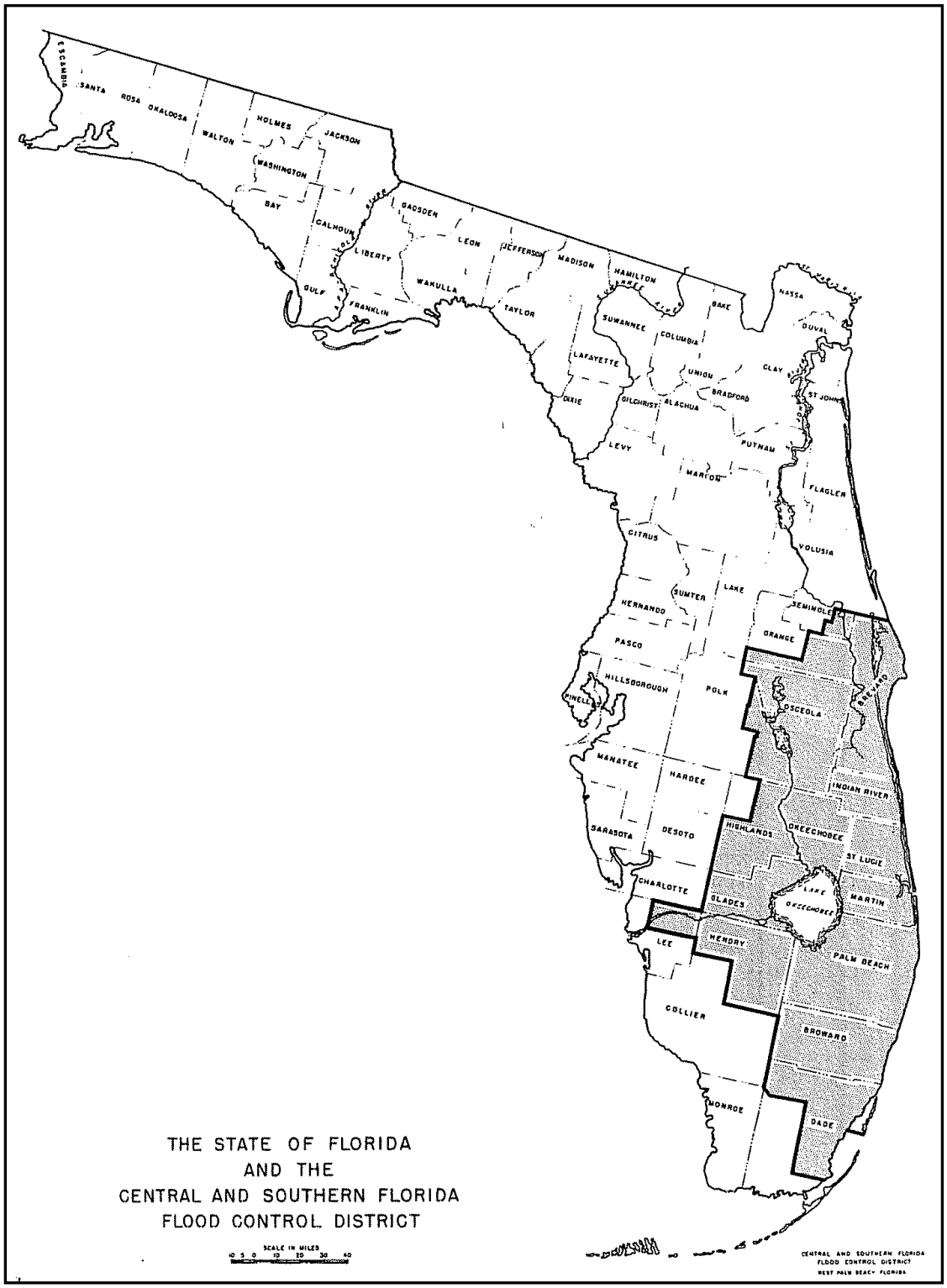
CHAPTER THREE
Balancing Demands: Implementing the Central and Southern Florida Flood Control Project, 1949-1960

The inclusion of the C&SF Project in the Flood Control Act of 1948 was the first step in the implementation of a water management program in South Florida. Throughout the 1950s, the state of Florida, the newly created Central and Southern Florida Flood Control District (FCD), and the U.S. Army Corps of Engineers worked together to construct and operate the project works. The Corps and the FCD attempted to coordinate the project with interested federal, state, and local agencies, but by the end of the 1950s, it was clear that these entities all had different views as to how water should be distributed in South Florida. Agriculturists wanted water for their crops, while rapidly growing urban interests demanded water as well. Everglades National Park and FWS officials, meanwhile, claimed that the Corps needed to provide them with enough water to preserve plants, fish, and wildlife in the Everglades and other areas. By the end of the 1950s, the collision of these different demands seemed inevitable.

In order for work to commence on the C&SF Project in the late 1940s, the state of Florida needed to raise around $3.25 million, its share of the construction cost of the first phase, as well as acquire the necessary lands and rights-of-way. Unfortunately, the federal law mandating these responsibilities (the Flood Control Act of 1948) was passed nine months before the state legislature was scheduled to meet, meaning that no action could be taken to fulfill these duties in 1948. In preparation for the 1949 legislative session, Governor Millard Caldwell established a committee to investigate what tax revenues could support the flood control plan, while other officials explored the creation of a new state agency to cooperate with the Corps in project implementation. The Okeechobee Flood Control District and the Everglades Drainage District (EDD) still existed, but the EDD did not have authority to operate for flood control and the Okeechobee district had jurisdiction over a limited area. According to Lamar Johnson, engineer for the EDD, several individuals, including himself, drafted bills to establish a local cooperating agency. The EDD also kept in close contact with the Corps during this period, receiving and clarifying information pertaining to local cooperation, and compiling engineering data in preparation for the beginning of construction.[1]

In April 1949, the Florida state legislature convened, passing three bills that pertained to state involvement in the C&SF Project. The first established the FCD as the major local agency to coordinate with the Corps on the project, replacing the Okeechobee Flood Control District. The second provided for the abolishment of the EDD after it had paid off its bonds, giving its responsibilities to the FCD. The third was the state's General Appropriations Act, which included $3.25 million as the local share of the cost of the C&SF Project.[2]

The legislation authorizing the FCD established a five-member, non-salaried board, appointed by the governor for three-year overlapping terms, as the district's governing body. This board would have "full responsibility for the District's activities and interests."[3] One member of the board would become the executive director, who would serve with the executive



Boundaries of the Central and Southern Florida Flood Control District. [Source: Central and Southern Florida Flood Control District, *Facts about F.C.D.* (West Palm Beach, Fla.: Central and Southern Florida Flood Control District, 1955).]

staff, which included the heads of seven different divisions within the district: land, operation and maintenance, finance, engineering, public information and research, administration, and legal. Soon after the legislature created the FCD, the five appointed board members – Dave Turner, Fred Bartleson, Joe S. Earman, N. J. Hayes, and Lawrence Rogers – organized the district officially, designating Turner as executive director. The board also established its headquarters at West Palm Beach. As created, the FCD encompassed all or part of 17 counties in Central and South Florida, totaling 15,570 square miles. Its major responsibilities, according to a 1955 publication, was "cooperative participation in the advancement of studies design and construction" of the C&SF Project, as well as land acquisition, water control, and regulation once the system was developed.[4]

At a subsequent meeting attended by numerous state officials and legislators, W. Turner Wallis, appointed as chief engineer of the district, expounded on the FCD's functions. Essentially, he said, the FCD was "a cooperative agency between the State and the Federal Government and local interests in projects concerned with water conservation, flood and water control, and allied problems." John C. Stephens, a research project supervisor with the Soil Conservation Service of the U.S. Department of Agriculture, explained how the FCD coordinated with these interests. According to Stephens, the FCD held regular meetings with Corps engineers during the planning stages of C&SF project works, providing "basic data on economic, social, and physical factors essential to project development." The FCD received these data by "maintain[ing] close liaison with all agencies – Federal, State, and local – having an interest in problems of water conservation and control and natural resource developments."[5] These included the U.S. Department of Agriculture, the U.S. Geological Survey, the FWS, the Florida Geological Survey, the Florida Game and Fresh Water Fish Commission, and the State Board of Conservation, among others. The FCD also held meetings with land action groups, county commissioners, subdrainage districts, and landowners in order to understand what local interests wanted from the project, and then presented these views to the Corps. After the Corps made its final construction plans, the FCD reviewed the proposals before they were sent out to bid, and then it worked to obtain necessary property and rights-of-way for construction.[6]

In order to perform these functions, the FCD needed money from the state, including the funds necessary to cover the state's required contribution to the total cost of the project, and the financing to purchase lands and to provide operation and maintenance once the project was completed. The state legislature had created a flood control account in its general revenue fund, and had agreed to make occasional appropriations to the account, including the initial $3.25 million required for construction. Other charges, such as for right-of-way purchases and for operation and maintenance, would come from an ad valorem tax on all real and personal property in the FCD, whereby the amount paid would depend on the value of the property. This meant that landowners in Dade, Broward, and Palm Beach counties would be responsible for 95 percent of the total tax.[7]

