whether within or outside the boundaries of the MRA) except that nothing in this paragraph may prejudice any right under the Constitution of the United States.

(c) **FEDERAL PERMITS.**—

(1) **IN GENERAL.**—No Federal permit shall be issued to the Tribe for any activity or structure that would be inconsistent with this Act.

(2) **CONSULTATIONS.**—Any Federal agency considering an application for a permit for construction or activities on the MRA shall consult with, and consider the advice, evidence, and recommendations of the Secretary before issuing a final decision.

(3) **RULE OF CONSTRUCTION.**—Except as otherwise specifically provided in this Act, nothing in this Act supersedes any requirement of any other applicable Federal law.

(d) VOLUNTEER PROGRAMS AND TRIBAL INVOLVEMENT.—The Secretary may establish programs that foster greater involvement by the Tribe with respect to the Park. Those efforts may include internships and volunteer programs with tribal schoolchildren and with adult tribal members.

(e) SAVING ECOSYSTEM RESTORATION.—

(1) IN GENERAL.—Nothing in this Act shall be construed to amend or prejudice the authority of the United States to design, construct, fund, operate, permit, remove, or degrade canals, levees, pumps, impoundments, wetlands, flow ways, or other facilities, structures, or systems, for the restoration or protection of the South Florida ecosystem pursuant to Federal laws.

(2) USE OF NONEASEMENT LANDS.—

(A) IN GENERAL.—The Secretary may use all or any part of the MRA lands to the extent necessary to restore or preserve the quality, quantity, timing, or distribution of surface or groundwater, if other reasonable alternative measures to achieve the same purpose are impractical.

(B) SECRETARIAL AUTHORITY.—The Secretary may use lands referred to in subparagraph (A) either under an agreement with the tribal chairman or upon an order of the United States district court for the district in which the MRA is located, upon petition by the Secretary and finding by the court that—

(i) the proposed actions of the Secretary are necessary; and

(ii) other reasonable alternative measures are impractical.

(3) COSTS.—

(A) IN GENERAL.—In the event the Secretary exercises the authority granted the Secretary under paragraph (2), the United States shall be liable to the Tribe or the members of the Tribe for—

(i) cost of modification, removal, relocation, or reconstruction of structures lawfully erected in good faith on the MRA; and

(ii) loss of use of the affected land within the MRA.

(B) PAYMENT OF COMPENSATION.—Any compensation paid under subparagraph (A) shall be paid as cash payments with respect to taking structures and other fixtures and in the form of rights to occupy similar land adjacent to the MRA with respect to taking land.

(4) RULE OF CONSTRUCTION.—Paragraphs (2) and (3) shall not apply to a natural easement described in section 6(d)(1).

(f) PARTIES HELD HARMLESS.—

(1) UNITED STATES HELD HARMLESS.—

(A) IN GENERAL.—Subject to subparagraph (B) with respect to any tribal member, tribal employee, tribal contractor, tribal enterprise, or any person residing within the MRA, notwithstanding any other provision of law, the United States (including an officer, agent, or employee of the United States), shall not be liable for any action or failure to act by the Tribe (including an officer, employee, or member of the Tribe), including any failure to perform any of the obligations of the Tribe under this Act.

(B) RULE OF CONSTRUCTION.—Nothing in this paragraph shall be construed to alter any liability or other obligation that the United States may have under the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450 et seq.).

(2) TRIBE HELD HARMLESS.—Notwithstanding any other provision of law, the Tribe and the members of the Tribe shall not be liable for any injury, loss, damage, or harm that—

(A) occurs with respect to the MRA; and

(B) is caused by an action or failure to act by the United States, or the officer, agent, or employee of the United States (including the failure to perform any obligation of the United States under this Act).

(g) COOPERATIVE AGREEMENTS.—Nothing in this Act shall alter the authority of the Secretary and the Tribe to enter into any cooperative agreement, including any agreement concerning law enforcement, emergency response, or resource management.

(h) WATER RIGHTS.—Nothing in this Act shall enhance or diminish any water rights of the Tribe, or members of the Tribe, or the United States (with respect to the Park).

(i) ENFORCEMENT.—

(1) ACTIONS BROUGHT BY ATTORNEY GENERAL.—The Attorney General may bring a civil action in the United States district court for the district in which the MRA is located, to enjoin the Tribe from violating any provision of this Act.

(2) ACTION BROUGHT BY TRIBE.—The Tribe may bring a civil action in the United States district court for the district in which the MRA is located to enjoin the United States from violating any provision of this Act.

Approved October 30, 1998.

LEGISLATIVE HISTORY—H.R. 3055 (S. 1419):

HOUSE REPORTS: No. 105-708, Pt. 1 (Comm. on Resources).

SENATE REPORTS: No. 105-361 accompanying S. 1419 (Comm. on Indian Affairs).

CONGRESSIONAL RECORD, Vol. 144 (1998):

Oct. 12, considered and passed House.

Oct. 15, considered and passed Senate.



PUBLIC LAW 106-541—DEC. 11, 2000

WATER RESOURCES DEVELOPMENT ACT
OF 2000

Judge of Morgan County, Alabama, which are owned or may be acquired by the Alabama Farmers Cooperative, Inc.

Florida.

TITLE VI—COMPREHENSIVE EVERGLADES RESTORATION

SEC. 601. COMPREHENSIVE EVERGLADES RESTORATION PLAN.

(a) DEFINITIONS.—In this section, the following definitions apply:

(1) CENTRAL AND SOUTHERN FLORIDA PROJECT.—

(A) IN GENERAL.—The term “Central and Southern Florida Project” means the project for Central and Southern Florida authorized under the heading “CENTRAL AND SOUTHERN FLORIDA” in section 203 of the Flood Control Act of 1948 (62 Stat. 1176).

(B) INCLUSION.—The term “Central and Southern Florida Project” includes any modification to the project authorized by this section or any other provision of law.

(2) GOVERNOR.—The term “Governor” means the Governor of the State of Florida.

(3) NATURAL SYSTEM.—

(A) IN GENERAL.—The term “natural system” means all land and water managed by the Federal Government or the State within the South Florida ecosystem.

(B) INCLUSIONS.—The term “natural system” includes—

- (i) water conservation areas;
- (ii) sovereign submerged land;
- (iii) Everglades National Park;
- (iv) Biscayne National Park;
- (v) Big Cypress National Preserve;
- (vi) other Federal or State (including a political subdivision of a State) land that is designated and managed for conservation purposes; and
- (vii) any tribal land that is designated and managed for conservation purposes, as approved by the tribe.

(4) PLAN.—The term “Plan” means the Comprehensive Everglades Restoration Plan contained in the “Final Integrated Feasibility Report and Programmatic Environmental Impact Statement”, dated April 1, 1999, as modified by this section.

(5) SOUTH FLORIDA ECOSYSTEM.—

(A) IN GENERAL.—The term “South Florida ecosystem” means the area consisting of the land and water within the boundary of the South Florida Water Management District in effect on July 1, 1999.

(B) INCLUSIONS.—The term “South Florida ecosystem” includes—

- (i) the Everglades;
- (ii) the Florida Keys; and
- (iii) the contiguous near-shore coastal water of South Florida.

(6) STATE.—The term “State” means the State of Florida.

(b) COMPREHENSIVE EVERGLADES RESTORATION PLAN.—

(1) APPROVAL.—

(A) IN GENERAL.—Except as modified by this section, the Plan is approved as a framework for modifications and operational changes to the Central and Southern Florida Project that are needed to restore, preserve, and protect the South Florida ecosystem while providing for other water-related needs of the region, including water supply and flood protection. The Plan shall be implemented to ensure the protection of water quality in, the reduction of the loss of fresh water from, and the improvement of the environment of the South Florida ecosystem and to achieve and maintain the benefits to the natural system and human environment described in the Plan, and required pursuant to this section, for as long as the project is authorized.

(B) INTEGRATION.—In carrying out the Plan, the Secretary shall integrate the activities described in subparagraph (A) with ongoing Federal and State projects and activities in accordance with section 528(c) of the Water Resources Development Act of 1996 (110 Stat. 3769). Unless specifically provided herein, nothing in this section shall be construed to modify any existing cost share or responsibility for projects as listed in subsection (c) or (e) of section 528 of the Water Resources Development Act of 1996 (110 Stat. 3769).

(2) SPECIFIC AUTHORIZATIONS.—

(A) IN GENERAL.—

(i) PROJECTS.—The Secretary shall carry out the projects included in the Plan in accordance with subparagraphs (B), (C), (D), and (E).

(ii) CONSIDERATIONS.—In carrying out activities described in the Plan, the Secretary shall—

(I) take into account the protection of water quality by considering applicable State water quality standards; and

(II) include such features as the Secretary determines are necessary to ensure that all ground water and surface water discharges from any project feature authorized by this subsection will meet all applicable water quality standards and applicable water quality permitting requirements.

(iii) REVIEW AND COMMENT.—In developing the projects authorized under subparagraph (B), the Secretary shall provide for public review and comment in accordance with applicable Federal law.

(B) PILOT PROJECTS.—The following pilot projects are authorized for implementation, after review and approval by the Secretary, at a total cost of \$69,000,000, with an estimated Federal cost of \$34,500,000 and an estimated non-Federal cost of \$34,500,000:

(i) Caloosahatchee River (C-43) Basin ASR, at a total cost of \$6,000,000, with an estimated Federal cost of \$3,000,000 and an estimated non-Federal cost of \$3,000,000.

(ii) Lake Belt In-Ground Reservoir Technology, at a total cost of \$23,000,000, with an estimated Federal cost of \$11,500,000 and an estimated non-Federal cost of \$11,500,000.

(iii) L-31N Seepage Management, at a total cost of \$10,000,000, with an estimated Federal cost of \$5,000,000 and an estimated non-Federal cost of \$5,000,000.

(iv) Wastewater Reuse Technology, at a total cost of \$30,000,000, with an estimated Federal cost of \$15,000,000 and an estimated non-Federal cost of \$15,000,000.

(C) INITIAL PROJECTS.—The following projects are authorized for implementation, after review and approval by the Secretary, subject to the conditions stated in subparagraph (D), at a total cost of \$1,100,918,000, with an estimated Federal cost of \$550,459,000 and an estimated non-Federal cost of \$550,459,000:

(i) C-44 Basin Storage Reservoir, at a total cost of \$112,562,000, with an estimated Federal cost of \$56,281,000 and an estimated non-Federal cost of \$56,281,000.

(ii) Everglades Agricultural Area Storage Reservoirs—Phase I, at a total cost of \$233,408,000, with an estimated Federal cost of \$116,704,000 and an estimated non-Federal cost of \$116,704,000.

(iii) Site 1 Impoundment, at a total cost of \$38,535,000, with an estimated Federal cost of \$19,267,500 and an estimated non-Federal cost of \$19,267,500.

(iv) Water Conservation Areas 3A/3B Levee Seepage Management, at a total cost of \$100,335,000, with an estimated Federal cost of \$50,167,500 and an estimated non-Federal cost of \$50,167,500.

(v) C-11 Impoundment and Stormwater Treatment Area, at a total cost of \$124,837,000, with an estimated Federal cost of \$62,418,500 and an estimated non-Federal cost of \$62,418,500.

(vi) C-9 Impoundment and Stormwater Treatment Area, at a total cost of \$89,146,000, with an estimated Federal cost of \$44,573,000 and an estimated non-Federal cost of \$44,573,000.

(vii) Taylor Creek/Nubbin Slough Storage and Treatment Area, at a total cost of \$104,027,000, with an estimated Federal cost of \$52,013,500 and an estimated non-Federal cost of \$52,013,500.

(viii) Raise and Bridge East Portion of Tamiami Trail and Fill Miami Canal within Water Conservation Area 3, at a total cost of \$26,946,000, with an estimated Federal cost of \$13,473,000 and an estimated non-Federal cost of \$13,473,000.

(ix) North New River Improvements, at a total cost of \$77,087,000, with an estimated Federal cost of \$38,543,500 and an estimated non-Federal cost of \$38,543,500.

(x) C-111 Spreader Canal, at a total cost of \$94,035,000, with an estimated Federal cost of \$47,017,500 and an estimated non-Federal cost of \$47,017,500.

(xi) Adaptive Assessment and Monitoring Program, at a total cost of \$100,000,000, with an estimated Federal cost of \$50,000,000 and an estimated non-Federal cost of \$50,000,000.

(D) CONDITIONS.—

(i) PROJECT IMPLEMENTATION REPORTS.—Before implementation of a project described in any of clauses (i) through (x) of subparagraph (C), the Secretary shall review and approve for the project a project implementation report prepared in accordance with subsections (f) and (h).

(ii) SUBMISSION OF REPORT.—The Secretary shall submit to the Committee on Transportation and Infrastructure of the House of Representatives and the Committee on Environment and Public Works of the Senate the project implementation report required by subsections (f) and (h) for each project under this paragraph (including all relevant data and information on all costs).

(iii) FUNDING CONTINGENT ON APPROVAL.—No appropriation shall be made to construct any project under this paragraph if the project implementation report for the project has not been approved by resolutions adopted by the Committee on Transportation and Infrastructure of the House of Representatives and the Committee on Environment and Public Works of the Senate.

(iv) MODIFIED WATER DELIVERY.—No appropriation shall be made to construct the Water Conservation Area 3 Decompartmentalization and Sheetflow Enhancement Project (including component AA, Additional S-345 Structures; component QQ Phase 1, Raise and Bridge East Portion of Tamiami Trail and Fill Miami Canal within WCA 3; component QQ Phase 2, WCA 3 Decompartmentalization and Sheetflow Enhancement; and component SS, North New River Improvements) or the Central Lakebelt Storage Project (including components S and EEE, Central Lake Belt Storage Area) until the completion of the project to improve water deliveries to Everglades National Park authorized by section 104 of the Everglades National Park Protection and Expansion Act of 1989 (16 U.S.C. 410r-8).

(E) MAXIMUM COST OF PROJECTS.—Section 902 of the Water Resources Development Act of 1986 (33 U.S.C. 2280) shall apply to each project feature authorized under this subsection. Applicability.

(c) ADDITIONAL PROGRAM AUTHORITY.—

(1) IN GENERAL.—To expedite implementation of the Plan, the Secretary may implement modifications to the Central and Southern Florida Project that—

(A) are described in the Plan; and

(B) will produce a substantial benefit to the restoration, preservation and protection of the South Florida ecosystem.

(2) PROJECT IMPLEMENTATION REPORTS.—Before implementation of any project feature authorized under this subsection, the Secretary shall review and approve for the project feature

a project implementation report prepared in accordance with subsections (f) and (h).

(3) FUNDING.—

(A) INDIVIDUAL PROJECT FUNDING.—

(i) FEDERAL COST.—The total Federal cost of each project carried out under this subsection shall not exceed \$12,500,000.

(ii) OVERALL COST.—The total cost of each project carried out under this subsection shall not exceed \$25,000,000.

(B) AGGREGATE COST.—The total cost of all projects carried out under this subsection shall not exceed \$206,000,000, with an estimated Federal cost of \$103,000,000 and an estimated non-Federal cost of \$103,000,000.

(d) AUTHORIZATION OF FUTURE PROJECTS.—

(1) IN GENERAL.—Except for a project authorized by subsection (b) or (c), any project included in the Plan shall require a specific authorization by Congress.

(2) SUBMISSION OF REPORT.—Before seeking congressional authorization for a project under paragraph (1), the Secretary shall submit to Congress—

(A) a description of the project; and

(B) a project implementation report for the project prepared in accordance with subsections (f) and (h).

