LOW-FLOW FREQUENCY DATA FOR SELECTED STREAM-GAGING STATIONS IN FLORIDA

U.S. GEOLOGICAL SURVEY
WATER-RESOURCES INVESTIGATIONS
OPEN-FILE REPORT 81-69

Prepared in cooperation with the

FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
BUREAU OF WATER RESOURCES MANAGEMENT

CONVERSION FACTORS

Factors for converting inch-pound units to International System (SI) units.

Multiply inch-pound units	By	To obtain SI units
feet (ft)	0.3048	meters (m)
miles (mi)	1.609	kilometers (km)
square miles (mi^2)	2.590	kilometers (km^2)
cubic feet per second (ft^3/s)	.02832	cubic meters per second (m^3/s)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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By G. H. Hughes

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Tallahassee, Florida

1981

UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

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LOW-FLOW FREQUENCY DATA FOR SELECTED STREAM-GAGING STATIONS IN FLORIDA

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ABSTRACT

This report contains tables of low-flow frequency data for 161 stream-gaging stations in Florida. The selected stations represent those having suitable flow records spanning 7 or more years. Flow values representing the annual minimum average flow for selected periods ranging from 1 to 183 days are presented for recurrence intervals ranging from 2 to 50 years. The low-flow frequency data of relatively short-term stations were adjusted where possible on basis of records of long-term stations to reduce the possible bias introduced by short-term climatic trends.

INTRODUCTION

Estimates of the probable magnitude and frequency of future low streamflows are required for many uses. Among these are appraisals of the adequacy of streamflow for dilution and transport of wastes and as a source of water for municipal, industrial, and agricultural uses, especially during critical dry periods. Low-flow frequency data are also useful in the administration of water laws.

This report represents an initial effort to compile statewide low-flow frequency data for streams in Florida. The report presents low-flow frequency data for 161 stream-gaging stations which have continuous records spanning 7 years or more as of 1977. Flow values representing the annual minimum average flow for various time periods are presented in tabular form for recurrence intervals of 2, 5, 10, 20, 30, and 50 years. The recurrence interval is the average number of years between occurrences of annual low flows equal to or less than a specified magnitude.

The scope of this report does not encompass efforts to provide estimates of recurrence intervals of low flows at partial record stations or at stations having less than 7 years continuous record, or to extrapolate low-flow frequency data of gaged sites to ungaged sites, or to establish relations between low streamflows and physiographic factors or features that influence streamflow. A treatment of these topics would require a much more comprehensive study than is provided by this report.

METHODS OF ANALYSIS

The procedures of frequency analysis used in this report are basically those described by Riggs (1972). Criteria used by Carter and Putnam (1978) were adopted herein for the extension of frequency curves and for adjustment of low-flow frequency data of relatively short-term stations.

Frequency Curves

In this report frequency analyses were made of the annual minimum average flow for periods of 1, 7, 14, 30, 60, 90, 120, and 183 days. The computation of annual low flows and related frequency analyses were done by digital computer using records in the U.S. Geological Survey files in Reston, Va.

The computer output included the annual minimum average flow and its corresponding ranking order number for each time period of concern and each year of record. The computer program provided for a mathematical fit of the logarithms of the annual flow data to curves representing the Pearson Type III frequency distribution. Results of the frequency analyses were obtained in both tables and graphs. In the graphs, the annual flow data were plotted against the apparent recurrence interval which is computed as the ratio: N+1 / M, where N is the number of annual flow values and M is the order number.

The computer generated log-Pearson frequency curve provided a satisfactory fit of the annual flow data for many stations, primarily those having long periods of record, but in many other instances provided a poor fit of the data, particularly in the lower range of flows. Consequently, in accordance with the suggestion by Riggs (1972, p. 6), a graphical interpretation of low-flow data was used in instances where the log-Pearson Type III curve appeared to be unsatisfactory.

Climatic Year

Because the seasonal distribution of rainfall in north Florida differs appreciably from that in the rest of the State, different climatic years were used in the determination of the annual minimum average flows of streams in different parts of the State. The 12-month period ending March 31 was used for streams in north Florida and the 12-month period ending June 30 was used for the rest of the State. The climatic year used for each station is evident from the period of record analyzed as given in the station description.

Extension of Frequency Curves

The criteria used by Carter and Putnam (1978, p. 13) for the extension of frequency curves was followed in this report. Frequency curves for stations having 7 to 9 years record were extended to the 10-year recurrence interval; those for stations having 10 to 19 years record were extended to the 20-year recurrence interval; those for stations having 20 to 29 years were extended to the 30-year recurrence interval; and those for stations having 30 or more years record were extended to the 50-year recurrence interval.

Adjustment of Data for Short-Term Stations

The low-flow frequency data of relatively short-term stream-gaging stations were adjusted where possible to minimize the chance of bias stemming from short-term climatic trends. This was accomplished by use of regression methods wherein the annual 7-day minimum flows of neighboring long- and short-term stations were correlated. Criteria for adjusting the frequency data of short-term stations in this report was adopted from Carter and Putnam (1978, p. 15). These were: (1) that the correlation coefficient of the regression must be 0.8 or greater; (2) that the length of record of the long-term station must be at least twice that of the short-term station; and, (3) that the length of the concurrent flow record must be at least 9 years.

For those stations that met the criteria, the entire array of frequency data of the short-term station was estimated on the basis of the regression equation and the low-flow frequency data of the long-term station. However, the extension of the frequency curve of the short-term station, which as previously explained was varied on the basis of the number of years of available record, remained unchanged. In other words, the frequency curve of a short-term station having 10 to 19 years of continuous record, for example, was extended only to the 20-year recurrence interval even though the frequency data may have been adjusted on the basis of the record of a station having a considerably longer record. Stations for which adjustments were made are noted in the "Remarks" paragraph of the station description.

Regulation, Diversions, and Tidal Effects

Many of the streams in Florida are to some extent affected by regulation and diversions. Low-flow frequency data were included in this report for gaging stations on such streams if the degree of regulation or diversion appeared to be relatively consistent throughout the period of record analyzed or was of relatively minor importance.

At some of the gaging stations in Florida the flow occasionally reverses as a result of tide and wind effect. In the analysis of the low-flow data for these stations, negative discharges (representing flow in the upstream direction) were treated as zero flow. Stations at which the low-flow data are affected by regulation, diversions, or tide and wind effects are noted in the "Remarks" paragraph of the station description.

USE OF THE DATA

The low-flow data that follow are applicable with certainty only to the flow at the gaging stations represented. The data for those sites that are subject to appreciable regulation probably are useful only at the sites for which they were determined, and only so long as the pattern and extent of the regulation remains similar to that for period of analysis. The extent to which the data for unregulated streams can be applied to ungaged sites on the same or neighboring streams depends largely on the uniformity of the geologic and meteorologic conditions in the area of

concern. If conditions are basically the same within an area, the low-flow frequency data for gaged sites sometimes bear a consistent relation to the size of drainage area, and hence, can be related to the flow at ungaged sites by use of drainage areas.

Unfortunately, according to Riggs (1972, p. 11), "Geologic homogeneity with respect to base flow usually cannot be identified from field or geologic-map examination." Furthermore, the "...evapotranspiration loss, which may be a significant factor, is not easily described by an index." Given the complex interrelation between ground and surface water in many parts of Florida, therefore, attempts to estimate low-flow frequencies for ungaged sites involve considerable risk of large errors unless the hydrology of the area is generally defined and at least a few measurements of base flow are obtained at the ungaged site.

REFERENCES

Carter, R. F., and Putnam, S. A., 1978, Low-flow frequency of Georgia streams: U.S. Geological Survey, Water-Resources Investigations Open-File Report 77-127, 104 p.

Riggs, H. C., 1972, Low-flow investigations: Techniques of water-resources investigations of the United States Geological Survey, Chapter B-1, Book 4, 18 p.

CONTINUOUS-RECORD STREAM-GAGING STATIONS FOR WHICH LOW-FLOW FREQUENCY DATA ARE INCLUDED

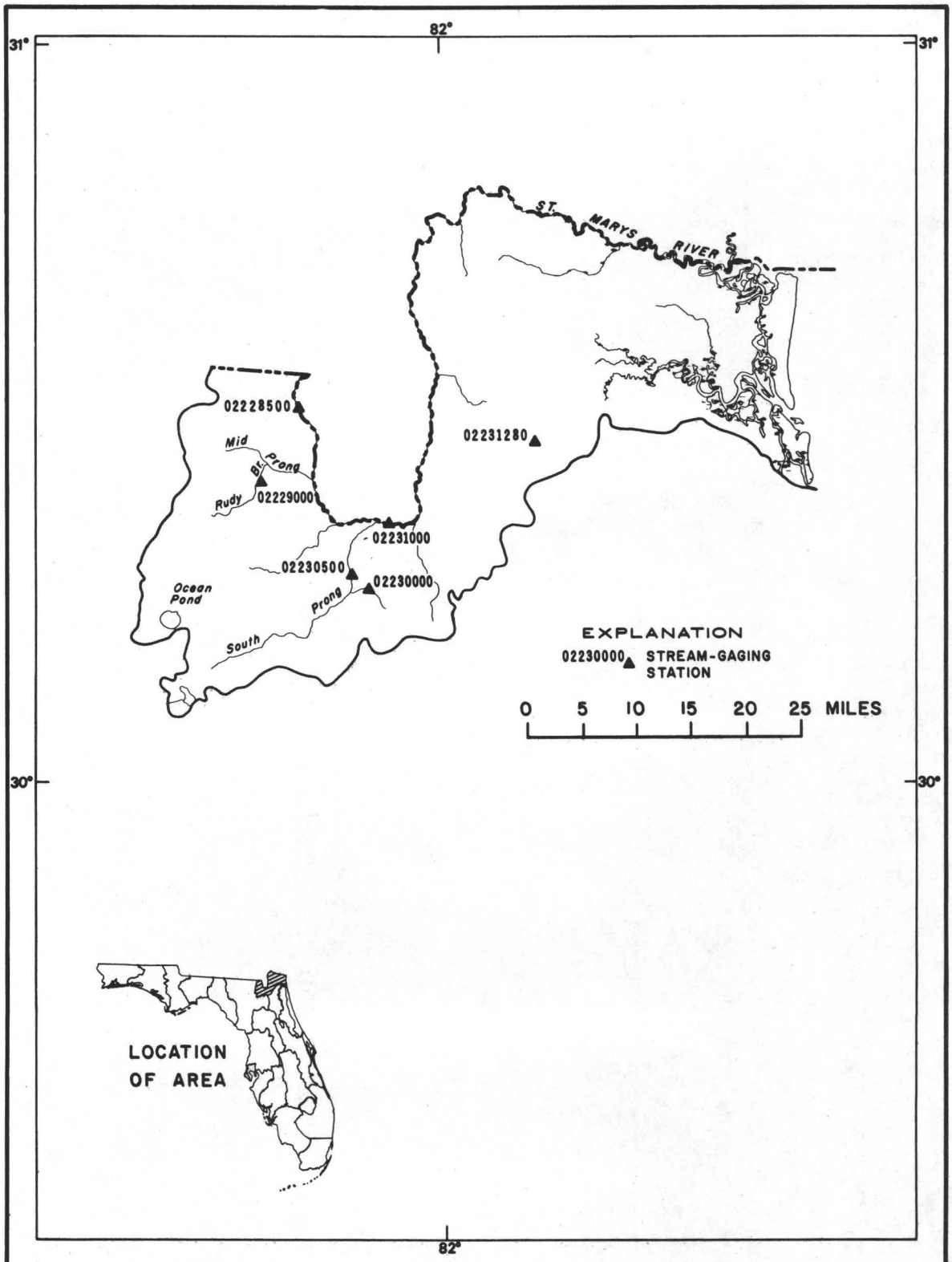

Figure 1.--Location of stream-gaging stations in the St. Marys River basin and the coastal area between the St. Marys and St. Johns River.

ST. MARYS RIVER BASIN

02228500 North Prong St. Marys River at Moniac, Ga.

LOCATION.--Lat 30°31'03", long 82°13'50", in NW¼ sec.8, T.1 N., R.21 E., Baker County, Fla., Hydrologic Unit 03070204, near right bank at upstream side of bridge on State Highways 2 and 94, 0.2 mi upstream from Georgia Southern & Florida Railway bridge, 0.4 mi west of Moniac, 1.0 mi downstream from Moccasin Creek, and 122 mi upstream from mouth of St. Marys River.

DRAINAGE AREA.--160 mi^2, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD ANALYZED.--April 1921 to March 1923, April 1927 to March 1930, April 1933 to March 1934, April 1951 to March 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.20	0.48	1.0	2.5	5.8	15	29	65
5	0	0	0	.10	.60	1.5	3.9	15
10	0	0	0	0	.15	.26	.97	8.0
20	0	0	0	0	(*)	.10	.25	.30
30	0	0	0	0	0	0	(*)	(*)
50	0	0	0	0	0	0	0	0

02229000 Middle Prong St. Marys River at Taylor, Fla.

LOCATION.--Lat 30°26'10", long 82°17'15", in SW¼ sec.2, T.1 S., R.20 E., Baker County, Hydrologic Unit 03070204, near center of span on State Highway 125, 0.5 mi southeast of Taylor, 0.9 mi upstream from Little River, and 7.4 mi upstream from mouth.

DRAINAGE AREA.--125 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--April 1956 to March 1967, April 1976 to March 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	1.2	1.4	1.6	2.3	4.9	11	18	37
5	.44	.47	.56	.86	1.5	2.5	4.4	9.6
10	.25	.26	.32	.53	.80	1.1	2.0	4.1
20	.15	.16	.20	.36	.46	.58	1.0	1.9

* Less than 0.05 ft^3/s.

ST. MARYS RIVER BASIN

02230000 Turkey Creek at Macclenny, Fla.

LOCATION.--Lat 30°16',08", long 82°07'21", in NE¼ sec.5, T.3 S., R.22 E., Baker County, Hydrologic Unit 03070204, near left bank at downstream side of bridge on State Highway 121, 0.9 mi south of Macclenny and 1.8 mi upstream from mouth.

DRAINAGE AREA.--20.9 sq mi.

PERIOD OF RECORD ANALYZED.--April 1956 to March 1969.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.51	0.61	0.79	1.1	1.7	3.0	5.3	15
5	.28	.39	.53	.66	1.1	1.9	2.6	7.0
10	.15	.31	.38	.52	.94	1.5	1.8	4.2
20	.07	.23	.28	.42	.79	1.3	1.4	2.6

02230500 South Prong St. Marys River at Glen St. Mary, Fla.

LOCATION.--Lat 30°16'43", long 82°08'40", in SW¼ sec.31, T.2 S., R.22 E., Baker County, Hydrologic Unit 03070204, on right bank 65 ft upstream from bridge on U.S. Highway 90, 1.0 mi east of Glen St. Mary, and 8.2 mi upstream from mouth.

DRAINAGE AREA.--130 sq mi approximately.

PERIOD OF RECORD ANALYZED.--April 1950 to March 1971.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	2.9	3.1	3.6	4.6	7.7	13	24	60
5	1.8	2.1	2.4	2.9	4.3	5.9	9.6	20
10	1.3	1.8	2.0	2.3	2.9	4.1	6.0	10
20	1.0	1.5	1.6	1.9	2.2	3.1	4.1	5.8
30	.90	1.3	1.4	1.6	1.8	2.5	3.0	4.2

02231000 St. Marys River near Macclenny, Fla.

LOCATION.--Lat 30°21'31", long 82°04'54", in NW¼ sec.2, T.2 S., R.22 E., Baker County, Hydrologic Unit 03070204, on right bank 200 ft downstream from site of former Stokes Bridge, 1 mi downstream from confluence of North and South Prongs, 6 mi northeast of Macclenny, and 10 mi upstream from mouth.

DRAINAGE AREA.--700 mi^2, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD ANALYZED.--April 1927 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	31	34	36	42	57	89	152	294
5	20	22	23	26	32	43	67	117
10	16	18	19	21	24	30	42	69
20	14	15	16	17	19	22	29	43
30	13	14	15	16	17	19	24	34
50	12	13	13	15	15	16	19	25

02231280 Thomas Creek near Crawford, Fla.

LOCATION.--Lat 30°27'39", long 81°49'57", in NW¼ sec.32, T.1 N., R.25 E., Duval County, Hydrologic Unit 03070205, on downstream side of bridge on Acree Road, 4.4 mi southeast of Crawford, 4.4 mi northwest of Dinsmore, 7.1 mi south of Callahan, and 24 mi upstream from mouth.

DRAINAGE AREA.--29.9 mi^2.

PERIOD OF RECORD ANALYZED.--April 1965 to March 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	1.9	2.1	2.6	3.3	4.5	8.0	11	17
5	1.2	1.4	1.6	2.3	3.3	5.3	7.4	11
10	.90	1.1	1.2	1.9	2.6	4.3	6.2	9.0
20	.70	.90	1.0	1.6	2.2	3.6	5.3	7.5

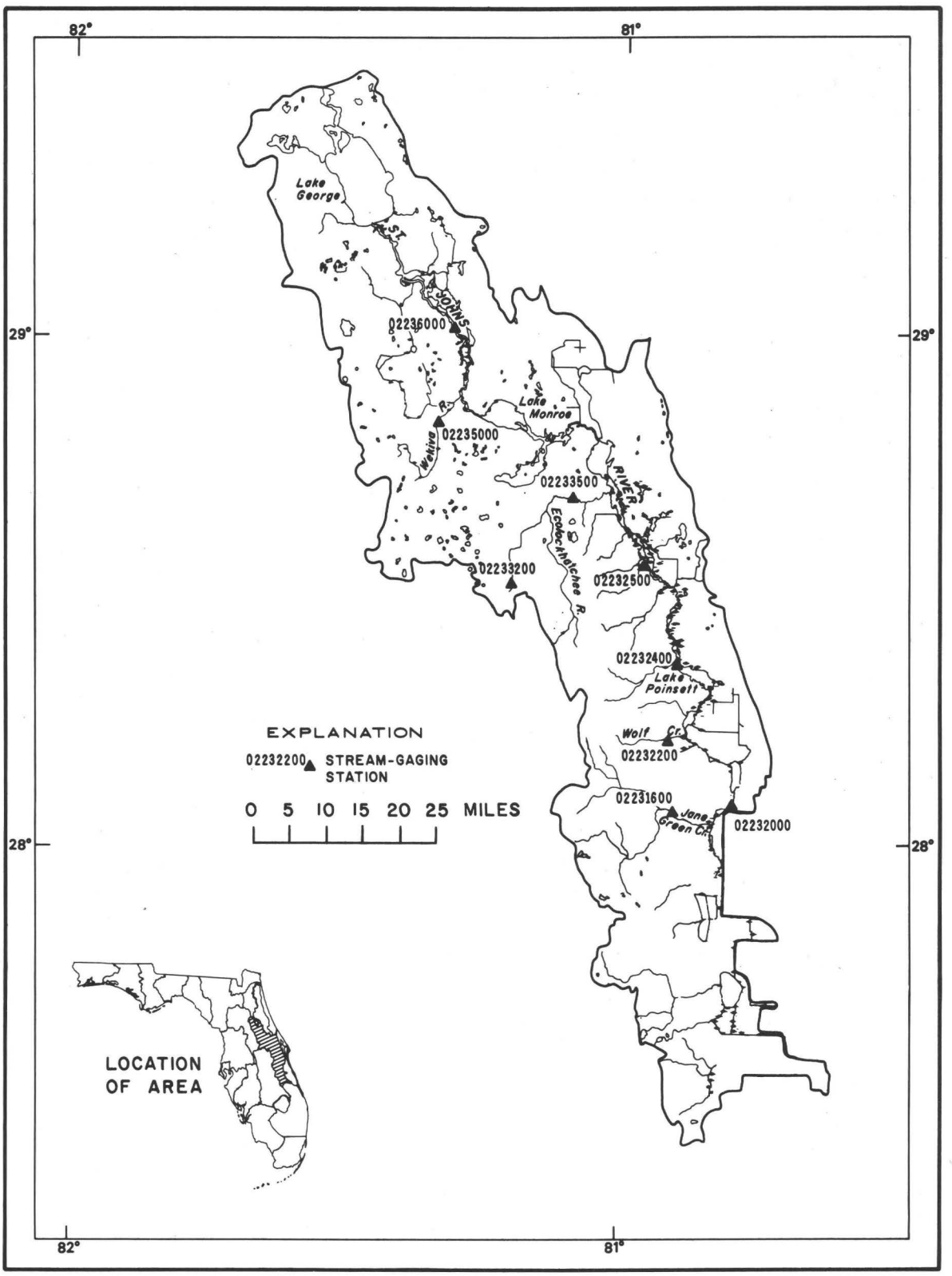

Figure 2.--Location of stream-gaging stations in the St. Johns River basin above the Oklawaha River.

ST. JOHNS RIVER BASIN ABOVE OKLAWAHA RIVER

02231600 Jane Green Creek near Deer Park, Fla.

LOCATION.--Lat 28°04'27", long 80°53'18", in SE¼ sec.2, T.28 S., R.34 E., Osceola County, Hydrolgic Unit 03080101, near right bank of leftmost of five channels on upstream side of bridge on county road, 1.2 mi southeast of Deer Park, 2 mi downstream from confluence of Crabgrass and Bull Creeks, and 5.8 mi upstream from mouth.

DRAINAGE AREA.--248 mi^2.

PERIOD OF RECORD ANALYZED.--July 1954 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	0.50	8.5	19	38
5	0	0	0	0	0	.07	2.0	9.8
10	0	0	0	0	0	(*)	.50	4.7
20	0	0	0	0	0	0	.08	2.6
30	0	0	0	0	0	0	(*)	1.9

02232000 St. Johns River near Melbourne, Fla.

LOCATION.--Lat 28°05'04", long 80°45'08", in NW¼ sec.5, T.28 S., R.36 E., Brevard County, Hydrologic Unit 03080101, near center of span on upstream side of bridge on U.S. Highway 192, 1.1 mi downstream from Sawgrass Lake, 1.7 mi upstream from Lake Washington, 9.2 mi west of Melbourne and 262 mi upstream from mouth.

DRAINAGE AREA.--968 mi^2.

PERIOD OF RECORD ANALYZED.--July 1940 to June 1977.

REMARKS.--Flow occasionally reverses as a result of tide and wind effect. Negative discharges treated as zero values.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	30	35	39	50	64	92	143	221
5	0	3.0	9	11	20	31	47	84
10	0	0	0	0	8.0	15	22	44
20	0	0	0	0	.40	8.2	11	25
30	0	0	0	0	0	5.2	6.7	16
50	0	0	0	0	0	3.7	4.7	12

* Less than 0.05 ft^3/s.

ST. JOHNS RIVER BASIN ABOVE OKLAWAHA RIVER

02232200 Wolf Creek near Deer Park, Fla.

LOCATION.--Lat 28°12'46", long 80°54'40", in NW¼ sec.22, T.26 S., R.34 E., Osceola County, Hydrologic Unit 03080101, near right bank on upstream side of bridge on State Highway 419, 2.9 mi upstream from mouth and 8.5 mi north of Deer Park.

DRAINAGE AREA.--25.7 mi^2.

PERIOD OF RECORD ANALYZED.--July 1956 to June 1977.