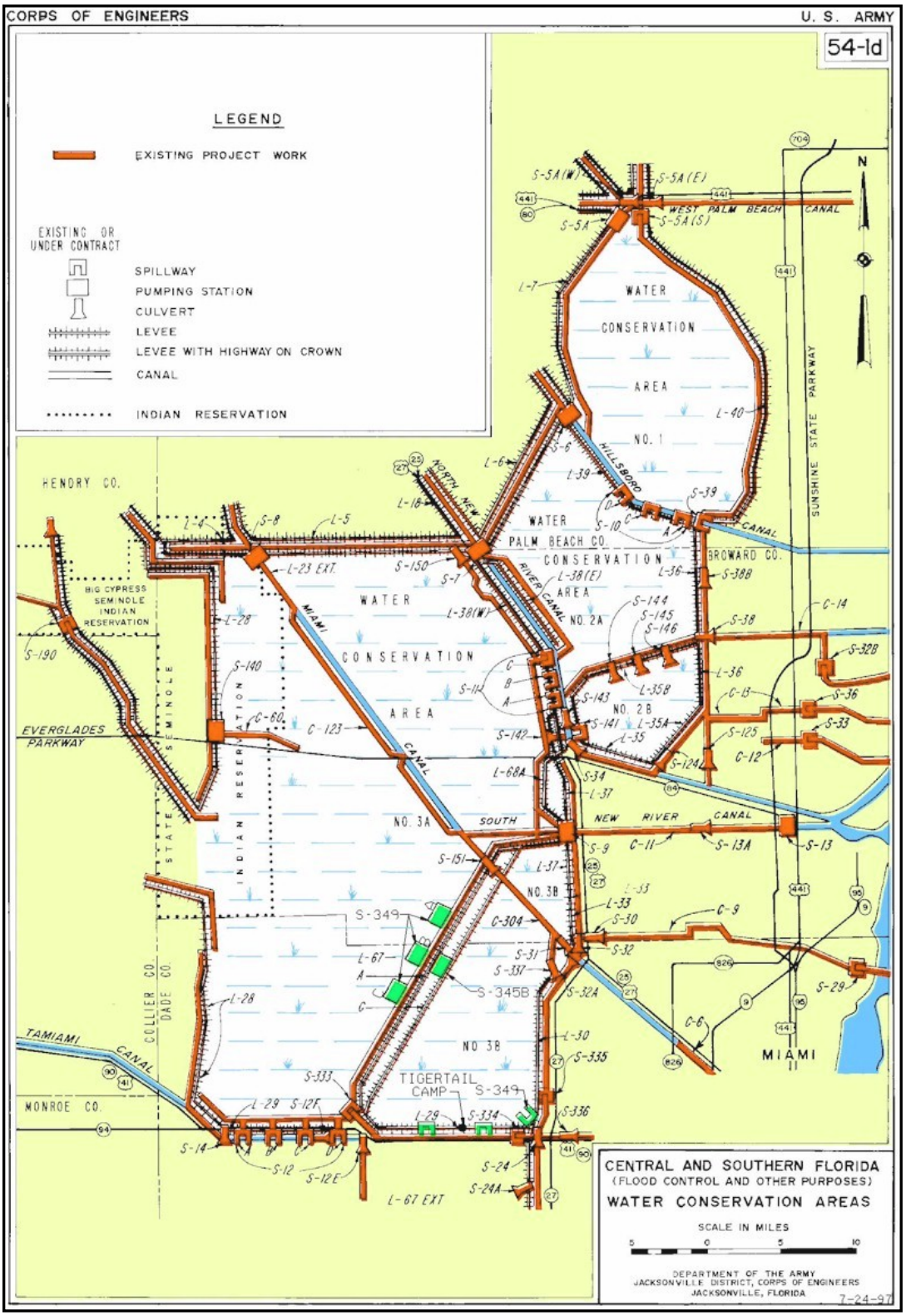
Using the money provided by the state, as well as the federal appropriation, the Corps began its construction of the C&SF Project. According to the FCD, there were several major components to be completed in the first phase of the program. First, the Corps would build a levee from northwest Palm Beach County to the south of Dade County along the east coast, thereby preventing flooding from the Everglades to the coastal communities. Second, the Corps

would modify control facilities and levees around Lake Okeechobee in order to create more water storage, and it would increase the discharge capacity from the lake in order to prevent flooding. Third, the Corps would create three water conservation areas in Palm Beach, Broward and Dade counties for water storage. Fourth, the Corps would construct canals, levees, and pumping stations to protect 700,000 acres of agriculture south of Lake Okeechobee in Palm Beach, Hendry, and Glades counties, known as the Everglades Agricultural Area (EAA). Fifth, the Corps would build canals and water control structures to handle drainage in Dade, Broward, Palm Beach, Martin, and St. Lucie counties.[8]

As this construction began, Corps representatives freely admitted that the C&SF Project as proposed in House Document 643 needed revising. Oscar Rawls, a spokesman for the Jacksonville District, informed state and local officials that because it had to produce a plan quickly, the Corps "in many instances" did not complete extensive studies of regional needs and instead relied on hasty estimates in its proposal. According to Rawls, the proposal was merely a quick report "stating the problems and in a preliminary sort of [way] an estimate of what the solution should be." The Jacksonville District thus had only "a plan that they would use for the basic frame work [*sic*] on which further and more complete planning would take place."[9] W. Turner Wallis, an engineer with the FCD, was even more blunt, stating that House Document 643 was "a hastily assembled document based on hydrological and agronomic data that even the most optimistic admitted was far from adequate."[10] More studies of the needs of Central and South Florida were necessary, and in many ways, the Corps and other federal and state agencies learned about these needs as they went throughout the 1950s.

Regardless of the inadequacies, the Corps began construction, and the FCD commenced its responsibilities. One of the first tasks the FCD faced was the acquisition of lands to be used as water conservation areas. As a preliminary step, the district made a restudy of how large the areas should be, using the "knowledge and experience of engineers familiar with the hydrology of the Everglades."[11] It recommended reductions in the three conservation areas proposed by the Corps in House Document 643 in order to keep valuable agricultural land and tracts held in trust for the Seminole Indians free from flooding. Smaller areas would also curb seepage rates, a problem because of the permeability of the limestone underlying the land. The FCD suggested that Water Conservation Area No. 1, originally proposed as 175,315 acres in the vicinity of Loxahatchee Marsh in Palm Beach County and supplied with water from the West Palm Beach and Hillsboro canals, be trimmed by 21,299 acres, while Conservation Area No. 2 in Broward County (containing water from the Hillsboro and North New River canals) be reduced from 142,259 acres to 135,187 acres. The largest decrease would occur in Conservation Area No. 3 in Dade and Broward counties (supplied by the North New River and Miami canals), which would be reduced from 671,411 acres to 563,724 acres. Over 130,000 total acres would be cut from the three areas, a 13.8 percent reduction.[12]

Despite the large acreage involved, the Corps agreed to the FCD's suggestions, and in the early 1950s, the FCD purchased land for the water conservation areas. According to Lamar Johnson, who had been appointed assistant engineer of the FCD, "the landowners' generally did not accept the appraised value of the lands," meaning that "most of the lands were acquired by condemnation."[13] However, some landowners insisted that they be allowed to retain their possessions because the possibility existed that they contained oil and gas. To appease these



Map of WCAs 1, 2, and 3. (Source: U.S. Army Corps of Engineers, Jacksonville District.)

owners, the FCD acquired only flowage rights to the private land that it could not condemn, amounting to approximately 10 percent of the conservation areas. Although the FCD did not have full possession of this land, the flowage rights still allowed it "to flood the surface of the lands at any time and to any degree necessary."[14] The land acquisition program for the conservation areas continued until its completion in 1954, upon which the FCD had purchased approximately 860,000 acres.

Yet in its land acquisition efforts, the FCD ran into some trouble with the Seminole Indians. As explained earlier, the state of Florida had moved the Seminole reservation out of the proposed boundaries of Everglades National Park in 1935. The new location of the reservation, however, infringed on the area where the Corps and the FCD wanted to build Conservation Area No. 3. In 1950, the Corps proposed to construct L-28, a north-and-south levee that would help impound water in Conservation Area No. 3, three miles east of the Hendry-Broward county line. The Seminole objected to this plan because the levee would bisect their reservation and cause more than half of their grazing and hunting lands to be used for water impoundment, making them virtually worthless. After Corps and Bureau of Indian Affairs officials convinced the Seminole that alignment would not harm them, alleging that land to the west of the alignment could not be used for agriculture anyway, the Indians retracted their objections, allowing the levee's construction. Confirming Seminole fears, however, 16,000 acres east of the levee became part of Conservation Area No. 3, although the Indians could still use 12,000 acres to the west for grazing.[15]

As the FCD acquired land for the water conservation areas, it negotiated with both the FWS and the Florida Game and Fresh Water Fish Commission for the management of the areas. As early as 1946, the EDD had proposed that the FWS assume control over the conservation area in the vicinity of the Loxahatchee Marsh in order to provide a migratory bird refuge on the Atlantic and Mississippi flyways. The FWS agreed to the program, and when the area was finally created as Conservation Area No. 1 in 1950, the Service purchased a 50-year lease from the FCD. After some consultations, the Corps approved the lease as long as the FWS's management did not "interfere with the regulation and operation of conservation area 1 by the Corps of Engineers."[16] Thereafter, the FWS operated Conservation Area No. 1 as the Loxahatchee National Wildlife Refuge.