(e) COST SHARING.—

(1) FEDERAL SHARE.—The Federal share of the cost of carrying out a project authorized by subsection (b), (c), or (d) shall be 50 percent.

(2) NON-FEDERAL RESPONSIBILITIES.—The non-Federal sponsor with respect to a project described in subsection (b), (c), or (d), shall be—

(A) responsible for all land, easements, rights-of-way, and relocations necessary to implement the Plan; and

(B) afforded credit toward the non-Federal share of the cost of carrying out the project in accordance with paragraph (5)(A).

(3) FEDERAL ASSISTANCE.—

(A) IN GENERAL.—The non-Federal sponsor with respect to a project authorized by subsection (b), (c), or (d) may use Federal funds for the purchase of any land, easement, rights-of-way, or relocation that is necessary to carry out the project if any funds so used are credited toward the Federal share of the cost of the project.

(B) AGRICULTURE FUNDS.—Funds provided to the non-Federal sponsor under the Conservation Restoration and Enhancement Program (CREP) and the Wetlands Reserve Program (WRP) for projects in the Plan shall be credited toward the non-Federal share of the cost of the Plan if the Secretary of Agriculture certifies that the funds provided may be used for that purpose. Funds to be credited do not include funds provided under section 390 of the Federal Agriculture Improvement and Reform Act of 1996 (110 Stat. 1022).

(4) OPERATION AND MAINTENANCE.—Notwithstanding section 528(e)(3) of the Water Resources Development Act of 1996 (110 Stat. 3770), the non-Federal sponsor shall be responsible

for 50 percent of the cost of operation, maintenance, repair, replacement, and rehabilitation activities authorized under this section. Furthermore, the Seminole Tribe of Florida shall be responsible for 50 percent of the cost of operation, maintenance, repair, replacement, and rehabilitation activities for the Big Cypress Seminole Reservation Water Conservation Plan Project.

(5) CREDIT.—

(A) IN GENERAL.—Notwithstanding section 528(e)(4) of the Water Resources Development Act of 1996 (110 Stat. 3770) and regardless of the date of acquisition, the value of lands or interests in lands and incidental costs for land acquired by a non-Federal sponsor in accordance with a project implementation report for any project included in the Plan and authorized by Congress shall be—

- (i) included in the total cost of the project; and
- (ii) credited toward the non-Federal share of the

cost of the project.

(B) WORK.—The Secretary may provide credit, including in-kind credit, toward the non-Federal share for the reasonable cost of any work performed in connection with a study, preconstruction engineering and design, or construction that is necessary for the implementation of the Plan if—

(i)(I) the credit is provided for work completed during the period of design, as defined in a design agreement between the Secretary and the non-Federal sponsor; or

(II) the credit is provided for work completed during the period of construction, as defined in a project cooperation agreement for an authorized project between the Secretary and the non-Federal sponsor;

(ii) the design agreement or the project cooperation agreement prescribes the terms and conditions of the credit; and

(iii) the Secretary determines that the work performed by the non-Federal sponsor is integral to the project.

(C) TREATMENT OF CREDIT BETWEEN PROJECTS.—Any credit provided under this paragraph may be carried over between authorized projects in accordance with subparagraph (D).

(D) PERIODIC MONITORING.—

(i) IN GENERAL.—To ensure that the contributions of the non-Federal sponsor equal 50 percent proportionate share for projects in the Plan, during each 5-year period, beginning with commencement of design of the Plan, the Secretary shall, for each project—

(I) monitor the non-Federal provision of cash, in-kind services, and land; and

(II) manage, to the maximum extent practicable, the requirement of the non-Federal sponsor to provide cash, in-kind services, and land.

(ii) OTHER MONITORING.—The Secretary shall conduct monitoring under clause (i) separately for the preconstruction engineering and design phase and the construction phase.

(E) AUDITS.—Credit for land (including land value and incidental costs) or work provided under this subsection shall be subject to audit by the Secretary.

(f) EVALUATION OF PROJECTS.—

Reports.

(1) IN GENERAL.—Before implementation of a project authorized by subsection (c) or (d) or any of clauses (i) through (x) of subsection (b)(2)(C), the Secretary, in cooperation with the non-Federal sponsor, shall complete, after notice and opportunity for public comment and in accordance with subsection (h), a project implementation report for the project.

(2) PROJECT JUSTIFICATION.—

(A) IN GENERAL.—Notwithstanding section 209 of the Flood Control Act of 1970 (42 U.S.C. 1962-2) or any other provision of law, in carrying out any activity authorized under this section or any other provision of law to restore, preserve, or protect the South Florida ecosystem, the Secretary may determine that—

(i) the activity is justified by the environmental benefits derived by the South Florida ecosystem; and

(ii) no further economic justification for the activity is required, if the Secretary determines that the activity is cost-effective.

(B) APPLICABILITY.—Subparagraph (A) shall not apply to any separable element intended to produce benefits that are predominantly unrelated to the restoration, preservation, and protection of the natural system.

(g) EXCLUSIONS AND LIMITATIONS.—The following Plan components are not approved for implementation:

(1) WATER INCLUDED IN THE PLAN.—

(A) IN GENERAL.—Any project that is designed to implement the capture and use of the approximately 245,000 acre-feet of water described in section 7.7.2 of the Plan shall not be implemented until such time as—

(i) the project-specific feasibility study described in subparagraph (B) on the need for and physical delivery of the approximately 245,000 acre-feet of water, conducted by the Secretary, in cooperation with the non-Federal sponsor, is completed;

(ii) the project is favorably recommended in a final report of the Chief of Engineers; and

(iii) the project is authorized by Act of Congress.

(B) PROJECT-SPECIFIC FEASIBILITY STUDY.—The project-specific feasibility study referred to in subparagraph (A) shall include—

(i) a comprehensive analysis of the structural facilities proposed to deliver the approximately 245,000 acre-feet of water to the natural system;

(ii) an assessment of the requirements to divert and treat the water;

(iii) an assessment of delivery alternatives;

(iv) an assessment of the feasibility of delivering the water downstream while maintaining current levels of flood protection to affected property; and

(v) any other assessments that are determined by the Secretary to be necessary to complete the study.

(2) WASTEWATER REUSE.—

(A) IN GENERAL.—On completion and evaluation of the wastewater reuse pilot project described in subsection (b)(2)(B)(iv), the Secretary, in an appropriately timed 5-year report, shall describe the results of the evaluation of advanced wastewater reuse in meeting, in a cost-effective manner, the requirements of restoration of the natural system.

Reports.

(B) SUBMISSION.—The Secretary shall submit to Congress the report described in subparagraph (A) before congressional authorization for advanced wastewater reuse is sought.

(3) PROJECTS APPROVED WITH LIMITATIONS.—The following projects in the Plan are approved for implementation with limitations:

(A) LOXAHATCHEE NATIONAL WILDLIFE REFUGE.—The Federal share for land acquisition in the project to enhance existing wetland systems along the Loxahatchee National Wildlife Refuge, including the Stazzulla tract, should be funded through the budget of the Department of the Interior.

(B) SOUTHERN CORKSCREW REGIONAL ECOSYSTEM.—The Southern Corkscrew regional ecosystem watershed addition should be accomplished outside the scope of the Plan.

(h) ASSURANCE OF PROJECT BENEFITS.—

(1) IN GENERAL.—The overarching objective of the Plan is the restoration, preservation, and protection of the South Florida Ecosystem while providing for other water-related needs of the region, including water supply and flood protection. The Plan shall be implemented to ensure the protection of water quality in, the reduction of the loss of fresh water from, the improvement of the environment of the South Florida Ecosystem and to achieve and maintain the benefits to the natural system and human environment described in the Plan, and required pursuant to this section, for as long as the project is authorized.

(2) AGREEMENT.—

(A) IN GENERAL.—In order to ensure that water generated by the Plan will be made available for the restoration of the natural system, no appropriations, except for any pilot project described in subsection (b)(2)(B), shall be made for the construction of a project contained in the Plan until the President and the Governor enter into a binding agreement under which the State shall ensure, by regulation or other appropriate means, that water made available by each project in the Plan shall not be permitted for a consumptive use or otherwise made unavailable by the State until such time as sufficient reservations of water for the restoration of the natural system are made under State law in accordance with the project implementation report for that project and consistent with the Plan.

(B) ENFORCEMENT.—

(i) IN GENERAL.—Any person or entity that is aggrieved by a failure of the United States or any other Federal Government instrumentality or agency, or the Governor or any other officer of a State instrumentality or agency, to comply with any provision of the agreement entered into under subparagraph

(A) may bring a civil action in United States district court for an injunction directing the United States or any other Federal Government instrumentality or agency or the Governor or any other officer of a State instrumentality or agency, as the case may be, to comply with the agreement.

(ii) LIMITATIONS ON COMMENCEMENT OF CIVIL ACTION.—No civil action may be commenced under clause (i)—

(I) before the date that is 60 days after the Secretary and the Governor receive written notice of a failure to comply with the agreement; or

(II) if the United States has commenced and is diligently prosecuting an action in a court of the United States or a State to redress a failure to comply with the agreement.

(C) TRUST RESPONSIBILITIES.—In carrying out his responsibilities under this subsection with respect to the restoration of the South Florida ecosystem, the Secretary of the Interior shall fulfill his obligations to the Indian tribes in South Florida under the Indian trust doctrine as well as other applicable legal obligations.

(3) PROGRAMMATIC REGULATIONS.—

Deadline.

(A) ISSUANCE.—Not later than 2 years after the date of enactment of this Act, the Secretary shall, after notice and opportunity for public comment, with the concurrence of the Governor and the Secretary of the Interior, and in consultation with the Seminole Tribe of Florida, the Miccosukee Tribe of Indians of Florida, the Administrator of the Environmental Protection Agency, the Secretary of Commerce, and other Federal, State, and local agencies, promulgate programmatic regulations to ensure that the goals and purposes of the Plan are achieved.

Deadline.

(B) CONCURRENCY STATEMENT.—The Secretary of the Interior and the Governor shall, not later than 180 days from the end of the public comment period on proposed programmatic regulations, provide the Secretary with a written statement of concurrence or nonconcurrence. A failure to provide a written statement of concurrence or nonconcurrence within such time frame will be deemed as meeting the concurrency requirements of subparagraph (A)(i). A copy of any concurrency or nonconcurrence statements shall be made a part of the administrative record and referenced in the final programmatic regulations. Any nonconcurrence statement shall specifically detail the reason or reasons for the nonconcurrence.

(C) CONTENT OF REGULATIONS.—

(i) IN GENERAL.—Programmatic regulations promulgated under this paragraph shall establish a process—

(I) for the development of project implementation reports, project cooperation agreements, and operating manuals that ensure that the goals and objectives of the Plan are achieved;

(II) to ensure that new information resulting from changed or unforeseen circumstances, new scientific or technical information or information

that is developed through the principles of adaptive management contained in the Plan, or future authorized changes to the Plan are integrated into the implementation of the Plan; and

(III) to ensure the protection of the natural system consistent with the goals and purposes of the Plan, including the establishment of interim goals to provide a means by which the restoration success of the Plan may be evaluated throughout the implementation process.

(ii) LIMITATION ON APPLICABILITY OF PROGRAMMATIC REGULATIONS.—Programmatic regulations promulgated under this paragraph shall expressly prohibit the requirement for concurrence by the Secretary of the Interior or the Governor on project implementation reports, project cooperation agreements, operating manuals for individual projects undertaken in the Plan, and any other documents relating to the development, implementation, and management of individual features of the Plan, unless such concurrence is provided for in other Federal or State laws.

(D) SCHEDULE AND TRANSITION RULE.—

(i) IN GENERAL.—All project implementation reports approved before the date of promulgation of the programmatic regulations shall be consistent with the Plan.

(ii) PREAMBLE.—The preamble of the programmatic regulations shall include a statement concerning the consistency with the programmatic regulations of any project implementation reports that were approved before the date of promulgation of the regulations.

(E) REVIEW OF PROGRAMMATIC REGULATIONS.—Whenever necessary to attain Plan goals and purposes, but not less often than every 5 years, the Secretary, in accordance with subparagraph (A), shall review the programmatic regulations promulgated under this paragraph.

(4) PROJECT-SPECIFIC ASSURANCES.—

(A) PROJECT IMPLEMENTATION REPORTS.—

(i) IN GENERAL.—The Secretary and the non-Federal sponsor shall develop project implementation reports in accordance with section 10.3.1 of the Plan.

(ii) COORDINATION.—In developing a project implementation report, the Secretary and the non-Federal sponsor shall coordinate with appropriate Federal, State, tribal, and local governments.

(iii) REQUIREMENTS.—A project implementation report shall—

(I) be consistent with the Plan and the programmatic regulations promulgated under paragraph (3);

(II) describe how each of the requirements stated in paragraph (3)(B) is satisfied;

(III) comply with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.);

(IV) identify the appropriate quantity, timing, and distribution of water dedicated and managed for the natural system;

(V) identify the amount of water to be reserved or allocated for the natural system necessary to implement, under State law, subclauses (IV) and (VI);

(VI) comply with applicable water quality standards and applicable water quality permitting requirements under subsection (b)(2)(A)(ii);

(VII) be based on the best available science; and

(VIII) include an analysis concerning the cost-effectiveness and engineering feasibility of the project.

(B) PROJECT COOPERATION AGREEMENTS.—

(i) IN GENERAL.—The Secretary and the non-Federal sponsor shall execute project cooperation agreements in accordance with section 10 of the Plan.

(ii) CONDITION.—The Secretary shall not execute a project cooperation agreement until any reservation or allocation of water for the natural system identified in the project implementation report is executed under State law.

(C) OPERATING MANUALS.—

(i) IN GENERAL.—The Secretary and the non-Federal sponsor shall develop and issue, for each project or group of projects, an operating manual that is consistent with the water reservation or allocation for the natural system described in the project implementation report and the project cooperation agreement for the project or group of projects.

(ii) MODIFICATIONS.—Any significant modification by the Secretary and the non-Federal sponsor to an operating manual after the operating manual is issued shall only be carried out subject to notice and opportunity for public comment.

(5) SAVINGS CLAUSE.—

(A) NO ELIMINATION OR TRANSFER.—Until a new source of water supply of comparable quantity and quality as that available on the date of enactment of this Act is available to replace the water to be lost as a result of implementation of the Plan, the Secretary and the non-Federal sponsor shall not eliminate or transfer existing legal sources of water, including those for—

(i) an agricultural or urban water supply;

(ii) allocation or entitlement to the Seminole Indian Tribe of Florida under section 7 of the Seminole Indian Land Claims Settlement Act of 1987 (25 U.S.C. 1772e);

(iii) the Miccosukee Tribe of Indians of Florida;

(iv) water supply for Everglades National Park;

or

(v) water supply for fish and wildlife.

(B) MAINTENANCE OF FLOOD PROTECTION.—Implementation of the Plan shall not reduce levels of service for flood protection that are—

(i) in existence on the date of enactment of this Act; and

(ii) in accordance with applicable law.

(C) NO EFFECT ON TRIBAL COMPACT.—Nothing in this section amends, alters, prevents, or otherwise abrogates rights of the Seminole Indian Tribe of Florida under the compact among the Seminole Tribe of Florida, the State, and the South Florida Water Management District, defining the scope and use of water rights of the Seminole Tribe of Florida, as codified by section 7 of the Seminole Indian Land Claims Settlement Act of 1987 (25 U.S.C. 1772e).

(i) DISPUTE RESOLUTION.—

(1) IN GENERAL.—The Secretary and the Governor shall within 180 days from the date of enactment of this Act develop an agreement for resolving disputes between the Corps of Engineers and the State associated with the implementation of the Plan. Such agreement shall establish a mechanism for the timely and efficient resolution of disputes, including—

Deadline.
Contracts.

