Executive Summary
and
Summary and Conclusions
from the

SPECIAL REPORT

ANALYSIS OF THE 1988-1989 DROUGHT

by

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The following excerpts are from the Special Report *Analysis of the 1988-1989 Drought,* prepared for the November 1989 Governing Board Meeting. Included are the Executive Summary and Summary and Conclusions. Copies of the full 80 page report are available upon request.

Executive Summary

During the period of September 1988 through August 1989 rainfall averaged 40 inches over the entire District, which is 13 inches below normal. This represents a drought return frequency of one in 50 years. This rainfall deficiency was most extreme in the Everglades Agricultural Area (EAA) and the Lower East Coast, which experienced drought return frequencies greater than one in 100 years in the EAA, and greater than one in 50 years in the Lower East Coast. Rainfall was 20 inches below normal in both areas. This rainfall deficiency resulted in an increase in water demand which translated into a large depletion of storage in the region's major reservoirs, Lake Okeechobee and the Water Conservation Areas.

During this drought period, Lake Okeechobee and the Water Conservation Areas had the largest depletion of storage for the months of September through August since the establishment of the Water Conservation Areas in 1963. Lake Okeechobee lost 1.89 million acre-feet of storage during this period and, likewise, the Water Conservation Areas lost 1.15 million acre-feet. The total system storage fell from 6.79 million acre-feet on September 1, 1988 to 3.65 million acre-feet on August 31, 1989, for a total loss in storage of 3.13 million acre-feet. Water Conservation Areas 1 and 2A experienced record low stages during the dry season months and Water Conservation Area 3A (WCA 3A) has had record low levels since the month of June. The increase in demands combined with low stages in the Water Conservation Areas necessitated large releases from Lake Okeechobee to both the EAA and the Lower East Coast.

A total of 790,000 acre-feet was released from the Lake to the EAA for supplemental agricultural demands and a record 310,000 acre-feet went to maintain the Lower East Coast canals at the proper stages and provide recharge to the coastal wellfields. A significant amount of the water delivered to the Lower East Coast was used to keep the canals in the South Dade Conveyance system at the design stages.

During this period, very little water went to Shark River Slough in Everglades National Park (ENP). A total of 230,000 acre-feet was delivered to ENP: 182,000 acre-feet through the S-12 structure and 48,000 acre feet through S-333. During the last nine months, no water has been delivered to the Park in accordance with the rainfall formula. The nine months the S-12 structures were closed during this drought is the longest period these structures were ever closed. ENP and WCA 3A have been under a very severe drought. The rainfall deficiency during this drought, as in the 1980-81 drought, occurred during the wet season months, but the main difference is in the geographical distribution. The 1980-81 drought was extremely severe in the Kissimmee River basin, Lake Okeechobee and the EAA. The 1988-89 drought was District-wide, but was particularly critical in the EAA and the Lower East Coast.