The Loxahatchee National Wildlife Refuge. (Source: South Florida Water Management District.)

Yet tensions sometimes existed between the Corps and the FWS over Loxahatchee management. In 1952, for example, Roy Wood, the Service's regional supervisor complained that the Corps had organized an inspection trip of the C&SF Project for the House Public Works Committee, but had not included any FWS representatives in the planning or on the tour even though the FWS managed Conservation Area No. 1. This snub, Wood claimed, "clearly reveals the Corps of Engineers' mode of operation in the promotion of its program and perhaps the attitude which generally prevails in the Corps relative to active participation of other agencies in their affairs."[17] The Corps' oversight was probably more unintentional than deliberate, but Wood's complaint resonated with those who believed that the Corps did not regard fish and wildlife concerns as important as other parts of the C&SF Project.

In January 1952, the Florida Game and Fresh Water Fish Commission accepted responsibility over the other two water conservation areas, which were then designated as the Everglades Wildlife Management Area. According to the terms of the license agreement between Florida Game and the FCD, the commission would operate the areas "to attain the basic objectives of preservation, protection and propagation of wildlife and fish," as well as for recreational benefits. Measures would include developing wildlife environments and habitat, planting crops and plants "to increase the carrying capacity of the area for wildlife," and allowing controlled public hunting and fishing. However, the agreement clearly stated that the operation of the conservation areas for wildlife and fish objectives could not conflict with flood control and water retention.[18]

In addition to establishing the water conservation areas, the FCD and the Corps also investigated what other measures needed prioritization. One of the initial examinations was of the necessity of flood control work in the Kissimmee River Valley, located north of Lake Okeechobee. The Corps had performed survey work on the Kissimmee River, which flowed from Lake Tohopekaliga just south of Orlando into Lake Okeechobee, as early as 1901, receiving authorization under the River and Harbor Act of 13 June 1902 to maintain a channel in the river from 30 to 60 feet wide and three feet deep at ordinary low water from the town of Kissimmee to Fort Bassenger, a distance of about 100 miles. In the 1920s and 1930s, congressmen requested that the Corps investigate further improvements on the Kissimmee, including flood control, in order to make the land more suitable for ranching, but no action was taken.[19] When the Corps proposed Kissimmee River flood control as part of the C&SF plan, many Kissimmee Valley residents believed that they would finally receive the protection they desired. However, the Kissimmee plans were pushed aside in order to provide flood relief for the coastal communities and for the agricultural region south of Lake Okeechobee.

To alleviate the growing concerns of local citizens, the FCD held one of its first meetings in the town of Kissimmee.[20] At this gathering, Oscar Rawls of the Jacksonville District related that levees, improved channels, and impounding reservoirs were the three main ways to control floods in a valley. In the Kissimmee Basin, improved channels would be the most effective way, providing 90 percent of the flood relief. But since Kissimmee work was not part of the C&SF Project's first phase, the Corps could not act until Congress appropriated the necessary funds. According to U.S. Senator Claude Pepper, who also attended the meeting, "when the money will be available is a political problem rather than an engineering one." He promised the people that the Kissimmee region would be "taken care of in the course of the program," and counseled

patience.[21] Kissimmee residents continued to clamor for flood control work, especially after more flooding in the latter part of 1949, but Chief of Engineers Major General Lewis A. Pick reported again that, although "the flood situation in the Kissimmee Valley is even more serious than that revealed by the flood of 1947," the Corps could do nothing until Congress appropriated the necessary money.[22]

As concerns with the Kissimmee River Basin grew, the Corps investigated the feasibility of authorizing other phases of the C&SF Project. In November 1952, the Corps, the FCD, and the state of Florida held a conference to discuss the project's progress. In this meeting, the parties determined that the first phase of the program should be modified in order to complete an outer perimeter levee around the EAA and to begin work in the Kissimmee River and Upper St. Johns basins.[23] Before the Corps could get congressional authorization for this work, monetary problems developed. In the summer of 1953, Florida's two U.S. senators, Spessard Holland and George A. Smathers, criticized the Corps for delays in its construction schedule for the C&SF Project. Holland reported that the Corps had an unexpended balance for the 1953 fiscal year of over $6.5 million. Holland had been able to get additional amounts appropriated for the 1954 fiscal year, but he claimed that his job was more difficult because of "the slow handling of the program by the U.S. Engineers."[24] Smathers agreed, stating that "whatever victory we achieve in the legislative halls will be of little value unless the Corps of Engineers gets on the ball, and performs in a more satisfactory manner than has been the case in the past few years."[25]

Flooding from the Kissimmee River in the town of Kissimmee. (Source: South Florida Water Management District.)

Colonel H. W. Schull, Jr., District Engineer for the Jacksonville District, defended the Corps, explaining that the problems derived from "the system of appropriation and justification used on this project." Because the Corps could construct only works "approved by the Bureau of the Budget and defended before the Appropriations Committee," Schull said, it sometimes had to let funds lie until such approval had been obtained. The District Engineer explained further that the Corps was developing a system with the Bureau of the Budget "which will allow the construction agency more flexibility and which will still be acceptable to appropriations committees."[26] Instead of condemning the Corps, Congress should be proud of the effort the Jacksonville District had made to ensure that appropriations were judiciously and efficiently used. At the same time, however, Chief of Engineers Major General S. D. Sturgis, Jr., told Holland and Smathers that a lack of planning in the early stages of the project caused the delays

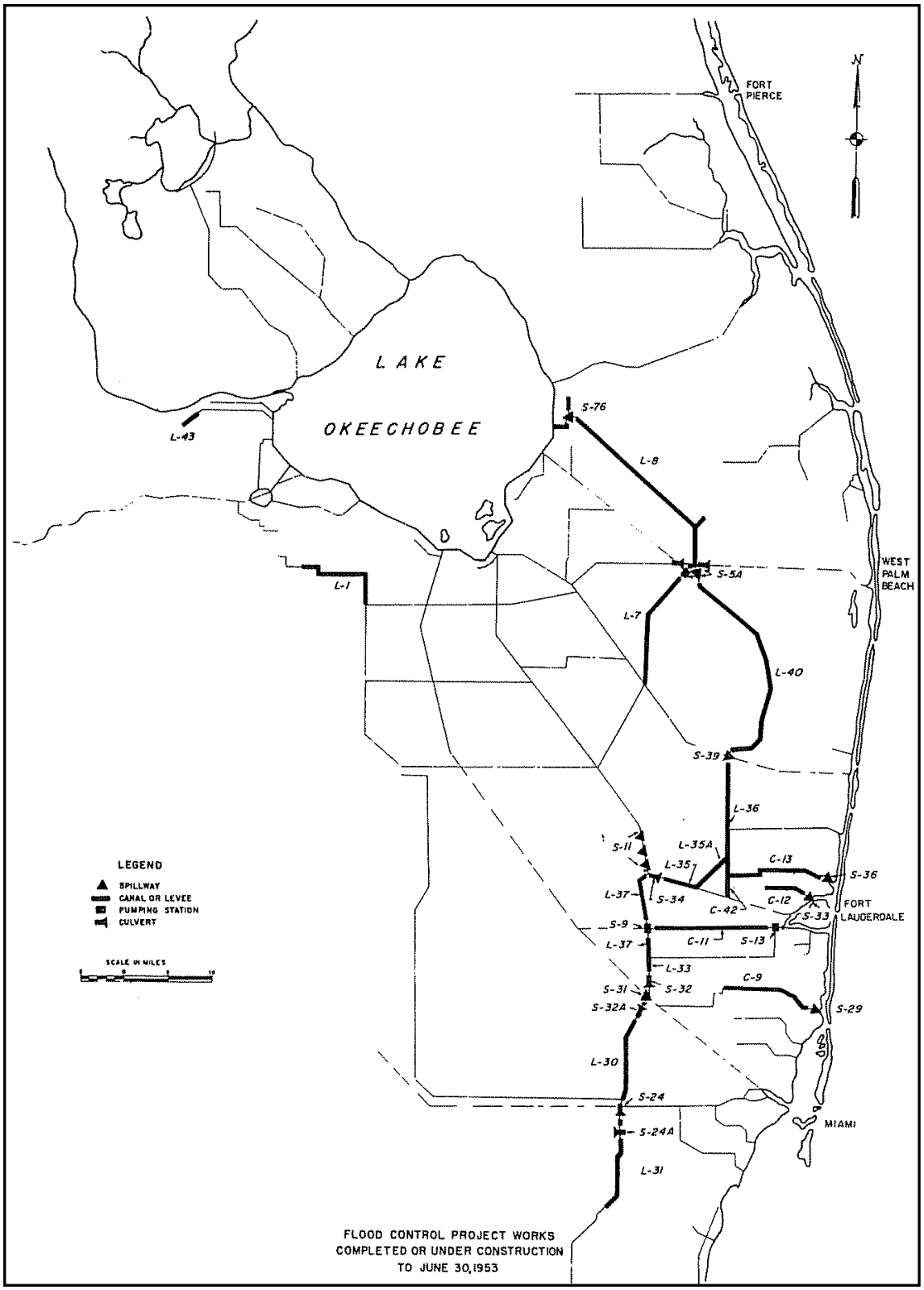
because the Corps faced "many new problems" as construction continued. He pledged that more expert hydraulic engineers would be assigned to the project in order to "develop a backlog of plans."[27]