REMARKS.--Flow regulated to some extent since October 1970 by the construction of Jane Green Reservoir; levees were constructed and an interconnecting canal was dug joining the watershed areas of Taylor Creek, Pennywash Creek, Cox Creek and Wolf Creek.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0.06	0.3	0.79	1.8	3.6	7.0
5	0	0	0	0	.08	.58	1.3	2.7
10	0	0	0	0	(*)	.31	.78	1.7
20	0	0	0	0	0	.18	.51	1.1
30	0	0	0	0	0	.10	.40	.90

02232400 St. Johns River near Cocoa, Fla.

LOCATION.--Lat 28°22'10", long 80°52'22", in SE¼ sec.25, T.24 S., R.34 E., Brevard County, Hydrologic Unit 03080101, near right bank on downstream side of bridge on State Highway 520, 0.6 mi upstream from Taylor Creek, 0.7 mi downstream from outlet of Lake Poinsett, 8.8 mi west of Cocoa, and 232 mi upstream from mouth.

DRAINAGE AREA.--1,331 mi^2.

PERIOD OF RECORD ANALYZED.--July 1954 to June 1977.

REMARKS.--Records include inflow from Taylor Creek.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	82	91	98	116	148	190	262	375
5	30	33	35	40	63	84	113	167
10	19	22	23	25	41	54	72	108
20	13	14	16	18	28	39	49	74
30	10	11	13	14	22	32	40	60

* Less than 0.05 ft^3/s.

ST. JOHNS RIVER BASIN ABOVE OKLAWAHA RIVER

02232500 St. Johns River near Christmas, Fla.

LOCATION.--Lat 28°32'34", long 80°56'37", in SW¼ sec.29, T.22 S., R.34 E., Orange County, Hydrologic Unit 03080101, on downstream side of bridge on State Highway 50, 0.3 mi upstream from Tootoosahatchee Creek, 2 mi upstream from Lake Cone, 4.5 mi east of Christmas, and 209 mi upstream from mouth. Prior to Sept. 1, 1976, at site 150 ft downstream.

DRAINAGE AREA.--1,539 mi^2, includes that of Tootoosahatchee Creek.

PERIOD OF RECORD ANALYZED.--July 1934 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	93	98	107	130	159	225	319	494
5	38	39	42	50	67	95	136	229
10	22	24	28	31	43	61	86	147
20	13	16	17	20	30	42	58	100
30	9	12	14	16	24	34	47	80
50	6	10	12	13	19	28	37	64

02233200 Little Econlockhatchee River near Union Park, Fla.

LOCATION.--Lat 28°31'29", long 81°14'39", in SW¼ sec.32, T.22 S., R.31 E., Orange County, Hydrologic Unit 03080101, near right bank on downstream side of bridge on Berry-Deese Road, 3,300 ft upstream from a tributary, 3 mi south of Union Park, 8.5 mi east of Orlando, and 13 mi upstream from mouth.

DRAINAGE AREA.--27.1 mi^2.

PERIOD OF RECORD ANALYZED.--July 1960 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	1.5	1.8	1.9	2.4	3.2	4.5	6.8	9.0
5	.52	.78	.89	1.1	1.5	2.1	3.3	4.9
10	.27	.49	.57	.71	1.0	1.4	2.3	3.6
20	.13	.30	.40	.49	.71	1.0	1.9	2.7

ST. JOHNS RIVER BASIN ABOVE OKLAWAHA RIVER

02233500 Econlockhatchee River near Chuluota, Fla.

LOCATION.--Lat 28°40'40", long 81°06'51", in SW¼ sec.10, T.21 S., R.32 E., Seminole County, Hydrologic Unit 03080101, near right bank on downstream side of bridge on State Highway 13, 2.6 mi northeast of Chuluota and 10 mi upstream from mouth.

DRAINAGE AREA.--241 mi^2.

PERIOD OF RECORD ANALYZED.--July 1936 to June 1977.

REMARKS.--Records include some flow diverted from Lake Mary Jane in the Kissimmee River Basin through Disston Canal.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	19	21	22	25	32	43	56	85
5	13	14	15	17	20	25	31	46
10	10	11	12	13	16	18	22	34
20	8.6	9.1	9.8	11	13	14	17	27
30	7.8	8.2	8.6	9.5	11	12	15	23
50	7.0	7.2	7.4	8.0	10	11	13	20

02235000 Wekiva River near Sanford, Fla.

LOCATION.--Lat 28°48'54", long 81°25'10", in SE¼ sec.21, T.19 S., R.29 E., Seminole County, Hydrologic Unit 03080101, near right bank at downstream side of bridge on State Highway 46, 4.5 mi downstream from Little Wekiva River, 6.7 mi upstream from mouth, and 8.9 mi west of Sanford.

DRAINAGE AREA.--189 mi^2.

PERIOD OF RECORD ANALYZED.--July 1936 to June 1977.

REMARKS.--Flow includes large ground-water inflow.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	188	195	199	201	209	218	227	240
5	164	171	174	178	187	194	201	212
10	150	156	159	166	178	184	189	201
20	138	143	146	156	171	176	180	194
30	130	137	139	150	167	171	175	190
50	124	126	131	145	163	167	171	187

02236000 St. Johns River near De Land, Fla.

LOCATION.--Lat 29°00'29", long 81°22'58", in land grant 38, T.17 S., R.29 E., Lake County, Hydrologic Unit 03080101, near left bank on downstream side of Francis P. Whitehair Bridge on State Highway 44, 5 mi west of De Land and 142 mi upstream from mouth.

DRAINAGE AREA.--3,066 mi^2.

PERIOD OF RECORD ANALYZED.--July 1934 to June 1977.

REMARKS.--Flow occasionally reversed as a result of tide and wind effect. Negative discharges treated as zero values.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	90	450	660	880	1060	1260	1490	1840
5	0	0	45	430	581	777	936	1210
10	0	0	0	140	380	550	724	960
20	0	0	0	10	280	400	540	788
30	0	0	0	0	150	320	430	670
50	0	0	0	0	110	280	380	600

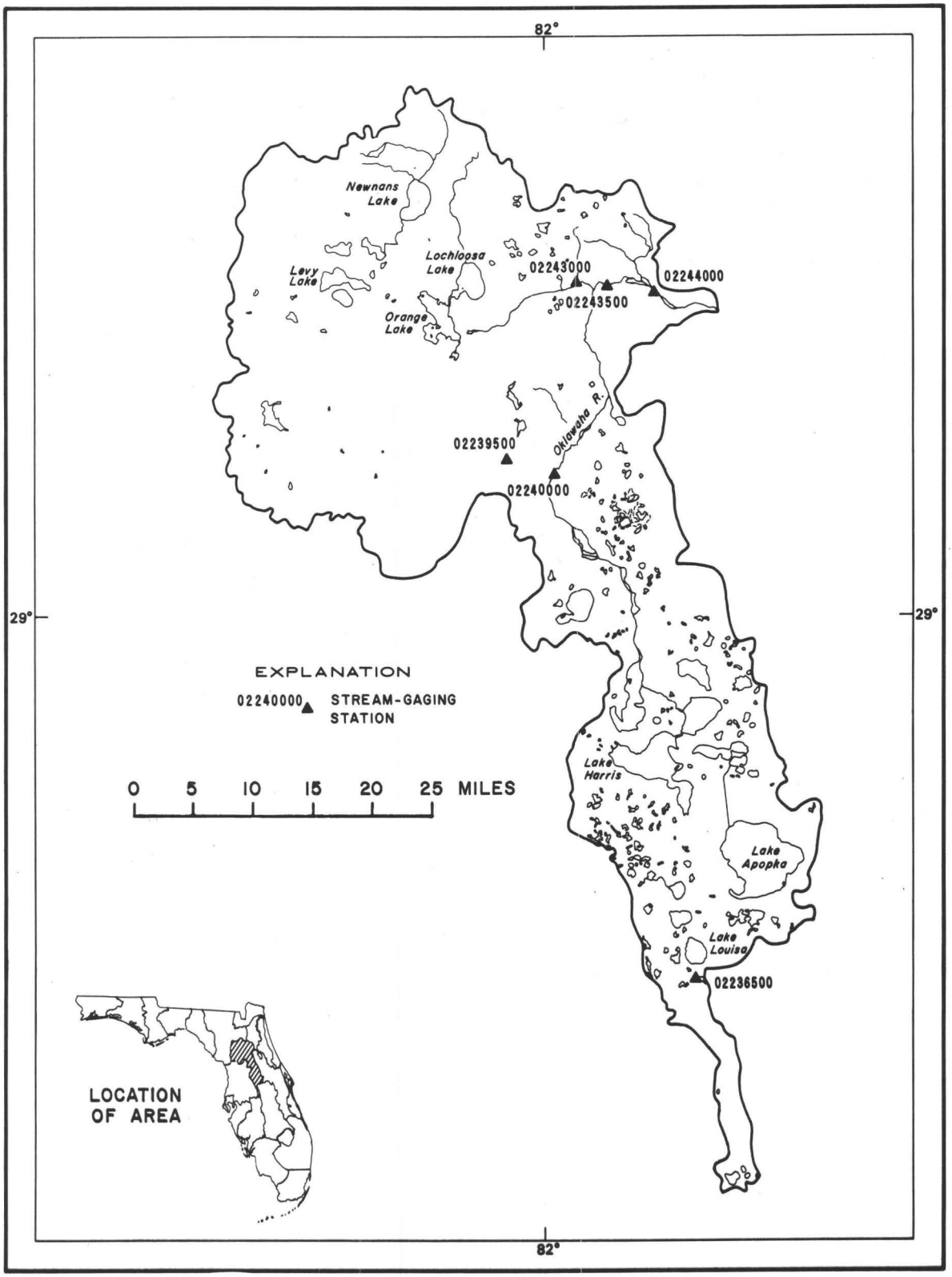

Figure 3.--Location of stream-gaging stations in the Oklawaha River basin.

ST. JOHNS RIVER

OKLAWAHA RIVER BASIN

02236500 Big Creek near Clermont, Fla.

LOCATION.--Lat 28°26'51", long 81°44'25", in NE¼ sec.31, T.23 S., R.26 E. Lake County, Hydrologic Unit 03080102, near left bank 40 ft downstream from log bridge, 1 mi upstream from Lake Louisa, 7.5 mi southeast of Clermont, and 131 mi upstream from mouth.

DRAINAGE AREA.--68 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1959 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0.08	0.10	0.19	0.43	1.3	3.4	6.2
5	0	0	0	(*)	.09	.31	.83	1.7
10	0	0	0	0	(*)	.16	.40	.83
20	0	0	0	0	0	.09	.22	.46

02239000 Oklawaha River near Ocala, Fla.

LOCATION.--Lat 29°11', long 82°00', in sec.15, T.15 S., R.23 E., Hydrologic Unit 03080102, on left bank about 15 ft upstream from highway bridge known as Sharpes Ferry, 2 mi upstream from Silver River, and 9 mi east of Ocala, Marion County.

DRAINAGE AREA.--1,070 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1930 to June 1968.

REMARKS.--Low flow regulated at Moss Bluff Dam 12 miles above station.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	86	102	109	125	152	190	226	272
5	30	36	40	47	61	79	97	115
10	15	18	20	23	30	36	48	53
20	7.6	9.0	10	13	16	19	22	25
30	5.6	6.0	7.0	9.0	11	13	14	16
50	3.6	4.5	5.0	6.4	7.6	8.8	9.2	10

* Less than 0.05 ft^3/s.

ST. JOHNS RIVER

OKLAWAHA RIVER BASIN

02239500 Silver Springs near Ocala, Fla.

LOCATION.--Lat 29°12'44", long 82°03'15", in SE¼ sec.1, T.15 S., R.23 E., Marion County, Hydrologic Unit 03080102, in canal at glass-bottom boat docking shed, 1,400 ft downstream from head of springs and 5.3 mi northeast of Ocala.

PERIOD OF RECORD ANALYZED.--July 1933 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	697	700	702	708	719	734	747	767
5	631	634	635	640	648	658	668	683
10	598	601	603	607	614	622	629	643
20	573	576	578	582	588	594	599	611
30	560	562	564	568	574	578	583	594
50	546	549	550	554	559	563	567	577

02240000 Oklawaha River near Conner, Fla.

LOCATION.--Lat 29°13', long 81°59', in sec.3, T.15 S., R.23 E., Hydrologic Unit 03080102, on right bank 15 ft downstream from bridge on State Highway 40, a quarter of a mile downstream from Silver River, about 1½ mi southwest of Conner, and 8 mi east of Ocala.

DRAINAGE AREA.--1,180 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1930 to June 1946.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	773	783	799	837	879	947	984	1049
5	676	690	702	724	753	793	822	873
10	643	659	669	684	706	729	754	794
20	623	640	648	658	675	683	704	735

ST. JOHNS RIVER

OKLAWAHA RIVER BASIN

02240500 Oklawaha River at Eureka, Fla.

LOCATION.--Lat 29°22' long 81°54', in sec.9, T.13 S., R.24 E., Hydrologic Unit 03080102, on right bank 20 ft upstream from bridge on State Highway 316 in Eureka, Marion County, and 3 mi downstream from Eaton Creek.

DRAINAGE AREA.--1,420 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1930 to June 1934, July 1944 to June 1952.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	946	968	983	1040	1080	1150	1200	1300
5	781	802	815	856	892	934	966	1040
10	702	724	736	767	796	823	846	896
20	642	664	675	697	720	734	751	783

02243000 Orange Creek at Orange Springs, Fla.

LOCATION.--Lat 29°30'34", long 81°56'47", in NE¼ sec.25, T.11 S., R.23 E., Marion County, Hydrologic Unit 03080102, near right bank at downstream side of bridge on State Highway 21, 0.2 mi northwest of Orange Springs and 1.2 mi upstream from Little Orange Creek.

DRAINAGE AREA.--1,067 mi^2, includes Paynes Prairie, a diked sinkhole area of 650 mi^2, approximately, which is noncontributing except by pumpage.

PERIOD OF RECORD ANALYZED.--July 1943 to June 1952, July 1956 to June 1971, July 1975 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	12	13	15	18	25	36	49	72
5	4.1	4.8	5.2	5.7	9.0	11	15	29
10	3.1	3.5	3.8	4.3	6.0	6.8	11	18
20	2.3	2.5	2.7	3.4	4.1	4.7	8.2	12
30	1.9	2.0	2.1	2.9	3.1	3.5	6.6	9.0

02243500 Oklawaha River near Orange Springs, Fla.

LOCATION.--Lat 29°30'15", long 81°54'45", in sec.29, T.11 S., R.24 E., Hydrologic Unit 03080102, on left bank at Jordans Ferry and mouth of Orange Creek, 2 mi east of Orange Springs, Marion County.

DRAINAGE AREA.--2,010 mi^2, approximately (includes that of Orange Creek).

PERIOD OF RECORD ANALYZED.--July 1930 to June 1952.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	956	981	998	1060	1120	1210	1280	1400
5	801	819	831	870	909	962	1010	1100
10	738	752	763	789	821	859	899	973
20	694	705	714	732	756	784	820	881
30	670	680	690	700	720	745	780	830

02244000 Oklawaha River at Riverside Landing, near Orange Springs, Fla.

LOCATION.--Lat 29°30', long 81°48', in sec.33, T.11 S., R.25 E., Hydrologic Unit 03080102, on right bank near boat dock at Riverside Landing, 8¾ mi east of Orange Springs, Marion County.

DRAINAGE AREA.--2,100 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1944 to June 1968.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	1100	1120	1150	1190	1270	1370	1460	1620
5	863	888	900	929	973	1030	1070	1160
10	767	788	796	818	849	884	914	976
20	696	716	721	738	760	781	800	842
30	660	679	684	698	716	730	740	780

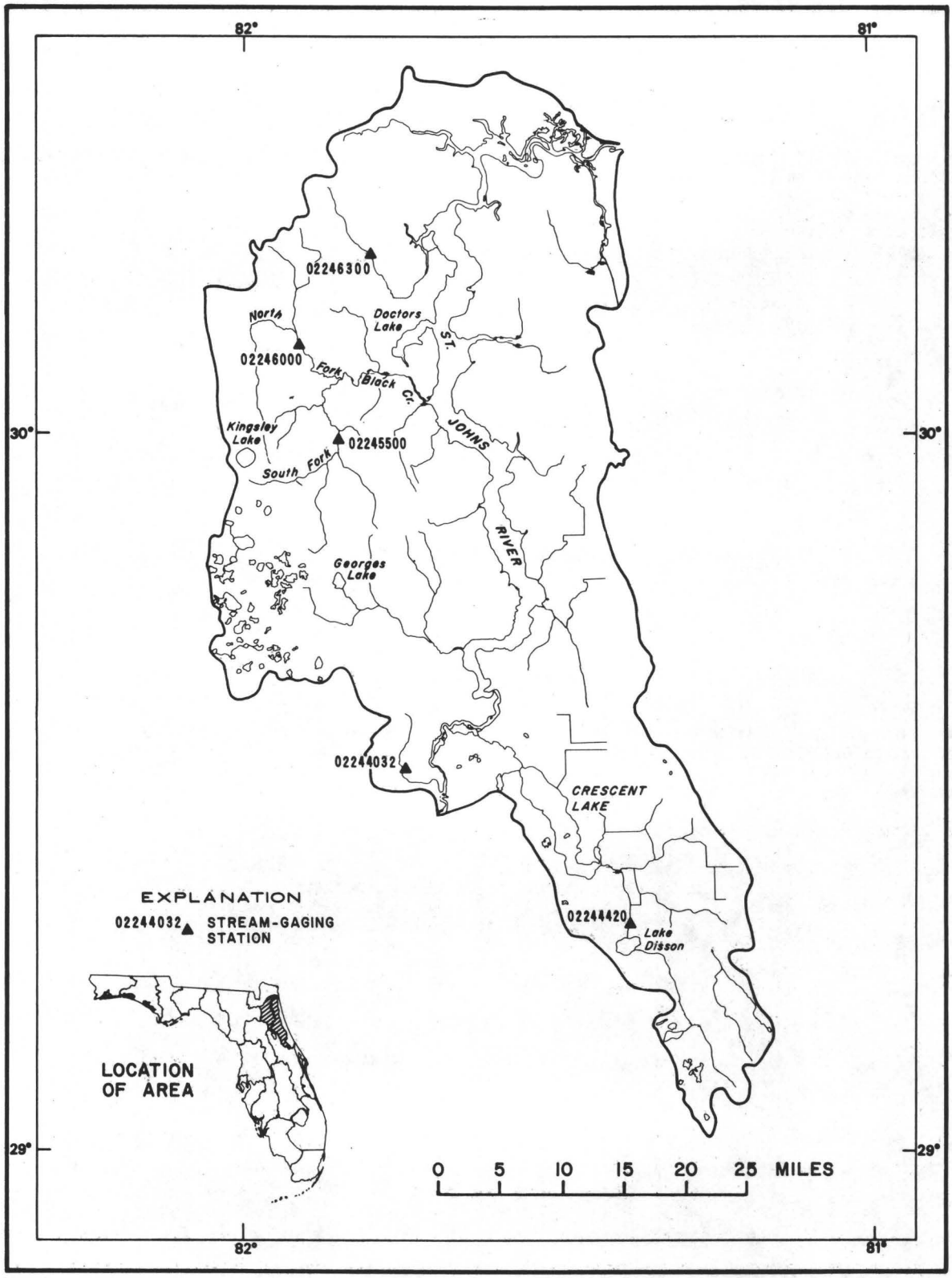

Figure 4.--Location of stream-gaging stations in the St. Johns River basin below the Oklawaha River.

02244420 Little Haw Creek near Seville, Fla.

LOCATION.--Lat 29°19'20", long 81°23'10", in SE¼ sec. 32, T.13 S., R.29 E., Flagler County, Hydrologic Unit 03080103, on right bank 600 ft downstream from bridge on State Highway 305, 1.4 mi downstream from Lake Disston, and 6.4 mi east of Seville.

DRAINAGE AREA.--93.0 mi^2.

PERIOD OF RECORD ANALYZED.--July 1952 to June 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.85	1.0	1.1	1.8	3.6	8.8	17	32
5	.05	.12	.22	.43	1.1	2.3	4.6	10
10	0	0	(*)	.17	.53	1.1	2.0	3.7
20	0	0	0	.06	.30	.56	1.0	2.4
30	0	0	0	(*)	.17	.40	.60	1.1

02245500 South Fork Black Creek near Penney Farms, Fla.

LOCATION.--Lat 29°58'45", long 81°51'08", in NE¼ sec.13, T.6 S. R.24 E., Clay County, Hydrologic Unit 03080103, on right bank at upstream side of bridge on State Highway 16, 0.7 mi downstream from Greens Creek, 2.5 mi west of Penney Farms, 9.5 mi west of Green Cove Springs, and 24 mi upstream from mouth of Black Creek.

DRAINAGE AREA.--134 mi^2.

PERIOD OF RECORD ANALYZED.--April 1940 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	24	26	28	33	41	56	70	101
5	17	19	21	24	30	39	47	65
10	14	16	17	21	25	31	37	50
20	12	13	15	18	22	26	31	41
30	11	12	14	16	20	23	27	37
50	9.8	11	13	15	18	21	24	32

* Less than 0.05 ft^3/s.

02246000 North Fork Black Creek near Middleburg, Fla.

LOCATION.--Lat 30°06'47", long 81°54'24", in NE¼ sec.33, T.4 S., R.24 E., Clay County, Hydrologic Unit 03080103, on left bank 0.3 mi upstream from Big Branch, 4 mi northwest of Middleburg, and 7.5 mi upstream from confluence with South Fork.

DRAINAGE AREA.--177 mi^2.

PERIOD OF RECORD ANALYZED.--April 1932 to March 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	13	14	16	22	30	47	68	112
5	7.6	8.7	10	13	18	27	40	65
10	5.8	6.7	7.6	9.8	13	19	29	48
20	4.6	5.3	6.0	7.6	10	14	22	37
30	4.1	4.7	5.3	6.6	8.6	11	19	32
50	3.6	4.1	4.6	5.6	7.3	9.3	16	28

02246300 Ortega River at Jacksonville, Fla.

LOCATION.--Lat 30°14'50", long 81°47'49", in NW¼ sec.15, T.3 S., R.25 E., Duval County, Hydrologic Unit 03080103, near center of span on downstream side of bridge on 103rd Street in Jacksonville, 15 mi upstream from mouth.

DRAINAGE AREA.--30.9 mi^2.