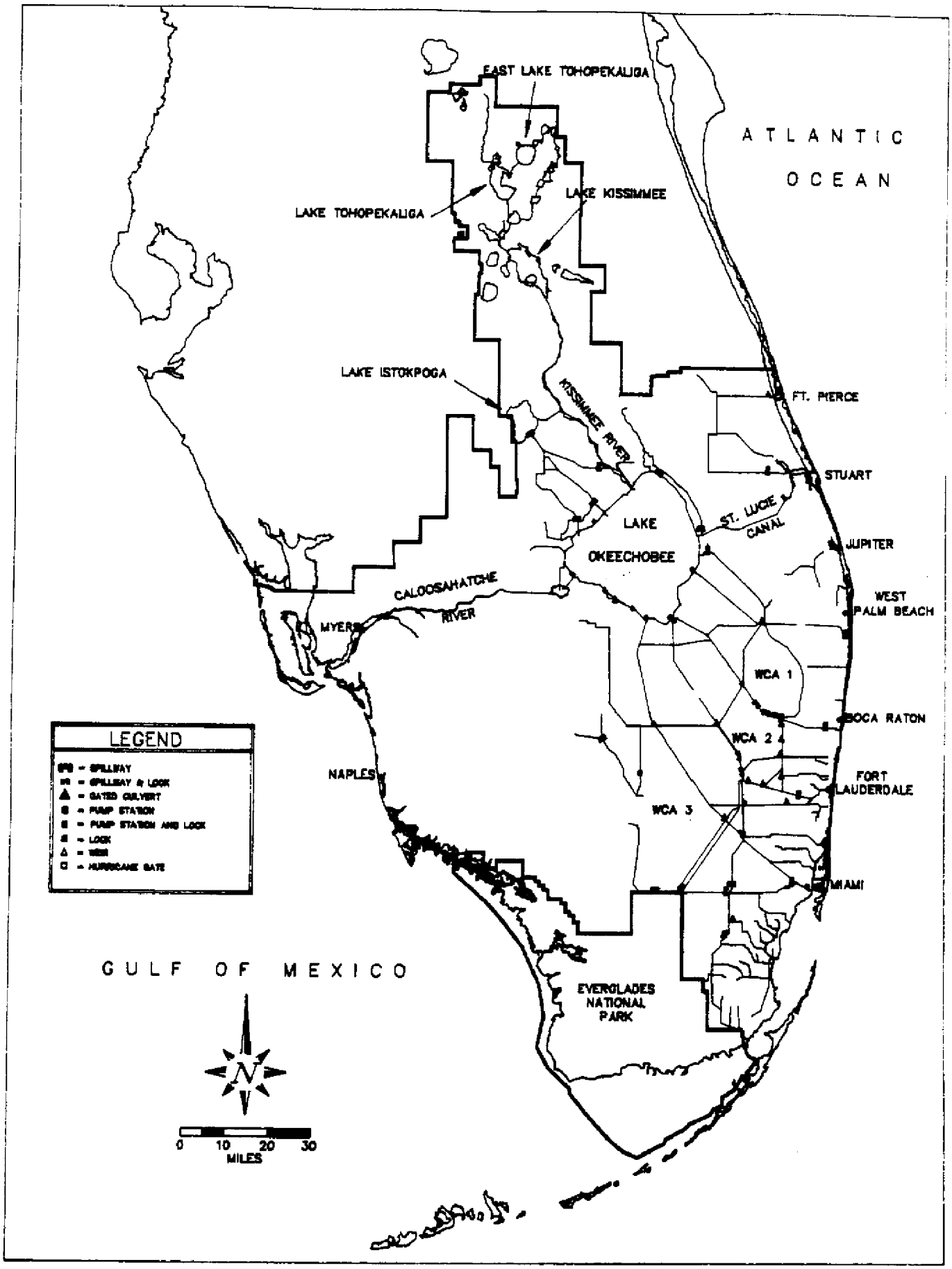

Figure 1-1 Central and Southern Florida Flood Control Project

SUMMARY AND CONCLUSIONS

Conclusions

1. The rainfall deficiency experienced during the period of September 1988 through August 1989 was 13 inches throughout the District. This represents a return period of 50 years.

2. The drought was particularly severe in the Everglades Agricultural Area (EAA) and the Lower East Coast where rainfall deficiencies were in each case over 20 inches. This represents a return period of over 100 years in the EAA and over 50 years in the Lower East Coast.

3. Loss in storage in Lake Okeechobee and the Water Conservation Areas was at a record high for this period.

4. The entire surface water supply system experienced a record 3.1 million acre-feet in losses during this drought.

5. Water releases from Lake Okeechobee were 790,000 acre-feet to the EAA, and 310,000 acre-feet to the Lower East Coast. These releases were much larger than normal due to an increase in demand generated by the below normal rainfall conditions.

6. The Water Conservation Areas experienced record low stages during this period. WCA 1 was 5 feet below the historical average during January and February while WCA 3A was 4 feet below the historical average in June.

7. The Everglades National Park (ENP) experienced lack of rainfall and received very low releases from WCA 3A. The ENP did not receive any flow from January through August. The nine months the S-12 structrues were closed during this drought is the longest period of zero flow to the ENP on record.