The problems with construction delays and the desire to modify the first phase of the C&SF Project led Smathers to ask Charles D. Curran, a senior specialist in engineering and public works, to make a study of the entire project and how it was progressing. Curran explained that, since 1947, the Corps had made additional examinations of the project area and determined that "the original plans were not completely adequate." It had thus made some "major design changes." Because of these alterations, Curran reported, the estimated cost of the first phase had risen from $70 million as originally authorized to $116 million. Addressing the delays in project expenditures, Curran stated that "the fault does not seem to lie in any one place or be the result of any one situation." He did admit that the bureaucracy surrounding appropriations caused problems, but he saw no solution. "It appears that the Central and Southern Florida Flood Control Project must progress somewhat slowly for reasons reflecting no discredit on the merits of the project itself," he concluded.[28]

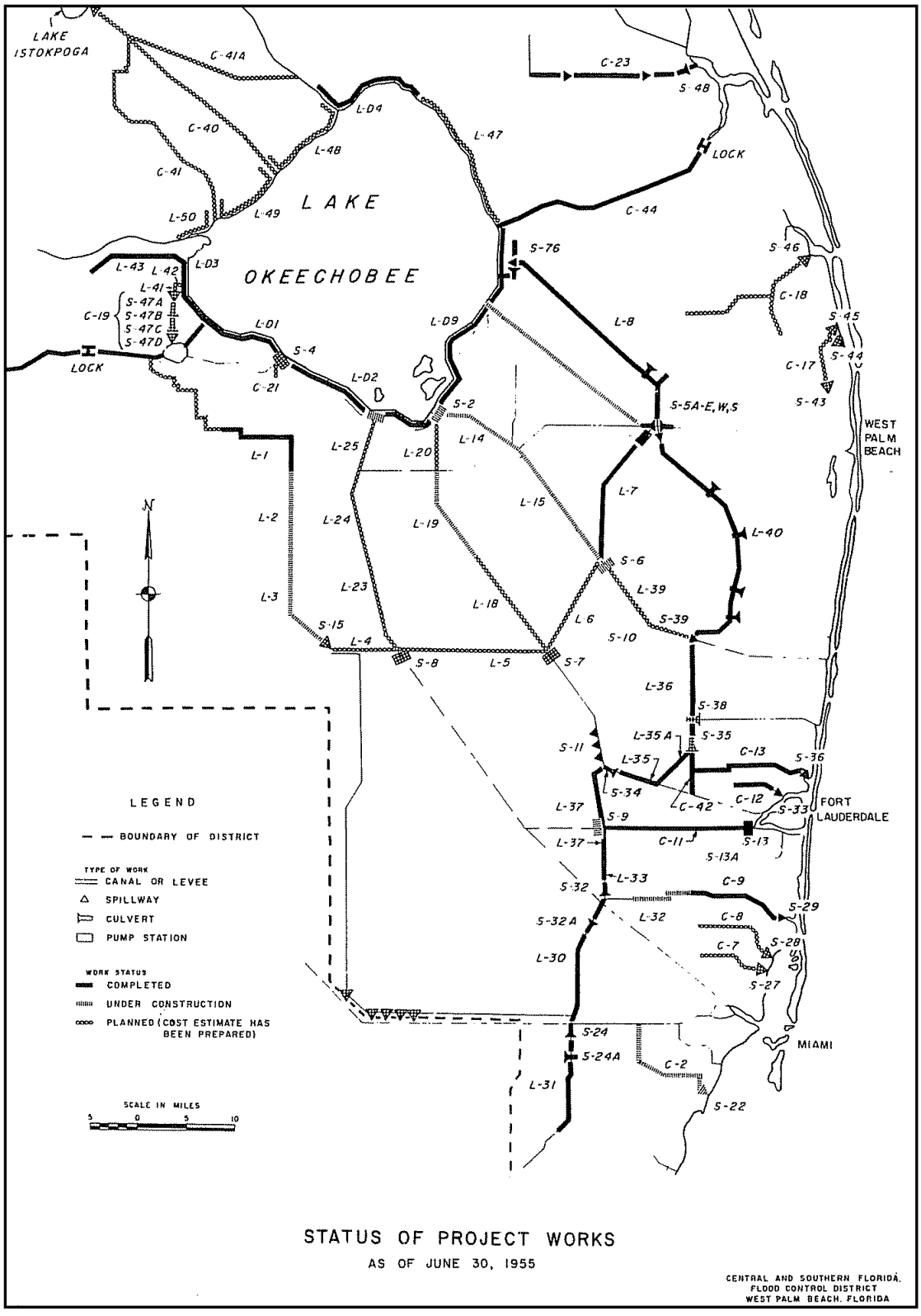
Curran's report, which Smathers disseminated to interested parties, coupled with talks that the Corps was already holding with the Bureau of the Budget, convinced Congress in 1954 to authorize the entire C&SF Project, rather than continuing to allow the Corps to work in only approved phases. The Flood Control Act of 1954 provided the necessary permission. According to the legislation, Congress would determine how much local interests would pay for aspects of the project beyond the first phase "based on recommendations to be submitted at the earliest practicable date by the Chief of Engineers, through the Bureau of the Budget."[29] When those studies were completed in 1956, they determined that local interests would be responsible for 39.8 percent of the total cost of the entire project.[30]

The passage of the 1954 Flood Control Act meant that the Corps could now proceed with all aspects of construction. Some delays continued – Conservation Areas No. 2 and 3, for example, were not completed until the mid-1960s – but, for the most part, the Corps moved construction along expeditiously. In addition, new areas were gradually added to the C&SF Project as studies indicated the necessity of their inclusion. Thus, in 1958, Congress authorized work on 64 square miles in Hendry County west of the EAA and the water conservation areas, and in 1960, the Nicodemus Slough in Glades County was added to the project. Areas in south and southwest Dade County were included in the 1960s, as was Martin County in 1968.[31]

But as the work progressed, criticism and complaints about the C&SF Project began to develop. One of the key points was the effect of flood and water control on plants and wildlife within Everglades National Park. In 1949, Congress had authorized the secretary of the interior to obtain the rest of the acreage established as a minimum boundary for the park in 1944, thereby increasing the amount of park land to approximately 1,220,000 acres.[32] To manage this area, Park Superintendent Daniel Beard had a permanent staff of 20 people, seven of whom were in the field. This meant that each ranger had to patrol around 180,000 acres, which, according to chief ranger Earl M. Semingsen, was "too much to supervise and protect the way you'd like to see it done."[33] In addition to the problems of safeguarding the flora and fauna, personnel also had the task of figuring out just how the C&SF Project would impact the park, although officials held that the Corps should bear the responsibility of making these studies. Based on its own



C&SF Project status, 1953. (Source: U.S. Army Corps of Engineers, Jacksonville District.)



C&SF Project status, 1955. (Source: U.S. Army Corps of Engineers, Jacksonville District.)

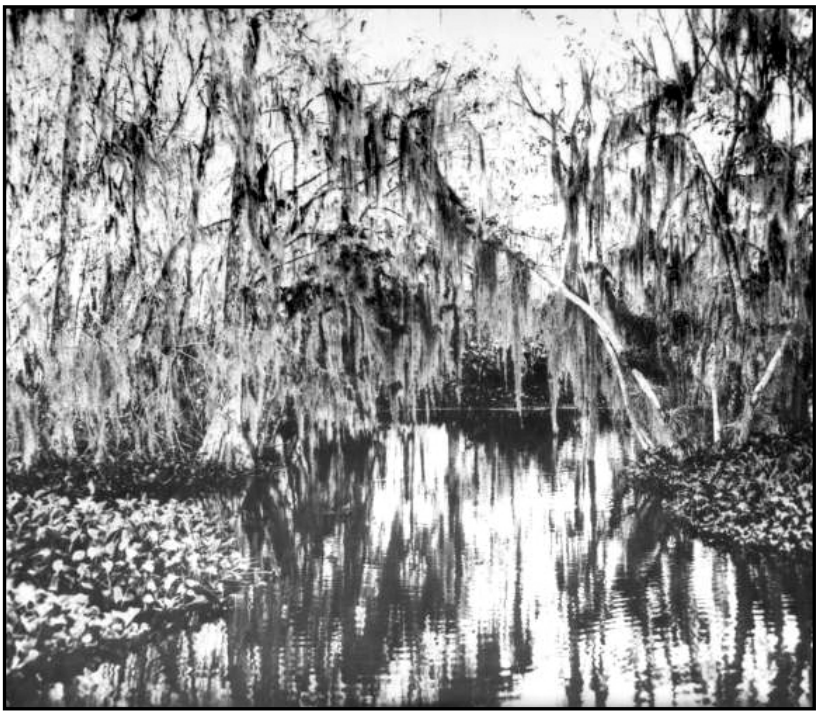
observations and on studies made by the U.S. Geological Survey, the NPS was convinced that a large water supply was critical, especially after more than 32 grass and forest fires exploded in the area in 1950.[34]

In order to maintain contact with the Corps about park needs, the NPS executed an agreement with the Jacksonville District "to discuss the project on the field level."[35] C. Raymond Vinten, coordinating superintendent of the Southeastern National Monuments in St. Augustine, Florida, was designated as the NPS representative. But in August 1949, NPS Region One Director Thomas J. Allen complained that the Corps had produced "no information whatsoever." Hearing about Corps proposals to improve the Caloosahatchee River, to construct a levee on the western side of the water conservation areas, and to build a levee south of Tamiami Trail, Allen worried that such construction would block necessary water from entering Everglades National Park. He emphasized to the Corps that the park "can be even more seriously affected by lack of water than it can be by an excess of water." Although the Corps had made general statements in House Document 643 about supplying water to the Everglades, Allen believed that this was not enough. "The water we need for dry periods," he stated, "involves the very life of the park through the maintenance of bird, animal, plant, and reptile life without interruption."[36] Park officials desired something more than general statements to convince them that the park would receive adequate water from the north and from the east.