PERIOD OF RECORD ANALYZED.--April 1965 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	1.1	1.3	1.6	2.4	3.6	6.5	10	17
5	.56	.68	.86	1.2	2.2	3.7	5.7	11
10	.40	.47	.58	.90	1.6	2.5	3.8	9.1
20	.30	.34	.41	.67	1.3	1.8	2.5	7.7

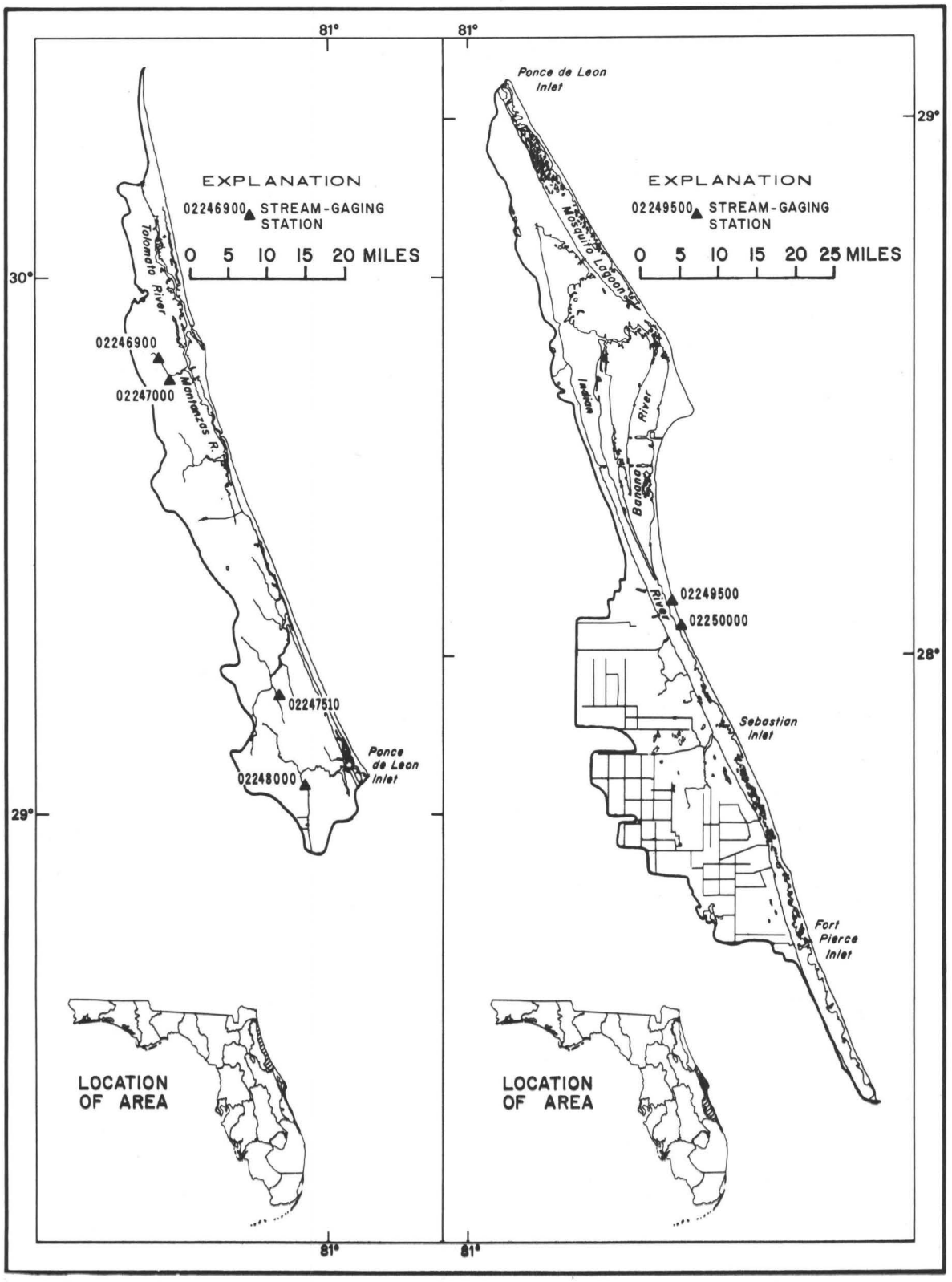

Figure 5.--Location of stream-gaging stations in the coastal area between the St. Johns and St. Lucie Rivers.

02246900 Moultrie Creek at State Highway 207, near St. Augustine, Fla.

LOCATION.--Lat 29°50'50", long 81°21'39", in SE¼ sec.34, T.7 S., R.29 E., St. Johns County, Hyrologic Unit 03080201, at center on downstream side of box culverts on State Highway 207, 2.0 mi upstream from Fort Peyton Branch, 4.2 mi southwest of St. Augustine, and 6.3 mi upstream from mouth.

DRAINAGE AREA.--19.8 mi^2.

PERIOD OF RECORD ANALYZED.--July 1962 to June 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	(*)	0.06	0.10	0.17	0.56	1.1	2.0	6.1
5	0	(*)	(*)	.06	.16	.33	.64	2.6
10	0	(*)	(*)	(*)	.09	.20	.36	1.8
20	0	0	(*)	(*)	.06	.14	.24	1.3

02247000 Moultrie Creek near St. Augustine, Fla.

LOCATION.--Lat 29°49'40", long 81°20'57", in sec.11, T.8 S., R.29 E., Hydrologic Unit 03080201, on right bank 0.4 mi upstream from Fort Peyton Branch, 1.6 mi downstream from bridge on State Highway 207, and 4.9 mi southwest of St. Augustine, St. Johns County.

DRAINAGE AREA.--23.3 mi^2.

PERIOD OF RECORD ANALYZED.--July 1940 to June 1964.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.42	0.45	0.60	0.75	0.89	1.8	3.2	7.4
5	.31	.40	.46	.52	.56	.80	1.3	2.8
10	.27	.30	.36	.43	.47	.54	.84	1.7
20	.22	.28	.30	.32	.39	.42	.61	1.1
30	.18	.25	.28	.29	.33	.36	.52	.80

* Less than 0.05 ft^3/s.

00247510 Tomoka River near Holly Hill, Fla.

LOCATION.--Lat 29°13'02", long 81°06'32", in NW¼ sec.9, T.15 S., R.32 E., Volusia County, Hydrologic Unit 03080201, near center of span on downstream side of bridge on 11th Street extension, 0.3 mi southwest of Interstate 95, 2 mi upstream from Priest Branch, 4.5 mi southwest of Holly Hill, and 12 mi upstream from mouth.

DRAINAGE AREA.--76.8 mi^2.

PERIOD OF RECORD ANALYZED.--July 1966 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.80	1.0	1.1	1.4	2.8	4.8	8.7	16
5	.23	.40	.45	.62	1.4	2.4	3.7	6.0
10	.11	.20	.28	.42	1.0	1.7	2.3	3.5
20	0	.10	.18	.30	.72	1.3	1.5	2.2

02248000 Spruce Creek near Samsula, Fla.

LOCATION.--Lat 29°03'01", long 81°02'49", in SE¼ sec.1, T.17 S., R.32 E., Volusia County, Hydrologic Unit 03080201, on left bank 50 ft downstream from bridge on State Highway 40A, 1.8 mi north of Samsula, 8 mi west of New Symrna, 10 mi upstream from Turnbull Bay, and 13 mi upstream from mouth.

DRAINAGE AREA.--33.4 mi^2.

PERIOD OF RECORD ANALYZED.--July 1951 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.54	0.64	0.70	0.94	1.5	2.7	4.4	8.2
5	.22	.28	.34	.48	.65	1.1	1.5	2.8
10	.10	.16	.22	.34	.44	.68	.87	1.5
20	(*)	.10	.15	.26	.32	.44	.53	.90
30	0	.08	.12	.23	.27	.36	.40	.70

* Less than 0.05 ft^3/s.

02249500 Crane Creek at Melbourne, Fla.

LOCATION.--Lat 28°04'42", long 80°37'48", in NE¼ sec.4, T.28 S., R.37 E., Hydrologic Unit 03080202, on right bank 24 ft upstream from bridge on U.S. Highway 192, 1½ mi west of the city hall in Melbourne, Brevard County, and 2.7 mi upstream for mouth.

DRAINAGE AREA.--12.6 mi^2.

PERIOD OF RECORD ANALYZED.--July 1951 to June 1968.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	4.2	4.9	5.2	5.8	6.4	7.0	7.7	8.9
5	3.2	3.8	4.1	4.4	5.0	5.6	6.1	6.9
10	2.7	3.3	3.5	3.8	4.4	5.0	5.4	6.1
20	2.4	3.0	3.1	3.3	3.9	4.5	5.0	5.5

02250000 Turkey Creek near Palm Bay, Fla.

LOCATION.--Lat 28°00'46", long 80°37'20", in SW¼ sec.27, T.28 S., R.37 E., Hydrologic Unit 03080202, near left bank at downstream side of bridge on State Highway 507, 2.8 mi southwest of Palm Bay, Brevard County, 3.5 mi upstream from mouth.

DRAINAGE AREA.--95.5 mi^2.

PERIOD OF RECORD ANALYZED.--July 1956 to June 1968.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	23	26	28	31	35	44	50	60
5	19	21	23	25	28	33	36	40
10	16	19	20	22	24	29	31	33
20	15	17	18	20	22	26	27	28

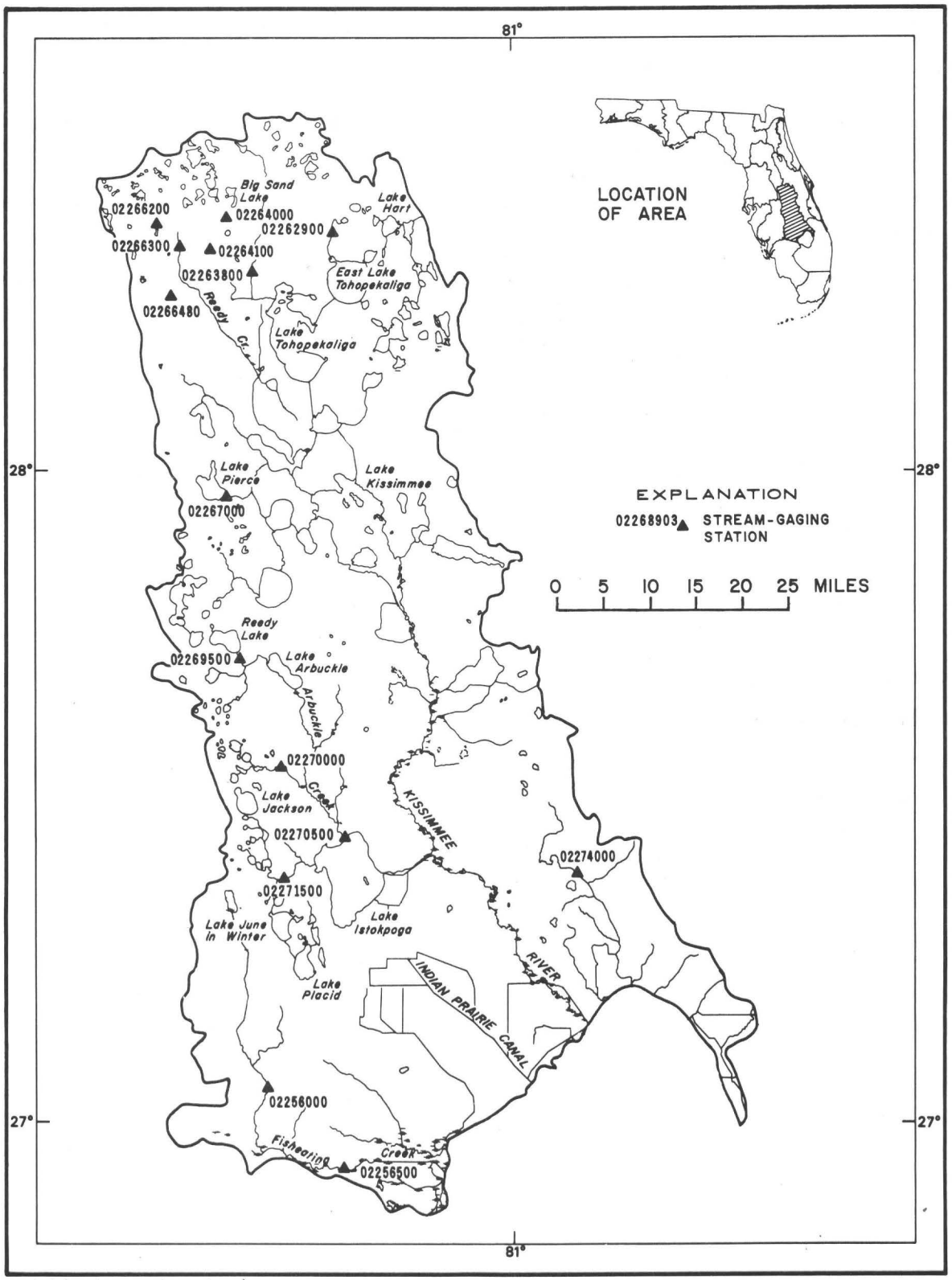

Figure 6.--Location of stream-gaging stations in the Kissimmee River, Taylor Creek, and Fisheating Creek basins.

02264000 Cypress Creek at Vineland, Fla.

LOCATION.--Lat 28°23'25", long 81°31'11", in NW¼ sec.21, T.24 S., R.28 E., Orange County, Hydrologic Unit 03090101, at upstream side of culverts on State Highway 535, 1.0 mi west of Vineland.

DRAINAGE AREA.--30.3 mi^2.

PERIOD OF RECORD ANALYZED.--July 1946 to June 1977.

REMARKS.--Some diversions by pumping above station for irrigation.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	0.05	0.20	0.35	0.70
5	0	0	0	0	0	0	(*)	.12
10	0	0	0	0	0	0	0	(*)
20	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0

02264100 Bonnet Creek near Vineland, Fla.

LOCATION.--Lat 28°19'58", long 81°31'20", in NW¼ sec.9, T.25 S., R.28 E., Osceola County, Hydrologic Unit 0309101, on downstream side of bridge on State Highway 530, about 1 mi upstream from Reedy Creek Swamp and 4.5 mi south of Vineland.

DRAINAGE AREA.--56.1 mi^2.

PERIOD OF RECORD ANALYZED.--July 1966 to June 1977.

REMARKS.--Since October 1968, flow regulated by automatic gates upstream and since December 1970, by control structure S-11-temporary 0.5 mi downstream. Natural flow of stream affected by canals and control structures above station which divert an undertermined amount of water into the Reedy Creek basin.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	1.2	3.3	4.1	5.6	6.6	7.4	8.3	10
5	0	1.0	1.3	.88	1.7	2.3	3.3	4.7
10	0	0	(*)	.20	.30	.60	1.2	2.5
20	0	0	0	(*)	.10	.20	.60	1.3

* Less than 0.05 ft^3/s.

02266200 Whittenhorse Creek near Vineland, Fla.

LOCATION.--Lat 28°23'05", long 81°37'00", in NW¼ sec.21, T.24 S., R.27 E., Orange County, Hydrologic Unit 03090101, near center of channel 12 ft downstream from culverts on Hartzog Road, 7 mi west of Vineland.

DRAINAGE AREA.--12.4 mi^2.

PERIOD OF RECORD ANALYZED.--July 1966 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	0	0	0.10	0.18
5	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0

02266300 Reedy Creek near Vineland, Fla.

LOCATION.--Lat 28°19'57", long 81°34'48", in NE¼ sec.11, T.25 S., R.27 E., Osceola County, Hydrologic Unit 03090101, on downstream side of bridge on U.S. Highway 192 about 2.5 mi upstream from bridge on Interstate Highway 4, 6.5 mi southwest of Vineland, and 28 mi upstream from mouth.

DRAINAGE AREA.--75 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1966 to June 1971, July 1973 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	4.4	5.2	5.8	7.8	8.5	9.0	9.5	10
5	0	0	0	(*)	.70	2.0	3.7	5.0
10	0	0	0	0	0	(*)	1.5	3.0

* Less than 0.05 ft^3/s.

02266480 Davenport Creek near Loughman, Fla.

LOCATION.--Lat 28°16'15", long 81°35'28", in NW¼ sec.35, T.25 S., R.26 E., Osceola County, Hydrologic Unit 03090101, at downstream side of culverts on State Highway 545, 2.0 mi upstream from mouth and 2.5 mi northwest of Loughman.

DRAINAGE AREA.--23 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1969 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.83	0.97	1.1	1.2	1.5	1.8	2.3	3.7
5	.56	.65	.74	.88	1.0	1.2	1.6	2.3
10	.47	.54	.61	.75	.85	1.1	1.4	1.9

02267000 Catfish Creek near Lake Wales, Fla.

LOCATION.--Lat 27°57'40", long 81°29'48", in sec.14, T.29 S., R.28 E., Polk County, Hydrologic Unit 0309101, on left bank, 0.2 mi downstream from Lake Pierce, 7 mi northeast of city of Lake Wales, and 9.3 mi upstream from mouth.

DRAINAGE AREA.--58.9 mi^2.

PERIOD OF RECORD ANALYZED.--July 1948 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	14	15	16	18	20	23	23	31
5	6.6	7.3	7.9	9.1	11	14	17	22
10	4.3	4.8	5.2	6.1	8.1	11	14	18
20	2.9	3.2	3.6	4.2	6.1	8.7	11	16
30	2.3	2.6	3.0	3.5	5.1	7.7	10	15

KISSIMMEE RIVER BASIN

02269500 Reedy Creek near Frostproof, Fla.

LOCATION.--Lat 27°43'13", long 81°28'40", in SW¼ sec.1, T.32 S., R.28 E., Polk County, Hydrologic Unit 03090101, on left bank 15 ft upstream from highway bridge, 100 ft downstream from Reedy Lake, 1.9 mi upstream from mouth, and 3.5 mi southeast of Frostproof.

DRAINAGE AREA.--60.9 mi^2.

PERIOD OF RECORD ANALYZED.--July 1947 to June 1971.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	8.5	10.5	12	13	16	20	22	25
5	.80	1.3	2.0	2.7	5.0	7.2	10	14
10	.15	.35	.40	.65	1.6	3.0	6.0	9.9
20	(*)	(*)	.06	.08	.55	1.5	3.8	7.3
30	0	0	(*)	(*)	.30	.90	2.8	6.0

02270000 Carter Creek near Sebring, Fla.

LOCATION.--Lat 27°32'00", long 81°23'25", in SE¼ sec.11, T.34 S., R.29 E., Hydrologic Unit 03090101, at left bank 1,100 ft upstream from bridge on county road, 2½ mi upstream from Arbuckle Creek, 4 mi downstream from Bonnet Lake, and 4¼ mi northeast of Sebring, Highlands County. Prior to Oct. 1, 1963, at site 1,100 ft downstream.

DRAINAGE AREA.--38.8 mi^2.

PERIOD OF RECORD ANALYZED.--July 1955 to June 1966.

REMARKS.--Regulation by Bonnet Lake control above station.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	7.3	8.7	9.8	11	15	17	18	20
5	4.2	5.1	5.8	7.1	9.6	11	11	13
10	3.1	3.9	4.4	5.6	7.7	8.5	9.0	10
20	2.4	3.1	3.5	4.6	6.5	7.0	7.4	8.1

* Less than 0.05 ft^3/s.

02270500 Arbuckle Creek near De Soto City, Fla.

LOCATION.--Lat 27°26'32", long 81°17'51", in SE¼ sec.11, T.35 S., R.30 E., Highlands County, Hydrologic Unit 03090101, on right bank 20 ft downstream from bridge on U.S. Highway 98, 1.3 mi upstream from mouth, and 7 mi east of De Soto City.

DRAINAGE AREA.--379 mi^2, excludes area drained by Lake Weohyakapka and includes area drained by Lake Sebring.

PERIOD OF RECORD ANALYZED.--July 1939 to June 1977.

REMARKS.--Records include small diversions into Lake Arbuckle from Lake Weohyakapka through Blue Jordan Swamp.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	31	36	41	51	66	84	98	127
5	9.0	13	15	21	29	40	49	66
10	4.1	6.7	7.6	13	18	26	33	46
20	7.0	3.8	4.2	7.9	11	18	24	34
30	1.4	2.8	3.0	6.2	8.0	14	20	29
50	.84	1.9	2.2	4.5	6.4	11	17	24

02271500 Josephine Creek near De Soto City, Fla.

LOCATION.--Lat 27°22'26", long 81°23'37", in SE¼ sec.2, T.36 S., R.29 E., Highlands County, Hydrologic Unit 03090101, on left bank 320 ft downstream from bridge on State Highway 17, 1.0 mi downstream from Jack Creek, 4 mi south of De Soto City, and 4.9 mi upstream from mouth.

DRAINAGE AREA.--109 mi^2, includes area drained by Lake Sebring.

PERIOD OF RECORD ANALYZED.--July 1947 to June 1975.

REMARKS.--Diversions for irrigation of citrus groves above station during dry periods.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	6.4	7.4	8.2	10	13	17	21	29
5	2.5	3.0	3.4	4.0	5.3	6.9	8.9	13
10	1.5	1.9	2.1	2.5	3.3	4.3	5.6	8.6
20	.98	1.2	1.4	1.6	2.2	2.8	3.8	6.0
30	.77	1.0	1.1	1.3	1.7	2.3	3.1	4.9

TAYLOR CREEK BASIN

02274000 Taylor Creek near Basinger, Fla.

LOCATION.--Lat 27°23'39", long 80°53'44", in SE¼ sec.26, T.35 S., R.34 E., Okeechobee County, Hydrologic Unit 03090102, near center of channel on downstream side of bridge on State Highway 68, 800 ft upstream from control structure 3, 0.8 mi downstream from small tributary, 8.5 mi east of Basinger, and 17 mi upstream from mouth.

DRAINAGE AREA.--15.7 mi^2.

PERIOD OF RECORD ANALYZED.--July 1965 to June 1977.

REMARKS.--Some diversion during low flow for irrigation. Flow regulated at station by operation of control structure 3 since February 1965.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0.05	0.65	0.72	1.2	1.5
5	0	0	0	0	(*)	.15	.25	.47
10	0	0	0	0	0	(*)	.10	.33
20	0	0	0	0	0	.01	(*)	.20

* Less than 0.05 ft^3/s.

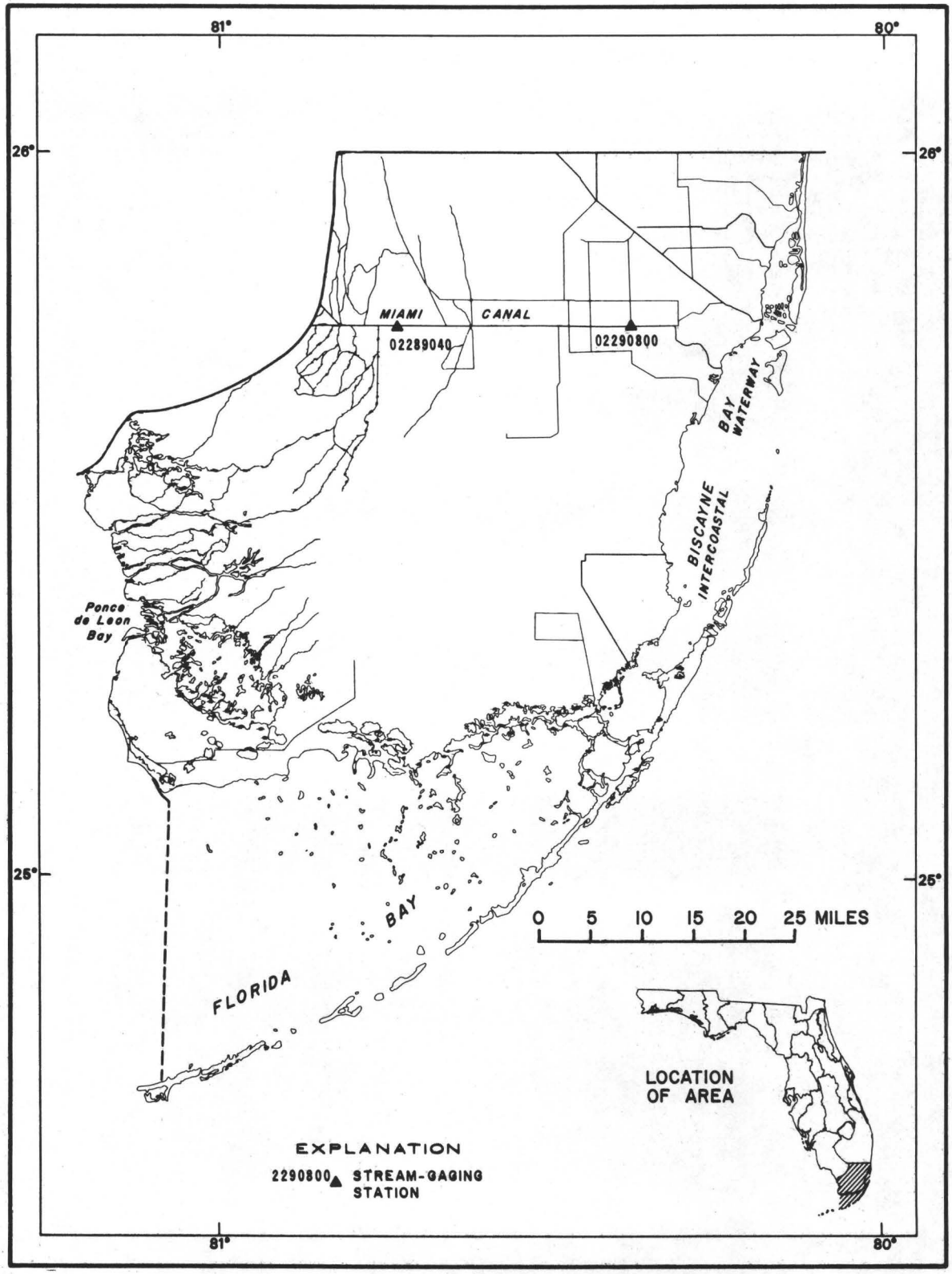

Figure 7.--Location of stream-gaging stations in the Everglades and southeastern coastal area.