(A) a preference for the resolution of disputes between the Jacksonville District of the Corps of Engineers and the South Florida Water Management District;

(B) a mechanism for the Jacksonville District of the Corps of Engineers or the South Florida Water Management District to initiate the dispute resolution process for unresolved issues;

(C) the establishment of appropriate timeframes and intermediate steps for the elevation of disputes to the Governor and the Secretary; and

(D) a mechanism for the final resolution of disputes, within 180 days from the date that the dispute resolution process is initiated under subparagraph (B).

Deadline.

(2) CONDITION FOR REPORT APPROVAL.—The Secretary shall not approve a project implementation report under this section until the agreement established under this subsection has been executed.

(3) NO EFFECT ON LAW.—Nothing in the agreement established under this subsection shall alter or amend any existing Federal or State law, or the responsibility of any party to the agreement to comply with any Federal or State law.

(j) INDEPENDENT SCIENTIFIC REVIEW.—

(1) IN GENERAL.—The Secretary, the Secretary of the Interior, and the Governor, in consultation with the South Florida Ecosystem Restoration Task Force, shall establish an independent scientific review panel convened by a body, such as the National Academy of Sciences, to review the Plan's progress toward achieving the natural system restoration goals of the Plan.

Establishment.

(2) REPORT.—The panel described in paragraph (1) shall produce a biennial report to Congress, the Secretary, the Secretary of the Interior, and the Governor that includes an assessment of ecological indicators and other measures of progress in restoring the ecology of the natural system, based on the Plan.

(k) OUTREACH AND ASSISTANCE.—

(1) SMALL BUSINESS CONCERNS OWNED AND OPERATED BY SOCIALLY AND ECONOMICALLY DISADVANTAGED INDIVIDUALS.—

In executing the Plan, the Secretary shall ensure that small business concerns owned and controlled by socially and economically disadvantaged individuals are provided opportunities to participate under section 15(g) of the Small Business Act (15 U.S.C. 644(g)).

(2) COMMUNITY OUTREACH AND EDUCATION.—

(A) IN GENERAL.—The Secretary shall ensure that impacts on socially and economically disadvantaged individuals, including individuals with limited English proficiency, and communities are considered during implementation of the Plan, and that such individuals have opportunities to review and comment on its implementation.

(B) PROVISION OF OPPORTUNITIES.—The Secretary shall ensure, to the maximum extent practicable, that public outreach and educational opportunities are provided, during implementation of the Plan, to the individuals of South Florida, including individuals with limited English proficiency, and in particular for socially and economically disadvantaged communities.

(1) REPORT TO CONGRESS.—Beginning on October 1, 2005, and periodically thereafter until October 1, 2036, the Secretary and the Secretary of the Interior, in consultation with the Environmental Protection Agency, the Department of Commerce, and the State of Florida, shall jointly submit to Congress a report on the implementation of the Plan. Such reports shall be completed not less often than every 5 years. Such reports shall include a description of planning, design, and construction work completed, the amount of funds expended during the period covered by the report (including a detailed analysis of the funds expended for adaptive assessment under subsection (b)(2)(C)(xi)), and the work anticipated over the next 5-year period. In addition, each report shall include—

(1) the determination of each Secretary, and the Administrator of the Environmental Protection Agency, concerning the benefits to the natural system and the human environment achieved as of the date of the report and whether the completed projects of the Plan are being operated in a manner that is consistent with the requirements of subsection (h);

(2) progress toward interim goals established in accordance with subsection (h)(3)(B); and

(3) a review of the activities performed by the Secretary under subsection (k) as they relate to socially and economically disadvantaged individuals and individuals with limited English proficiency.

(m) REPORT ON AQUIFER STORAGE AND RECOVERY PROJECT.—Not later than 180 days after the date of enactment of this Act, the Secretary shall transmit to Congress a report containing a determination as to whether the ongoing Biscayne Aquifer Storage and Recovery Program located in Miami-Dade County has a substantial benefit to the restoration, preservation, and protection of the South Florida ecosystem.

(n) FULL DISCLOSURE OF PROPOSED FUNDING.—

(1) FUNDING FROM ALL SOURCES.—The President, as part of the annual budget of the United States Government, shall display under the heading “Everglades Restoration” all proposed funding for the Plan for all agency programs.

Effective date.
Termination
date.

Deadline.

President.

(2) **FUNDING FROM CORPS OF ENGINEERS CIVIL WORKS PROGRAM.**—The President, as part of the annual budget of the United States Government, shall display under the accounts “Construction, General” and “Operation and Maintenance, General” of the title “Department of Defense—Civil, Department of the Army, Corps of Engineers—Civil”, the total proposed funding level for each account for the Plan and the percentage such level represents of the overall levels in such accounts. The President shall also include an assessment of the impact such funding levels for the Plan would have on the budget year and long-term funding levels for the overall Corps of Engineers civil works program.

(o) **SURPLUS FEDERAL LANDS.**—Section 390(f)(2)(A)(i) of the Federal Agriculture Improvement and Reform Act of 1996 (110 Stat. 1023) is amended by inserting after “on or after the date of enactment of this Act” the following: “and before the date of enactment of the Water Resources Development Act of 2000”.

(p) **SEVERABILITY.**—If any provision or remedy provided by this section is found to be unconstitutional or unenforceable by any court of competent jurisdiction, any remaining provisions in this section shall remain valid and enforceable.

SEC. 602. SENSE OF CONGRESS CONCERNING HOMESTEAD AIR FORCE BASE.

(a) **FINDINGS.**—Congress finds that—

(1) the Everglades is an American treasure and includes uniquely-important and diverse wildlife resources and recreational opportunities;

(2) the preservation of the pristine and natural character of the South Florida ecosystem is critical to the regional economy;

(3) as this legislation demonstrates, Congress believes it to be a vital national mission to restore and preserve this ecosystem and accordingly is authorizing a significant Federal investment to do so;

(4) Congress seeks to have the remaining property at the former Homestead Air Base conveyed and reused as expeditiously as possible, and several options for base reuse are being considered, including as a commercial airport; and

(5) Congress is aware that the Homestead site is located in a sensitive environmental location, and that Biscayne National Park is only approximately 1.5 miles to the east, Everglades National Park approximately 8 miles to the west, and the Florida Keys National Marine Sanctuary approximately 10 miles to the south.

(b) **SENSE OF CONGRESS.**—It is the sense of Congress that—

(1) development at the Homestead site could potentially cause significant air, water, and noise pollution and result in the degradation of adjacent national parks and other protected Federal resources;

(2) in their decisionmaking, the Federal agencies charged with determining the reuse of the remaining property at the Homestead base should carefully consider and weigh all available information concerning potential environmental impacts of various reuse options;

(3) the redevelopment of the former base should be consistent with restoration goals, provide desirable numbers of

Public Law 108–483
108th Congress

An Act

To authorize the exchange of certain land in Everglades National Park.

Dec. 23, 2004

[H.R. 3785]

*Be it enacted by the Senate and House of Representatives of
the United States of America in Congress assembled,*

Florida.

SECTION 1. EVERGLADES NATIONAL PARK.

Section 102 of the Everglades National Park Protection and
Expansion Act of 1989 (16 U.S.C. 410r–6) is amended—

(1) in subsection (a)—

(A) by striking “The park boundary” and inserting
the following:

“(1) IN GENERAL.—The park boundary”;

(B) by striking “The map” and inserting the following:

“(2) AVAILABILITY OF MAP.—The map”; and

(C) by adding at the end the following:

“(3) ACQUISITION OF ADDITIONAL LAND.—

“(A) IN GENERAL.—The Secretary may acquire from
1 or more willing sellers not more than 10 acres of land
located outside the boundary of the park and adjacent
to or near the East Everglades area of the park for the
development of administrative, housing, maintenance, or
other park purposes.

“(B) ADMINISTRATION; APPLICABLE LAW.—On acquisi-
tion of the land under subparagraph (A), the land shall
be administered as part of the park in accordance with
the laws (including regulations) applicable to the park.”;
and

(2) by adding at the end the following:

“(h) LAND EXCHANGES.—

“(1) DEFINITIONS.—In this subsection:

“(A) ADMINISTRATOR.—The term ‘Administrator’ means
the Administrator of General Services.

“(B) COUNTY.—The term ‘County’ means Miami-Dade
County, Florida.

“(C) COUNTY LAND.—The term ‘County land’ means
the 2 parcels of land owned by the County totaling approxi-
mately 152.93 acres that are designated as ‘Tract 605–
01’ and ‘Tract 605–03’.

“(D) DISTRICT.—The term ‘District’ means the South
Florida Water Management District.

“(E) DISTRICT LAND.—The term ‘District land’ means
the approximately 1,054 acres of District land located in
the Southern Glades Wildlife and Environmental Area and
identified on the map as ‘South Florida Water Management
District Exchange Lands’.

“(F) GENERAL SERVICES ADMINISTRATION LAND.—The term ‘General Services Administration land’ means the approximately 595.28 acres of land designated as ‘Site Alpha’ that is declared by the Department of the Navy to be excess land.

“(G) MAP.—The term ‘map’ means the map entitled ‘Boundary Modification for C-111 Project, Everglades National Park’, numbered 160/80,007A, and dated May 18, 2004.

“(H) NATIONAL PARK SERVICE LAND.—The term ‘National Park Service land’ means the approximately 1,054 acres of land located in the Rocky Glades area of the park and identified on the map as ‘NPS Exchange Lands’.

“(2) EXCHANGE OF GENERAL SERVICES ADMINISTRATION LAND AND COUNTY LAND.—The Administrator shall convey to the County fee title to the General Services Administration land in exchange for the conveyance by the County to the Secretary of fee title to the County land.

“(3) EXCHANGE OF NATIONAL PARK SERVICE LAND AND DISTRICT LAND.—

“(A) IN GENERAL.—As soon as practicable after the completion of the exchange under paragraph (2), the Secretary shall convey to the District fee title to the National Park Service land in exchange for fee title to the District land.

“(B) USE OF NATIONAL PARK SERVICE LAND.—The National Park Service land conveyed to the District shall be used by the District for the purposes of the C-111 project, including restoration of the Everglades natural system.

“(C) BOUNDARY ADJUSTMENT.—On completion of the land exchange under subparagraph (A), the Secretary shall modify the boundary of the park to reflect the exchange of the National Park Service land and the District land.

“(4) AVAILABILITY OF MAP.—The map shall be on file and available for public inspection in the appropriate offices of the National Park Service.”.

SEC. 2. BIG CYPRESS NATIONAL PRESERVE.

Subsection (d)(3) of the first section of Public Law 93-440 (16 U.S.C. 698f) is amended by striking “The amount described

in paragraph (1)” and inserting “The amount described in paragraph (2)”.

Approved December 23, 2004.

LEGISLATIVE HISTORY—H.R. 3785 (S. 2046):

HOUSE REPORTS: No. 108–516 (Comm. on Resources).

SENATE REPORTS: No. 108–298 accompanying S. 2046 (Comm. on Energy and Natural Resources).

CONGRESSIONAL RECORD, Vol. 150 (2004):

July 19, considered and passed House.

Dec. 8, considered and passed Senate.



SEC. 7107. EVERGLADES NATIONAL PARK.

Florida.
16 USC 410r-9.

(a) INCLUSION OF TARPON BASIN PROPERTY.—

(1) DEFINITIONS.—In this subsection:

(A) HURRICANE HOLE.—The term “Hurricane Hole” means the natural salt-water body of water within the

Duesenbury Tracts of the eastern parcel of the Tarpon Basin boundary adjustment and accessed by Duesenbury Creek.

(B) MAP.—The term “map” means the map entitled “Proposed Tarpon Basin Boundary Revision”, numbered 160/80,012, and dated May 2008.

(C) SECRETARY.—The term “Secretary” means the Secretary of the Interior.

(D) TARPON BASIN PROPERTY.—The term “Tarpon Basin property” means land that—

- (i) is comprised of approximately 600 acres of land and water surrounding Hurricane Hole, as generally depicted on the map; and
- (ii) is located in South Key Largo.

(2) BOUNDARY REVISION.—

(A) IN GENERAL.—The boundary of the Everglades National Park is adjusted to include the Tarpon Basin property.

(B) ACQUISITION AUTHORITY.—The Secretary may acquire from willing sellers by donation, purchase with donated or appropriated funds, or exchange, land, water, or interests in land and water, within the area depicted on the map, to be added to Everglades National Park.

(C) AVAILABILITY OF MAP.—The map shall be on file and available for public inspection in the appropriate offices of the National Park Service.

(D) ADMINISTRATION.—Land added to Everglades National Park by this section shall be administered as part of Everglades National Park in accordance with applicable laws (including regulations).

(3) HURRICANE HOLE.—The Secretary may allow use of Hurricane Hole by sailing vessels during emergencies, subject to such terms and conditions as the Secretary determines to be necessary.

(4) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as are necessary to carry out this subsection.

(b) LAND EXCHANGES.—

(1) DEFINITIONS.—In this subsection:

(A) COMPANY.—The term “Company” means Florida Power & Light Company.

(B) FEDERAL LAND.—The term “Federal Land” means the parcels of land that are—

- (i) owned by the United States;
- (ii) administered by the Secretary;
- (iii) located within the National Park; and
- (iv) generally depicted on the map as—
 - (I) Tract A, which is adjacent to the Tamiami Trail, U.S. Rt. 41; and
 - (II) Tract B, which is located on the eastern boundary of the National Park.

(C) MAP.—The term “map” means the map prepared by the National Park Service, entitled “Proposed Land Exchanges, Everglades National Park”, numbered 160/60411A, and dated September 2008.

(D) NATIONAL PARK.—The term “National Park” means the Everglades National Park located in the State.

(E) NON-FEDERAL LAND.—The term “non-Federal land” means the land in the State that—

(i) is owned by the State, the specific area and location of which shall be determined by the State; or

(ii)(I) is owned by the Company;

(II) comprises approximately 320 acres; and

(III) is located within the East Everglades Acquisition Area, as generally depicted on the map as “Tract D”.

(F) SECRETARY.—The term “Secretary” means the Secretary of the Interior.

(G) STATE.—The term “State” means the State of Florida and political subdivisions of the State, including the South Florida Water Management District.

(2) LAND EXCHANGE WITH STATE.—

(A) IN GENERAL.—Subject to the provisions of this paragraph, if the State offers to convey to the Secretary all right, title, and interest of the State in and to specific parcels of non-Federal land, and the offer is acceptable to the Secretary, the Secretary may, subject to valid existing rights, accept the offer and convey to the State all right, title, and interest of the United States in and to the Federal land generally depicted on the map as “Tract A”.

(B) CONDITIONS.—The land exchange under subparagraph (A) shall be subject to such terms and conditions as the Secretary may require.

(C) VALUATION.—

(i) IN GENERAL.—The values of the land involved in the land exchange under subparagraph (A) shall be equal.

(ii) EQUALIZATION.—If the values of the land are not equal, the values may be equalized by donation, payment using donated or appropriated funds, or the conveyance of additional parcels of land.

(D) APPRAISALS.—Before the exchange of land under subparagraph (A), appraisals for the Federal and non-Federal land shall be conducted in accordance with the Uniform Appraisal Standards for Federal Land Acquisitions and the Uniform Standards of Professional Appraisal Practice.

(E) TECHNICAL CORRECTIONS.—Subject to the agreement of the State, the Secretary may make minor corrections to correct technical and clerical errors in the legal descriptions of the Federal and non-Federal land and minor adjustments to the boundaries of the Federal and non-Federal land.