District Engineer Colonel R. W. Pearson responded to Allen's complaints by insisting that the Corps had no new information to share. "This office is fully aware of the importance of proper supply and control of water for Everglades National Park," Pearson explained, agreeing to arrange conferences and "every possible degree of liaison and cooperation" with park officials once the Jacksonville District began developing detailed plans. He also attempted to alleviate Allen's fears by explaining that water storage in the water conservation areas would allow the Corps to release the resource "when needed most," thereby creating "a regimen of flow . . . which in effect would tend to reduce the peaks and increase the valleys of the present natural flood hydrograph." Such conditions would be "far more desirable for the park area than the present experiences of too much or too little water." Finally, Pearson explained that the levees that concerned Allen were not designed to keep water out of the park, but to retain water in the Everglades. "It is regretted that your office has felt that it has not been properly informed," he wrote, but it was merely a misunderstanding. It was the Corps' "earnest desire . . . to work in close cooperation with your organization in all matters of mutual concern."[37] Allen thanked Pearson for his letter, explaining that it "clarifies the point that you are aware of the needs" of Everglades National Park.[38]

Less than a year later, however, such conciliatory attitudes had changed. After the NPS requested that the Corps make detailed hydrological studies to determine the water needs of Everglades National Park, Pearson issued a rather stilted reply. Referring to the park as a "local interest," he stated that it had the responsibility of informing the Corps what its water needs were, and not the other way around. "Special investigations and studies related to the detailed determinations of requirements of local interest for water supply or other purposes . . . are not considered to be within the responsibilities or authorized functions of the Corps of Engineers," he declared. Pearson further explained that even though language in House Document 643 referred to restoring park water supplies to "natural conditions," that was not the purpose of the

project. "Under natural conditions, the area was subjected to droughts, fires, and floods," he asserted, "none of which would tend to make the area attractive as a park area." Instead, the Corps would operate the project to provide "a regulated water supply," thereby promoting "optimum, or at least improved, conditions for growth of native vegetation." In addition, Pearson said, it was entirely possible that in some drought years, not enough water would be available from the conservation areas and Lake Okeechobee to serve all water needs. "In such cases," he continued, "Everglades National Park will compete with agricultural areas and urban centers for water supply" according to "an orderly plan and a recognized authority."[39]



Everglades National Park in the 1950s. (Source: The Florida Memory Project, State Library and Archives of Florida.)

Allen was uneasy with Pearson's letter, believing that the colonel's comments were "somewhat at variance with former official statements in the matter." Especially troubling was Pearson's reference to the park as a "local interest." The park was "a national project authorized by the United States Congress," he protested, "and cannot be disregarded in the planning by your organization of the flood control works." Allen also considered it well within Corps authority to ensure that the park received a proper supply of water since "any damage which will occur to Everglades National Park originates within, and only within, the limits of your project." Allen did not specifically address Pearson's claim about park competition with agricultural and municipal interests for water, but he did express hope that the C&SF Project could "guarantee the park an amount of water comparable to the 'normal' run-off and still attain its many conservation objectives." Based on measurements conducted at 23 discharge points along the Tamiami Trail, and following the recommendations of an FCD study, Allen insisted that 300,000 acre feet of water annually was "a very reasonable minimum annual flow for the park to expect the flood control project to provide under managed conditions."[40] Thus, by the summer of 1950, the NPS and the Corps had already drawn their lines in terms of water supply to Everglades National Park.

Although the Corps did not agree to perform a hydrological study of the needs of the park,[41] Lamar Johnson, the FCD engineer, assumed that function, having a "smoldering urge" to "analyze the park's water problem."[42] In 1950, the FCD published Johnson's report, which detailed the water resources of the park both in the pre-drainage and drainage eras. According to

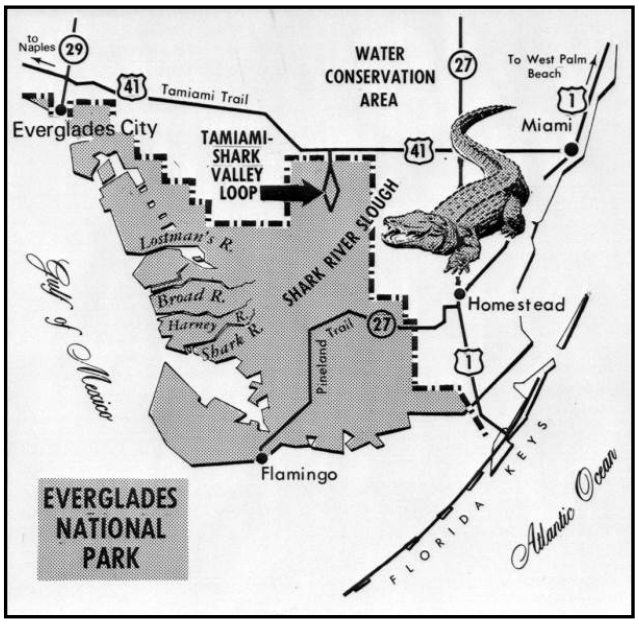
the report, a lack of records made it "impossible" to reconstruct accurately water flow into the Everglades before drainage, but Johnson still made an attempt, using rainfall and evaporation data and descriptions of the area before extensive drainage efforts began. He estimated that before drainage, the discharge into the region past the Tamiami Trail was "2,315,000 acre-feet in an average year; 10,744,000 acre-feet in a wet year; and negligible runoff into the Park during a dry year." In order to determine the amount of flow during the drainage era, Johnson used data obtained by the U.S. Geological Survey for the years 1940 to 1947, which contained "approximately normal years, a period of successive dry years and the wettest year of record." He concluded that "during successive average years a runoff of approximately 300,000 acre-feet could be expected for supply to the Park under existing conditions." Clearly, "water in primeval quantities cannot be made available," but 300,000 acre-feet as an annual minimum could "restore the former ecological balance of the Park – at least to a reasonable degree."[43]

Johnson also disagreed with Pearson's contention that "natural conditions" were not desirable for the park. "There is little doubt that the decision to approach primeval conditions, as nearly as possible, is the proper objective," he stated. Individuals in South Florida wanted the park "because they liked the flora and fauna as it is, or has been," Johnson continued, and "they will not be pleased by some brackish, bastard offspring sired by a fresh water deficiency."[44] To restore the balance between salt and fresh water in the park, Johnson proposed that some structures, such as knee-high overflow dikes, be placed within the park. He later recollected that the NPS "reacted with horror" to this suggestion because it did not want to "interfere with nature by doing something artificial."[45] But Johnson could see no other solution, especially because "the wish and purpose of the majority of the people" was to use water for agriculture and municipal water supplies, not to maintain Everglades National Park. "The aesthetic appeal of the Park can never be as strong in the people as the demands of home and livelihood," Johnson claimed. "The manatee and the orchid mean something to most people in an abstract way, but the former cannot line their purse nor the latter fill their empty bellies." Regardless, Johnson recommended that "complete hydrological data" be gathered within the park since little information existed about "the influence of water on the gross ecology." The ultimate goal, he insisted, was to ensure that "one drop of water . . . preserve what two drops of water created."[46]

For the rest of the 1950s, the issue over water supply to Everglades National Park simmered on the NPS's backburner. One of the problems was that although NPS authorities believed that the park needed a certain amount of water, they were unsure how much this was, Johnson's conclusions notwithstanding. The superintendent of the park informed his superiors in 1957 that the Corps continued to request that park officials determine how much water they wanted, but park leaders knew only that they wanted "more water, but not too much."[47] Developing a definite figure was crucial in order to ensure that the C&SF Project supplied enough water to the park.