02289040 Tamiami Canal Outlets, Levee 67A to 40-Mile Bend, near Miami, Fla.

LOCATION.--Lat 25°45'22", long 80°43'34", in N½ sec.22, T.54 S., R.36 E., Dade County, Hydrologic Unit 03090202, on south bank of levee 29 borrow canal, 100 ft northwest of control structure 12-C and 33 mi west of Miami.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD ANALYZED.--July 1964 to June 1978.

REMARKS.--Discharge is the total discharge through the S-12 structure A, B, C, and D from Conservation Area 3-A.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	15	20	26	30	38	50	74	140
5	4.2	7.0	10	15	22	33	45	110
10	0	0	0	0	1.0	11	20	80
20	0	0	0	0	0	0	0	0

02289060 Tamiami Canal Outlets, Levee 30 to Levee 67A, near Miami, Fla.

LOCATION.--Lat 25°45'40", long 80°33'40", in SE¼ sec.6, T.54 S., R.38 E., Dade County, Hydrologic Unit 03090202, on south bank, 50 ft west of bridge 53 on U.S. Highway 41 and 22.8 mi west of Miami.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD ANALYZED.--July 1964 to June 1977.

REMARKS.--Discharge consists entirely of seepage through levee 29 from Conservation Area 3B as represented by flow through all the outlets of Tamiami Canal from levee 30 to levee 67A.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	1.0	6.5	12	25
5	0	0	0	0	1.0	.50	2.2	6.6
10	0	0	0	0	0	0	.05	3.4
20	0	0	0	0	0	0	0	1.8

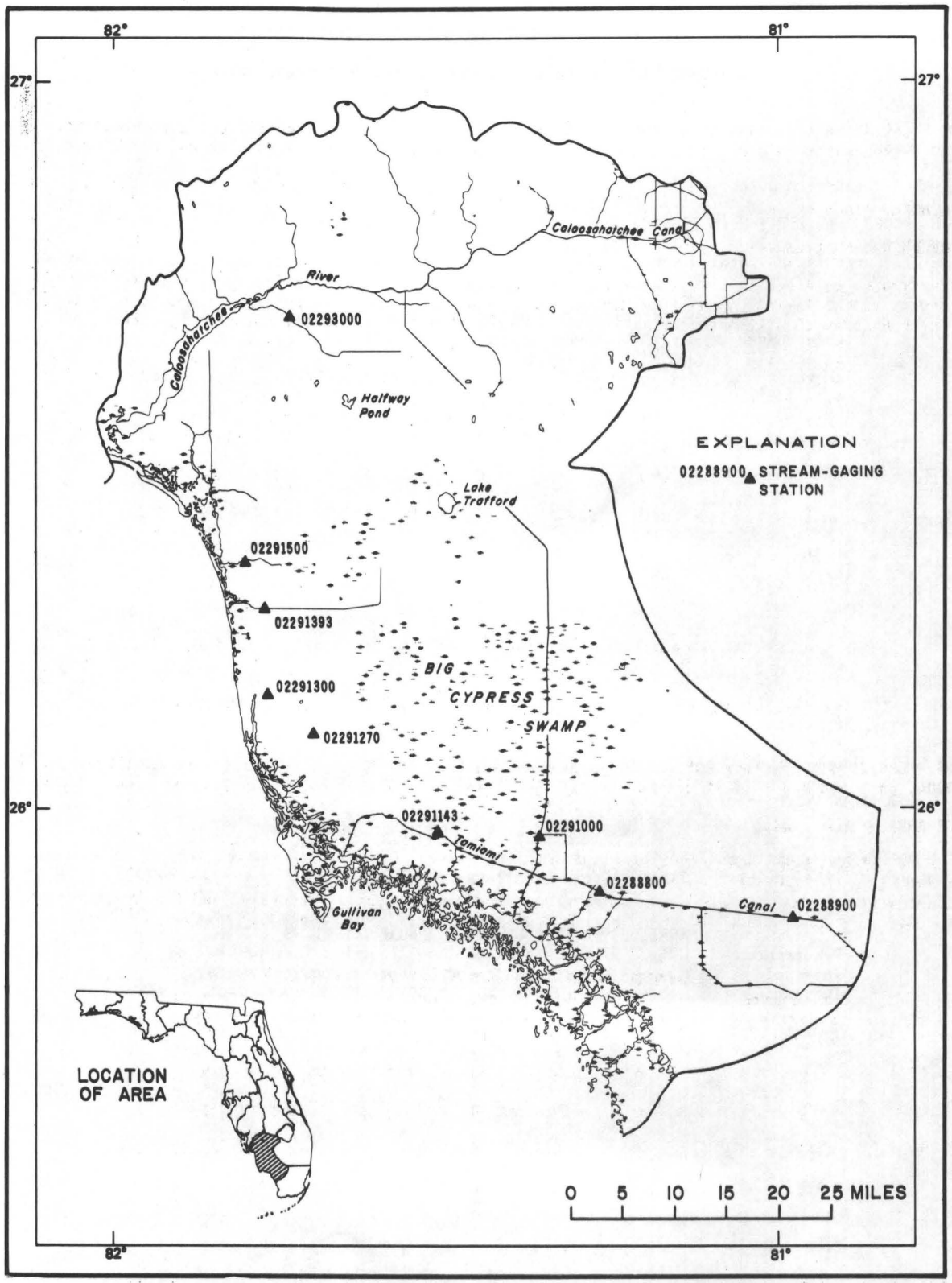

Figure 8.--Location of stream-gaging stations in the Big Cypress Swamp and southwestern coastal area, including the Caloosahatchee River.

02288800 Tamiami Canal Outlets, Monroe to Carnestown, Fla.

LOCATION.--Lat 25°53'10", long 81°15'30", in NW¼ sec.6, T.53 S., R.31 E., Collier County, Hydrologic Unit 03090204, on downstream side of bridge 84 on U.S. Highway 41, 7 mi east of Carnestown, and 10 mi west of Monroe.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD ANALYZED.--July 1961 to July 1977.

REMARKS.--Figures of discharge consist of runoff from Big Cypress Watershed as represented by flow through all the outlets of the Tamiami Canal from Monroe, 55 mi west of Miami, to a point 1 mi east of the intersection with State Highway 29 at Carnestown. Flow at westernmost outlets slightly affected by tide.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	1.7	6.0	13	18	31
5	0	0	0	0	0	1.0	4.6	12
10	0	0	0	0	0	.35	.60	5.6
20	0	0	0	0	0	0	0	3.2

02288900 Tamiami Canal Outlets, 40-Mile Bend to Monroe, Fla.

LOCATION.--Lat 25°51'05", long 80°58'50", in SW¼ sec.13, T.53 S., R.33 E., Collier County, Hydrologic Unit 03090204, on south bank, 25 ft east of bridge 105 on U.S. Highway 41 and 54 mi west of Miami, Dade County.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD ANALYZED.--July 1964 to June 1977.

REMARKS.--Figures of daily discharge consist of runoff from Big Cypress Watershed and the Everglades as represented by flow through all 29 bridges from bridge 28 to 22 and bridge 117 to 96.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0.17	0.75	2.2	5.7	17
5	0	0	0	0	0	0.12	1.3	6.7
10	0	0	0	0	0	(*)	.62	3.7
20	0	0	0	0	0	(*)	.36	2.2

* Less than 0.05 ft^3/s.

02291000 Barron River Canal near Everglades, Fla.

LOCATION.--Lat 25°57'28", long 81°21'19", in NW¼ sec.7, T.52 S., R.30 E., Collier County, Hydrologic Unit 03090204, on right bank 40 ft upstream from control structure, 0.7 mi north of Copeland, 7 mi north of town of Everglades, and 7.5 mi upstream from mouth.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD ANALYZED.--July 1952 to June 1977.

REMARKS.--Flow regulated by operation of control structure at, above, and below station, and is occasionally affected by tide.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	7.0	8.0	8.6	11	16	21	28	42
5	1.8	2.2	2.5	3.2	3.9	7.5	11	20
10	.21	.30	.50	.70	1.6	4.2	6.0	12
20	(*)	.05	.08	.10	.72	2.2	3.5	7.5
30	0	0	0	(*)	.46	1.4	2.4	5.2

02291143 Faka Union Canal near Copeland, Fla.

LOCATION.--Lat 25°57'59", long 81°30'23", in SW¼ sec.3, T.52 S., R.28 E., Collier County, Hydrologic Unit 03090204, on left bank, 0.5 mi from U.S. Highway 41, and 9.3 mi west of Copeland.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD ANALYZED.--July 1970 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	0	2.3	5.2	26
5	0	0	0	0	0	.15	.40	5.4
10	0	0	0	0	0	0	0	2.6

* Less than 0.05 ft^3/s.

02291270 Henderson Creek Canal near Naples, Fla.

LOCATION.--Lat 26°05'59", long 81°41'14", in SW¼ sec.23, T.50 S., R.26 E., Collier County, Hydrologic Unit 030902024, on right bank 5 ft downstream from private bridge, 3.8 mi south of Everglades Parkway and 7 mi southeast of Naples.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD ANALYZED.--July 1969 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.22	0.40	0.50	0.90	1.4	2.1	2.8	5.0
5	0	0	(*)	.10	.18	.46	1.4	2.9
10	0	0	0	(*)	.05	.17	1.1	2.2

02291300 Golden Gate Canal at Naples, Fla.

LOCATION.--Lat 26°10'01", long 81°46'02", in NE¼ sec.35, T.49 S., R.25 E., Collier County, Hydrologic Unit 03090204, near right bank on downstream side of bridge on Airport Road, 0.5 mi upstream from dam, 1.4 mi upstream from Gordon River, and 1.5 mi east of Naples city limits.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD ANALYZED.--July 1965 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	13	25	29	35	50	64	80	95
5	(*)	(*)	.08	.20	3.5	11	23	49
10	0	0	0	0	.85	4.6	13	30
20	0	0	0	0	.22	2.1	7.4	20

* Less than 0.05 ft^3/s.

02291393 Cocohatchee River Canal near Naples Park, Fla.

LOCATION.--Lat 26°16'21", long 81°45'53", in SW¼ sec.24, T.48 S., R.25 E., Collier County, Hydrologic Unit 03090204, near center span on downstream side of Willoughby Acres bridge, 2.3 mi east of intersection of U.S. Highway 41 and State Highway 846 at Naples Park.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD ANALYZED.--July 1969 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.90	1.1	1.3	1.7	2.2	2.4	3.2	4.1
5	0	0	0	(*)	.18	.65	1.4	1.9
10	0	0	0	0	0	.30	.89	1.4

02291500 Imperial River near Bonita Springs, Fla.

LOCATION.--Lat 26°20'05", long 81°45'20", in SE¼ sec.36, T.47 S., R.25 E., Hydrologic Unit 03090204, on right bank 1½ mi east of Bonita Springs, Lee County.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD ANALYZED.--July 1940 to June 1954.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.75	0.83	0.90	0.97	1.1	1.2	1.3	1.4
5	.55	.62	.66	.71	.80	.95	.98	1.1
10	.35	.56	.59	.63	.73	.87	.90	1.0
20	0	.52	.54	.58	.70	.78	.82	.90

* Less than 0.05 ft^3/s.

02293000 Orange River near Fort Myers, Fla.

LOCATION.--Lat 26°40', long 81°43', in sec.9, T.44 S., R.26 E., Lee County Hydrologic Unit 03090205, 1½ mi southeast of Buckingham and 8 mi northeast of Fort Myers.

DRAINAGE AREA.--83.4 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1936 to June 1946.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	(*)	0.07	0.25	0.75	2.2
5	0	0	0	0	(*)	(*)	(*)	.52
10	0	0	0	0	0	0	(*)	.20
20	0	0	0	0	0	0	0	.08

* Less than 0.05 ft^3/s.

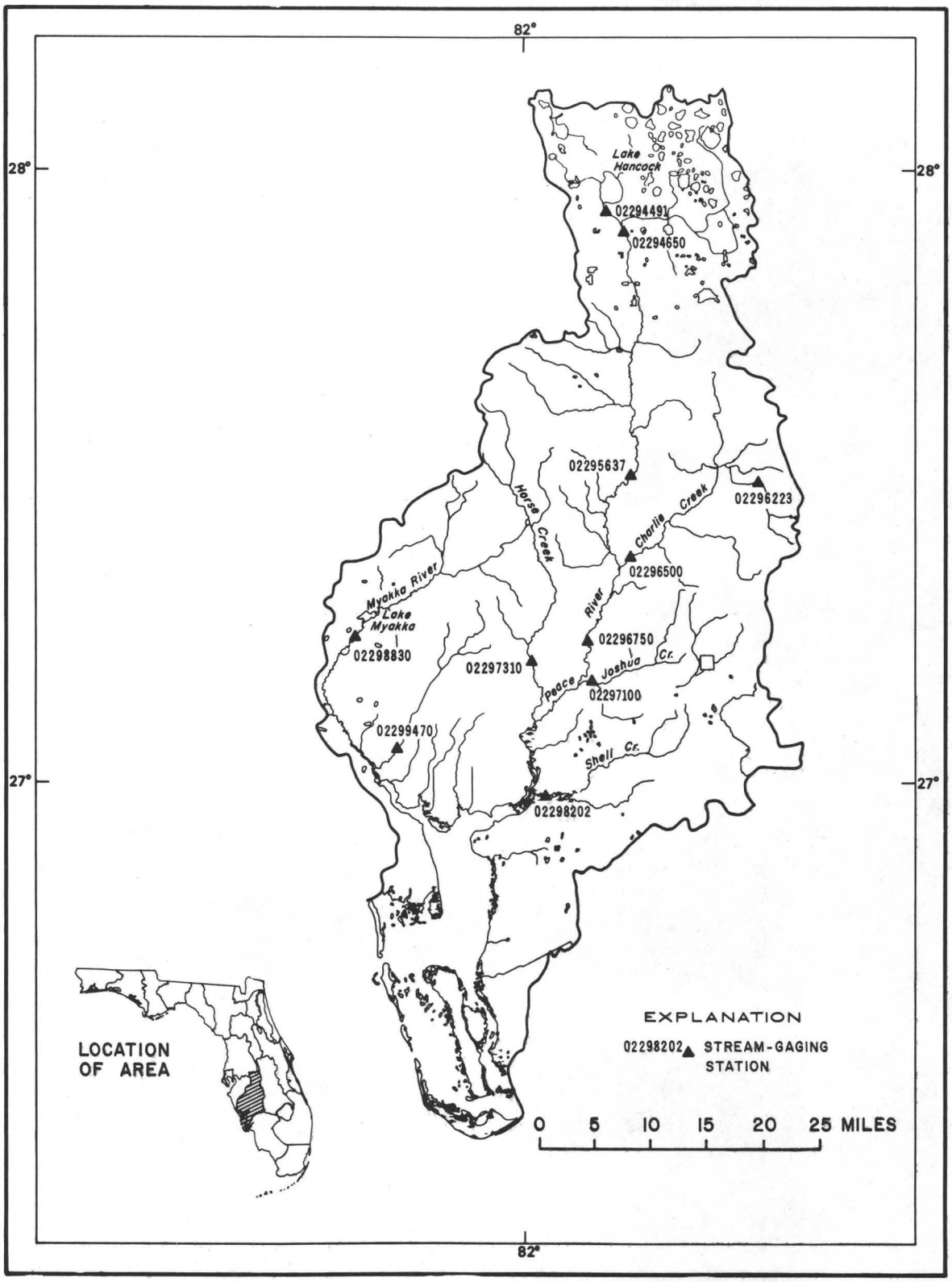

Figure 9.--Location of stream-gaging stations in the Peace and Myakka River basins.

02294491 Saddle Creek at Structure P-11 Near Bartow, Fla.

LOCATION.--Lat 27°56'17", long 81°51'05", in SW¼ sec.19, T.29 S., R.25 E., Polk County, Hydrologic Unit 03100101, near right bank 65 ft downstream from structure P-11, 0.7 mi south of Lake Hancock, 2.3 mi upstream from mouth, and 3.0 mi north of post office in Bartow.

DRAINAGE AREA.--135 mi^2.

PERIOD OF RECORD ANALYZED.--July 1964 to June 1977.

REMARKS.--Flow regulated by structure P-11.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	0.10	0.20	1.3	14
5	0	0	0	0	0	0	0	.05
10	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0

02294650 Peace River at Bartow, Fla.

LOCATION.--Lat 27°54'07", long 81°49'03", in NE¼ sec.4, T.30 S., R.25 E., Polk County, Hydrologic Unit 03100101, near center of span on downstream side of bridge on State Highway 60, 500 ft downstream from McKinney Branch, 0.6 mi east of Bartow, and 105 mi upstream from mouth.

DRAINAGE AREA.--390 mi^2.

PERIOD OF RECORD ANALYZED.--July 1940 to June 1977.

REMARKS.--Since 1949, records include an appreciable amount of waste water diverted from ground-water supplies into McKinney Branch by chemical plants and phosphate mines; since July 1963, some regulation by control structure P-11 on Saddle Creek.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	24	28	31	35	44	59	74	103
5	9.5	12	14	17	22	25	32	42
10	5.3	6.6	7.8	11	14	18	22	32
20	2.0	3.7	4.5	7.4	10	13	17	21
30	1.3	2.8	3.5	5.8	8.4	11	14	18
50	.78	2.0	2.6	4.8	7.2	10	12	16

02295637 Peace River at Zolfo Springs, Fla.

LOCATION.--Lat 27°30'15", long 81°48'04", in SE¼ sec.22, T.34 S., R.25 E., Hardee County, Hydrologic Unit 03100101, near center of span on downstream side of bridge on U.S. Highway 17, 0.8 mi north of Zolfo Springs, and 69 mi upstream from mouth.

DRAINAGE AREA.--826 mi^2.

PERIOD OF RECORD ANALYZED.--July 1934 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	94	102	111	125	151	190	227	301
5	54	64	73	80	101	115	140	160
10	44	53	60	70	86	99	110	135
20	37	44	54	65	76	82	91	115
30	34	40	49	61	70	76	82	107
50	32	36	45	58	66	70	73	100

02296223 Little Charley Bowlegs Creek near Sebring, Fla.

LOCATION.--Lat 27°28'40", long 81°33'25", in NW¼ sec.31, T.34 S., R.28 E., Highlands County, Hydrologic Unit 03100101, on right bank 160 ft downstream from control structure, 900 ft north of county road in Highlands Hammock State Park, 0.8 mi upstream from unnamed creek, 7.1 mi southwest of Sebring, and 7.3 mi upstream from mouth.

DRAINAGE AREA.--41.9 mi^2.

PERIOD OF RECORD ANALYZED.--July 1952 to June 1977.

REMARKS.--Flow affected for short periods by operation of control structure 160 ft upstream from station.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	(*)	0.24	0.50	2.5	3.7	7.0
5	0	0	0	(*)	.06	.28	.50	1.0
10	0	0	0	0	(*)	.13	.24	.45
20	0	0	0	0	(*)	.06	.12	.27
30	0	0	0	0	0	(*)	.07	.22

* Less than 0.05 ft^3/s.

02296500 Charlie Creek near Gardner, Fla.

LOCATION.--Lat 27°22'29", long 81°47'48", in SE¼ sec.3, T.36 S., R.25 E., Hardee County, Hydrologic Unit 03100101, near center of span on downstream side of bridge on U.S. Highway 17, 1.6 mi north of Gardner, and 4.9 mi upstream from mouth.

DRAINAGE AREA.--330 mi^2.

PERIOD OF RECORD ANALYZED.--July 1950 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	2.3	2.8	3.4	5.1	11	20	29	75
5	.79	1.0	1.3	1.9	2.5	4.3	7.0	10
10	.44	.58	74	1.0	1.3	2.2	4.1	7.0
20	.26	.37	.47	.61	.92	1.8	2.8	5.2
30	.20	.30	.38	.44	.68	1.4	2.1	4.2

02296750 Peace River at Arcadia, Fla.

LOCATION.--Lat 27°13'19", long 81°52'34", in SE¼ sec.26, T.37 S., R.24 E., De Soto County, Hydrologic Unit 03100101, on left bank 500 ft upstream from bridge on State Highway 70, 1.0 mi west of post office in Arcadia, 6.1 mi upstream from Joshua Creek, and 36 mi upstream from mouth.

DRAINAGE AREA.--1,367 mi^2.

PERIOD OF RECORD ANALYZED.--July 1931 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	97	111	120	135	172	222	272	377
5	63	71	77	88	106	130	150	196
10	50	57	61	71	84	99	111	140
20	42	47	51	60	70	80	88	106
30	38	42	46	55	63	71	78	92
50	34	38	42	51	57	63	68	78

02297100 Joshua Creek at Nocatee, Fla.

LOCATION.--Lat 27°09'59", long 81°52'47", in SE¼ sec.14, T.38 S., R.24 E., De Soto County, Hydrologic Unit 03100101, near center of span on downstream side of bridge on U.S. Highway 17, 0.5 mi north of Nocatee, and 2.2 mi upstream from mouth.

DRAINAGE AREA.--132 mi^2.

PERIOD OF RECORD ANALYZED.--July 1950 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.94	1.1	1.5	2.1	3.9	6.7	9.8	17
5	0.32	.38	.53	1.0	1.9	2.9	3.9	6.7
10	.08	.20	.28	.69	1.3	1.9	2.5	4.1
20	0	.05	.15	.50	1.0	1.3	1.8	2.7
30	0	0	.12	.44	.80	1.0	1.4	2.1

02297310 Horse Creek near Arcadia, Fla.

LOCATION.--Lat 27°11'57", long 81°59'19", in NW¼ sec.2, T.38 S., R.23 E., De Soto County, Hydrologic Unit 03100101, near center of span on downstream side of bridge on State Highway 72, 7.9 mi west of Arcadia, and 10 mi upstream from mouth.

DRAINAGE AREA.--218 mi^2.

PERIOD OF RECORD ANALYZED.--July 1950 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.96	1.0	1.2	1.8	4.6	11	18	35
5	.13	.18	.31	.50	1.2	2.6	4.7	9.7
10	(*)	.06	.15	.26	.59	1.2	2.2	4.7
20	0	(*)	.08	.15	.32	.57	1.1	2.5
30	0	0	.05	.10	.20	.38	.80	1.7

* Less than 0.05 ft^3/s.

02298202 Shell Creek near Punta Gorda, Fla.

LOCATION.--Lat 26°59'04", long 81°56'09", in NW¼ sec.20, T.40 S. R.24 E., Charlotte County, Hydrologic Unit 03100101, near left bank 60 ft upstream from dam, 1.0 mi upstream from Myrtle Slough, 6.0 mi upstream from mouth, and 7.7 mi northeast of Punta Gorda.