(F) ADMINISTRATION OF LAND ACQUIRED BY SECRETARY.—Land acquired by the Secretary under subparagraph (A) shall—

(i) become part of the National Park; and

(ii) be administered in accordance with the laws applicable to the National Park System.

(3) LAND EXCHANGE WITH COMPANY.—

(A) IN GENERAL.—Subject to the provisions of this paragraph, if the Company offers to convey to the Secretary all right, title, and interest of the Company in and to

the non-Federal land generally depicted on the map as "Tract D", and the offer is acceptable to the Secretary, the Secretary may, subject to valid existing rights, accept the offer and convey to the Company all right, title, and interest of the United States in and to the Federal land generally depicted on the map as "Tract B", along with a perpetual easement on a corridor of land contiguous to Tract B for the purpose of vegetation management.

(B) CONDITIONS.—The land exchange under subparagraph (A) shall be subject to such terms and conditions as the Secretary may require.

(C) VALUATION.—

(i) IN GENERAL.—The values of the land involved in the land exchange under subparagraph (A) shall be equal unless the non-Federal land is of higher value than the Federal land.

(ii) EQUALIZATION.—If the values of the land are not equal, the values may be equalized by donation, payment using donated or appropriated funds, or the conveyance of additional parcels of land.

(D) APPRAISAL.—Before the exchange of land under subparagraph (A), appraisals for the Federal and non-Federal land shall be conducted in accordance with the Uniform Appraisal Standards for Federal Land Acquisitions and the Uniform Standards of Professional Appraisal Practice.

(E) TECHNICAL CORRECTIONS.—Subject to the agreement of the Company, the Secretary may make minor corrections to correct technical and clerical errors in the legal descriptions of the Federal and non-Federal land and minor adjustments to the boundaries of the Federal and non-Federal land.

(F) ADMINISTRATION OF LAND ACQUIRED BY SECRETARY.—Land acquired by the Secretary under subparagraph (A) shall—

(i) become part of the National Park; and

(ii) be administered in accordance with the laws applicable to the National Park System.

(4) MAP.—The map shall be on file and available for public inspection in the appropriate offices of the National Park Service.

(5) BOUNDARY REVISION.—On completion of the land exchanges authorized by this subsection, the Secretary shall adjust the boundary of the National Park accordingly, including removing the land conveyed out of Federal ownership.

Appendix B: Visitation

Year	Visitors	Year	Visitors
1948 ¹	7,482	1981	564,721
1949	94,927	1982	550,168
1950	123,405	1983	577,439
1951	142,971	1984	628,658
1952	168,621	1985	697,646
1953	206,773	1986	739,072
1954	218,000	1987	787,493
1955	247,100	1988	1,026,188
1956	267,000	1989	913,372
1957	344,700	1990	957,925
1958	443,300	1991	1,292,014
1959	500,200	1992	1,025,686
1960	579,200	1993	973,706
1961	566,800	1994	886,455
1962	626,100	1995	820,466
1963	669,200	1996	890,167
1964	792,600	1997	989,532
1965	977,600	1998	1,118,215
1966	1,017,100	1999	1,073,982
1967	1,098,300	2000	995,390
1968	1,251,500	2001	1,049,851
1969	1,187,200	2002	968,909
1970	1,273,500	2003	1,040,648
1971	1,100,500	2004	1,181,355
1972	1,534,328	2005	1,233,837
1973	1,044,000	2006	954,022
1974	781,200	2007	1,074,764
1975	782,400	2008	822,118
1976	955,700	2009	900,882
1977	948,000	2010	915,538
1978	923,714	2011	934,351
1979	718,102	2012	1,141,906
1980	744,244	2013	1,047,116

¹The 1948 figure is an estimate; only in January 1949 did the park install automobile counters.

Appendix C: Park Budgets

Fiscal Year	ONPS
1948	67,000
1949	110,343
1950	129,188
1951	318,418
1952	273,078
1953	225,198
1954	385,372
1955	no data ¹
1956	no data
1957	1,942,000
1958-1971	no data
1972	2,066,950
1973	2,065,700
1974	2,188,500
1975	2,402,200
1976	3,278,300
1977	3,475,900
1978	4,701,300
1979	4,893,000
1980	5,296,000
1981	5,867,700
1982	5,588,000
1983	5,893,000
1984	6,313,000
1985	6,463,900
1986	6,177,500
1987	8,256,100
1988	8,540,300
1989	7,203,000
1990	9,049,300
1991	8,849,000
1992	10,069,600
1993	10,360,300
1994	10,896,000
1995	12,129,000
1996	12,229,000

¹The National Park Service Washington office had no data for years prior to 1972 and park records are spotty for earlier years.

Fiscal Year	ONPS	CESI/EVER Restoration	CERP Implementation
1997	12,665,000	7,200,000	
1998	12,544,000	12,000,000	
1999	12,883,000	12,000,000	
2000	13,172,000	7,908,000	
2001	13,437,000	6,194,000	2,497,000
2002	13,594,000	4,000,000	5,544,000
2003	13,860,000	3,974,000	5,513,000
2004	14,038,000	3,937,000	4,722,000
2005	15,086,000	3,882,000	4,657,000
2006	15,481,000	3,840,000	4,620,000
2007	15,840,000	3,864,000	4,662,000
2008	16,984,000	3,849,000	4,657,000
2009	17,592,000	3,849,000	4,699,000
2010	17,991,000	3,873,000	4,789,000
2011	17,491,000	3,865,000	4,741,000
2012	16,953,000	3,822,000	4,691,000
2013	16,930,000	3,845,000	4,720,000

Appendix D: Superintendents and Deputy/Assistant Superintendents

Superintendents

Daniel B. Beard	August 27, 1947—May 31, 1958
Warren F. Hamilton	June 1, 1958—September 14, 1963
Stanley C. Joseph	September 15, 1963—January 29, 1966
Roger W. Allin	January 30, 1966—August 24, 1968
John C. Raftery	August 25, 1968—September 5, 1970
Joseph Brown	September 20, 1970—August 7, 1971
Jack E. Stark	September 5, 1970—September 26, 1976
John M. Good	October 10, 1976—February 27, 1980
John M. Morehead	May 4, 1980—February 15, 1986
Maureen Finnerty, Acting	February 16, 1986—July 5, 1986
Michael V. Finley	July 6, 1986—August 12, 1989
Robert L. Arnsberger, Acting	August 13, 1989—December 2, 1989
Robert S. Chandler	December 3, 1989—October 1991
Richard S. Ring	April 1992—September 2000
Maureen Finnerty	September 2000—August 2003
John Benjamin, Acting	August 2003—February 2004
Dan Kimball	February 2004—May 31, 2006 (Acting)
	June 1, 2006—March 31, 2014

Deputy/Assistant Superintendents¹

Allyn F. Hands	January 1953—February, 1954
George W. Fry	April 1954—September 1959
Jack Dodd, Asst.	September 1969—June 1963
Carroll A. Burroughs	September 1963—After June 1967
Joseph L. Kennedy	January 1970—September 1971 or later
Claude W. “Mac” McClain	Uncertain to sometime in 1980
Richard B. Smith	1980—1983
Maureen Finnerty	June 1983—August 1986
Robert Arnsberger	April 1987—March 1991
A. Durand “Randy” Jones	Spring 1991—Early 1993
Larry Belli	July 1993—July 2001
John Benjamin	January 2002—March 2005
Keith Whisenant	November 2005 to December 2012
Justin Unger	March 3, 2014—

¹ The park has been less zealous in recording the tenures of deputy superintendents than superintendents; hence the imprecision in this listing.

Appendix E: Everglades Chronology

~12,000 years before present	Native peoples are present in the Florida peninsula.
4-2-1513	Spaniard Juan Ponce de León sights the east coast of a peninsula and names it La Florida, landing briefly among the Calusa.
1521	Ponce de León returns to the domain of the Calusa and is fatally wounded in a battle.
1565	Pedro Menéndez d'Avilés establishes the city of St. Augustine and plants short-lived outposts in the Calusa and Tequesta homelands.
1670	British colony of Carolina established, beginning a period of rivalry between Britain and Spain in the Southeast.
1702	British-backed native groups begin raids on Spanish missions in north Florida, causing the Spanish ultimately to retreat to the environs of St. Augustine and Pensacola.
1702 onward	Mikasuki-speaking Native Americans move into Florida, ultimately forming a group that whites call the Seminole.
1763	Britain takes over Florida from Spain, and the Spanish remove about 200 Florida Indians to Cuba.
1763-1783	The British attempt settlements along the lower St. Johns River and at New Smyrna.
1775	American Revolution begins.
1783	Spain takes over Florida from Britain at the conclusion of the Revolutionary War.
1812-1815	During the War of 1812, British agents are active in Florida and General Andrew Jackson leads military forces into the Spanish colony.
1814-1819	U.S. incursions into Florida against Indians and African Americans, sometimes called the First Seminole War.
1821	Florida becomes a U.S. territory.
1823	First known use of term "Ever Glade" appears in Vignoles's Observations Upon the Floridas.
April-May 1832	John James Audubon visits the Everglades to collect and sketch bird life.
1835-1842	Second Seminole War, with U.S. military operating in the Everglades and Florida Keys.
3-3-1845	Florida becomes the 27th U.S. state.
1858	Third Seminole War ends with removal of additional Seminoles to Oklahoma; the U.S. tacitly agrees to the continued presence of 100 to 150 Seminoles in the Big Cypress and Everglades country.
1858-1900	A handful of white settlers occupy homesteads on some of the Ten Thousand Islands and higher portions of the mainland, including Flamingo and Chokoloskee.

1861-1865	American Civil War; U.S. forces at Key West buy food from settlers on Florida keys and mainland.
1882	Hamilton Disston starts drainage work in the Everglades, connecting the Caloosahatchee River with Lake Okeechobee.
1896	Henry Flagler's Florida East Coast Railway reaches Miami.
June 1902	Guy Bradley made warden and deputy sheriff to patrol rookeries in the Everglades.
1904	Henry Flagler's Florida East Coast Railway is extended to Homestead.
February 1905	"The Everglades of Florida" in Century magazine asserts that the Everglades region ranks with western areas that have been protected as national parks.
7-8-1905	Walter Smith kills Guy Bradley off of Flamingo.
1906	Everglades Drainage District established and work begins on canals from Lake Okeechobee to the sea.
6-2-1915	Florida legislature establishes Royal Palm State Park, to be owned and operated by the Florida Federation of Women's Clubs.
11-23-1916	Royal Palm State Park is officially dedicated.
1917	Florida legislature sets aside 100,000 acres of state land in Monroe County as a reservation for the Seminole Indians.
1919	William E. Safford publishes Natural History of Paradise Key and the Nearby Everglades of Florida.
1920	Charles Torrey Simpson's In Lower Florida Wilds published.
1921	The Everglades Drainage District begins work on a muck dike on the southern shore of Lake Okeechobee.
1923	Annual report of the Secretary of the Interior suggests that "an untouched example of the Everglades" be established as a national park.
1925	Harold H. Bailey in The Birds of Florida argues for a large state or national park and other preserves in the Everglades, Big Cypress, and Lake Okeechobee area.
9-18-1926	Hurricane estimated to be a Category 4 crosses Florida just south of Lake Okeechobee.
2-9-1928	Senator Park Trammell introduces bill for study of suitability of a national park in south Florida (no specific area specified).
April 1928	The Tamiami Trail is dedicated.
5-18-1928	Ernest F. Coe writes letter to NPS Director Stephen Mather proposing an Everglades National Park.
5-31-1928	Coe meets with NPS Associate Director Arno Cammerer in Washington, D.C.
9-16 to 9-17-1928	The "Okeechobee" Hurricane hits South Florida, killing at least 2,500 people.

12-11-1928	The Tropic Everglades National Park Association is formed at meeting at Nautilus Hotel in Miami Beach; “Tropic” is later dropped from the name.
1929	John Kunkel Small in <i>From Eden to Sahara</i> proposes that selected areas of South Florida should be protected by state and federal governments “at once.”
3-1-1929	A bill authorizing an NPS inspection of the Everglades as a possible national park is signed.
5-25-1929	The Florida legislature authorizes an Everglades National Park Commission and gives it authority to take title to land for a national park. (The law is not to take effect until U.S. Congress authorizes the park.)
2-11 to 2-17-1930	Director Horace Albright leads an official NPS inspection tour of the Everglades, accompanied by Ernest Coe, Congresswoman Ruth Bryan Owen, and Marjory Stoneman Douglas.
5-14-1930	Congresswoman Ruth Bryan Owen introduces resolution in U.S. House authorizing Everglades National Park.
12-3-1930	Secretary of the Interior Lyman Wilbur transmits a letter to Congress with opinion that the Everglades is of national park caliber.
12-17-1930	Senator Duncan Fletcher introduces bill in Senate to authorize Everglades National Park.
12-26 to 12-30-1930	North Dakota Senator Gerald P. Nye and others from the Senate Public Lands Committee tour the Everglades.
1-18-1932	Frederick Law Olmsted Jr. and William Wharton submit report on their inspection tour of park area to the National Parks Association.
May 1932	Ruth Bryan Owen loses primary to a “wet” candidate, J. Mark Wilcox.
Winter 1932/1933	The U.S. Department of Agriculture begins wild cotton eradication in the Everglades, with an annual camp at Flamingo.
3-4-1933	Franklin Delano Roosevelt inaugurated as president; both houses of Congress have strong Democratic majorities.
1933-1934	Civilian Conservation Corps Company 262 does landscape work and constructs service buildings at Royal Palm State Park.
5-30-1934	President Roosevelt signs P.L. 73-267 authorizing Everglades National Park.
March 1935	Secretary of the Interior Harold Ickes is in Miami consulting with Everglades National Park Association, Seminoles, and others on park boundary.
4-3-1935	Secretary of the Interior Ickes writes Governor David Sholtz establishing tentative boundaries for Everglades National Park.
December 1934	An NPS delegation (H. C. Bryant, Roger Toll, George Wright) is in the Everglades to study park boundary question.

1935	Florida legislature authorizes trustees of Internal Improvement Fund to exchange state lands elsewhere for private lands within the park boundary.
4-30-1935	After Florida legislature re-establishes the Everglades National Park Commission (ENPC) with 12 members and a \$25,000 appropriation, Governor David Sholtz makes Ernest F. Coe its executive chairman, a salaried position.
6-10-1935	NPS Director Arno Cammerer writes D. Graham Copeland of the Collier Corporation promising to maintain commercial fishing in the park.
1-15-1936	Organizational meeting of the Everglades National Park Commission held in Miami.
12-2-1936	Committee on Lands of the Everglades National Park Commission submits recommendations on boundary.
1-5-1937	Fred P. Cone inaugurated as Florida governor.
January 1937	NPS delegation headed by Director Cammerer is in Miami to meet with the ENPC.
April 1937	Secretary of the Interior Ickes and Harry Hopkins inspect proposed park area (and do some fishing).
April 1937	Florida legislation abrogates 1917 Seminole reservation in Monroe County and replaces it with a Broward County reservation.
6-8-1937	Governor Cone demands resignations from all members of the Everglades National Park Commission.
8-13-1937	Secretary of the Interior Harold Ickes writes Florida Governor Fred Cone outlining an acceptable boundary for Everglades National Park.
8-21-1937	Congress in P. L. 75-336 removes the ban on spending federal funds for Everglades National Park.
11-16-1937	Governor Cone withholds appropriated funds from the ENPC and appoints G. Orrin Palmer as its chair.
11-1-1938	Daniel Beard's Wild Life Reconnaissance, Special Report: Everglades National Park Project printed.
March 1939	Former Congressman J. Mark Wilcox becomes president of the Everglades National Park Association.
1-7-1941	Spessard L. Holland inaugurated as governor.
March 1941	NPS Director Newton Drury makes first visit to the Everglades and meets with Governor Holland in Tallahassee.
5-9-1943	Florida law authorizing Internal Improvement Fund to convey land for Everglades National Park is signed.
October 1943	Humble Oil and Gulf Oil secure oil exploration leases on substantial acreage in Dade and Monroe Counties.