To obtain more specific figures, the NPS hired Johnson, who by now had left the FCD and was a private consultant, to conduct another study of park water needs in 1958. In many ways, Johnson's conclusions were no different from his 1950 determinations. He again estimated that a normal average flow into the Everglades before drainage was around 2.5 million acre-feet, although he did not believe that it was possible to provide water in that amount to the park. Instead, he stressed the importance of restoring the balance between salt and fresh water through

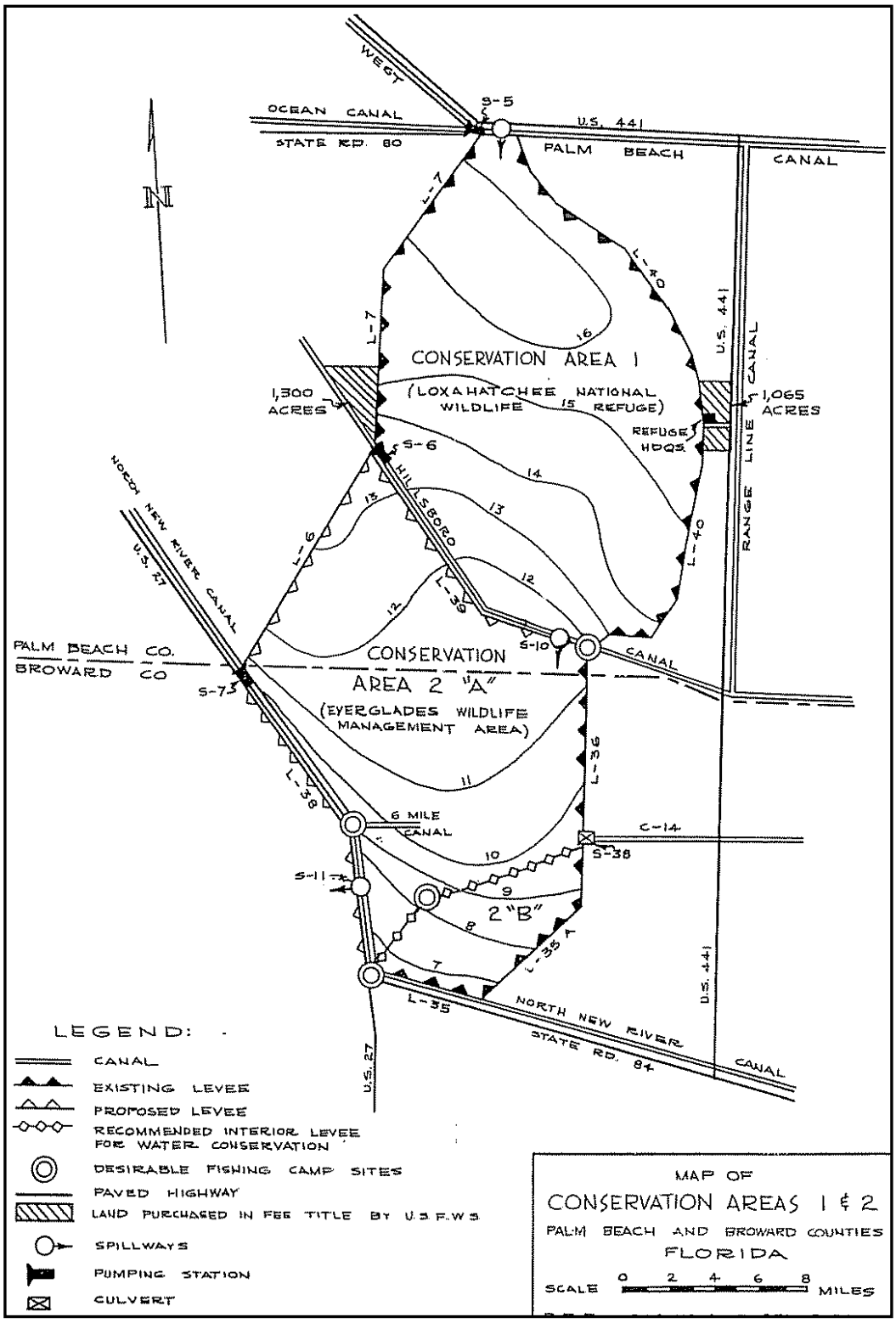
control structures within park boundaries. Because there was more information in 1958 about how the water conservation areas would be operated, Johnson determined that the C&SF Project could provide "more water to the park in an average rainfall year than the old Everglades channel system had," although any supply from the conservation areas would have to be supplemented from other sources.[48] Therefore, he recommended that the NPS contact the Corps about diverting the runoff from a 745 square mile area in Collier and Hendry counties to the Shark River Slough within the park. Based on Johnson's conclusions, the NPS informed the Corps that the "optimum Park requirements" were "two or more million acre feet," including at least 150,000 acre-feet entering Shark River Slough each month in the spring.[49] More studies were necessary, however, to determine the minimum amount that the park needed. Yet the NPS did not heed many of Johnson's other suggestions; instead, Johnson recalled, park officials merely sat "like a fledgling egret on its nest, mouth open and squawking, waiting to be fed."[50]



Map of Everglades National Park showing Shark River Slough. (Source: The Florida Memory Project, State Library and Archives of Florida.)

While the NPS attempted to understand how much water it would receive from the C&SF Project and how this would affect plant and wildlife within Everglades National Park, the FWS and the Corps wrangled about how much water the water conservation areas could store. The Corps originally planned to maintain a constant level of 17 feet in Conservation Area No. 1 and 15.9 feet in Conservation Area No. 2. Engineering studies conducted in the 1950s, however, indicated that such stable levels were not "engineeringly feasible."[51] For one thing, a level of 15.9 feet in Conservation Area No. 2 would lead to seepage at rates that would prevent the maintenance of necessary levels for fish and wildlife. For another, engineers held that water as high as 15.9 feet would destroy vegetation and be susceptible to hurricane wind tides that could breach the levees and flood east coast communities. Therefore, the Corps proposed in 1956 to maintain seasonal levels between 12.5 and 15 feet in Conservation Area No. 1 and between 10.1 and 13.0 feet in Conservation Area No. 2.[52]

When the FWS studied the problem, it decided that the proposed water levels would adversely affect fish and wildlife in the water conservation areas to the point of making any benefits negligible. The FWS therefore recommended a seasonal water level of between 14 and 17 feet for Conservation Area No. 1, which would "provide adequate water depths for waterfowl, frogs and other wildlife and greatly increase fishing and other recreational use."[53] It also suggested that Conservation Area No. 2 be split into two pools (2A and 2B) by an interior levee in order to eliminate seepage loss, and that the level in Area 2A (the northwest portion) be



Conservation Area Nos. 1 and 2, 1958. (Source: U.S. Army Corps of Engineers, Jacksonville District.)

maintained between 12 and 14.5 feet. Because of high seepage in Area 2B (which consisted of highly permeable soils over the Biscayne Aquifer), the FWS recommended that no high stage be maintained in 2B. No suggestions were made at that time for Conservation Area No. 3, which had yet to be completed, but it too was eventually partitioned into two sections (3A and 3B) to control seepage.[54]

Even though the Corps agreed to these changes, some of its leadership counseled the FWS to remember that it was only one of the interests involved in the overall water control program. Project works had to consist of "the most feasible plan of improvement, in accordance with the desires of all local interests" in order to be constructed.[55] The Corps would willingly work to minimize fish and wildlife damages, but could only do so in ways that would not affect primary project purposes. Likewise, B. F. Hyde, Jr., executive director of the FCD, insisted that the FCD's policy was "to preserve or enhance natural resources values wherever such is possible consistent with accomplishment of it's [*sic*] prime responsibility," namely "water control in the interest of all public needs and values." According to Hyde, the FCD tried to preserve fish and wildlife "to the maximum possible degree consistent with full consideration of all resources involved and recognition of limitations inherent to the Federal Flood Control Project."[56]

Such statements only confirmed a growing belief that the Corps and the FCD placed agricultural and urban interests above those of fish and wildlife.[57] One of the reasons for this perception was that agriculture and urban growth expanded considerably throughout the 1950s, increasing demands on water. Agricultural production escalated as the Corps built levees, canals, and pumping stations around the EAA in the 1950s, thereby walling it off from floodwaters and allowing needed irrigation in times of drought. More ranching occurred as well, in part because the Everglades Experiment Station indicated that St. Augustine grass, previously used only for lawns, was a nutritious forage well-suited for the Everglades. Sugar cane also maintained its place in the Everglades, although its largest boom would occur in the early 1960s. In addition, vegetable production continued in the EAA, mainly for winter markets.[58]

Meanwhile, urban populations, especially in Dade County, expanded considerably in the 1950s, as did the number of tourists to the region. Even though Americans had regarded Florida as a sun-drenched, desirable area since the 1920s, it was not until the post-World War II era that people began moving to the state in great numbers. Senior citizens migrated to St. Petersburg, Lake Worth, and Miami Beach in the 1940s, while Miami became noted in the 1940s and 1950s as "a winter playground for New Yorkers and a summer escape for Cubans."[59] By 1950, Dade County was the host of several interesting attractions, including college football's Orange Bowl, the Latin Quarter and Hialeah Race Track, Key Biscayne, and Brickell Avenue. In 1950, Miami had a population of 250,000 (the largest city in the state), and it only increased as the decade continued.

But as the population of Dade County skyrocketed, and as more and more tourists frequented the region, Dade County officials claimed that the Corps placed agricultural interests above urban needs. Therefore, Dade County officials asked W. Turner Wallis, a consulting engineer in Tallahassee formerly with the FCD, to prepare a report on water control in the area. Upon completing his examination, Wallis criticized the C&SF Project and the Corps for not heeding concerns voiced by representatives of Dade County. The county accounted for almost half of the population included in the project area and paid around two-thirds of the FCD's ad valorem tax,

Miami Beach, 1955. (Source: The Florida Memory Project, State Library and Archives of Florida.)