DRAINAGE AREA.--373 mi^2.

PERIOD OF RECORD ANALYZED.--July 1965 to June 1977.

REMARKS.--Flow regulated by concrete dam. Diversion by city of Punta Gorda for water supply.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	3.5	14	27	43	61
5	0	0	0	0	2.8	10	21	36
10	0	0	0	0	.65	5.0	13	30
20	0	0	0	0	.10	2.7	8	22

MYAKKA RIVER BASIN

02298830 Myakka River near Sarasota, Fla.

LOCATION.--Lat 27°14'25", long 82°18'50", in SW¼ sec.21, T.37 S., R.20 E., Sarasota County, Hydrologic Unit 03100102, on right bank 0.5 mi upstream from bridge on State Highway 72, 1.9 mi upstream from Lower Myakka Lake, 14 mi southeast of Sarasota, and 36 mi upstream from mouth.

DRAINAGE AREA.--229 mi^2.

PERIOD OF RECORD ANALYZED.--July 1937 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	(*)	1.1	7.2	12	32
5	0	0	0	0	0	.12	.90	5.5
10	0	0	0	0	0	0	.05	2.1
20	0	0	0	0	0	0	0	1.1
30	0	0	0	0	0	0	0	.75
50	0	0	0	0	0	0	0	.49

02299470 Big Slough near Murdock, Fla.

LOCATION.--Lat 27°04'15", long 82°13'05", in NW¼ sec.21, T.39 S., R.21 E., Sarasota County, Hydrologic Unit 03100102, near left bank 3 mi upstream from bridge on U.S. Highway 41, 5.9 mi northwest of Murdock, and 7.1 mi upstream from mouth.

DRAINAGE AREA.--87.5 mi^2.

PERIOD OF RECORD ANALYZED.--July 1963 to June 1972.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.51	0.71	1.2	1.7	2.4	4.3	8.7	13
5	.20	.30	.44	.65	.92	1.6	2.7	3.8
10	.12	.20	.25	.38	.62	1.04	1.4	2.0

* Less than 0.05 ft^3/s.

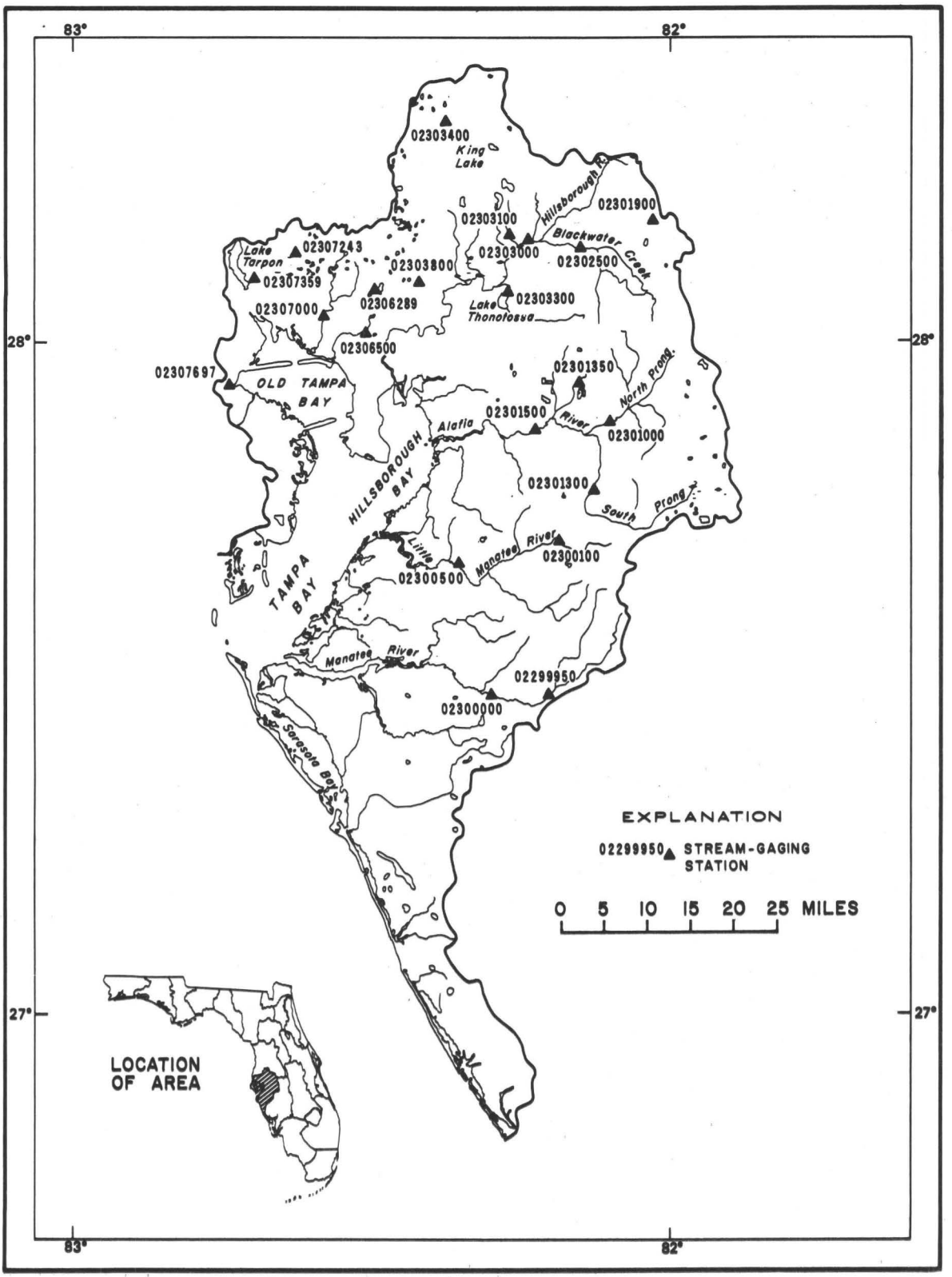

Figure 10.--Location of stream-gaging stations in the Manatee, Little Manatee, Alafia and Hillsborough River basins, Tampa Bay and coastal areas.

MANATEE RIVER BASIN

02299950 Manatee River near Myakka Head, Fla.

LOCATION.--Lat 27°28'24", long 82°12'41", in SE¼ sec.33, T.34 S., R.21 E., Manatee County, Hydrologic Unit 03100202, near center of span on upstream side of bridge on State Highway 64, 2.0 mi downstream from confluence of North and East Forks Manatee River, 6.4 mi east of State Highway 675, 8.4 mi west of Myakka Head, and 36 mi upstream from mouth.

DRAINAGE AREA.--65.3 mi^2.

PERIOD OF RECORD ANALYZED.--July 1966 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.78	0.99	1.2	1.5	2.9	5.2	8.3	12
5	.30	.46	.55	.71	1.2	2.1	3.7	5.4
10	.22	.30	.38	.50	.76	1.4	2.5	3.8
20	.10	.21	.26	.38	.55	1.1	1.9	2.8

02300000 Manatee River near Bradenton, Fla.

LOCATION.--Lat 27°28'30", long 82°18'05", in SW¼ sec.34, T.34 S., R.20 E., Manatee County, Hydrologic Unit 03100202, on left bank 150 ft upstream from bridge on State Highway 675, 800 ft upstream from Craig Branch, 6¼ mi northwest of Verna, and 17 mi east of Bradenton.

DRAINAGE AREA.--80 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1939 to June 1965.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	3.7	4.0	4.4	5.2	7.8	13	16	28
5	2.5	2.7	2.9	3.2	4.7	7.1	8.2	14
10	2.0	2.1	2.3	2.4	3.6	5.1	6.0	9.3
20	1.4	1.6	1.7	1.8	2.6	3.4	4.0	6.8
30	1.1	1.3	1.4	1.5	1.8	2.5	3.0	5.7

LITTLE MANATEE RIVER BASIN

02300100 Little Manatee River near Fort Lonesome, Fla.

LOCATION.--Lat 27°42'16", long 82°11'53", in NW¼ sec.15, T.32 S., R.21 E., Hillsborough County, Hydrologic Unit 03100203, near right bank on downstream side of bridge on State Highway 674, 0.6 mi upstream from Howard Prairie Branch, 3.2 mi west of Fort Lonesome, 6.2 mi east of Wimauma, and 30 mi upstream from mouth.

DRAINAGE AREA.--31.4 mi^2.

PERIOD OF RECORD ANALYZED.--July 1964 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	(*)	(*)	0.35	1.3	2.7	4.7	7.3
5	0	0	0	0	.18	.84	1.8	2.8
10	0	0	0	0	.06	.45	1.1	1.7
20	0	0	0	0	(*)	.26	.60	1.0

02300500 Little Manatee River near Wimauma, Fla.

LOCATION.--Lat 27°40'15", long 82°21'10", in NE¼ sec.25, T.32 S., R.19 E., Hillsborough County, Hydrologic Unit 03100203, near center of span on downstream side of bridge on U.S. Highway 301, 1.6 mi upstream from Cypress Creek, 4.2 mi southwest of Wimauma, and 15 mi upstream from mouth.

DRAINAGE AREA.--149 mi^2.

PERIOD OF RECORD ANALYZED.--July 1939 to June 1977.

REMARKS.--Some diversion, 3.3 mi above station by Manatee Power Plant since June 1974.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	7.2	8.2	9.3	12	17	26	35	54
5	3.8	4.5	5.4	7.3	10	15	19	22
10	2.6	3.1	3.8	5.7	8.6	11	14	18
20	1.4	1.8	2.6	4.3	6.3	8.0	10	16
30	.95	1.3	2.0	3.5	5.0	6.2	8.4	15
50	.70	1.0	1.6	3.0	4.4	5.1	7.2	14

* Less than 0.05 ft^3/s.

ALAFIA RIVER BASIN

02301000 North Prong Alafia River at Keysville, Fla.

LOCATION.--Lat 27°52'59", long 82°06'03", in SW¼ sec.10, T.30 S., R.22 E., Hillsborough County, Hydrologic Unit 03100204, near left bank 300 ft below highway bridge, 0.6 mi north of Keysville, 4.0 mi upstream from confluence with South Prong Alafia River, and 29 mi upstream from mouth of Alafia River at Hillsborough Bay.

DRAINAGE AREA.--135 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1950 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	38	40	43	48	57	68	79	95
5	17	21	23	29	37	47	55	67
10	10	11	13	21	29	39	46	57
20	5.4	6.2	8.6	16	23	33	40	51
30	3.6	4.0	6.3	13	20	30	37	47

02301300 South Prong Alafia River near Lithia, Fla.

LOCATION.--Lat 27°47'47", long 82°07'04", in SW¼ sec.9, T.31 S., R.22 E., Hillsborough County, Hydrologic Unit 03100204, at left bank 12 ft upstream from bridge on county road, 1.5 mi upstream from Halls Branch, 5.0 mi southeast of Lithia, and 7.6 mi upstream from mouth.

DRAINAGE AREA.--107 mi^2.

PERIOD OF RECORD ANALYZED.--July 1963 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	11	14	17	20	31	40	47	59
5	3.7	4.8	5.2	9.0	14	19	23	32
10	2.1	2.9	3.3	6.6	10	13	16	25
20	1.3	1.9	2.2	5.0	7.0	9.0	12	19

02301350 Little Alafia River near Hopewell, Fla.

LOCATION.--Lat 27°56'24", long 82°09'13", in SE¼ sec.24, T.29 S., R.21 E., Hillsborough County, Hydrologic Unit 03100204, near left bank, 1,200 ft above culvert on State Highway 60, 2.4 mi upstream from Pleasant Grove Reservoir control structure, and 3.0 mi west of Hopewell.

DRAINAGE AREA.--8.65 mi^2.

PERIOD OF RECORD ANALYZED.--July 1967 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	0.05	0.10	0.26	1.0
5	0	0	0	0	0	0	(*)	.20
10	0	0	0	0	0	0	(*)	(*)
20	0	0	0	0	0	0	0	0

02301500 Alafia River at Lithia, Fla.

LOCATION.--Lat 27°52'19", long 82°12'41", in NE¼ sec.16, T.30 S., R.21 E., Hillsborough County, Hydrologic Unit 03100204, near center of span on downstream side of bridge on State Highway 640, 2.0 mi upstream from Little Fishhawk Creek, 4.3 mi west of Lithia, and 16 mi upstream from mouth.

DRAINAGE AREA.--335 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1933 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	42	45	52	57	74	99	123	164
5	15	18	22	27	38	57	70	92
10	11	13	15	21	28	41	50	68
20	8.8	10	11	17	22	31	36	56
30	7.3	8.4	9.2	14	19	26	30	50
50	6.5	7.4	8.2	12	17	23	26	45

* Less than 0.05 ft^3/s.

HILLSBOROUGH RIVER BASIN

02301900 Fox Branch near Socrum, Fla.

LOCATION.--Lat 28°10'55", long 82°00'45", in NE¼ sec.33, T.26 S., R.23 E., Polk County, Hydrologic Unit 03100205, near center of span on upstream side of bridge on Rock Ridge Road, 1.1 mi northeast of Socrum, 8.7 mi upstream from mouth, and 10 mi north of Lakeland.

DRAINAGE AREA.--9.5 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1964 to June 1977.

REMARKS.--Some diversion at times by pumpage for irrigation.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	(*)	0.15	0.27	0.54	0.97	1.3	1.8	2.7
5	0	0	(*)	.12	.35	.65	1.0	1.6
10	0	0	0	0	.20	.42	.72	1.3
20	0	0	0	0	0	.25	.56	1.1

02302500 Blackwater Creek near Knights, Fla.

LOCATION.--Lat 28°08'25", long 82°09'00", in NW¼ sec.18, T.27 S., R.22 E., Hillsborough County, Hydrologic Unit 03100205, on downstream side of center pier of bridge on State Highway 39, 2.0 mi downstream from Itchepackesassa Creek, 4.4 mi northwest of Knights, and 5.2 mi upstream from mouth.

DRAINAGE AREA.--110 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1951 to June 1978.

REMARKS.--Several diversions above station for irrigation.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	3.3	5.2	7.1	8.0	11	15	19	29
5	.92	2.1	2.9	5.5	7.6	9.6	12	17
10	.62	.94	1.4	4.5	6.0	7.6	9.9	13
20	.42	.60	.71	2.3	3.7	6.0	8.7	11
30	.20	.35	.48	1.8	2.3	4.3	8.1	10

* Less than 0.05 ft^3/s.

02303000 Hillsborough River near Zephyrhills, Fla.

LOCATION.--Lat 28°08'59", long 82°13'57", in SW¼ sec.8, T.27 S., R.21 E., Hillsborough County, Hydrologic Unit 03100205, on left bank 30 ft downstream from footbridge in Hillsborough River State Park, 1.2 mi downstream from Blackwater Creek, 6.5 mi southwest of Zephyrhills, and 40 mi upstream from mouth.

DRAINAGE AREA.--220 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1940 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	68	70	72	75	81	88	97	120
5	57	59	60	62	66	70	74	84
10	52	53	55	57	59	63	65	72
20	48	49	51	52	55	58	60	65
30	46	47	48	50	52	55	57	61
50	44	45	46	48	50	53	55	58

02303100 New River near Zephyrhills, Fla.

LOCATION.--Lat 28°09'55", long 82°15'55", in NW¼ sec.1, T.27 S., R.20 E., Hillsborough County, Hydrologic Unit 03100205, near left bank 100 ft upstream from bridge on State Highway 579, 1.4 mi upstream from small tributary, 1.8 mi upstream from mouth, and 7 mi southwest of Zephyrhills.

DRAINAGE AREA.--15 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1964 to June 1974.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	(*)	0.16	0.60	1.9
5	0	0	0	0	0	(*)	(*)	.10
10	0	0	0	0	0	0	0	(*)
20	0	0	0	0	0	0	0	0

* Less than 0.05 ft^3/s.

02303300 Flint Creek near Thonotosassa, Fla.

LOCATION.--Lat 28°04'04", long 82°16'04", in NW¼ sec.12, T.28 S., R.20 E., Hillsborough County, Hydrologic Unit 03100205, on right bank 40 ft upstream from control, 50 ft upstream from bridge, 500 ft downstream from Lake Thonotosassa, 2.0 mi northeast of Thonotosassa, and 2.8 mi upstream from mouth.

DRAINAGE AREA.--60 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1957 to June 1958, July 1971 to June 1977.

REMARKS.--Flow regulated by manipulation of stoplogs and vertical lift gates in control. Prior to December 1975, flow regulated by manipulation of stoplogs in control.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.75	0.85	1.7	2.6	4.7	7.2	10	16
5	0	.12	.55	1.4	2.1	3.3	5.0	8.2
10	0	0	.10	1.0	1.4	2.3	3.5	5.3

02303400 Cypress Creek near San Antonio, Fla.

LOCATION.--Lat 28°19'25", long 82°23'03", in SW¼ sec.11, T.25 S., R.19 E., Pasco County, Hydrologic Unit 03100205, at center on downstream side of box culverts on State Highway 52, 3.3. mi downstream from Bee Tree Branch, 6.8 mi west of San Antonio, 12 mi west of Dade City, and 25 mi upstream from mouth.

DRAINAGE AREA.--56.0 mi^2.

PERIOD OF RECORD ANALYZED.--July 1963 to June 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	(*)	0.65	2.0	3.3	6.1
5	0	0	0	0	(*)	.13	1.2	2.5
10	0	0	0	0	0	(*)	.72	1.6
20	0	0	0	0	0	(*)	.48	1.2

* Less than 0.05 ft^3/s.

02303800 Cypress Creek near Sulphur Springs, Fla.

LOCATION.--Lat 28°05'20", long 82°24'33", in SE¼ sec.33, T.27 S., R.19 E., Hillsborough County, Hydrologic Unit 03100205, near center of span on downstream side of bridge on State Highway 581, 1.2 mi downstream from Thirteenmile Run, 2.5 mi upstream from mouth, and 5.0 mi northeast of Sulphur Springs.

DRAINAGE AREA.--160 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1964 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	0.20	3.2	14	27
5	0	0	0	0	(*)	.40	6.4	14
10	0	0	0	0	0	.14	4.6	10
20	0	0	0	0	0	.05	3.5	8

* Less than 0.05 ft^3/s.

02306500 Sweetwater Creek near Sulphur Springs, Fla.

LOCATION.--Lat 28°02'35", long 82°30'42", in SW¼ sec.16, T.28 S., R.18 E., Hillsborough County, Hydrologic Unit 03100206, 25 ft upstream from culverts on private road, 160 ft upstream from Gunn Highway, 1.7 mi downstream from Lake Ellen, 3.5 mi west of intersection of Interstate 75 and Busch Boulevard at Sulphur Springs.

DRAINAGE AREA.--7.43 mi^2.

PERIOD OF RECORD ANALYZED.--July 1952 to June 1970, July 1972 to June 1977.

REMARKS.--Flow affected by regulation of control structures above station. Since February 10, 1953, flow occasionally diverted from Hillsborough River basin into the upper portion of Sweetwater Creek basin. Since January 1970, flow has been diverted from basin (below station) through Channel G to Rocky Creek.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	(*)	0.06	0.13	0.30	0.45	0.68	1.1
5	0	0	0	0	(*)	.10	.18	.31
10	0	0	0	0	0	(*)	.07	.14
20	0	0	0	0	0	0	0	(*)
30	0	0	0	0	0	0	0	0

02307000 Rocky Creek near Sulphur Springs, Fla.

LOCATION.--Lat 28°02'12", long 82°34'34", in NW¼ sec.23, T.28 S., R.17 E., Hillsborough County, Hydrologic Unit 03100206, on left bank 75 ft upstream from concrete control, 2.8 mi downstream from Brushy Creek, 5.8 mi upstream from mouth, and 7.4 mi west of intersection of Interstate 75 and Busch Boulevard at Sulphur Springs.

DRAINAGE AREA.--35 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1953 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	1.1	1.4	1.6	2.0	2.7	4.2	5.9	8.7
5	.42	.54	.64	1.1	1.6	2.2	3.0	3.7
10	.20	.28	.35	.54	1.3	1.7	2.2	3.2
20	(*)	.05	.08	.12	1.0	1.3	1.7	2.8
30	0	0	(*)	(*)	.85	1.1	1.4	2.5

* Less than 0.05 ft^3/s.

02307243 Brooker Creek near Odessa, Fla.

LOCATION.--Lat 28°08'05", long 82°35'40", in sec.10, T.27 S., R.17 E., Hillsborough County, Hydrologic Unit 03100206, on left bank 20 ft upstream from bridge on State Highway 232, 30 ft downstream from outlet of Keystone Lake, and 3.2 mi south of Odessa.

DRAINAGE AREA.--10 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1946 to June 1956.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	0.14	0.60	0.85	1.8
5	0	0	0	0	0	(*)	(*)	.20
10	0	0	0	0	0	0	0	(*)
20	0	0	0	0	0	0	0	0

02307359 Brooker Creek near Tarpon Springs, Fla.

LOCATION.--Lat 28°05'45", long 82°41'15", in NE¼ sec.34, T.27 S., R.16 E., Pinellas County, Hydrologic Unit 03100206, on right bank, 1.9 mi upstream from mouth, and 5 mi southeast of Tarpon Springs.

DRAINAGE AREA.--30 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1951 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	(*)	0.30	1.6	4.4
5	0	0	0	0	0	(*)	.23	.90
10	0	0	0	0	0	0	.10	.37
20	0	0	0	0	0	0	(*)	.14
30	0	0	0	0	0	0	(*)	(*)

* Less than 0.05 ft^3/s.

02307697 Alligator Creek at Safety Harbor, Fla.

LOCATION.--Lat 27°58'45", long 82°41'43", in SW¼ sec.10, T.29 S., R.16 E., Pinellas County, Hydrologic Unit 03100206, on right upstream wingwall of concrete control structure, 30 ft upstream from bridge on Bayshore Drive and 0.8 mi southwest of Safety Harbor.

DRAINAGE AREA.--9.0 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1950 to June 1974.

REMARKS.--Some diversions may occur above station for irrigation.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	(*)	0.24	0.82	2.0	2.4	3.2
5	0	0	0	0	.06	.48	.84	1.7
10	0	0	0	0	0	.20	.40	1.3
20	0	0	0	0	0	(*)	.20	1.0
30	0	0	0	0	0	0	.13	.90

* Less than 0.05 ft^3/s.