12-6-1944	President Roosevelt signs act allowing for acceptance by interior of land for Everglades National Park subject to reserved oil and gas rights (P.L. 78-463).
December 1944	Deal worked out with NPS, USF &W and Internal Improvement Fund leading to agreement to transfer 500,000 acres from state ownership.
1-2-1945	Millard Caldwell succeeds Spessard Holland as governor.
3-3-1945	Governor Caldwell appoints Gilbert Leach as managing director of a revitalized Everglades National Park Commission.
4-12-1945	Harry S Truman becomes president upon Franklin Roosevelt's death.
June 1945	Fires burn one-half of Royal Palm State Park.
10-21 through 10-26-1945	Meetings in New York City with John Pennekamp representing Governor Caldwell, Coe, John Baker of Audubon, C. Ray Vinten of NPS, and Ira Gabrielson, chief of USF&W.
1945	Everglades National Wildlife Preserve established with Daniel B. Beard as refuge manager.
2-11-46	Miami meeting with Vinten, Leach, Baker, Pennekamp, and Wilcox representing the Everglades National Park Association; Ernest Coe is not present.
3-18-1946	Julius Krug assumes office as Secretary of the Interior, as successor to Harold Ickes.
4-4-1946	Governor Caldwell reactivates Everglades National Park Commission and appoints John Pennekamp, August Burghard, and others as members.
4-25-1946	New version of the Everglades National Park Commission holds its first meeting.
10-21-46	Beard, Vinten, NPS Regional Director Allen meet with Holland and Everglades National Park Commission in Jacksonville.
Winter 1946-1947	Tropical Audubon Society initiates tours within the Everglades National Park area.
February-March 1947	John Pennekamp takes lead in getting Florida legislature to support \$2 million appropriation for land acquisition.
4-2-1947	Secretary of Interior Julius Krug accepts 706 square miles as minimum size of Everglades National Park.
4-10-1947	C. Ray Vinten helps conclude an agreement between Governor Caldwell and Director Drury.
6-20-1947	Secretary of the Interior establishes Everglades National Park.
June 1947	Florida Attorney General Tom Watson files suit against state actions to convey lands for the park.
8-27-1947	Daniel Beard enters on duty as first Everglades National Park superintendent.
October-November 1947	Hurricanes bring massive flooding to South Florida.

12-5-1947	First day of issue of Everglades commemorative stamp, issued at Florida City Post Office.
12-6-1947	President Truman dedicates the park in ceremonies at Everglades City.
4-13-1948	Interior provides comments to Army on proposed Central & Southern Florida Flood Control Project.
6-30-1948	Federal Flood Control Act passed, authorizing the Central & Southern Florida Flood Control project.
February-April 1948	Dry conditions in park with significant mortality of young birds.
9-21-1948	The Miami Hurricane causes widespread flooding in South Florida and knocks houses in Flamingo off their stilts.
November 1948	Announcement of NPS purchase of 134,880 acres from the Model Land Company.
April 1949	Florida legislature establishes the Central & Southern Florida Flood Control District, abolishing the Everglades Drainage District, and appropriating \$3.25 million as state share of project.
June 1949	Squatters on park land given two months to vacate.
6-27-1949	Glades buggies and airboats banned within park, except with superintendent's approval.
7-7-1949	Federal Register publication of regulations banning air boats in the park.
10-10-1949	Congress authorizes the SOI to purchase private land, with owners retaining mineral rights. (P.L. 81-340).
1950	U.S. Army Corps of Engineers (Corps) and Central & Southern Florida Flood Control District begin work on flood control projects.
2-22-1950	Secretary of the Interior issues order setting park at 1,228,500 acres.
April 1950	Frederick Law Olmsted Jr. in the park to discuss master planning.
May 1950	Major fires in South Florida.
5-8-1950	Condemnation suit for private lands in park filed.
June 1950	Superintendent's order closes all inland waters to nets and seines.
12-4-1950	Declaration of Taking approved on 125,000 acres of land within park boundary.
3-1-1951	Publication in Federal Register of Secretary of the Interior Order #2555, enlarging park boundary.
3-9-1951	Park fishing regulations, including a total ban on drag seines and restrictions on inland waterways, take effect.
5-31-1951	Judge Holland signs order approving land map in condemnation suit.
6-1-1951	Ingraham Highway closed to all commercial traffic, including fish hauling.
Summer-Fall 1951	Last Flamingo residents depart and park staff burn all but two houses in the community.

11-5-1951	First meeting of Everglades Natural History Association (park cooperating association) at Royal Palm Lodge.
12-1-1951	Federal government accepts exclusive jurisdiction over Everglades National Park from state.
October 1952	Royal Palm Lodge building moved out of the park.
10-30-1952	Secretary of the Interior approves northwest extension of park boundary.
1954	Florida Bay District Ranger Station opened on Key Largo.
3-12-1954	Secretary issues order enlarging park to 1,499,428 acres (an increase of 271,000 acres).
May 1954	Acting governor Charley Johns (anti-park) defeated in gubernatorial primary by Leroy Collins (pro-park).
1955	Homestead Air Force Base reactivated as a Strategic Air Command facility.
March 1955	Superintendent Beard, NPS Regional Director Allen, and assistant to the SOI Raymond Davis meet with governor in Tallahassee re park development.
March 1955	Everglades Park Company beats out Fred Harvey for Flamingo concession contract.
September 1955	Iori brothers begin constructing labor camp in the Hole-in-the-Donut for tomato growing.
October 1955	Meeting with Governor Collins, Director Wirth, and others in John Pennekamp's office; Wirth holding firm on no motel at Flamingo.
1-1-1956	20-year concession contract with Everglades Park Company goes into effect.
3-1-1957	Main Park Road to Flamingo opened.
6-6 to 6-8-1957	65 scientists meet in park to discuss a research program.
August 1957	The U.S. recognizes the Seminole Tribe of Florida.
November 1957	Warner Brothers crew in Everglades City filming Wind Across the Everglades.
12-20-1957	Visitor center/museum and concession facilities at Flamingo opened to public.
April 1958	Congressional hearings in Miami on proposed northwest extension of park.
4-21-1958	First prescribed burn in the park, which was the first in the Service to be conducted as part of a long-range prescribed burning program.
6-15-1958	Warren Hamilton reports for duty as second Everglades National Park superintendent.
July 1958	Engineer Lamar Johnson's report on park water resources released.
7-2-1958	Congressional action on northwest boundary expansion (P.L. 85-482)

1-1-1959	Cuban revolutionaries led by Fidel Castro enter Havana and depose Bautista government.
1-8-1959	Meeting in Tallahassee re 70,000 acres from state in northwest extension.
2-25-1959	Land exchange with state and land donation from Collier Corporation donation completed.
July 1959	First edition of Dr. Bill Robertson's Everglades: The Park Story published.
December 1959	Extensive amount of Hole-in-the-Donut land is under cultivation.
9-8-1960	Hurricane Donna hits park, doing considerable damage to the Flamingo developed area and mangrove forests.
December 1960	Dedication of John Pennekamp Coral Reef State Park on Key Largo.
1-3-1961	U.S. breaks diplomatic relations with Cuba.
4-17-1961	Bay of Pigs invasion by Cuban refugees fails to topple Castro government.
7-29-1961	Florida Game & Fresh Water Fish Commission bans alligator hunting statewide.
10-1-1961	Meeting in Washington of NPS with Corps on park water needs.
12-9-1961	NPS Director Conrad Wirth dedicates park's main visitor center on Parachute Key.
Winter 1961/1962	Last season of Tropical Audubon Society's guided tours within the park.
January 1962	The U.S. recognizes the Miccosukee Tribe of Indians of Florida.
February 1962	Area around Anhinga Trail is a mudflat. Water being pumped from a well.
May-June 1962	Shark Valley fire burns 77,664 park acres and 106,880 acres outside park.
September 1962	Rachel Carson's Silent Spring published.
10-14 to 10-28-1962	Cuban missile crisis. Park prepares an emergency evacuation plan.
12-15-1962	Water Conservation Area 3 is formally dedicated.
2-12-1963	Northwest Flight 705 crashes in park southwest of Seven-Mile Road tower, killing 43.
9-15-1963	Stanley C. Joseph becomes third Everglades National Park superintendent.
11-8-1963	Secretary Udall attends dedication of National Key Deer Refuge.
2-27-1964	Ground-breaking ceremony for renewed work on Cross Florida Barge Canal.
March 1964	60 additional motel rooms at Flamingo opened.
May 1964	Superintendent Joseph attends dedication of Aerojet plant adjacent to park on east.

9-3-1964	National Wilderness Act signed into law.
October 1964	First 6 of Flamingo overnight cabins opened to public.
July 1965	Battery A/2/52 completes its move to Nike Missile Base HM-69 inside the park's Hole-in-the-Donut.
9-8-1965	Hurricane Betsy strikes the park, downing many trees and damaging boardwalk trails.
2-4-1965	Shark Valley Loop Road and observation/fire tower opened.
February 1965	Superintendent Joseph in Tallahassee for Governor's Conference on Water Resources for Florida.
May 1965	Only pumps are keeping any water in Taylor Slough.
6-8-1965	Superintendent in Washington for meetings with Director Hartzog and Secretary of Defense McNamara and SOI Udall on water for park.
1-13-1966	Roger W. Allin arrives as fourth park superintendent.
7-1-1966	Park begins charging \$1.00 per private automobile entry fee at main entrance.
August 1966	Deer deaths because of water releases getting considerable publicity.
12-21-1966	Park gets millionth visitor for the year – a first.
1-3-1967	Claude Kirk sworn in as governor. He soon appoints Nathaniel Reed as his special assistant on environmental issues.
May 1967	Much press coverage of Everglades drought.
July 1968	Corps sends "Water Resources for Central and South Florida" to Congress, House Doc. 369, 90th cong., 2d sess., in response to 1965 request.
8-25-1968	John C. Raftery becomes park's fifth superintendent.
9-18-1968	Ground-breaking for a jetport in the Big Cypress.
October 1968	Biscayne National Park created.
April 1969	Everglades Coalition founded.
July 1969	Florida Defenders of the Environment formed.
September 1969	Luna Leopold's Environmental Impact of Big Cypress Jetport released.
10-17-1969	P.L. 91-81 authorizes National Park Service to acquire 6,640 acres in the Hole-in-the-Donut.
November 1969	Friends of the Everglades founded.
12-5-1969	The U.S. Lacey Act is amended to cover reptiles and amphibians, making it a federal offense to export alligator hides out of Florida.
1-1-1970	National Environmental Policy Act passed (83 Stat. 852).
1-16-1970	The Jetport Pact is signed, beginning a search for an alternate site and committing U.S. government to a study of South Florida ecosystems.
6-19-1970	Congress enacts a water guarantee for the park (P.L. 91-282).
9-20-1970	Joseph Brown becomes park's sixth superintendent.

12-31-1970	Omnibus River and Harbor and Flood Control Act of 1970 (P. L. 91-611) mandates a flow of 315,000 acre-feet per year to park.
1-19-1971	President Richard Nixon directs the Corps to stop work on Cross Florida Barge Canal.
Spring 1971	Park's environmental education program begins with grade-school students visiting Shark Valley.
6-11-1971	Art Marshall's paper "Repairing the Florida Everglades Basin" appears.
9-5-1971	Jack E. Stark becomes park's seventh superintendent.
1971	Corps completes channelization of Kissimmee River, converted to Canal C-38.
March 1972	Shark Valley tram tours inaugurated.
1972	State of Florida enacts Environmental Land and Water Management Act, Water Resources Act, and Florida Comprehensive Planning Act.
10-21-1972	Marine Mammal Protection Act passed, protecting all marine mammals in U.S. waters.
10-11-1974	Big Cypress Swamp National Preserve created (88 Stat. 1258).
9-30-1975	Everglades Park Co. concession expires. Everglades Park Catering, Inc. (a subsidiary of Restaurant Associates, Inc.), takes over on 10/1/1975.
June 1976	State of Florida passes law looking to the restoration of the Kissimmee River.
10-10-1976	John M. Good becomes park's eighth superintendent.
10-26-1976	Everglades National Park designated an International Biosphere Reserve.
1977	Loop Road Environmental Education Center opened, staffed by Everglades although located in Big Cypress National Preserve.
1977	South Florida Natural Resources Center established.
1978	NPS purchases concessioner buildings at Flamingo for \$1.3 million.
10-10-1978	1,296,500 acres of the park are designated as wilderness.
1-15-1979	Memorandum of agreement among Corps, South Florida Water Management District and NPS concerning water quality.
10-26-1979	Everglades National Park designated a World Heritage Site.
1980	Much negative publicity for South Florida – Liberty City riots, drugs, crime – and park believes it causes a decline in visitation.
3-17-1980	New fishing regulations approved, imposing a December 31, 1985, end to commercial fishing in the park. Soon thereafter, the Organized Fishermen of Florida file suit to block the regulations, ultimately without success.
4-15 to 10-31, 1980	Mariel boatlift brings as many as 125,000 Cuban refugees to South Florida, mostly in May and June.
1980	U.S. Army removes missiles and other equipment from Nike launch area.

5-4-1980	John M. Morehead becomes park's ninth superintendent.
3-20-1981	Hell's Bay Canoe Trail (8 miles) and Wilderness Waterway (99 miles) get national trails designation.
June 1981	Florida enacts "Save Our Rivers" law under Governor Graham.
4-5-1982	Ceremony marking park's designation as World Heritage Site and Biosphere Reserve with NPS Director Dickenson and Marjory Stoneman Douglas in attendance.
Summer 1982	Governor Bob Graham creates Everglades Wildlife Management Committee, largely in response to culling of deer herds.
10-1-1982	Concessioner Gettysburg Tours, Inc., takes over operations of tram trips at Shark Valley.
1982	U.S. Army turns over Nike Base HM-69 to National Park Service.
1983	Florida passes Water Quality Assurance Act.
3-10-1983	Park chief scientist Gary Hendrix presents 7-point plan to South Florida Water Management District Board asking for increased water deliveries to park.
1983	Trust for Public Lands sells former Aerojet lands (50,000 acres) to State of Florida.
5-11-1983	Governor Graham withdraws state from Jetport pact—opposes a jetport anywhere in Dade County.
7-7-1983	Law enforcement officials arrest 200 in a large-scale law enforcement operation aimed at drug traffic centered in Everglades City.
8-9-1983	Governor Graham announces "Save Our Everglades" program after a series of meetings. Aimed at "rejuvenation" of entire Kissimmee-Lake Okeechobee-Everglades ecosystem—a vision more than a concrete plan.
11-30-1983	Congress acts to give the Corps expanded authority in the 8.5 Square Mile Area, including \$10 million for land acquisition (P.L. 98-181).
1984	Florida enacts Wetlands Protection Act.
February 1984	Governor Graham establishes Everglades National Park/East Everglades Committee.
1984	Everglades Park Catering Co. sells Flamingo concession to T. W. Services, Inc., of Chicago.
Winter 1984-1985	One-year trial of early draw-down of water to Frog Pond area to enable winter vegetable growing.
1985	Florida enacts Growth Management Act.
4-18-1985	Everglades National Park East Everglades Commission releases Implementation Plan.
12-31-1985	Commercial fishing ends in park waters.
June 1986	U.S. Supreme Court refuses to hear an appeal by the Organized Fishermen of Florida on park commercial fishing ban.