Wallis claimed, yet it had trouble getting the Corps to revise its plans as included in House Document 643. "Well over 50 percent of the total benefits claimed for the Central and Southern Florida Flood Control Project are based on land to be reclaimed for agricultural purposes," Wallis complained.[60] But the urban character of Dade County precluded it from obtaining any of these benefits; instead, county residents wanted more efforts to limit saltwater intrusion, an increased water supply for urban areas in the county, and recreation. Unfortunately, Wallis asserted, "the original project did not offer adequate measures in any of these three areas."[61] He called for the uniting of all interested parties in Dade County to pressure the Corps to address these concerns, thereby justifying the county's investment of millions of dollars in the C&SF Project. He also recommended that a better plan be devised for Dade County to address its ever-increasing water needs and that the county work more closely with the FCD to ensure that its needs were being met.

Wallis's report seemed to work; in 1960, Chief of Engineers Lieutenant General E. C. Itschner made a tour of Dade County and concluded that the Corps needed to build outlet structures through the Tamiami Trail and construct a diagonal levee northeastward from the Tamiami Trail through Conservation Area No. 3. Itschner also recommended the relocation of L-31N, a north-south levee south of the Tamiami Trail, farther west to the border of Everglades National Park in order to facilitate agriculture in that area.[62]

Despite Itschner's proposals, it was increasingly apparent that the county's needs for water would conflict with the requirements of other interested parties, including Everglades National Park. At a conference between the NPS, the FWS, the Florida Game and Freshwater Fish Commission, the FCD, and the Jacksonville District, representatives from the Corps noted that "sufficient water is not available to supply all demands, and methods to conserve water will have to be developed."[63] As growth continued in South Florida in the 1960s, the question of how water should be distributed would be hotly contested – especially by the NPS.

By the end of the 1950s, the Corps had made great strides in the construction of the C&SF Project. The FCD noted in 1960 that "128 miles of channels and canals have been dug, or improved, 300 miles of levees have been constructed and six pumping stations are serving the multiple purposes of flood control and water conservation."[64] The construction had occurred mainly along the east coast and Lake Okeechobee, creating both the EAA south of the lake and the water conservation areas between the EAA and the east coast. The FCD estimated that 60 percent of the levees surrounding the conservation areas were complete, 75 percent of the east coast levees were finished, and almost all of the levees surrounding the EAA were done.

But as this construction occurred, discontent emerged. Everglades National Park officials grew increasingly wary about the Corps' seeming lack of concern for water supply to the park, especially as Corps and FCD representatives insisted that fish and wildlife benefits were secondary to flood control and water supply. The growth of agricultural and urban interests in South Florida worsened the situation by elevating demands on water, and urban interests themselves complained about the Corps' operation of the project. By the end of the 1950s, various entities had drawn clear lines as to how they believed water should be managed in South Florida, and the purposes for which it should be used. Conflicts between these different interests seemed unavoidable as the 1960s dawned.

Chapter Three Endnotes

[1] Johnson, *Beyond the Fourth Generation*, 160-161; Lamar Johnson, Engineer, to Hon. Spessard L. Holland of Florida, July 17, 1948, File Flood Control Permanent (July-December 1948), Box 287, Holland Papers.

[2] Johnson, *Beyond the Fourth Generation*, 161; Jno R. Beacham, Chairman, Committee on Drainage and Water Conservation and Chairman, Committee on Drainage and Water Control, to Colonel Willis E. Teale, Corps of Engineers, April 8, 1949, File 1110-2-1150a (C&SF) Proj Genl—Flood Control (Jan 49-April 49), Box 8, Accession No. 077-01-0023, RG 77, FRC.

[3] Minutes, 14 July 1949, Volume 1 of Governing Board of Central and Southern Florida Flood Control District Minutes, Box 27, South Florida Water Management District administrative records, West Palm Beach, Florida [hereafter referred to as SFWMDAR].

[4] Quotation in Central and Southern Florida Flood Control District, *Facts About F.C.D.* (West Palm Beach, Fla.: Central and Southern Florida Flood Control District, 1955), 3, 7, 9; see also Minutes, 14 July 1949.

[5] John C. Stephens, "The Cooperative Water Control Program for Central and Southern Florida," paper presented at the Annual Winter Meeting of the American Society of Agricultural Engineers, 17 December 1958, in Library, Jacksonville District, U.S. Army Corps of Engineers, Jacksonville, Florida.

[6] Stephens, "The Cooperative Water Control Program for Central and Southern Florida."

[7] Johnson, *Beyond the Fourth Generation*, 161-163.

[8] Central and Southern Florida Flood Control District, *Ten Years of Progress: 1949-1959* (West Palm Beach, Fla.: Central and Southern Florida Flood Control District, 1959), n.p.

[9] "Round Table discussion on the drainage and flood control program for Central and Southern Florida, held at the annual convention of the Florida Wildlife Federation, November 3rd, at Daytona Beach, Florida," n.d., Folder COOP Drainage Wetlands—Florida, Box 1, Entry 57A0179, Atlanta Regional Office, Office of River Basin Studies, Wetlands, 1944-1956, RG 22, Records of the U.S. Fish and Wildlife Service, National Archives and Records Administration Southeast Region, Atlanta, Georgia [hereafter referred to as NARA-SE].

[10] W. Turner Wallis, "The Interests of Dade County in relation to the Cooperative Water Control Program for Central and Southern Florida," copy in South Florida Water Management District Reference Center, West Palm Beach, Florida.

[11] The Engineering Department of Central and Southern Florida Flood Control District, "Review of the Plan of Flood Control for Central and Southern Florida in connection with the proposed development of the Everglades area and the operation of the conservation areas," November 1949, 1, copy in South Florida Water Management District Reference Center, West Palm Beach, Florida.

[12] The Engineering Department of Central and Southern Florida Flood Control District, "Review of the Plan of Flood Control," 5-12.

[13] Johnson, *Beyond the Fourth Generation*, 181-182.

[14] Quotation in Stanley J. Niego, Attorney, to Annette Star Lustgarten, Assistant General Counsel, April 7, 1981, File Conservation Areas 1, 2, 3, 1970-1986, Box 02193, SFWMDAR; see also Game and Fresh Water Fish Commission to Hon. Richard W. Erwin, Attorney General, 30 March 1960, File E.C.A. High Water and Deer Herds, 1959-1974, Box 1, Series [S] 1719, Game and Fresh Water Fish Commission Everglades Conservation Files, 1958-1982, Florida State Archives, Tallahassee, Florida [hereafter referred to as FSA].

[15] Harry A. Kersey, Jr., "The East Big Cypress Case, 1948-1987: Environmental Politics, Law, and Florida Seminole Tribal Sovereignty," *The Florida Historical Quarterly* 69 (April 1991): 459-466.

[16] Quotation in R. W. Pearson, Colonel, Corps of Engineers, District Engineer, to The Division Engineer, 30 January 1951, File 1110-2-1150a (C&SF) Proj Genl—Flood Control (Jan 51-June 51), Box 7, Accession No. 077-

01-0023, RG 77, FRC; see also Frank Pace, Jr., Secretary of the Army, to The Honorable The Secretary of the Interior, 29 May 1951, ibid.; Johnson, *Beyond the Fourth Generation*, 182-183.

[17] Roy Wood, Regional Supervisor, to Regional Director, 28 November 1952, File RB Coop US Corps Engineers (General), Box 3, Entry 57A0179, RG 22, NARA-SE.

[18] "Cooperative and License Agreement Between the Central and Southern Florida Flood Control District and the Game and Fresh Water Fish Commission," 18 January 1952, File GOV 2-16-03 WV 91 6160 DOT/Miccosukee Mediation, Box 19707, SFWMDAR.

[19] See Office, District Engineer, Jacksonville, Fla., to the Chief of Engineers, U.S. Army, 1 October 1929, File 1110-2-1150a (Kissimmee River) Project General—Flood Control 1924, Box 2, Accession No. 077-02-0048, RG 77, FRC; B. C. Dunn, Lt. Col., Corps of Engineers, District Engineer, to Hon. J. Mark Wilcox, House of Representatives, 10 January 1935, ibid.

[20] The FCD's governing board had decided soon after its formation to hold meetings "in different sections of the District in order to permit the people of the various areas involved to become better acquainted with the Board and its work." W. Turner Wallis, Secretary, to District Engineer, Jacksonville District, 17 September 1949, File 1110-2-1150a (C&SF) Proj—Genl—Flood Control (Aug 49-Oct 49), Box 8, Accession No. 077-01-0023, RG 77, FRC.

[21] Minutes, 3 September 1949, Volume 1 of Governing Board of Central and Southern Florida Flood Control District Minutes, Box 27, SFWMDAR.

[22] Lewis A. Pick, Major General, Chief of Engineers, to Honorable Spessard L. Holland, 25 October 1949, File 1110-2-1150a (C&SF) Proj—Genl—Flood Control (Aug 49-Oct 49), Box 8, Accession No. 077-01-0023, RG 77, FRC. The Chief of Engineers usually carries the rank of Lieutenant General (which Pick eventually assumed), but because Pick was only appointed Chief of Engineers in March 1949, his promotion was probably either not yet approved or delayed.

[23] C. H. Chorpening, Brigadier General, USA, Assistant Chief of Engineers for Civil Works, to The Division Engineer, South Atlantic Division, 10 December 1952, File 1110-2-1150a (C&SF) Proj Genl—Flood Control (Aug 52-Dec 52), Box 8, Accession No. 077-01-0023, RG 77, FRC.

[24] As cited in "Florida Senators Charge Flood Control Job Delayed," *St. Petersburg Times*, 24 June 1953.

[25] As cited in "Florida Senators Charge Flood Control Job Delayed," *St. Petersburg Times*, 24 June 1953.