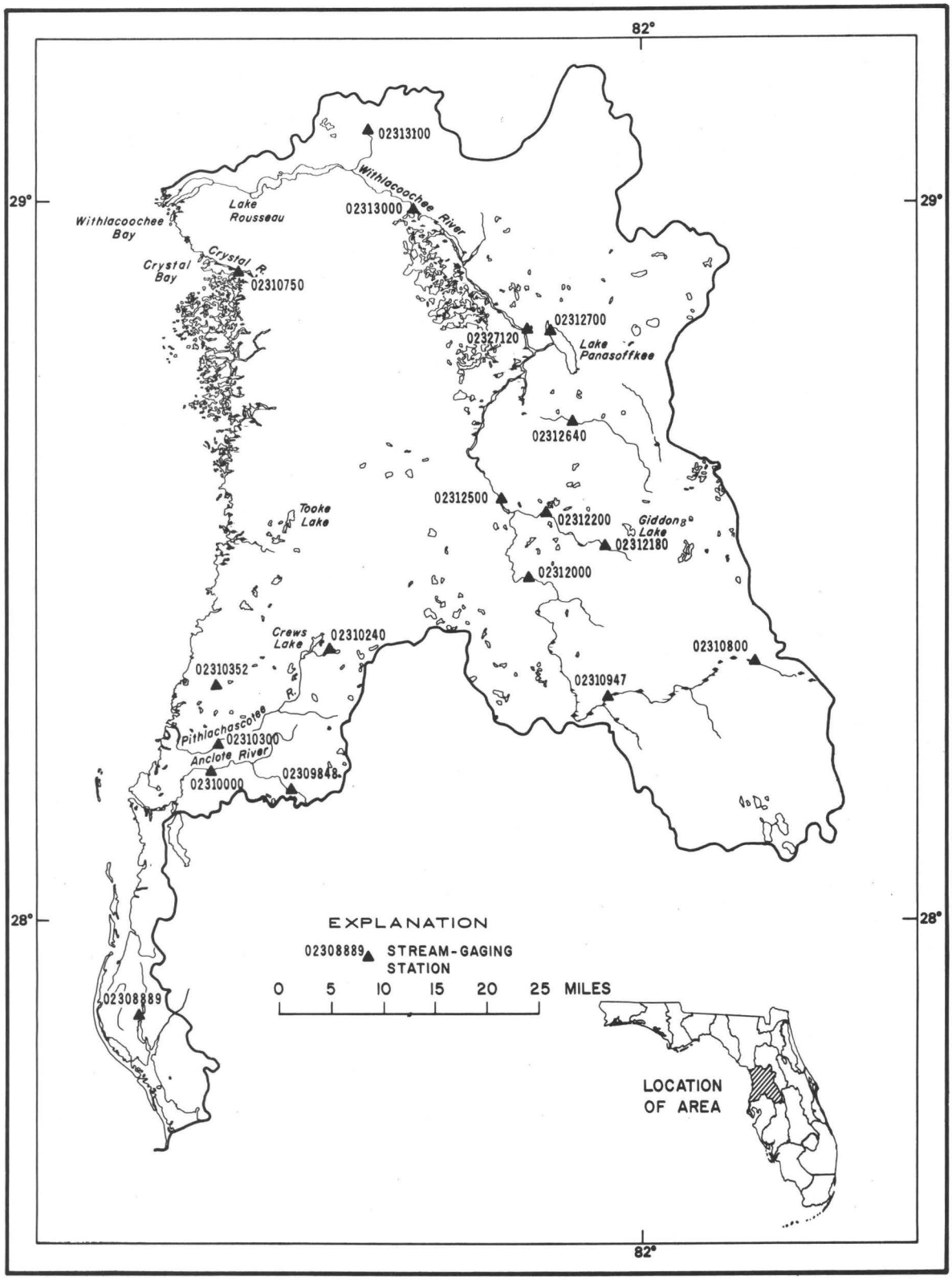

Figure 11.--Location of stream-gaging stations in the coastal area from Tampa Bay to Withlacoochee River and the Withlacoochee River basin.

02308889 Seminole Lake Outlet near Largo, Fla.

LOCATION.--Lat 27°50'20", long 82°46'50", in sec.27, T.30 S., R.15 E., Pinellas County, Hydrologic Unit 03100207, on south shore of Seminole Lake, 250 ft west of highway bridge across spillway channel, and 5.2 mi south of Largo.

DRAINAGE AREA.--14 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1951 to June 1971.

REMARKS.--Greater part of inflow to Seminole Lake is regulated by pumps at north dam 3.0 mi above station. Pumpage at north dam represents natural flow of tributary above dam.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	(*)	1.1	2.4	5.0
5	0	0	0	0	0	0	.42	1.8
10	0	0	0	0	0	0	(*)	.30
20	0	0	0	0	0	0	0	(*)
30	0	0	0	0	0	0	0	0

02309848 South Branch Anclote River near Odessa, Fla.

LOCATION.--Lat 28°11'08", long 82°33'13", in SE¼ sec.25, T.26 S., R.17 E., Pasco County, Hydrologic Unit 03100207, near left bank 30 ft downstream from bridge on State Highway 54, 2.5 mi east of Odessa, 3.0 mi upstream from unnamed tributary, and 5.2 mi upstream from mouth.

DRAINAGE AREA.--17.1 mi^2.

PERIOD OF RECORD ANALYZED.--July 1970 to June 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	0	0	(*)	0.40
5	0	0	0	0	0	0	0	(*)
10	0	0	0	0	0	0	0	0

* Less than 0.05 ft^3/s.

02310000 Anclote River near Elfers, Fla.

LOCATION.--Lat 28°12'50", long 82°40'00", in NE¼ sec.23, T.26 S., R.16 E., Pasco County, Hydrologic Unit 03100207, on left bank 40 ft downstream from bridge on State Highway 54, 3.5 mi east of Elfers, and 16 mi upstream from mouth.

DRAINAGE AREA.--72.5 mi^2.

PERIOD OF RECORD ANALYZED.--July 1946 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	2.4	2.6	2.8	3.1	3.5	4.5	9.4	16
5	1.6	2.0	2.2	2.4	2.9	3.4	4.0	8.6
10	1.3	1.6	1.8	2.1	2.7	3.1	3.6	6.0
20	1.0	1.2	1.3	1.8	2.5	2.9	3.3	4.3
30	.90	1.0	1.1	1.6	2.4	2.8	3.1	3.6
50	.80	.90	1.0	1.5	2.3	2.6	3.0	3.2

02310240 Jumping Gully at Loyce, Fla.

LOCATION.--Lat 28°23'06", long 82°29'22", in NE¼ sec.22, T.24 S., R.18 E., Pasco County, Hydrologic Unit 03100207, at center of span on upstream side of bridge on U.S. Highway 41, 100 ft downstream from concrete control structure at outlet of Pasco Lake, 0.3 mi north of Loyce, 2.7 mi upstream from mouth, and 4.4 mi southwest of Masaryktown.

DRAINAGE AREA.--43 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1964 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	0	0.06	0.5	1.2
5	0	0	0	0	0	0	0	(*)
10	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0

* Less than 0.05 ft^3/s.

02310300 Pithlachascotee River near New Port Richey, Fla.

LOCATION.--Lat 28°15'19", long 82°39'37", in NW¼ sec.1, T.26 S., R.16 E., Pasco County, Hydrologic Unit 03100207, on left bank downstream from end of private road, 3.8 mi east of New Port Richey, and 9.4 mi upstream from mouth.

DRAINAGE AREA.--182 mi^2.

PERIOD OF RECORD ANALYZED.--July 1963 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.77	0.82	0.86	1.0	1.7	3.4	6.5	11
5	.55	.58	.65	.77	1.0	1.6	3.2	5.6
10	.46	.49	.58	.72	.77	1.1	2.2	4.2
20	.38	.42	.54	.70	.65	.83	1.7	3.3

02310352 Bear Creek at Plaza Drive near Hudson, Fla.

LOCATION.--Lat 28°19'38", long 82°39'59", in NW¼ sec.12, T.25 S., R.16 E., Pasco County, Hydrologic Unit 03100207, on right bank 45 ft upstream from culverts on Plaza Drive, 0.3 mi upstream from Bear Sink, and 3.0 mi southeast of Hudson.

DRAINAGE AREA.--29.2 mi^2.

PERIOD OF RECORD ANALYZED.--July 1970 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0.05	0.10	0.48	1.0	2.2	4.0	6.1
5	0	0	0	(*)	.22	.55	1.0	2.1
10	0	0	0	(*)	.12	.30	.46	1.0

* Less than 0.05 ft^3/s.

02310750 Crystal River near Crystal River Fla.

LOCATION.--Lat 28°54'17", long 82°38'13", in SE¼ sec.13, T.18 S., R.16 E., Citrus County, Hydrologic Unit 03100207, at left bank, 0.1 mi upstream from Salt River, 2.7 mi west of town of Crystal River, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD ANALYZED.--July 1964 to June 1977.

REMARKS.--Flow affected by tide. Negative flow at times; negative discharges treated as zero values.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	75	330	500	580	650	700	800
5	0	0	140	315	420	500	580	610
10	0	0	35	230	360	430	520	560
20	0	0	0	165	320	380	485	500

WITHLACOOCHEE RIVER BASIN

02310800 Withlacoochee River near Eva, Fla.

LOCATION.--Lat 28°21'38", long 81°49'08", in NW¼ sec.33, T.24 S., R.25 E., Polk County, Hydrologic Unit 03100208, near center of span on upstream side of bridge on State Highway 33, 2.5 mi north of Eva, 6.5 mi upstream from small tributary, and 138 mi upstream from mouth.

DRAINAGE AREA.--130 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1959 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	(*)	0.09	0.74	1.9	5.0	9.9
5	0	0	0	0	.09	.39	1.0	2.1
10	0	0	0	0	(*)	.18	.43	.88
20	0	0	0	0	0	.09	.20	.41

02310947 Withlacoochee River near Cumpressco, Fla.

LOCATION.--Lat 28°18'42", long 82°03'22", in NE¼ sec.13, T.25 S. R.22 E., Pasco County, Hydrologic Unit 03100208, near center of span on downstream side of bridge on State Highway 471, 0.6 mi upstream from Gator Creek, 3.4 mi south of Cumpressco, 5.8 mi east of Richland, and 120 mi upstream from mouth.

DRAINAGE AREA.--280 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1967 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	(*)	(*)	0.35	2.0	7.6	21
5	0	0	0	0	(*)	.42	1.4	4.8
10	0	0	0	0	0	.16	.58	2.2
20	0	0	0	0	0	.07	.28	1.1

* Less than 0.05 ft^3/s.

02312000 Withlacoochee River at Trilby, Fla.

LOCATION.--Lat 28°28'47", long 82°10'40", in SE¼ sec.14, T.23 S., R.21 E., Hernando County, Hydrologic Unit 03100208, on right bank at downstream side of bridge on U.S. Highway 301, 1.6 mi northeast of Trilby, 10 mi upstream from Little Withlacoochee River, and 93 mi upstream from mouth.

DRAINAGE AREA.--570 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1930 to June 1977.

REMARKS.--Records include considerable amount of waste water diverted from ground-water supplies during packing season by Evans and Pasco Packing Companies, in SW¼ sec.23, T.24 S., R.21 E., 5 mi upstream from Withlacoochee River.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	26	28	31	37	48	64	83	121
5	15	16	18	21	26	33	41	60
10	11	12	13	16	19	23	29	42
20	8.8	9.8	11	13	14	17	21	32
30	7.8	8.7	9.6	11	12	14	18	27
50	6.9	7.6	8.2	9.8	11	12	15	23

02312180 Little Withlacoochee River near Tarrytown, Fla.

LOCATION.--Lat 28°31'17", long 82°03'18", in NE¼ sec.1, T.23 S., R.22 E., Sumter County, Hydrologic Unit 03100208, near center of span on downstream side of bridge on State Highway 471, 2.3 mi south of Tarrytown, 3.1 mi southwest of Linden, and 14 mi upstream from mouth.

DRAINAGE AREA.--85 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1967 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0	0.11	0.70	1.4	4.7
5	0	0	0	0	0	0	.12	.35
10	0	0	0	0	0	0	(*)	.10
20	0	0	0	0	0	0	0	(*)

* Less than 0.05 ft^3/s.

02312200 Little Withlacoochee River at Rerdell, Fla.

LOCATION.--Lat 28°34'21", long 82°09'20", in SE¼ sec.13, T.22 S., R.21 E., Hernando County, Hydrologic Unit 03100208, near center of span on downstream side of bridge on U.S. Highway 301, 0.2 mi north of Rerdell and 4.8 mi upstream from mouth.

DRAINAGE AREA.--145 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1959 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	1.5	2.3	2.8	3.0	4.8	9.3	15	24
5	.10	.20	.32	.50	1.2	2.4	4.5	7.6
10	0	(*)	(*)	.05	.20	.85	2.2	4.0
20	0	0	0	0	0	.32	1.1	2.3

02312500 Withlacoochee River at Croom, Fla.

LOCATION.--Lat 28°35'33", long 82°13'20", in NE¼ sec.8, T.22 S., R.21 E., Hernando County, Hydrologic Unit 03100208, on left bank at upstream side of abandoned highway bridge, 0.4 mi northwest of Croom, 2.3 mi downstream from Little Withlacoochee River, 4.5 mi southeast of Nobleton, and 77 mi upstream from mouth.

DRAINAGE AREA.--810 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1940 to June 1977.

REMARKS.--Records include considerable amount of waste water diverted from ground-water supplies during packing season by packing companies upstream (see sta 02312000 Withlacoochee River at Trilby).

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	66	70	73	79	93	116	140	191
5	39	41	43	47	55	66	79	107
10	29	31	33	36	42	49	60	81
20	20	22	25	27	33	39	47	65
30	17	18	21	23	29	34	41	57
50	15	16	18	20	26	30	37	51

* Less than 0.05 ft^3/s.

02312640 Jumper Creek Canal near Bushnell, Fla.

LOCATION.--Lat 28°41'45", long 82°06'34", in NE¼ sec.4, T.21 S., R.22 E., Sumter County, Hydrologic Unit 03100208, near center of span on downstream side of bridge on State Highway 475, 2.2 mi north of Bushnell and 10 mi upstream from mouth.

DRAINAGE AREA.--40 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1964 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	9.9	13	14	15	16	17	19	20
5	7.8	10	11	11	13	13	14	15
10	6.4	8.4	9.0	9.4	11	11	13	13
20	5.5	7.2	7.8	8.0	9.4	10	11	12

02312700 Outlet River at Panacoochee Retreats, Fla.

LOCATION.--Lat 28°49'01", long 82°08'40", in SE¼ sec.19, T.19 S., R.22 E., Sumter County, Hydrologic Unit 03100208, on west shore of Lake Panasoffkee, 0.8 mi north of outlet, 1.3 mi north of Panacoochee Retreats, 2.0 mi upstream from mouth, and 5.1 mi northwest of town of Lake Panasoffkee.

DRAINAGE AREA.--420 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1964 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	99	102	105	110	117	130	141	155
5	52	62	67	78	87	100	111	124
10	34	44	51	62	72	83	96	107
20	23	32	39	50	60	70	84	90

02312720 Withlacoochee River at Wysong Dam, at Carlson, Fla.

LOCATION.--Lat 28°49'23", long 82°11'00", in NW¼ sec.23, T.19 S., R.21 E., Sumter County, Hydrologic Unit 03100208, at downstream end of left wall of lock of Wysong Dam, at Carlson, 1.8 mi downstream from outlet River, 2.7 mi southeast of Rutland, and 55 mi upstream from mouth.

DRAINAGE AREA.--1,520 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1966 to June 1977.

REMARKS.--Since August 1965, some regulation at station by manipulation of inflatable fabri-dam. Some diversions above station at times into Tsala Apopka Lake. Data adjusted by use of a flow correlation analysis with gaging station 02312500, Withlacoochee River at Croom.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	197	203	208	216	235	264	291	342
5	150	154	158	165	179	197	216	253
10	128	133	137	144	156	169	187	219
20	106	111	119	124	137	150	165	195

02313000 Withlacoochee River near Holder, Fla.

LOCATION.--Lat 28°59'19", long 82°20'59", in NW¼ sec.30, T.17 S., R.20 E., Marion County, Hydrologic Unit 03100208, near right bank on downstream side of bridge on State Highway 200, 4.5 mi northeast of Holder and 38 mi upstream from mouth.

DRAINAGE AREA.--1,825 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1932 to June 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	340	360	370	390	440	490	550	660
5	180	198	229	249	260	295	330	400
10	150	158	183	198	200	240	270	340
20	130	134	151	164	170	190	230	290
30	120	123	136	142	155	177	210	275
50	110	112	122	131	140	165	190	260

02313100 Rainbow Springs near Dunnellon, Fla.

LOCATION.--Lat 29°06'08", long 82°26'16", in SE¼ sec.12, T.16 S., R.18 E., Marion County, Hydrologic Unit 03100208, at head of springs, 3.9 mi north of Dunnellon and 5.7 mi upstream from mouth.

DRAINAGE AREA.--Indeterminate.

PERIOD OF RECORD ANALYZED.--July 1965 to June 1977.

REMARKS.--Data adjusted by use of a flow correlation analysis with gaging station 02239500, Silver Springs near Ocala.

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	618	621	623	628	636	648	659	675
5	565	568	568	572	579	587	595	607
10	538	541	542	545	551	558	564	575
20	518	520	522	525	530	535	539	549

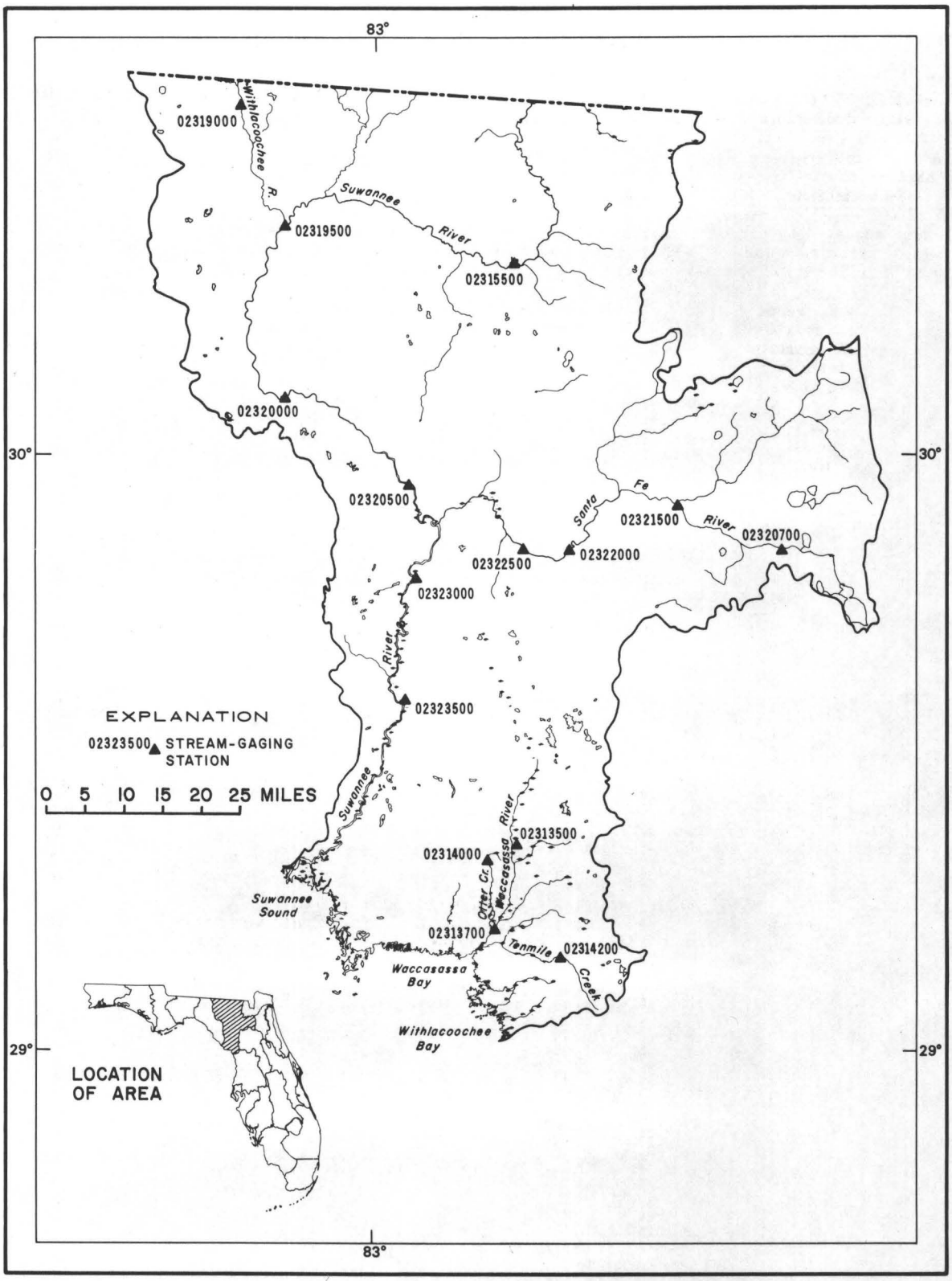

Figure 12.--Location of stream-gaging stations in the Waccasassa and Suwannee River basins.

02313700 Waccasassa River near Gulf Hammock, Fla.

LOCATION.--Lat 29°12'14", long 82°46'09", in SW¼ sec.2, T.15 S., R.15 E., Levy County, Hydrologic Unit 03110101, near right bank at abandoned railroad grade, 0.5 mi upstream from Otter Creek, 3.6 mi upstream from mouth, and 4 mi southwest of Gulf Hammock.

DRAINAGE AREA.--480 mi^2, approximately, including that of Otter Creek.

PERIOD OF RECORD ANALYZED.--July 1964 to June 1977.

REMARKS.--Flow affected by tide. Negative flow at times. Negative discharges treated as zero values. Records include the flow of Otter Creek.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	15	36	60	79	107	127	172
5	0	0	25	42	53	67	86	117
10	0	0	21	35	44	53	73	98
20	0	0	18	30	37	44	64	87

02313500 Waccasassa River near Otter Creek, Fla.

LOCATION.--Lat 29°21'15", long 82°44'06", in NW¼ sec.17, T.13 S., R.16 E., Levy County, Hydrologic Unit 03110101, near right bank at upstream side of bridge on State Highway 24, 3.0 mi northeast of village of Otter Creek, and 14.0 mi upstream from mouth of Otter Creek.

DRAINAGE AREA.--Indeterminate. The combined drainage area of Waccasassa River near Otter Creek and Otter Creek (station 02314000) is 300 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1946 to June 1953.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	14	16	17	20	24	35	43	53
5	11	12	14	17	19	25	28	36
10	10	11	12	15	17	20	22	29

WACCASASSA RIVER BASIN

02314000 Otter Creek at Otter Creek, Fla.

LOCATION.--Lat 29°19'08", long 82°47'03", in SW¼ sec. 26, T.13 S., R.15 E., Levy County, Hydrologic Unit 03110101, near right bank at upstream side of bridge on State Highway 24, 0.8 mi southwest of village of Otter Creek, 1.1 mi southwest of U.S. Highway 98, and 9.7 mi upstream from mouth.

DRAINAGE AREA.--Indeterminate. The combined drainage area of Otter Creek near Otter Creek and Waccasassa River near Otter Creek (station 02313500) is 300 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--July 1945 to June 1953.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0	0.15	1.6	8.0	16	22
5	0	0	0	0	.32	3.4	6.6	10
10	0	0	0	0	.06	2.1	4.1	7

02314200 Tenmile Creek at Lebanon Station, Fla.

LOCATION.--Lat 29°09'39", long 82°38'21", in SE¼ sec.24, T.15 S., R.16 E., Levy County, Hydrologic Unit 03110101, near center of span on downstream side of bridge on U.S. Highway 19 and 98, just downstream from North Prong Tenmile Creek, 0.2 mi south of Lebanon Station, 9.4 mi upstream from mouth, and 13 mi northwest of Dunnellon.

DRAINAGE AREA.--26 mi^2, approximately; 34 mi^2, approximately, including that of Horse Hole Creek.

PERIOD OF RECORD ANALYZED.--July 1964 to June 1978.

REMARKS.--Records do not include considerable amount of water diverted naturally above station into Horse Hole Creek basin.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	(*)	0.05	0.07	0.10	0.18	0.95	3.9	11
5	0	(*)	(*)	(*)	0.08	.25	.75	2.5
10	0	0	0	(*)	(*)	.10	.45	1.4
20	0	0	0	0	0	(*)	.30	.90

* Less than 0.05 ft^3/s.

02315500 Suwannee River at White Springs, Fla.

LOCATION.--Lat 30°19'32", long 82°44'18", in SW¼ sec.8, T.2 S., R.16 E., Columbia County, Hydrologic Unit 03110201, on left bank at downstream side of bridge on U.S. Highway 41, 1.0 mi southeast of White Springs and 171 mi upstream from mouth.