7-6-1986	Michael V. Finley arrives as park's tenth superintendent.
October 1986	Everglades Natural History Association is officially renamed Florida National Parks & Monuments Association, recognizing its role at four South Florida parks.
1987	Florida enacts Surface Water Improvement and Management (SWIM) Act.
April 1987	Everglades Regional Collection Center formed to serve the four South Florida Parks.
6-4-1987	Everglades National Park designated a Wetland of International Importance.
10-1-1987	Everglades Employees Association established.
12-6-1987	40th anniversary celebration held in conjunction with reopening of Shark Valley operation with Senator Bob Graham as keynote speaker.
March 1988	Governor Martinez forms East Everglades Land Acquisition Task Force.
10-1-1988	East Everglades Land Acquisition Task Force releases report.
10-11-1988	Dexter Lehtinen, acting U.S. attorney, files United States vs. South Florida Water Management District et al. claiming water entering federal reserves is polluted.
12-3-1989	Robert S. Chandler becomes park's eleventh superintendent.
12-13-1989	Passage of the Everglades National Park Protection and Expansion Act of 1989, expanding park to include 107,600 acres in the East Everglades and providing a roadmap for the Corps, South Florida Water Management District and NPS to work together.
September 1990	Miccosukee Tribe of Indians of Florida opens a bingo parlor at Dade Corners, the intersection of Krome Avenue and the Tamiami Trail.
1990	Florida Keys National Marine Sanctuary established.
5-7-1991	Marjory Stoneman Douglas Everglades Protection Act signed.
5-20-1991	Governor Chiles "surrenders" in Lehtinen water quality suit.
7-8-1991	Settlement agreement in Lehtinen suit announced.
10-1-1991	Chekika State Park donated to Everglades National Park by state.
1992	Everglades Coalition publishes its own restoration plan.
March 1992	Judge Hoeveler enters settlement in the Lehtinen water quality suit.
April 1992	Richard Ring becomes the park's twelfth superintendent.
8-24-1992	Category 5 Hurricane Andrew makes landfall just north of Homestead and moves across the Everglades causing extensive damage. The park's main visitor center is damaged beyond repair.
1993	Base Realignment and Closure Commission designates closure of Homestead Air Force Base, except for small portion for a reserve wing.
1993	Park begins producing "Waterways" video programs.

Appendix F: Capsule Biographies¹

- Adams, Colonel James W. Rosenoff (Dates unknown). The Corps' Jacksonville district engineer from 1978 to 1981; U.S. Military Academy class of 1959.
- Albright, Horace (1890-1987). Second NPS director from 1929 to 1933. Albright led the NPS inspection team to the Everglades in 1930 and worked with Ernest F. Coe to draft authorization legislation for the park.
- Allen, Thomas J. (1897-1985). As director of NPS Region One from 1944 to 1951, Allen was intimately involved in the negotiations with the state of Florida that led to the park's establishment.
- Andrus, Cecil (Born 1931). Idaho governor from 1971-1977 and 1987-1995. Secretary of the interior in the Carter administration, 1977-1981.
- Appelbaum, Stuart J. (Birth date unknown). Long-time planner in the Corps's Jacksonville District, he led the team that developed the CERP.
- Arnett, G. Ray (Born 1924). Assistant secretary for fish and wildlife and parks, 1981-1985 in the Reagan administration; director of the National Wildlife Federation, 1961-1979.
- Askew, Reubin O. (1928-2014). Governor of Florida, 1971-1979.
- Atkinson, E. E. (Dates unknown). Warden at Royal Palm State Park in the 1930s.
- Atwood, Wallace W. (1872-1949). Founder, Geography Department, Clark University. President, Clark University. On executive board of National Parks Association.
- Audubon, John James (1785-1851). Noted nineteenth-century naturalist and wildlife painter who spent time in the Everglades in the 1830s collecting bird specimens to study and paint.
- Babbitt, Bruce (Born 1938). Two-term governor of Arizona and secretary of the interior, 1993-2001 in the Clinton administration; he was a prime mover in pushing forward the CERP legislation.
- Bailey, Harold H. (1878-1962). Florida ornithologist who argued for a national reservation in the Everglades in his 1925 book, *The Birds of Florida*.
- Baker, John H. (1894-1973). Executive director, later president, of the National Association of Audubon Societies in the 1930s through the 1950s, he was involved in negotiations between the state of Florida and the NPS that led to establishment of Everglades National Park in 1947.
- Barley, George (1934-1995). A successful real estate developer who cofounded the Save Our Everglades Foundation (now the Everglades Foundation) in 1993. Barley led the unsuccessful fight to impose a penny-a-pound tax on Florida sugar. He died in a private plane crash on his way to a meeting with the Corps of Engineers.
- Barley, Mary (Born 1946). Following the 1995 death of her husband, George Barley, she remained active in Everglades restoration and has been a long-time member of the Everglades Foundation board.
- Beard, Daniel B. (1906-1971). Author of 1938 Everglades *Wildlife Reconnaissance*. Superintendent of Everglades National Wildlife Preserve, 1945-1947, and first superintendent of Everglades National Park, 1947-1958.

¹ A reasonable effort was made to ascertain birth and death years for individuals; in a handful of instances, no data were found.

- Bedell, Harriet (1875-1969). A deaconess of the Episcopal Church who ministered to the Miccosukees from 1933 to 1960 from her Glades Cross Mission in Everglades City.
- Bellamy, Jeanne (1911 or 1912-2004). A journalist, businesswoman, and conservationist, she was a long-time reporter for the *Miami Herald* and later served on its editorial board. She also was on board of the South Florida Water Management District.
- Berg, Eric (Birth date unknown). Sculptor with a Master in Fine Arts from University of Pennsylvania who created the Florida panther sculpture located on the grounds of the Ernest F. Coe Visitor Center.
- Bingham, Mary Lily Kenan Flagler (1867-1917). Widow of Henry Flagler who donated 960 acres for Royal Palm State Park.
- Blanding, Albert (1876-1970). Lt. General in the U.S. Army who served on the Everglades National Park Commission.
- Bloxham, William D. (1831-1911). Governor of Florida, 1881-1885, and again, 1897-1901, he helped accomplish the sale of Everglades acreage to Hamilton Disston.
- Bomar, Mary A. (Birth date unknown). NPS director, 2006-2009, in the George W. Bush administration.
- Bowlegs, Billy, or Holata Micco (~1810-1859). A Seminole leader who resisted the U.S. in the Second and Third Seminole Wars, finally agreeing to move to the Indian Territory in 1858.
- Bradley, Guy M. (1870-1905). Audubon bird warden in the Everglades, 1902-1905. Killed while on duty by Walter Smith in waters off Flamingo, July 8, 1905. His death became a rallying point for opponents of the plume trade.
- Brookfield, Charles (1903-1988). Long-time representative of Tropical Florida Chapter of the National Audubon Society. Led many bird tours in Everglades National Park and advocated for the park. Co-author of *They All Called It Tropical*.
- Broward, Napoleon Bonaparte (1857-1910). Florida governor, 1905-1909, who made draining the Everglades a top state priority.
- Browder, Joe B. (Born 1938). Journalist and conservationist who was instrumental in the fight against the jetport in the Big Cypress Swamp and brought Marjory Stoneman Douglas into that campaign.
- Brown, Loren B. "Totch" (1920-1996). Woodsman, fisherman, gator hunter, marijuana smuggler, and one of the last of the self-described Gladesmen. Author of 1993's *Totch: A Life in the Everglades*.
- Browner, Carol (Born 1955). Head of Florida Department of Environmental Regulation, 1991-1993. Administrator of the U.S. Environmental Protection Agency, 1993-2001. Director, White House Office of Energy and Climate Change Policy, 2009-2011.
- Bryant, Cecil Farris (1914-2002). Governor of Florida, 1961-1965.
- Bryant, Dr. Harold C. (1886-1968). Long-time NPS official who was part of team that studied the Everglades National Park boundary question in late 1934.
- Bumpus, Dr. Hermon C. (1862-1943). Director, American Museum of Natural History, member of the 1930 NPS party investigating the suitability of the Everglades as a national park.
- Burghard, August, Jr. (1902-1987). Ft. Lauderdale advertising executive, amateur historian, and important member of the Everglades National Park Commission in the 1940s.

- Burlew, Elbert K. (Dates unknown). Department of Interior official, member of the 1930 NPS party investigating the suitability of the Everglades as a national park.
- Burns, William Haydon (1912-1987). Florida governor, 1965-1967.
- Bush, George H. W. (Born 1924). U.S. president, 1989-1993. After meeting with Everglades Superintendent Michael Finley, he agreed to support the East Everglades expansion bill, passed in 1989.
- Bush, George W. (Born 1946). U.S. president, 2001-2009. Supported Everglades restoration, but did not assertively press to fund federal appropriations for it.
- Bush, John Ellis "Jeb" (Born 1953). Governor of Florida, 1999-2007, he helped obtain substantial appropriations from the state legislature for Everglades restoration.
- Butcher, Devereux (1907-1991). Headed the National Parks Association (now the National Parks Conservation Association) from 1942 to 1950.
- Cain, Stanley A. (1902-1995). Pioneering ecologist and founder of the Department of Conservation at the University of Michigan, he was assistant secretary for fish, wildlife, and parks, 1965-1968, in Johnson administration.
- Caldwell, Millard F. (1897-1984). Florida governor, 1945-1949. Caldwell followed up on Spessard Holland's efforts and helped persuade the Florida legislature to appropriate \$2 million to acquire private land for Everglades National Park.
- Cammerer, Arno B. (1883-1941). NPS director, 1933 to 1940. Everglades National Park was authorized in 1934 during his directorship.
- Carlton, Doyle (1887-1972). Governor of Florida, 1929-1933.
- Carpenter, Colonel Robert M. (Dates unknown). Corps of Engineers district engineer for the Jacksonville District from 2003 to 2006; U.S. Military Academy class of 1981.
- Carr, Archie F., Jr. (1909-1987). Leading authority on sea turtles and long-time University of Florida professor. Author of 1973's *The Everglades*.
- Carr, Marjorie Harris (1915-1997). Prominent environmental activist and Archie Carr's wife.
- Carver, John A., Jr. (Born 1918). DOI assistant secretary for public land management, 1961-1964.
- Catts, Sidney (1876-1936). Florida governor, 1917-1921.
- Chapman, Frank M. (1864-1945). Ornithologist and Audubon official who visited the Everglades.
- Chapman, Oscar L. (1896-1978). Secretary of the interior from 1949 to 1953 in the Truman administration.
- Chekika (?-1840). A notable Indian leader in the Second Seminole War, described as a "Spanish Indian." Colonel William S. Harney captured and executed him on a hammock in the East Everglades that is now part of Everglades National Park.
- Chiles, Lawton (1930 -1998). Florida governor from 1991 until he died in office in December 1998, Chiles famously "surrendered his sword" and admitted that Florida's waters were polluted.
- Clark, William P. (Born 1931). Secretary of the interior in the Reagan administration, 1983-1985.
- Coe, Ernest F. (1876-1951). A landscape architect, he was the founder and prime mover in the Everglades National Park Association from its inception in 1928. Worked closely with NPS officials in getting the park authorized (1934). Executive chairman of the Everglades National Park Commission, a state agency, from 1935 to 1937.

- Cohen, Bonnie R. (Birth date unknown). Assistant secretary for management and budget under Secretary of the Interior Bruce Babbitt, 1993-1997.
- Colee, Harold (1894-1968). Executive vice president of the Florida State Chamber of Commerce in the 1940s, Colee was a key member of the second version of the ENPC.
- Collier, Barron Gift (1873-1939). Collier built a fortune with advertising on streetcars across the U.S. He began buying land in southwest Florida in 1921, eventually acquiring almost one million acres and getting the state to split off Collier County from Lee County in 1923.
- Collier, Barron Gift Jr. (?-1976). Carried on the Collier family interests after the death of his brother Miles Collier in 1954.
- Collier, John (1884-1968). Social reformer who was U.S. commissioner of Indian affairs, 1933-1945; chief architect of the "Indian New Deal."
- Collier, Miles (1913-1954). Youngest son of Barron G. Collier, he took active interest in having Everglades City serve as the western gateway to Everglades National Park.
- Collins, Michael (Birth date unknown). Executive director, SFWMD, March 2011-
- Collins, Thomas LeRoy (1909-1991). Florida lawyer who served as governor from 1955 to 1961. Instrumental in persuading the NPS to build a lodge at Flamingo.
- Cone, Frederick P. (1871-1948). Lake City attorney and, Florida governor, 1937-1941. Fired Ernest F. Coe as executive chairman of Everglades National Park Commission in 1937 and appointed his cousin, G. O. Palmer, to the position.
- Copeland, David Graham (1885-1949). Barron Collier's right-hand man who oversaw the building of Everglades City and the Tamiami Trail. Member of the first version of the Everglades National Park Commission and political boss of Collier County.
- Craighead, Frank C., Sr. (1890-1982). Specialist in forest entomology and Everglades flora; long-time research collaborator with Everglades National Park. Craighead's laboratory is preserved at the Collier County Museum.
- Creel, Tilford C. (Dates unknown). Executive director, South Florida Water Management District, 1991-1994.
- Crist, Charles J., Jr. (Born 1956). Governor of Florida, 2007-2011.
- Dail, George "Ed," Jr. (Dates unknown). Executive director, South Florida Flood Control District, 1958-1974.
- Davis, C. Kay (Dates unknown). As head of the U.S. Soil Conservation Service in Florida, he prepared a survey of Everglades soils in the 1940s.
- Darwin, Arthur Leslie (1882?-1977). The hermit of Possum Key, allowed to stay by the NPS until 1972.
- Dean, Henry (Birth date unknown). Executive director, South Florida Water Management District, 2001-2005.
- Demaray, Arthur (1887-1958). Long-time NPS official who served as NPS director from April to December 1951.
- Devereaux, Colonel Alfred B., Jr. (1937-2008). The Corps' Jacksonville district engineer from 1981 to 1984.
- D'Ewart, Wesley A. (1889-1973). DOI assistant secretary for public land management, 1955-1956.
- Dickenson, Russell E. (1923-2008). NPS director, 1980-1985.
- Disston, Hamilton (1844-1896). Philadelphia saw and file manufacturer who bought four million acres in the Everglades in the 1880s and tried to drain and reclaim them.