[26] Quotations in H. W. Schull, Jr., Colonel, Corps of Engineers, District Engineer, to Honorable George A. Smathers, United States Senate, 5 July 1953, File 1110-2-1150a (C&SF) Proj Genl—Flood Control (July 1953-Nov 1953), Box 8, Accession No. 077-01-0023, RG 77, FRC; see also Schull to Honorable Spessard L. Holland, United States Senate, 5 July 1953, ibid.

[27] "Speed Assured on S. Florida Flood Project," *Miami Daily News*, 24 June 1953, clipping in File 1110-2-1150a (C&SF) Proj Genl—Flood Control (July 1953-Nov 1953), Box 8, Accession No. 077-01-0023, RG 77, FRC. As with Pick, Sturgis eventually was promoted to Lieutenant General, but at this time – only three months from the time he became Chief of Engineers – he was still listed as Major General.

[28] As quoted in *A Study of the Central and Southern Florida Flood Control Project* (Washington, D.C.: The Library of Congress, 1953), 6-7, 15-18, 42-46, copy in Library, Jacksonville District, U.S. Army Corps of Engineers, Jacksonville, Florida.

[29] Act of 3 September 1954 (68 Stat. 1248).

[30] Corps of Engineers, U.S. Army, Office of the District Engineer, Jacksonville, Fla., *Central and Southern Florida Project: Special Report on Local Cooperation in the Part of the Project Authorized by the Flood Control Act of 1954* (Jacksonville, Fla.: Corps of Engineers, U.S. Army, 1956), ii.

[31] Buker, *Sun, Sand and Water*, 107-108.

[32] Act of 10 October 1949 (63 Stat. 733).

[33] As quoted in Carl L. Biemiller, "The Water Wilderness – The Everglades," *Holiday* 10 (November 1951): 117.

[34] Thomas J. Allen, Regional Director, to District Engineer, 19 July 1950, File 1110-2-1150a (C&SF) Proj Genl—Flood Control (May 50-Aug 50), Box 9, Accession No. 077-01-0023, RG 77, FRC. See also Keith Wheeler, "Florida's Never-Never Land," *Science Digest* 29 (May 1951): 29-30.

[35] Thomas J. Allen, Regional Director, to District Engineer, Jacksonville District, Corps of Engineers, 16 August 1949, File 1110-2-1150a (C&SF) Proj—Genl—Flood Control (Aug 49-Oct 49), Box 8, Accession No. 077-01-0023, RG 77, FRC.

[36] Allen to District Engineer, 16 August 1949.

[37] R. W. Pearson, Colonel, Corps of Engineers, to Director, Region One, 26 August 1949, File 1110-2-1150a (C&SF) Proj—Genl—Flood Control (Aug 49-Oct 49), Box 8, Accession No. 077-01-0023, RG 77, FRC.

[38] Allen to District Engineer, Jacksonville District, 1 September 1949, File 1110-2-1150a (C&SF) Proj—Genl—Flood Control (Aug 49-Oct 49), Box 8, Accession No. 077-01-0023, RG 77, FRC.

[39] R. W. Pearson, Colonel, Corps of Engineers, District Engineer, to Regional Director, U.S. Department of the Interior, National Park Service, 30 June 1950, File 1110-2-1150a (C&SF) Proj Genl—Flood Control (May 50-Aug 50), Box 9, Accession No. 077-01-0023, RG 77, FRC.

[40] Allen to District Engineer, 19 July 1950.

[41] Interestingly, in September 1951, Harold A. Scott, Chief of the Planning and Reports Branch of the Jacksonville District, presented a paper about water distribution from the C&SF Project. Using hydrologic studies completed by the Corps, he extensively discussed how much water would be available for agricultural and municipal areas and how it would be distributed. However, even though Everglades National Park was listed as a "major water-demand area," there was no discussion of how much water it would need or how it would get it. See Scott, "Distribution of Water in the Central and Southern Florida Project," 26 September 1951, 2, South Florida Water Management District Reference Center, West Palm Beach, Florida.

[42] Johnson, *Beyond the Fourth Generation*, 208-209.

[43] All quotations in Engineering Department, FCD, "A Report on Water Resources of Everglades National Park, Florida," 22 May 1950, 5-7, 10-11, South Florida Water Management District Reference Center, West Palm Beach, Florida.

[44] Engineering Department, FCD, "A Report on Water Resources of Everglades National Park, Florida," 11.

[45] Johnson, *Beyond the Fourth Generation*, 209; see also Engineering Department, FCD, "A Report on Water Resources of Everglades National Park, Florida," 12.

[46] All quotations in Engineering Department, FCD, "A Report on Water Resources of Everglades National Park, Florida," 13, 16.

[47] Superintendent, Everglades National Park, to Regional Director, Region One, 26 November 1957, EVER 22965, Central Records, Everglades National Park Archives, Everglades National Park, Homestead, Florida [hereafter referred to as CR-ENPA].

[48] Johnson, *Beyond the Fourth Generation*, 209-211. A copy of Johnson's report was not available, but Johnson summarized his conclusions in *Beyond the Fourth Generation*. For NPS comments on the report, see Acting Supervisory Engineer to Superintendent, Everglades National Park, 19 September 1958, EVER 22965, CR-ENPA; Chief, Water Resources Section, to Regional Director, Region One, 9 September 1958, ibid.; Superintendent, Everglades National Park, to Regional Director, Region One, 21 October 1958, ibid.

[49] Warren F. Hamilton, Superintendent, to Col. Paul D. Troxler, Chief, U.S. Corps of Engineers, Jacksonville, Florida, 29 December 1958, EVER 22965, CR-ENPA.

[50] Johnson, *Beyond the Fourth Generation*, 211.

[51] United States Department of the Interior, Bureau of Sport Fisheries and Wildlife, Region 4, *A Fish and Wildlife Report for Inclusion in the Corps of Engineers' General Design Memorandum, Part 1: Agricultural and Conservation Areas, Supplement 27—Plan of Regulation for Conservation Area #2, Central and Southern Florida Flood Control Project* (Vero Beach, Fla.: Branch of River Basins, 1958), 8-9.

[52] Bureau of Sport Fisheries and Wildlife, Region 4, *A Fish and Wildlife Report for Inclusion in the Corps of Engineers' General Design Memorandum, Part 1*, 8-9.

[53] Bureau of Sport Fisheries and Wildlife, Region 4, *A Fish and Wildlife Report for Inclusion in the Corps of Engineers' General Design Memorandum, Part 1*, 13.

[54] Bureau of Sport Fisheries and Wildlife, Region 4, *A Fish and Wildlife Report for Inclusion in the Corps of Engineers' General Design Memorandum, Part 1*, 17. The partitions of both Conservation Area No. 2 and No. 3 were largely completed in the 1960s. See Light and Dineen, "Water Control in the Everglades," 63-65.

[55] See Paul D. Troxler, District Engineer, to Regional Director, U.S. Fish and Wildlife Service, 3 October 1957, File 1110-2-1150a (C&SF) Kissimmee River Valley Study (Study for Navigation) Jan 1957-Dec 1957, Box 11, Accession No. 077-01-0023, RG 77, FRC.

[56] B. F. Hyde, Jr., Executive Director, to Mr. Walter A. Gresh, Regional Director, 7 October 1957, File 1110-2-1150a (C&SF) Kissimmee River Valley Study (Study for Navigation) Jan 1057-Dec 1957, Box 11, Accession No. 077-01-0023, RG 77, FRC.

[57] See, for example, undated newspaper clipping in File 1110-2-1150a (C&SF) Proj Genl—Flood Control (June 56-Dec 56), Box 7, Accession No. 077-01-0023, RG 77, FRC.

[58] G. H. Snyder and J. M. Davidson, "Everglades Agriculture: Past, Present, and Future," in *Everglades: The Ecosystem and Its Restoration*, 100-103.

[59] Gary R. Mormino, "Sunbelt Dreams and Altered States: A Social and Cultural History of Florida, 1950-2000," *The Florida Historical Quarterly* 81 (Summer 2002): 4, 6, 14.

[60] W. Turner Wallis, "The Interests of Dade County in relation to the Cooperative Water Control Program for Central and Southern Florida," copy in South Florida Water Management District Reference Center, West Palm Beach, Florida.

[61] Quotation in Wallis, "The Interests of Dade County in relation to the Cooperative Water Control Program for Central and Southern Florida"; see also "Dade County Water-Control Report," 35-36, attachment to Marion E. Boriss, Director of Public Works, to Honorable O. W. Campbell, County Manager, 28 November 1958, copy in South Florida Water Management District Reference Center, West Palm Beach, Florida.

[62] E. C. Itschner, Chief of Engineers, to Honorable A. S. Herlong, Jr., 26 April 1960, File 1110-2-1150a (C&SF) Dade County 1955-April 1960, Box 4, Accession No. 077-96-0038, RG 77, FRC.

[63] "Conference on Conservation Area No. 3, Jacksonville, Florida, 14 April 1960," File 1110-2-1150a (C&SF) Conservation Areas Jan 60-June 60, Box 15, Accession No. 077-96-0038, RG 77, FRC.

[64] Central and Southern Florida Flood Control District, *Ten Years of Progress*, n.p.; see also Light and Dineen, "Water Control in the Everglades," 60-63.