DRAINAGE AREA.--2,430 mi^2, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD ANALYZED.--April 1907 to March 1908, April 1927 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	75	80	88	120	160	240	365	770
5	15	15	17	22	34	56	84	190
10	9.2	10	11	13	17	25	38	84
20	6.7	7.4	8.2	10	11	15	20	38
30	5.8	6.3	7.0	8.6	9.7	12	15	27
50	4.8	5.2	5.7	7.4	8.5	9.0	9.5	16

02319000 Withlacoochee River near Pinetta, Fla.

LOCATION.--Lat 30°35'43", long 83°15'35", in NW¼ sec.7, T.2 N., R.11 E., Madison County, Hydrologic Unit 03110203, on right bank 30 ft downstream from bridge, 0.1 mi downstream from small tributary, 0.3 mi west of Bellville, 5.6 mi east of Pinetta, and 22 mi upstream from mouth.

DRAINAGE AREA.--2,120 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--April 1932 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	142	148	153	167	197	243	302	485
5	105	109	111	116	127	141	165	243
10	92	95	96	99	105	111	124	170
20	82	85	87	88	91	92	99	127
30	78	79	81	82	84	85	90	110
50	74	74	76	76	78	78	80	92

02319500 Suwannee River at Ellaville, Fla.

LOCATION.--Lat 30°23'04", long 83°10'19", in NE¼ sec.24, T.1 S., R.11 E., Suwannee County, Hydrologic Unit 03110205, on left bank at Ellaville, 100 ft upstream from Seaboard Air Line Railroad bridge, 200 ft downstream from Withlacoochee River, 900 ft upstream from bridge on U.S. Highway 90, and 127 mi upstream from mouth.

DRAINAGE AREA.--6,970 mi², approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD ANALYZED.--April 1927 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	1680	1700	1740	1830	2020	2240	2510	3250
5	1220	1230	1250	1280	1360	1470	1610	2000
10	1050	1060	1070	1080	1130	1200	1300	1570
20	936	946	952	960	976	1030	1110	1290
30	880	890	900	905	915	950	1020	1170
50	831	840	844	850	860	880	933	1050

02320000 Suwannee River at Luraville, Fla.

LOCATION.--Lat 30°06', long 83°10', in sec.30, T.4 S., R.12 E., Suwannee County, Hydrologic Unit 02319500, at highway bridge 1 mi south of Luraville and 3 mi upstream from Grants Ferry Shoals. A large spring discharges into river 500 ft upstream from gage on left bank.

DRAINAGE AREA.--7,330 mi², approximately

PERIOD OF RECORD ANALYZED.--April 1927 to March 1937.

REMARKS.--Data adjusted by use of a flow correlation analysis with gaging station 02319500, Suwannee River at Ellaville.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	2120	2140	2190	2300	2520	2780	3090	3940
5	1570	1580	1610	1640	1740	1870	2040	2500
10	1360	1370	1390	1400	1460	1540	1670	1990
20	1220	1240	1240	1250	1270	1340	1440	1650

02320500 Suwannee River at Branford, Fla.

LOCATION.--Lat 29°57'20", long 82°55'40", in NE¼ sec.20, T.6 S., R.14 E., Suwannee County, Hydrologic Unit 03110205, near left bank on upstream side of bridge on U.S. Highways 27 and 129 at Branford, 10.8 mi upstream from Santa Fe River and 75 mi upstream from mouth.

DRAINAGE AREA.--7,880 mi^2, includes part of watershed in Okefenokee Swamp which in indeterminate.

PERIOD OF RECORD ANALYZED.--April 1932 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	2600	2640	2670	2750	2950	3170	3420	4180
5	2000	2030	2050	2080	2180	2290	2440	2870
10	1770	1790	1800	1820	1880	1970	2080	2380
20	1600	1620	1630	1650	1680	1750	1840	2040
30	1520	1540	1550	1560	1580	1650	1730	1880
50	1440	1460	1470	1480	1490	1550	1620	1730

02320700 Santa Fe River near Graham, Fla.

LOCATION.--Lat 29°50'46", long 82°13'11", in NE¼ sec.32 T.7 S., R.21 E., Alachua County, Hydrologic Unit 03110206, near left bank on upstream side of bridge on State Highway 225, 1.0 mi south of Graham, 1.5 mi upstream from Sampson River, and 71 mi upstream from mouth.

DRAINAGE AREA.--94.9 mi^2.

PERIOD OF RECORD ANALYZED.--April 1958 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0.74	0.84	1.1	1.8	3.3	5.8	12	27
5	.15	.16	.22	.42	.60	1.3	3.1	8.7
10	.08	.17	.13	.20	.38	.60	1.2	3.8
20	.07	.08	.10	.14	.24	.29	.50	1.7
30	.06	.07	.09	.11	.18	.20	.30	1.0

02321500 Santa Fe River at Worthington Springs, Fla.

LOCATION.--Lat 29°55'18", long 82°25'35", in SE¼ sec.32, T.6 S., R.19 E., Alachua County, Hydrologic Unit 03110206, near center of span on downstream side of bridge on State Highway 121, 0.5 mi south of Worthington Springs, 0.8 mi downstream from New River, and 51 mi upstream from mouth.

DRAINAGE AREA.--575 mi^2.

PERIOD OF RECORD ANALYZED.--April 1932 to March 1979.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	10	12	15	20	32	51	86	197
5	4.0	5.3	6.9	9.4	15	24	39	90
10	2.3	3.3	4.4	5.8	9.8	16	25	58
20	1.3	2.0	2.8	3.8	6.8	11	17	40
30	1.0	1.5	2.2	3.2	5.2	9.0	14	32
50	.72	1.2	1.8	2.4	4.4	7.0	11	26

02322000 Santa Fe River near High Springs, Fla.

LOCATION.--Lat 29°50'33", long 82°37'52", in NE¼ sec.32, T.7 S., R.17 E., Columbia County, Hydrologic Unit 03110206, near right bank at downstream side of bridge on U.S. Highway 27, 100 ft upstream from Seaboard Coast Line Railroad bridge, and 2 mi northwest of High Springs.

DRAINAGE AREA.--868 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--April 1931 to March 1971.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	223	230	235	248	265	312	357	542
5	119	123	126	133	147	172	198	284
10	76	80	89	94	106	123	142	193
20	48	50	52	54	72	82	107	130
30	39	41	43	45	60	68	88	100
50	30	32	35	38	48	53	70	76

02322500 Santa Fe River near Fort White, Fla.

LOCATION.--Lat 29°50'55", long 82°42'55", in SE¼ sec.28, T.7 S., R.16 E., Gilchrist County, Hydrologic Unit 03110206, on left bank 2.1 mi upstream from bridge on State Highway 47, 5.1 mi south of Fort White, and 18 mi upstream froum mouth.

DRAINAGE AREA.--1,017 mi^2.

PERIOD OF RECORD ANALYZED.--April 1928 to March 1929, April 1933 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	954	962	970	994	1020	1070	1130	1320
5	797	803	809	822	843	890	919	1030
10	720	730	741	751	771	813	834	905
20	650	670	680	700	720	761	775	818
30	620	630	635	660	690	730	745	775
50	590	600	610	620	670	710	717	732

02323000 Suwannee River near Bell, Fla.

LOCATION.--Lat 29°48', long 82°55', in secs. 16 or 17, T.8 S., R.14 E., Hydrologic Unit 03110205, on left bank at Rock Bluff Ferry, 4½ mi northwest of Bell, Gilchrist County, and 10 mi downstream from Santa Fe River.

DRAINAGE AREA.--9,390 mi^2, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD ANALYZED.--April 1933 to March 1956.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	4050	4120	4170	4260	4490	4730	5000	5900
5	3220	3300	3330	3380	3500	3630	3810	4330
10	2890	2960	3000	3030	3110	3200	3350	3690
20	2650	2730	2760	2790	2850	2910	3020	3240
30	2530	2600	2640	2670	2700	2760	2860	3000

02323500 Suwannee River near Wilcox, Fla.

LOCATION.--Lat 29°35'22", long 82°56'12", in NW¼ sec.29, T.10 S., R.14 E., Levy County, Hydrologic Unit 03110205, on left bank about 400 ft downstream from Fort Fannin Bridge on U.S. Highway 19, 2.0 mi southwest of Wilcox and 33 mi upstream from mouth.

DRAINAGE AREA.--9,640 mi^2, approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD ANALYZED.--April 1942 to March 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	5110	5410	5510	5650	5940	6280	6610	7530
5	4150	4420	4510	4680	4710	4860	5040	5560
10	3770	4020	4100	4140	4210	4290	4410	4750
20	3500	3732	3800	3820	3850	3890	3960	4170
30	3350	3550	3650	3680	3700	3710	3720	3790
50	3250	3450	3500	3500	3500	3510	3530	3610

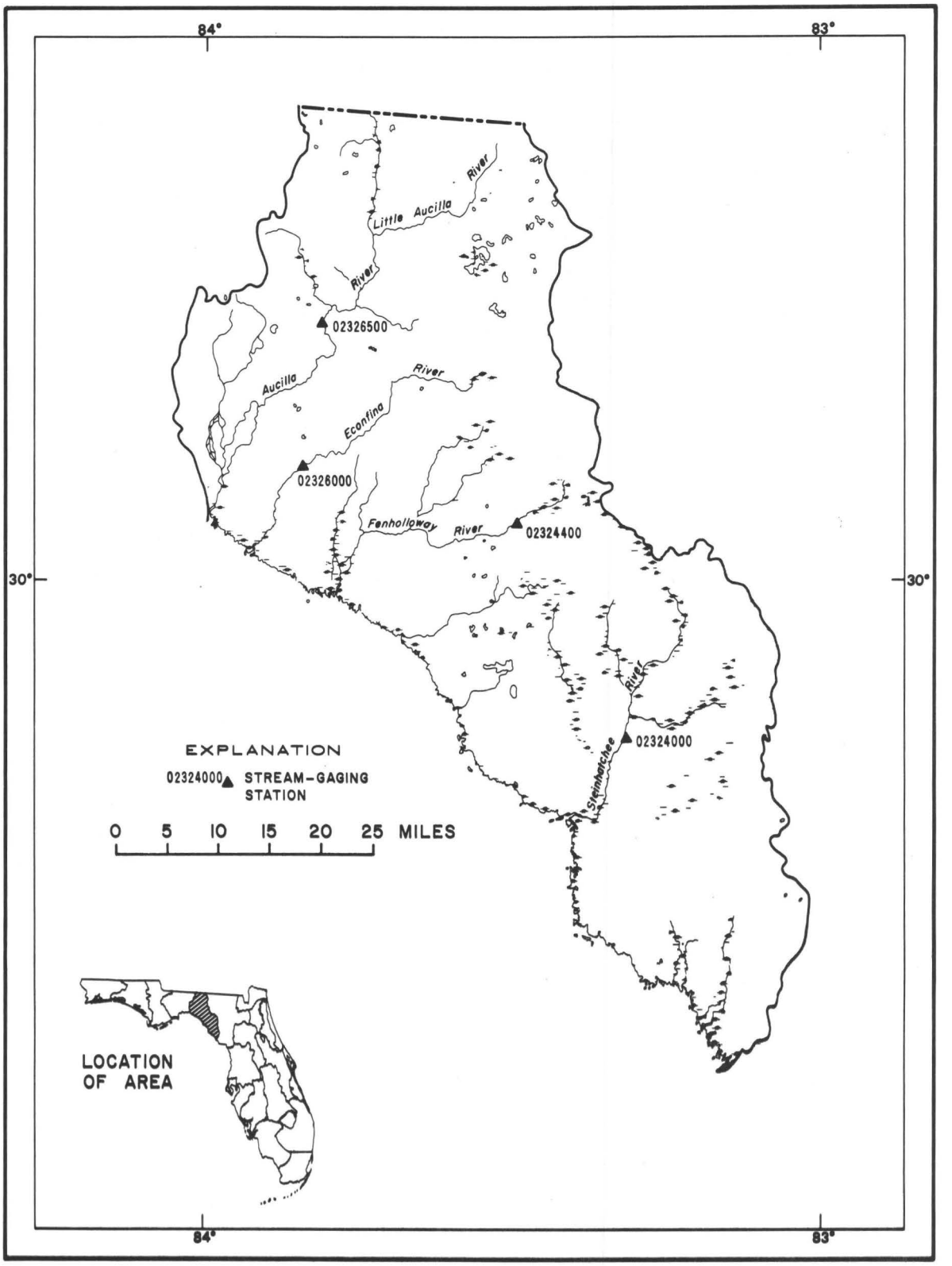

Figure 13.--Location of stream-gaging stations in the coastal area between the Suwannee and Aucilla Rivers, and the Aucilla River basin.

02324000 Steinhatchee River near Cross City, Fla.

LOCATION.--Lat 29°47'11", long 83°19'18", in NE¼ sec. 16, T.8 S., R.10 E., Taylor County, Hydrologic Unit 03110102, on right bank 0.7 mi downstream from Atlantic Coast Line Railroad bridge, 0.7 mi south of Clara, 13 mi upstream from mouth, and 16 mi northwest of Cross City.

DRAINAGE AREA.--350 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--April 1950 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	11	13	14	19	31	48	79	156
5	6.4	7.0	8.0	9.8	14	20	34	72
10	4.9	5.3	6.0	7.3	9.4	13	21	47
20	4.0	4.2	4.7	5.9	6.9	8.9	14	33
30	3.5	3.7	4.1	5.2	5.8	6.8	11	26

02324400 Fenholloway River near Foley, Fla.

LOCATION.--Lat 30°05'53", long 83°28'19", in NE¼ sec.36, T.4 S., R.8 E., Taylor County, Hydrologic Unit 03110102, near left bank at downstream side of bridge on U.S. Highway 27, 1.8 mi upstream from small tributary, 4 mi northeast of Foley, and 32 mi upstream from mouth.

DRAINAGE AREA.--60 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--April 1956 to March 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	1.8	2.0	2.1	2.6	4.0	6.7	9.9	19
5	1.2	1.2	1.3	1.4	1.8	2.4	3.5	6.4
10	1.0	1.0	1.1	1.1	1.2	1.5	2.0	3.3
20	.80	.84	.85	.88	.90	1.0	1.2	1.9
30	.72	.74	.75	.76	.80	.85	.9	1.0

02326000 Econfina River near Perry, Fla.

LOCATION.--Lat 30°10'14", long 83°49'26", in NE¼ sec.4, T.4 S., R.5 E., Taylor County, Hydrologic Unit 03110102, on right bank 10 ft downstream from highway bridge, 3.0 mi downstream from Natural Well Branch, 3.9 mi upstream from bridge on U.S. Highway 98, 14 mi upstream from mouth, and 14.7 mi northwest of Perry.

DRAINAGE AREA.--198 mi^2.

PERIOD OF RECORD ANALYZED.--April 1947 to March 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	20	20	21	22	25	32	38	54
5	11	11	11	12	13	15	17	24
10	7.3	7.6	7.8	8.4	9.2	10	12	16
20	5.1	5.3	5.7	6.2	6.8	7.5	8.5	11
30	4.0	4.4	4.7	5.2	5.8	6.3	7.1	9.5

02326500 Aucilla River at Lamont, Fla.

LOCATION.--Lat 30°22'11", long 83°48'25", in NE¼ sec.27, T.1 S., R.5 E., Madison County, Hydrologic Unit 03110103, near left bank on downstream side of bridge on U.S. Highway 19, 0.6 mi southeast of Lamont, and 34 mi upstream from mouth.

DRAINAGE AREA.--747 mi^2.

PERIOD OF RECORD ANALYZED.--April 1950 to March 1978.

REMARKS.--Pumpage above and below station for irrigation during dry seasons.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	14	15	17	19	24	33	42	65
5	1.6	1.8	2.0	3.0	4.0	5.6	7.6	12
10	0	0	0	.10	1.3	1.9	2.6	4.3
20	0	0	0	0	.42	.68	1.0	1.7
30	0	0	0	0	.20	.50	.70	1.1

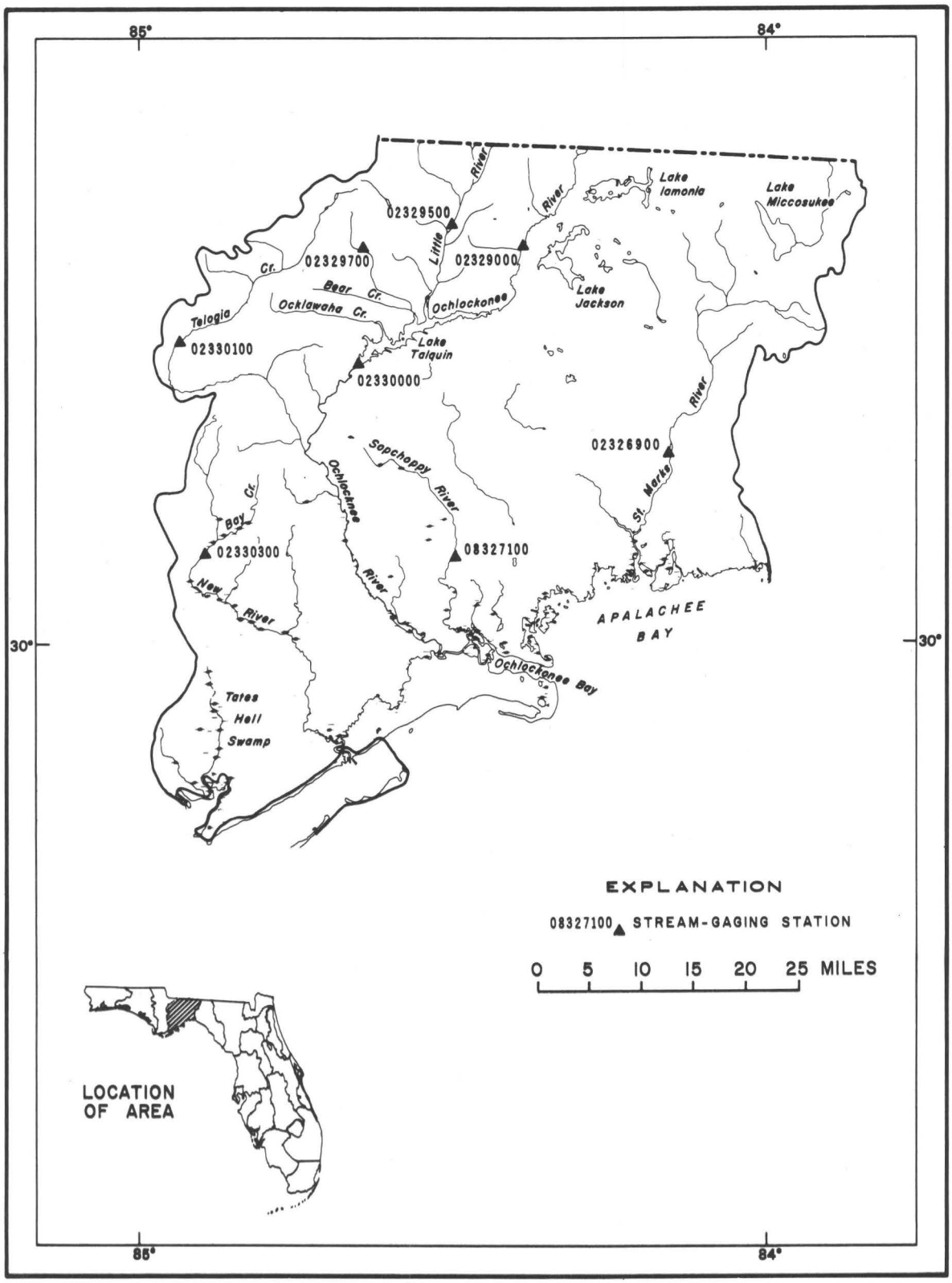

Figure 14.--Location of stream-gaging stations in the St. Marks and Ochlockonee River basins and the coastal area between the Ochlockonee and Apalachicola Rivers.

02326900 St. Marks River near Newport, Fla.

LOCATION.--Lat 30°16'00", long 84°09'00", in SE¼ sec.32, T.2 S., R.2 E., Wakulla County, Hydrologic Unit 03120001, on left bank 0.9 mi downstream from Rhodes Springs, 6 mi north of Newport, 11 mi upstream from Wakulla River, and 14 mi upstream from mouth.

DRAINAGE AREA.--535 mi^2 includes drainage area for Lake Miccosukee, 290 mi^2, which contributes to St. Marks River at high stages.

PERIOD OF RECORD ANALYZED.--April 1950 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	404	411	419	441	462	490	507	559
5	346	354	363	378	391	409	422	457
10	323	332	342	353	362	374	388	415
20	308	318	329	335	341	349	364	385
30	300	311	322	326	330	335	352	360

02327100 Sopchoppy River near Sopchoppy, Fla.
(hydrologic benchmark-mark station)

LOCATION.--Lat 30°07'45", long 84°29'40" in NW¼ sec.24, T.4 S., R.3 W., Wakulla County, Hydrologic Unit 03120003, Apalachicola National Forest, near left bank on downstream side of bridge on U.S. Forest Road 346A, 4.7 mi north of Sopchoppy, 5.2 mi upstream from Duval Branch, and 24 mi upstream from mouth.

DRAINAGE AREA.--102 mi^2.

PERIOD OF RECORD ANALYZED.--April 1965 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	2.0	2.3	2.6	3.2	7.1	21	51	105
5	1.4	1.6	1.7	2.2	3.4	7.8	22	60
10	1.1	1.3	1.5	1.8	2.6	4.8	13	44
20	1.0	1.1	1.3	1.7	2.1	3.2	8.3	32

02329000 Ochlockonee River near Havana, Fla.

LOCATION.--Lat 30°33'14", long 84°23'03", in SE¼ sec.24, T.2 N., R.2 W., Leon County, Hydrologic Unit 03120003, near left bank on downstream side of downstream bridge on divided U.S. Highway 27, 0.8 mi upstream from Seaboard Air Line Railroad bridge, 4.0 mi downstream from Mill Creek, 5.0 mi southeast of Havana, and 94 mi upstream from mouth.

DRAINAGE AREA.--1,140 mi^2, approximately. At site used prior to January 1929, 1,220 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--April 1927 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	66	72	79	99	139	182	237	369
5	38	40	44	51	67	83	108	180
10	29	30	32	36	45	55	71	122
20	23	24	25	27	33	39	50	88
30	20	21	22	23	27	32	41	74
50	17	18	19	19	22	26	33	60

02329500 Little River near Quincy, Fla.

LOCATION.--Lat 30°35'14", long 84°29'48", in NW¼ sec.12, T.2 N., R.3 W., Gadsden County, Hydrologic Unit 03120003, near right bank at downstream side of bridge on State Highway 12, 0.5 mi southwest of Shady Rest, 1.1 mi downstream from confluence of Willacoochee and Attapulgus Creeks, 4.5 mi east of Quincy, and 12 mi upstream from mouth.

DRAINAGE AREA.--237 mi^2.

PERIOD OF RECORD ANALYZED.--April 1950 to March 1968.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	34	38	43	55	74	91	110	153
5	18	21	24	32	44	54	65	85
10	12	14	17	24	34	41	49	62
20	8.8	11	13	19	27	33	39	47
30	7.0	9.0	11	16	24	29	34	39

02329700 Rocky Comfort Creek near Quincy, Fla.

LOCATION.--Lat 30°32'44", long 84°38'09", in NE¼ sec.28, T.2 N., R.4 W., Gadsden County, Hydrologic Unit 03120003, on left bank 15 ft upstream from bridge on State Highway 274, 1.3 mi upstream from Vote Creek, 4.5 mi southwest of Quincy, and 9.2 mi upstream from mouth.