- Dodd, Colonel Alan M. (Birth date unknown). The Corps' Jacksonville district engineer from June 2012; U.S. Military Academy class of 1989.
- Doty, Cecil (1907-1990). Oklahoma-born and -educated architect employed by the NPS from the 1930s until his 1968 retirement. Influential force in the Mission 66 program and creator of basic architectural plan for Flamingo, which was later refined by Harry L. Keck.
- Douglas, Marjory Stoneman (April 7, 1890-May 14, 1998). Journalist, author, and conservationist. Original member of the Tropic Everglades National Park Association. Published *Everglades, River of Grass* in 1947. Founded Friends of the Everglades in 1969 and was a prominent advocate for the Everglades from then until her death.
- Drury, Newton B. (1889-1978). Long-time executive director of the Save-the-Redwoods League, he was director of the NPS from 1940 to 1951. He was director when Everglades was established in 1947.
- Dunlop, Becky Norton (Born 1951). Assistant secretary for fish, wildlife, and parks, 1987-1989.
- Elliot, Fred C. (1878-1963). Chief engineer and secretary to the board of Florida's Internal Improvement Fund. Chief drainage engineer for Everglades Drainage District. Author of 1911 report on Everglades drainage.
- Ernst, Roger C. (1914-2003). DOI assistant secretary for public land management, 1957-1960.
- Estenoz, Shannon (Born 1968). Appointed director of the DOI's Office of Everglades Restoration Initiatives in November 2011.
- Everhardt, Gary (Born 1936). NPS director, 1975-1977.
- Fairchild, Dr. David (1869-1954). Botanist and plant explorer for the U.S. Department of Agriculture. Coconut Grove resident from 1926. First president of the Tropical Everglades National Park Association and founder of Fairchild Tropical Botanic Garden.
- Fanjul, Alfonso "Alfy," Jr. (Born 1937). Part of the extended Cuban-American family with major sugar operations in Florida.
- Fanjul, Jose "Pepé" (Born 1944). Part of the extended Cuban-American family with major sugar operations in Florida.
- Fascell, Dante (1917-1998). Congressman from South Florida from 1955 to 1992. A consistent advocate for Everglades National Park, he played an important role in brokering an agreement with the Collier family in the 1950s to get more land for the park. Instrumental in the establishment of Biscayne National Park and Big Cypress National Preserve. The visitor center at Biscayne National Park bears his name.
- Finch, Frank R. (Dates unknown). Executive director, South Florida Water Management District, 1999-2001.
- Flagler, Henry (1830-1912). Railroad and resort tycoon, more responsible than anyone for opening the Atlantic coast of Florida to development. His Model Land Company had extensive holdings in the Everglades that eventually became part of Everglades National Park.
- Fletcher, Duncan U. (1859-1936). Senator from Florida who introduced a bill for an NPS evaluation of the Everglades and the park's authorizing act.
- Fullerton, Colonel Avery S. (1928-1997). The Corps' Jacksonville district engineer from 1970 to 1972.

- Gabrielson, Ira (1889-1977). Director of the U.S. Fish & Wildlife Service from 1940 to 1946, he agreed to administer a portion of the Everglades as wildlife refuge until it became a national park.
- Ghezzi, Edward M. (Dates unknown). Local associated architect for Shark Valley Lookout Tower.
- Gifford, Edith Wright (~1850-1921). Miami area conservationist and club woman who helped create and maintain Royal Palm State Park; married to John C. Gifford.
- Gifford, John C. (1870-1949). Professor of Tropical Forestry at the University of Miami and proponent of the Everglades National Park project.
- Gilchrist, Albert (1858-1926). Governor of Florida, 1909-1913.
- Glasgow, Leslie (1914-1980). Assistant secretary for fish, wildlife and parks in the Nixon administration, April 1, 1969-November 30, 1970.
- Goggin, John (1916-1963). Pioneer of professional archeology in Florida, Goggin worked in Everglades National Park and elsewhere in South Florida.
- Gore, Albert Jr. (Born 1948). Vice president under Bill Clinton, 1993-2001, Gore refused to take a position in the 2000 election campaign on the redevelopment of Homestead Air Force Base.
- Graham, Ernest "Cap" (1886-1957). Florida dairyman, developer, and state senator; father of Bob Graham.
- Graham, D. Robert "Bob" (Born 1936). Son of dairyman and developer Ernest Graham, he was governor of Florida, 1979-1987, launching the Save Our Everglades initiative. As U.S. senator from 1987 to 2005, he was a steady friend of Everglades National Park and helped enact the CERP in 2000.
- Grosskruger, Colonel Paul L. (Birth date unknown). District engineer for the Corps' Jacksonville District from 2006 to 2009; U.S. Military Academy class of 1983.
- Guillory, Blake C. (Birth date unknown). Executive director of the SFWMD from September 2013.
- Hardee, Cary (1876-1957). Governor of Florida, 1921-1925.
- Harney, Brigadier General William S. (1800-1889). Commander in the First Seminole War. The Harney River is named for him.
- Harriman, Constance B. (Birth date unknown). Assistant secretary for fish, wildlife and parks in George H. W. Bush administration.
- Hartzog, George (1920-2008). NPS director from 1964 to 1972.
- Hathaway, Stanley K. (1924-2005). Served as secretary of the interior under President Ford from June to October 1975.
- Henshall, James A. (1836-1925). Renowned angler and author of *Camping and Cruising in Florida*, 1884.
- Herbst, Robert L. (Born 1935). Assistant secretary for fish, wildlife, and parks in the Carter administration, 1977-1980.
- Hickel, Walter J. (1919-2010). Alaska native who was secretary of the interior, 1969-1970; vocally declared war on alligator poachers in the Everglades.
- Hodel, Donald P. (Born 1935). Secretary of the interior in the Reagan administration, 1985-1989.
- Hodgson, Casper W. (Dates unknown). Founder of World Book Company. Member of the executive board of National Parks Association.
- Holota Micco, see Bowlegs, Billy.
- Holland, Spessard L. (1892-1971). Governor of Florida, 1941-1945; U.S. Senator from Florida, 1946-1971. Instrumental in achieving compromise on mineral rights and

- other issues leading to establishment of Everglades National Park in 1947. Advanced the park's interests as senator.
- Horn, William P. (Born 1950). Assistant secretary for fish, wildlife and parks in the Reagan administration.
- House, Lloyd (Dates unknown). Operator of a fish house at Flamingo who was evicted in 1951.
- Hrdlička, Aleš (1869-1943). Czech-born anthropologist who surveyed prehistoric sites in South Florida and wrote *The Anthropology of Florida*, 1925.
- Hyde, Bolivar F., Jr. (Dates unknown). Executive director, South Florida Flood Control District, 1956-1958.
- Ickes, Harold L. (1874-1952). Secretary of the interior, 1933-1946, as well as administrator of the New Deal's Public Works Administration. In theory a strong supporter of wilderness parks, but not consistently in practice.
- Ingraham, James E. (1850-1924). Key member of Henry Flagler's management team who headed the Model Land Company; Ingraham Highway was named for him.
- Irwin, Coleman (Dates unknown). Operator of a fish house at Flamingo who was evicted in 1951.
- Jackson, Andrew (1767-1845). Headed U.S. forces in the First Seminole War, 1817-1818, before serving two terms as president, 1829-1837. The city of Jacksonville is named for him.
- Jarvis, John (Birth date unknown). NPS director beginning in October 2009.
- Jennings, May Mann (1872-1963). President, Florida Federation of Women's Clubs, 1914-1917. Prime mover in establishing and protecting Royal Palm State Park. Wife of Florida Governor William Sherman Jennings.
- Jennings, William Sherman (1863-1920). Governor of Florida, 1901-1905. Counsel to the board of trustees of the Internal Improvement Fund of Florida, 1905-1909. Married May Mann in 1891.
- Jewell, Sally (Born February 21, 1956). Former chief operating officer of REI and National Parks Conservation Association board member who became the secretary of the interior in April 2013.
- Johns, Charley Eugene (1905-1990). Florida governor from September 1953 until January 1955. Opposed to the expansion of Everglades National Park beyond its 1950 boundary, he ran unsuccessfully for a full term as governor in 1954.
- Jones, Johnny (1932-2010). Plumber and avid outdoorsman who became executive director of the Florida Wildlife Federation and lobbied tirelessly for conservation measures.
- Jones, Paul Tudor (Born 1954). Tremendously successful investment fund manager who cofounded the Everglades Foundation with George Barley.
- Keck, Harry L. (Dates unknown). Coral Gables architect who designed the Flamingo visitor center.
- Kellogg, Vernon (1867-1937). Entomologist and evolutionary biologist who lobbied the interior department to protect biological values in the proposed Everglades park.
- Kelly, Dr. Howard A. (Dates unknown). Baltimore surgeon and avocational naturalist who unintentionally disrupted 1930 U.S. House of Representatives hearings on an Everglades National Park bill by displaying a live king snake.
- Kempthorne, Dirk (Born 1951). Secretary of the interior in the George W. Bush administration, 2006-2009.

- Kennedy, Roger G. (1926-2011). NPS director, 1993-1997, during the first Clinton administration, after a long tenure as director of the Smithsonian's National Museum of American History.
- Kirk, Claude Roy, Jr. (1926-2011). Governor of Florida, 1967-1971, Kirk appointed Nathaniel Reed as his environmental advisor.
- Kirkpatrick, Colonel Elmer E. (1905-1990). The Corps' Jacksonville district engineer from 1955 to 1957.
- Kleppe, Thomas S. (1919-2007). Secretary of the interior in the Ford administration, 1975-1977.
- Krug, Julius A. (1907-1970). Secretary of the interior in Truman administration, 1946-1949. Spoke at dedication of Everglades National Park in December 1947.
- Leach, Gilbert D. (1881-1960). Publisher of the *Leesburg Commercial* newspaper and member of the second version of the Everglades National Park Commission.
- Lee, Charles (Birth date unknown) Long-time Florida environmentalist, now director of advocacy for Florida Audubon, he played a major role in keeping together the coalition behind the CERP.
- Lee, Colonel Emmett C., Jr. (Dates unknown). The Corps' Jacksonville district engineer from 1972 to 1975; U.S. Military Academy class of 1950.
- Leopold, Aldo (1887-1948). Forester, ecologist, and cofounder of the Wilderness Society in 1935, he wrote *A Sand County Almanac* (1949), a key document in modern environmental thought.
- Leopold, Dr. A. Starker (1913-1983). Forester, zoologist, and conservationist (eldest son of Aldo Leopold), he was the principal author of 1963's "Wildlife Management in the National Parks."
- Leopold, Dr. Luna (1915-2006). Leading expert in fluvial geomorphology and son of land-use ethic pioneer Aldo Leopold. Luna Leopold was the lead author of the joint Interior/Transportation report on the proposed Big Cypress Jetport.
- Lehtinen, Dexter (Born 1946). Acting U.S. attorney for the Southern District of Florida who in 1988 brought suit against the state of Florida on behalf of the NPS over water pollution in the Everglades. He later was counsel to the Miccosukee Tribe.
- Lewis, Orme (1903-1990). DOI assistant secretary for public land management, 1953-1955.
- Loesch, Harrison (1916-1997). DOI assistant secretary for public land management, 1969-1973.
- Ludwig, Daniel K. (1897-1992). Industrialist and shipping tycoon who purchased acreage on the shores of Biscayne Bay and in 1962 announced plans for an oil refinery, seaport, and industrial park.
- Lunsford, Dr. Edwin (Dates unknown). Miami dentist who bought acreage at Cape Sable in the 1940s in the confident, but ultimately unfounded, hope that the NPS would let him develop a resort there.
- Lujan, Manuel, Jr. (Born 1928). Secretary of the interior in George H. W. Bush administration, 1989-1993.
- Mack, Connie, III (Born 1940). Grandson of legendary Philadelphia Athletics owner and manager Connie Mack, he represented Florida in the U.S. Senate from 1989 to 2001, lending Republican support to the Clinton administration's CERP proposal.

- MacKay, Kenneth Hood “Buddy,” Jr. (Born 1933). Lieutenant governor of Florida under Lawton Chiles, 1991 to December 12, 1998. Upon Chiles’s death, MacKay was governor until January 5, 1999, when Jeb Bush was sworn in.
- MacKaye, Benton (1879-1975). Forester and conservationist who first conceived the Appalachian Trail; a cofounder of the Wilderness Society in 1935.
- Mainella, Fran P. (Born 1947). Director of Florida state parks for 12 years, Mainella was NPS director, 2001- 2006, in the George W. Bush administration.
- Manson, H. Craig (Dates unknown). Assistant secretary for fish and wildlife, and parks in the George W. Bush Administration, Feb. 2002-Dec. 2006.
- Maloy, John R. (Dates unknown). Executive director, South Florida Water Management District, 1975-1984.
- Milson, Colonel Bruce A. (Dates unknown). The Corps’ Jacksonville district engineer from 1989 to 1992.
- Marshall, Arthur R. (1919-1985). Marine biologist and conservationist with U.S. Fish and Wildlife Service, University of Miami and University of Florida. Author of the “Marshall Plan” in the 1980s, the first comprehensive plan for Everglades restoration.
- Marshall, Robert (1901-1939). Forester who played a seminal role in developing wilderness areas in national forests and a cofounder of the Wilderness Society in 1935.
- Martin, John (1884-1958). Florida governor, 1925-1929.
- Martinez, Robert “Bob” (Born 1934). As governor of Florida, 1987-1991, he cautiously continued Bob Graham’s environmental initiatives and was none too pleased when Acting U.S. Attorney Dexter Lehtinen sued the state over water quality.
- Masland, Frank E., Jr. (1915-1993). Pennsylvania carpet manufacturer and long-time member of NPS advisory board. Played crucial role in lining up conservation organizations in opposition to a jetport in the Big Cypress.
- Mather, Stephen T. (1867-1930). First director of the NPS, serving 1917-1929. Mather had just one meeting with Ernest F. Coe before a massive stroke made it impossible for him to continue as director.
- May, Colonel James G. (Birth date unknown). Commander of the Corps’s Jacksonville District from 2000 to 2003.
- Mayo, Nathan (1876-1960). Florida’s commissioner of agriculture from 1923 to 1960.
- McCarty, Daniel T. (1912-1953). Inaugurated governor of Florida in January 1953; died in office on September 28, 1953.
- McElhenny, Colonel John F. (Dates unknown). The Corps’ Jacksonville district engineer from 1968 to 1970.
- McFarland, J. Horace (1859-1948). Urban and regional planner and conservationist. President of the American Civic Association, 1904-1924.
- McKay, Douglas (1893-1959). Secretary of the interior in the Eisenhower administration, 1953-1956.
- Meeker, Melissa L. (Birth date unknown). Executive director, South Florida Water Management District, 2011-2013.
- Megee, Garnett (Dates unknown). Miami artist who designed the Everglades National Park commemorative stamp issued in December 1947.
- Menéndez de Avilés, Pedro (1519-1574). Spanish governor of Florida and founder of the city of St. Augustine, he established short-live outposts in the territory of the Calusa and Tequesta.

- Merriam, Dr. John (1869-1945). Paleontologist, president of Carnegie Institution, 1920-1938. Prime mover on NPS educational committee in 1920s, important in defining qualities of the “primitive” in natural areas. Member of the executive board of the National Parks Association.
- Miller, Colonel Joe R. (Birth date unknown). Commander of Corps’s Jacksonville District from 1997 to 2000; U.S. Military Academy class of 1974.
- Moore, Clarence Bloomfield (1852-1936). Avocational archeologist from Philadelphia who did extensive fieldwork in the American South, including the Ten Thousand Islands and adjacent mainland areas.
- Moore-Willson, Minnie (1859-1937). Energetic advocate of the Seminole Indians whose *The Seminole Indians of Florida* was first published in 1895.
- Morton, Rogers C. B. (1914-1979). Secretary of the interior in the Nixon and Ford administrations, 1971-1975, he tapped Nathaniel Reed as assistant secretary for fish, wildlife, and parks. Morton and Secretary of Transportation John Volpe agreed to prevent the jetport in the Big Cypress Swamp.
- Mosier, Charles (Dates unknown). First warden/caretaker of Royal Palm State Park.
- Mott, William Penn, Jr. (1909-1992) NPS director in the Reagan and George H. W. Bush administrations, 1985-1989.
- Munroe, Kirk (1850-1930). Coconut Grove writer and conservationist.
- Munroe, Mary Barr (1852-1922). Coconut Grove conservationist and club woman who helped create and maintain Royal Palm State Park; married to Kirk Munroe.
- Musgrove, Martha (Dates unknown). Long-time reporter and member of the editorial board at the *Miami Herald* who took a special interest in the Everglades.
- Myers, Colonel Charles T., III (Dates unknown). The Corps’ Jacksonville district engineer from 1984 to 1987.
- Neely, Burkett S., Jr. (Dates unknown). Manager of the Arthur R. Marshall Loxahatchee National Wildlife Reserve from 1982 to 1998, at the time that U.S. attorney Dexter Lehtinen filed the water quality lawsuit.
- Norton, Gale A. (Born 1954). Secretary of the interior in the George W. Bush administration, 2001-2006.
- Nye, Gerald P. (1892-1971). North Dakota senator who led a December 1930 inspection tour of the Everglades; not to be confused with NPS Director Albright’s February 1930 trip.
- Ogden, John C. (1938-2012). Ornithologist and expert on Florida wildlife who worked at Everglades National Park and with the Florida Audubon Society.
- Olmsted, Frederick Law, Jr. (1870-1957). Landscape architect and long-time advisor to NPS directors. Wrote key section of NPS organic act (1916). With William Wharton, conducted inspection trip of Everglades. Member of the executive board of National Parks Association.
- Olson, Sigurd F. (1899-1982). Conservationist and author who was president of The Wilderness Society from 1963 to 1971.
- Owen, Ruth Bryan (1885-1954). Member of the U.S. House of Representatives for South Florida from 1929-1933; daughter of William Jennings Bryan. Introduced the first authorizing act for Everglades National Park, which failed to pass.
- Ozmer, Roy (?-1969). Hermit of Pelican Key, allowed to remain when NPS took over the key.

- Palmer, G. O. (Dates unknown). Florida attorney who was appointed executive chairman of the Everglades National Park Commission by his cousin, Governor Fred P. Cone, serving 1937-1944.
- Pantano, Colonel Alfred A., Jr. (Birth date unknown). The Corps' Jacksonville district engineer from 2009 to 2012.
- Parfitt, Colonel H. R. (Dates unknown). The Corps' Jacksonville district engineer from 1962 to 1963.
- Parker, Garald (1905-2000). Pioneer of South Florida hydrology and groundwater studies, he provided much of the background information for Marjory Stoneman Douglas's *River of Grass*.
- Pearson, Dr. T Gilbert (1873-1943). Ornithologist and president of National Association of Audubon Societies, 1920-1934; member of the 1930 NPS party investigating the suitability of the Everglades as a national park.
- Pearson, Colonel Richard W. (Dates unknown). The Corps' Jacksonville district engineer from 1949 to 1952.
- Pennekamp, John (1897-1978). Reporter, columnist, and editor for the *Miami Herald*, he was on the second version of the Everglades National Park Commission and was a key player in engineering the deal in the 1940s that got the park established. John Pennekamp Coral Reef State park is named in his honor.
- Pepper, Claude (1900-1989). New Deal stalwart and Florida senator from 1936-1951 and congressman from Miami from 1963 until his death in 1989.
- Perrine, Dr. Henry (1797-1840). Physician and horticulturalist given a section of land in the Everglades by the federal government to experiment with tropical plants. Killed by Chekika and a band of Indians during the Second Seminole War.
- Peterson, J. Hardin (1894-1978). Florida congressman who was chairman of the Everglades National Park Association.
- Phillips, William Lyman (1885-1966). Landscape architect who oversaw the Civilian Conservation Corps work at Royal Palm State Park and later laid out Fairchild Tropical Botanical Garden.
- Pimm, Stuart (Born 1949). A biologist and ecologist long on the faculty of Duke University who criticized early versions of the CERP.
- Plant, Henry (1819-1899). Railroad and steamship tycoon who built a rail line down the Gulf coast of Florida.
- Podgor, Joe (Born 1946). Executive director of Friends of the Everglades for 11 years until discharged by the organization's board in 1995.
- Ponce de León, Juan (1474-1521). Spanish conquistador and explorer who visited Florida in 1513 and 1521 and named it.
- Poole, Samuel E., III (Birth date unknown). Executive director, South Florida Water Management District, 1994-1999.
- Randolph, Isham (1848-1920). Hydraulic engineer who authored a 1913 report on Everglades drainage.
- Raven, Peter (Born 1936). Biologist, ecologist and long-time director of the Missouri Botanical Garden, he reviewed CERP for National Academy of Science.
- Redford, Polly (1925-1972). South Florida environmentalist who was active in the campaign to establish Biscayne National Park.
- Reed, Nathaniel (Born 1933). Long-time promoter of environmental causes in Florida, Reed was special assistant on the environment to Governor Claude Kirk,

- 1967-1971, and assistant secretary for fish, wildlife and parks, 1971-1977, in the Nixon and Ford administrations.
- Rice, Colonel Terry L. (Birth date unknown). Commander of Corps's Jacksonville District from August 1994 to October 1997; U.S. Military Academy class of 1969. Rice later was a consultant to Miccosukee Tribe.
- Ridenour, James M. (Born 1942). NPS director, 1989-1993, in the George W. Bush administration.
- Robbins, William J. (1890-1978). Prominent biologist who was the principal author of "A Report by the Advisory Committee to the National Park Service on Research," August 1963, commissioned by the NPS from the National Academy of Science.
- Roberts, Loren (Dates unknown). Operator of a fish house at Flamingo who was evicted in 1951.
- Robertson, Dr. William B. "Bill", II (1924-2000). Scientist who worked at Everglades National Park from 1951 to his retirement in 1997. Known for his work with park bird populations and on the role of fire in maintaining ecological conditions.
- Ros-Lehtinen, Ileana (Born 1952). Congresswoman from South Florida since 1989. Spouse of Dexter Lehtinen.
- Safford, William E. (1859-1926). Botanist, ethnologist, and educator who did pioneering early work on South Florida environments. Author of *The Natural History of Paradise Key and the Nearby Everglades of Florida*, 1919.
- Salazar, Kenneth L. (Born 1955). Secretary of the interior in the Obama administration from January 2009 to April 2013.
- Salt, Colonel Terrence C. "Rock" (Birth date unknown). The Corps' Jacksonville district engineer from 1991 to 1994; U.S. Military Academy class of 1966. He later held positions in Interior and the Department of the Army.
- Scott, Rick (Born 1952). Governor of Florida, inaugurated 2011 and running for reelection in 2014.
- Seaton, Fred Andrew (1909-1974). Kansas Republican who was secretary of the interior in the Eisenhower Administration, 1956-1961.
- Severud, Gordon (1909-1998). Miami-based architect, who in the 1950s was commissioned to design the Flamingo lodge buildings, marina services building, and gas station.
- Schull, Colonel Herman W. Jr. (Dates unknown). The Corps' Jacksonville district engineer from 1952 to 1955.
- Shelford, Victor E. (1877-1968). Professor at the University of Illinois and pioneer of the field of ecology.
- Sholtz, David (1891-1953). A vice president of the Everglades National Park Association and governor of Florida 1933 to 1937; appointed members of first version of the Everglades National Park Commission, with Ernest F. Coe as executive chairman.
- Simmons, Glen (1916- 2009). Alligator hunter and Gladesman. Wrote *Gladesmen: Gator Hunters, Moonshiners and Skiffers* with Laura Ogden.
- Simpson, Charles Torrey (1846-1932). Expert on mollusks who from his home at Lemon City on Biscayne Bay made many collecting trips in the Everglades.
- Small, John Kunkel (1869-1938). Botanist who specialized in Florida plants, particularly hammock vegetation.
- Smallwood, Charles Sherod "Ted" (?-1951). He and his wife Mamie were proprietors of a general store in Chokoloskee.

- Smallwood, Mamie House (?-1943). She and her husband Ted were proprietors of a general store in Chokoloskee.
- Smathers, George A. (1913-2007). Democratic senator representing Florida, 1951-1969, who helped shepherd Everglades legislation through the Congress.
- Smith, Anthony Wayne (1906-1992). Associated with the Congress on Industrial Organization for 20 years, Smith headed the National Parks Association, 1958-1980.
- Smith, McGregor (1899-1972). President of Florida Power & Light in the 1940s who gave substantial legal and logistical support to the establishment of Everglades National Park.
- Smith, Thomas Buckingham (1810-1871). St. Augustine lawyer and avocation historian whose 1848 report concluded that the Everglades could be successfully drained.
- Smith, Walter (Dates unknown). Flamingo resident who shot and killed Audubon warden Guy Bradley in 1905. A Key West jury believed his claim that it was in self-defense and declined to convict him.
- Sollohub, Colonel Julian V. (1916-?). The Corps' Jacksonville district engineer from 1960 to 1962.
- Soucie, Gary A. (Birth date unknown). Environmentalist employed by the Sierra Club and the Friends of the Earth and editor of *Audubon* magazine.
- Stanton, Robert (Born 1940). NPS director, 1997-2001, during the second Clinton administration.
- Stein, Clarence S. (1882-1975). Architect and urban planner who was close to many of the founders of the Wilderness Society.
- Stoneman, Frank (1857-1941). Publisher of the *Miami Herald* and father of Marjory Stoneman Douglas.
- Strahl, Dr. Stuart D (Born 1955). As head of Florida Audubon, Strahl led the NGO contingent in getting the CERP enacted.
- Strickland, Thomas L. (Birth date unknown). DOI assistant secretary for fish, wildlife and parks, 2009-2011.
- Sullivan, Donald and Jeannette (Dates unknown). Last caretakers at Royal Palm State Park.
- Tabb, Colonel R. T. (Dates unknown). The Corps' Jacksonville district engineer from 1965 to 1968.
- Taylor, Oliver G. (Dates unknown). Long-time NPS engineer who was part of team that looked into Everglades boundary question in late 1934.
- Teak, Colonel Willis E. (Dates unknown). The Corps' Jacksonville district engineer from 1947 to 1949.
- Thompson, Benjamin H. (1904-1997). Zoologist and wildlife specialist with the NPS who was involved with Everglades National Park boundary issue in 1930s.
- Toll, Roger W. (1883-1936). Yellowstone National Park superintendent and member of the 1930 NPS party investigating the suitability of the Everglades as a national park, Toll died in the same New Mexico automobile accident that killed George Wright, chief of the NPS wildlife branch.
- Train, Russell E. (1920-2012). Undersecretary of the interior in Nixon Administration, 1969-1970; chair, Council on Environmental Quality, 1970-1973; first administrator, Environmental Protection Agency, 1973-1977.
- Trammell, Park (1876-1936). Governor of Florida, 1913-1917; U.S. Senator from Florida from 1917 until his death in 1936.

- Troxler, Colonel Paul D. (1905-unknown). The Corps' Jacksonville district engineer from 1957 to 1960.
- Udall, Steward L. (1920-2010). The only person to serve as secretary of the interior in the Kennedy and Johnson administrations, 1961 to 1969, he pressed the Corps of Engineers to get more water to Everglades National Park.
- Umphrey, J. F. (Dates unknown). Homestead contractor for Royal Palm lodge and out-buildings in 1910s.
- Vignoles, Charles (1793-1875). Surveyor, believed to be the first to use the term Everglades in print.
- Vint, Thomas C. (1894-1967). Long-time NPS chief of planning and construction who supported keeping the Ingraham Highway as the main park road.
- Vinten, C. Raymond (1895-1983). Coordinating superintendent for southeastern parks and monuments, 1942-1951, Vinten was the director's point man on the Everglades project through the late 1940s.
- Volpe, John A. (1909-1994). As President Nixon's secretary of transportation from 1969 to 1973, Volpe agreed not to develop a jetport in the Big Cypress Swamp.
- Wade, Malcolm "Bubba" (Birth date unknown). Long part of the management team of the U.S. Sugar Corporation, Wade represented the sugar industry in many negotiations and conflicts.
- Wainwright, Alice C. (1907-1991). Conservationist and first woman on Miami City Council.
- Walker, Ronald H. (Born 1937). NPS director, 1973-1975, in the Nixon administration; first director without a background in conservation or land management.
- Wallis, W. Turner (Dates unknown). Executive director, South Florida Flood Control District, 1949-1956.
- Ward, Dr. Henry Baldwin (1865-1945). A zoologist and parasitologist, Ward headed the Zoology Department at the University of Illinois from 1909 to 1933. He was active in the American Association for the Advancement of Science and was important in getting wilderness protection in the 1934 authorizing act for the Everglades.
- Warren, Fuller (1905-1973). Governor of Florida from 1949 to 1953.
- Watt, James G. (Born 1938). Secretary of the Interior, 1981-1983, in the Reagan administration, he attempted to reverse the decision to phase out commercial fishing in Everglades National Park.
- Watson, J. Thomas (1886-1954). Florida attorney general from 1941 to 1949. As attorney general, sought to block state transfer of land for park. Ran unsuccessfully for the governorship in 1948.
- Webb, James B. (1936-1997). Attorney and environmentalist, deputy assistant secretary in the Department of the Interior during the Carter administration. Championed Everglades causes as Florida director for The Wilderness Society and later in the society's Washington office.
- Wehle, Carol Ann (Birth date unknown). Executive director, South Florida Water Management District, 2005-2011.
- Whalen, William J. (1940-2006). NPS director, 1977-1980 during the Carter administration.
- Wharton, William P. (1880-1976). Board member of the Massachusetts Forest and Park Association, 1912-1976 and president, National Parks Association, 1936-1960. With Frederick Law Olmsted Jr. conducted an inspection trip to Everglades.
- Wheelock, W. D. (Dates unknown). Warden at Royal Palm State Park in the 1920s.

- Whitfield, Estus (Birth date unknown). Chief environmental advisor to four Florida governors from 1979 to 1999: Graham, Martinez, Chiles, and Bush. Instrumental in drafting the Save Our Everglades program with Governor Graham.
- Wilbur, Ray Lyman (1875-1949). Secretary of the interior, 1929-1933; transmitted favorable report on proposed Everglades National Park to Congress in December 1930.
- Wilcox, J. Mark (1890-1956). Congressman from Florida, 1933-1939, who served as president of Everglades National Park Association.
- Williams, Major Archie P. (Dates unknown). Leader of an 1883 expedition in the Everglades sponsored by the *New Orleans Times-Democrat*.
- Willoughby, Hugh L. (Dates unknown). Everglades adventurer who wrote *Across the Everglades: A Canoe Journey of Exploration*, 1898.
- Wilson, Edward O. (Born 1929). Renowned biologist who did some of his early fieldwork on “island biogeography” in Everglades National Park. Wilson later participated in the National Academy of Science’s review of CERP.
- Wirth, Conrad (1899-1993). Director, NPS, 1951 to 1964, and father of the Mission 66 program. Key decisions about the development of Everglades National Park were made during Wirth’s directorship.
- Wisdom, Colonel Donald A. (Dates unknown). The Corps’ Jacksonville district engineer from 1975 to 1978.
- Wodraska, John (Dates unknown). Executive director of the South Florida Water Management District, 1984-1991.
- Work, Hubert (1860-1942). Colorado physician who was secretary of the interior, 1923-1928, in the Harding and Coolidge administrations.
- Wright, George (1904-1936). As head of the NPS wildlife division, Wright visited the Everglades and gave his opinion that it could be developed for visitors without compromising its natural values. Killed in an automobile crash in New Mexico that also took the life of Yellowstone Superintendent Roger Toll.
- Wright, James (Dates unknown). Engineer with the U.S. department of agriculture whose 1909 report on Everglades drainage vastly oversimplified the difficulties involved.
- Yard, Robert Sterling (1865-1941). Played key role as publicist for NPS in 1916-1917. Executive secretary of the National Parks Association, 1919-1941. A cofounder of the Wilderness Society in 1935, he pressed the NPS to write wilderness protection into Everglades authorizing legislation.