DRAINAGE AREA.--9.46 mi^2.

PERIOD OF RECORD ANALYZED.--April 1965 to March 1978.

REMARKS.--Data adjusted by use of a flow correlation analysis with gaging station 02329500, Little River near Quincy.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	3.9	4.2	4.5	5.3	6.4	7.2	8.2	10
5	2.6	2.9	3.1	3.8	4.6	5.2	5.9	6.9
10	2.0	2.2	2.5	3.1	3.9	4.4	4.9	5.7
20	1.7	1.9	2.1	2.7	3.4	3.8	4.2	4.8

02330100 Telogia Creek near Bristol, Fla.

LOCATION.--Lat 30°25'35", long 84°55'40", in NW¼ sec.3, T.1 S., R.7 W., Liberty County, Hydrologic Unit 03120003, near left bank at downstream side of bridge on State Highway 20, 600 ft upstream from White Branch, 3.0 mi east of Bristol, and 33 mi upstream from mouth.

DRAINAGE AREA.--126 mi^2.

PERIOD OF RECORD ANALYZED.--April 1950 to March 1971, April 1975 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	51	55	60	70	91	106	116	149
5	39	42	44	52	64	72	78	94
10	34	36	38	44	53	58	62	73
20	30	32	34	39	45	49	52	58
30	28	30	32	37	42	44	47	51

02330300 New River near Wilma, Fla.

LOCATION.--Lat 30°07'40", long 84°53'45", in SW¼ sec.13, T.4 S., R.7 W., Liberty County, Hydrologic Unit 03130013, Apalachicola National Forest, near center on downstream side of Carr Bridge on U.S. Forest Road 13, 2.2 mi upstream from West Prong New River, 4.5 mi southeast of Wilma, and 40 mi upstream from mouth.

DRAINAGE AREA.--81.7 mi^2.

PERIOD OF RECORD ANALYZED.--April 1965 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	0	0	0.08	1.4	12	30	52	100
5	0	0	0	.17	3.0	10	22	63
10	0	0	0	(*)	1.2	5.4	14	50
20	0	0	0	0	0	2.8	8.0	40

* Less than 0.05 ft^3/s.

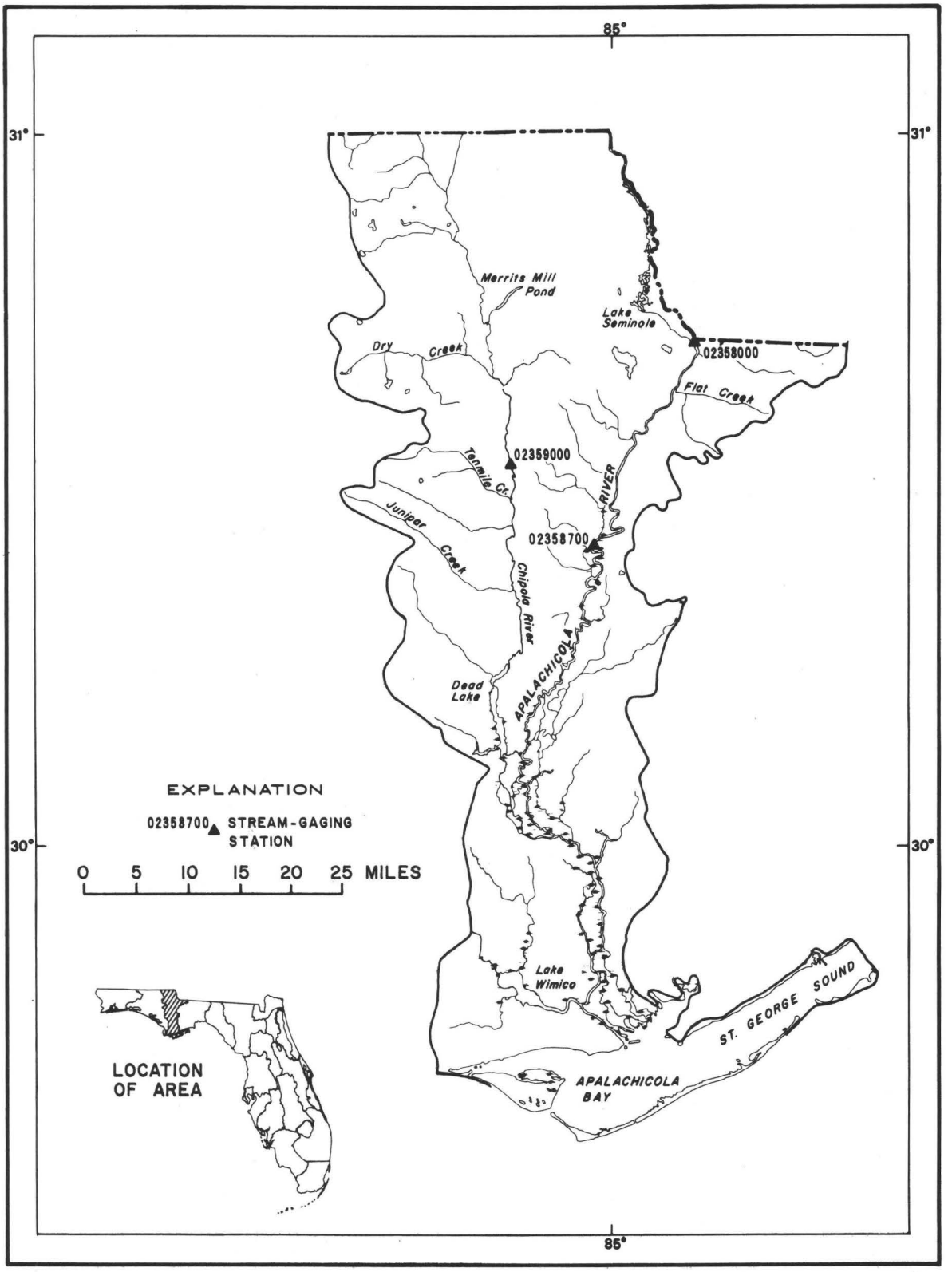

Figure 15.--Location of stream-gaging stations in the Apalachicola River basin including the Chipola River basin.

02358000 Apalachicola River at Chattahoochee, Fla.

LOCATION.--Lat 30°42'03", long 84°51'33", in NW¼ sec.32, T.4 N., R.6 W., Jackson County, Hydrologic Unit 03130011, on downstream side of right main pier on U.S. Highway 90, 0.6 mi downstream from Jim Woodruff Dam, 0.6 mi upstream from Mosquito Creek, 1.0 mi west of Chattahoochee, and 106 mi upstream from mouth.

DRAINAGE AREA.--17,200 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--April 1957 to March 1978.

REMARKS.--Flow regulated by Lake Seminole Reservoir (02357500) 0.6 mi upstream since Feb. 4, 1957. Walter F. George Reservoir (02343240) since 1962, Bartlett's Ferry Reservoir (02341000) since 1926, and Lake Sidney Lanier Reservoir (02324400) since 1956.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	9360	9700	9930	10300	10700	11400	12200	13600
5	7200	8000	8200	8540	8700	9490	10200	11500
10	6200	7000	7300	7730	8000	9000	9440	10800
20	5500	6300	6600	7100	7400	8500	8950	10300
30	5200	5900	6200	6500	7000	8100	8600	9700

02358700 Apalachicola River near Blountstown, Fla.

LOCATION.--Lat 30°25'30", long 85°01'53", in NE¼ sec.3, T.1 S., R.8 W., Calhoun County, Hydrologic Unit 03130011, on right bank 500 ft upstream from Neal Lumber Company Landing at McNeal, 0.5 mi upstream from Old River cutoff, 1.5 mi southeast of Blountstown, and 78 mi upstream from mouth.

DRAINAGE AREA.--17,600 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--April 1958 to March 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	9980	10410	10670	11040	11530	12320	13180	14690
5	8100	8540	8780	9150	9530	10090	10790	12260
10	7170	7660	7910	8290	8730	9240	9800	11290
20	6460	6980	7260	7640	8180	8670	9080	10610

02359000 Chipola River near Altha, Fla.

LOCATION.--Lat 30°32'02", long 85°09'55", in NW¼ sec.32, T.2 N., R.9 W., Calhoun County, Hydrologic Unit 03130012, on right bank on downstream side of bridge on State Highway 274, 0.9 mi downstream from Holliman Branch, 3.5 mi southwest of Altha, and 54 mi upstream from mouth.

DRAINAGE AREA.--781 mi^2.

REVISED RECORDS.--WSP 1384: Drainage area. WSP 1504: 1924, 1925 (m), 1926.

PERIOD OF RECORD ANALYZED.--April 1922 to March 1927, April 1930 to March 1931, April 1943 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	598	636	653	688	741	789	841	952
5	461	491	506	536	571	597	629	702
10	401	427	441	470	500	520	544	606
20	357	379	393	422	448	466	484	539
30	335	355	369	400	422	440	455	507
50	312	330	344	374	397	413	426	475

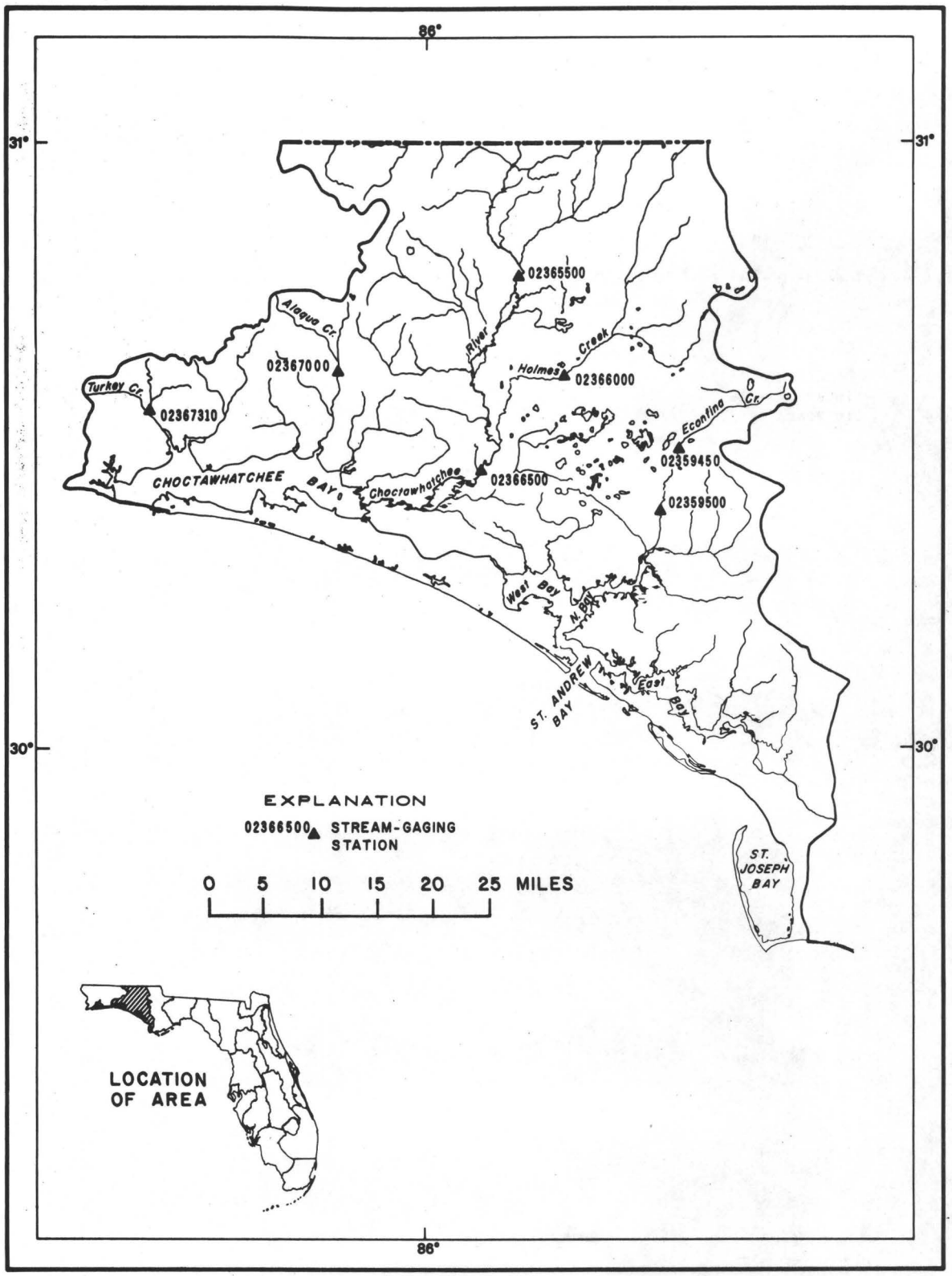

Figure 16.--Location of stream-gaging stations in Choctawhatchee River basin below Pea River, and inflow areas for St. Andrew and Choctawhatchee Bays.

02359450 Econfina Creek near Fountain, Fla.

LOCATION.--Lat 30°28'55", long 85°31'30", in SE¼ sec.15, T.1 N., R.13 W., Washington County, Hydrologic Unit 03140101, near left bank 15 ft downstream from Walsingham Bridge on county road, 0.2 mi upstream from Mitchell Mill Creek, 6.0 mi west of Fountain, and 23 mi upstream from mouth.

DRAINAGE AREA.--70.2 mi^2.

PERIOD OF RECORD ANALYZED.--April 1965 to March 1978.

REMARKS.--Data adjusted by use of a flow correlation analysis with gaging station 02359500, Econfina Creek near Bennett.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	89	93	95	100	106	111	116	128
5	74	76	77	81	85	89	93	101
10	67	68	69	72	76	79	83	89
20	61	62	63	66	69	71	75	80

02359500 Econfina Creek near Bennett, Fla.

LOCATION.--Lat 30°23'04", long 85°33'24", in SE¼ sec.20, T.1 S., R.13 W., Bay County, Hydrologic Unit 03140101, near center of span on downstream side of bridge on State Highway 388, 0.5 mi downstream from Old Mill Branch, 1.6 mi southwest of Bennett, and 11 mi upstream from mouth.

DRAINAGE AREA.--122 mi^2.

PERIOD OF RECORD ANALYZED.--April 1936 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	402	412	418	429	443	455	466	491
5	362	368	372	381	393	402	412	432
10	342	346	350	358	368	376	386	402
20	326	329	332	340	348	356	365	378
30	317	320	323	330	336	345	355	365
50	309	311	313	320	326	335	344	352

CHOCTAWHATCHEE RIVER BASIN BELOW PEA RIVER

02365500 Choctawhatchee River at Caryville, Fla.

LOCATION.--Lat 30°46'32", long 85°49'40", in NW¼ sec.10, T.4 N., R.16 W., Holmes County, Hydrologic Unit 03140203, near right bank on downstream side of bridge on U.S. Highway 90, 300 ft downstream from Louisville and Nashville Railroad bridge, 0.8 mi west of Caryville, 1.8 mi downstream from Wrights Creek, and 64 mi upstream from mouth.

DRAINAGE AREA.--3,499 mi².

PERIOD OF RECORD ANALYZED.--April 1930 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	1210	1280	1350	1520	1794	2110	2350	2820
5	939	985	1040	1160	1330	1520	1670	2010
10	837	874	921	1020	1150	1300	1410	1700
20	767	799	845	925	1030	1140	1240	1490
30	730	765	810	880	980	1050	1150	1400
50	702	729	775	839	925	993	1070	1300

02366000 Holmes Creek at Vernon, Fla.

LOCATION.--Lat 30°37'35", long 85°42'45", in NE¼ sec.35, T.3 N., ¼.15 W., Washington County, Hydrologic Unit 03140203, near left bank on downstream side of bridge on State Highway 79 at Vernon, 0.2 mi downstream from Pippin Mill Creek, and 25 mi upstream from mouth.

DRAINAGE AREA.--386 mi².

PERIOD OF RECORD ANALYZED.--April 1950 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	310	315	319	328	335	351	371	413
5	280	284	286	290	297	303	310	333
10	265	269	271	275	285	288	291	307
20	253	257	260	265	279	279	281	290
30	245	250	254	260	276	276	278	282

CHOCTAWHATCHEE RIVER BASIN BELOW PEA RIVER

02366500 Choctawhatchee River near Bruce, Fla.

LOCATION.--Lat 30°27'03", long 85°53'54", in NE¼ sec.36, T.1 N., R.17 W., Walton County, Hydrologic Unit 03140203, on downstream fender pile at center swing pier of bridge on State Highway 20, 4.0 mi southeast of Bruce, 5.8 mi downstream from Holmes Creek, and 21 mi upstream from mouth.

DRAINAGE AREA.--4,384 mi^2.

PERIOD OF RECORD ANALYZED.--April 1931 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	2120	2180	2280	2470	2800	3190	3490	4050
5	1750	1780	1840	1960	2170	2400	2580	2960
10	1600	1630	1670	1770	1930	2090	2230	2540
20	1500	1530	1560	1630	1760	1870	1980	2250
30	1440	1470	1500	1570	1670	1760	1850	2100
50	1410	1440	1450	1500	1600	1660	1750	1980

02367000 Alaqua Creek near De Funiak Springs, Fla.

LOCATION.--Lat 30°37'00", long 86°09'50", in NE¼ sec.5, T.1 N., R.19 W., Walton County, Eglin Air Force Base, Hydrologic Unit 03140102, near center span on downstream side of Pine Allen Bridge on U.S. Forest Service road 200, 0.8 mi upstream from Davis Branch, 8.0 mi southwest of DeFuniak Springs, and 11 mi upstream from mouth.

DRAINAGE AREA.--65.6 mi^2.

PERIOD OF RECORD ANALYZED.--April 1952 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	58	60	64	71	81	91	102	127
5	43	45	47	52	58	66	73	87
10	37	39	40	44	49	56	62	72
20	33	34	35	38	42	49	54	61
30	31	32	33	35	39	46	51	56

02367310 Juniper Creek at State Highway 85, near Niceville, Fla.

LOCATION.--Lat 30°33'26", long 86°31'11", in NW¼ sec.26, T.1 N., R.23 W., Okaloosa County, Hydrologic Unit 03140102, on left bank 20 ft downstream from southbound bridge on State Highway 85, 0.8 mi upstream from mouth at Turkey Creek, and 3.0 mi northwest of Niceville. Re-established, May 11, 1977.

DRAINAGE AREA.--27.6 mi^2.

PERIOD OF RECORD ANALYZED.--April 1966 to March 1975.

REMARKS.--Data adjusted by use of a flow correlation analysis with gaging station 02367000, Alaqua Creek near DeFuniak Springs.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	57	59	61	66	72	78	85	98
5	47	48	50	53	57	63	67	76
10	42	44	44	47	51	56	60	67

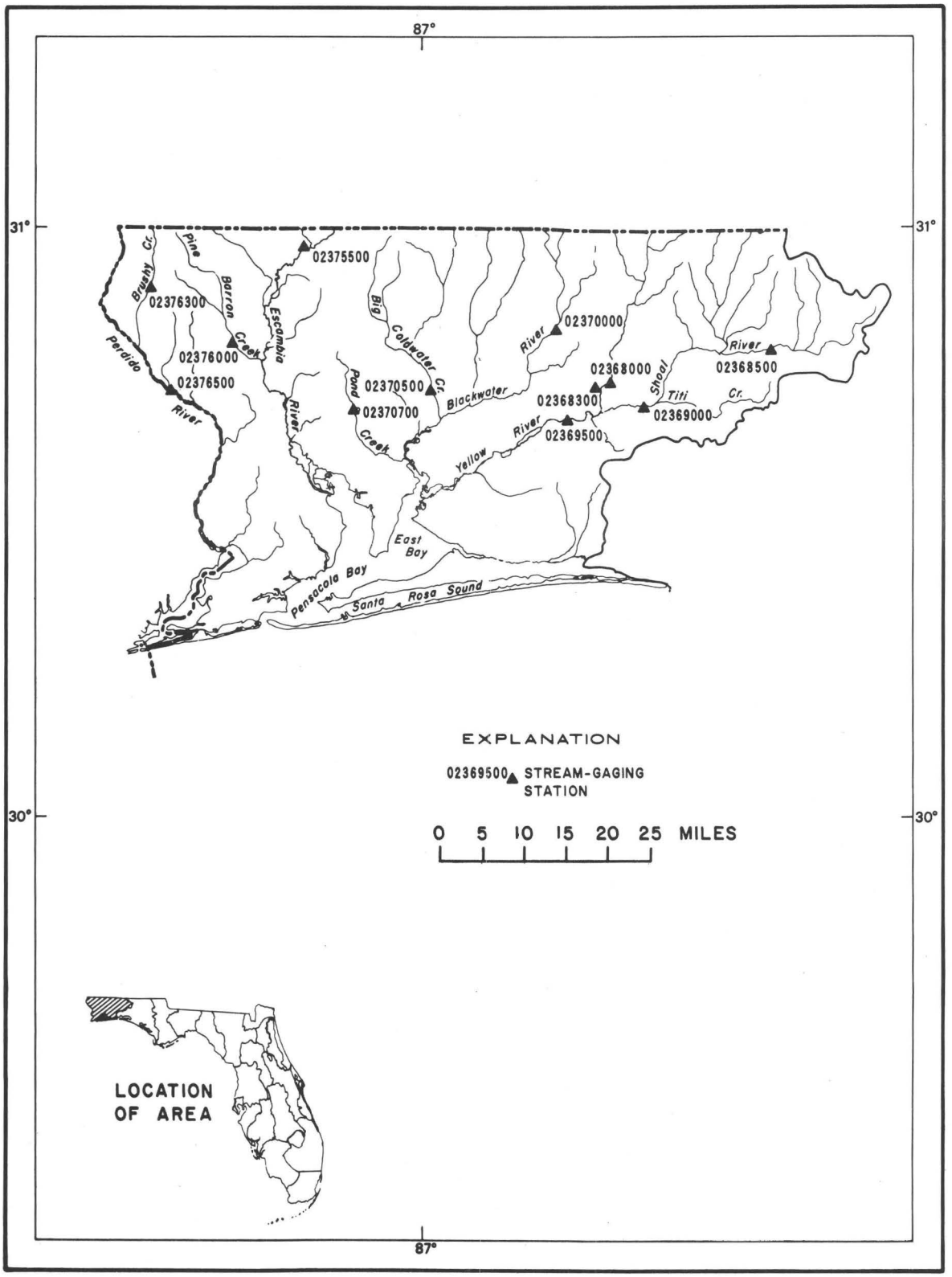

Figure 17.--Location of stream-gaging stations in the Yellow, Blackwater, Escambia and Perdido River basins.

02368000 Yellow River at Milligan, Fla.

LOCATION.--Lat 30°45'10", long 86°37'45", in SE¼ sec.15, T.3 N., R.24 W., Okaloosa County, Hydrologic Unit 03140103, near center on downstream side of bridge of U.S. Highway 90, 0.5 mi east of Milligan, 0.5 mi upstream from Trammel Creek, 6.7 mi upstream from Shoal River, an 40 mi upstream from mouth.

DRAINAGE AREA.--624 mi^2.

PERIOD OF RECORD ANALYZED.--April 1939 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	281	294	309	348	412	482	530	655
5	206	216	225	251	288	331	358	434
10	175	184	192	212	239	271	293	349
20	154	162	168	185	206	230	249	292
30	143	150	147	172	190	210	228	265
50	133	140	145	158	174	191	208	238

02368300 Baggett Creek near Milligan, Fla.

LOCATION.--Lat 30°43'40", long 86°39'35", in SW¼ sec.28, T.3 N., R.24 W., Okaloosa County, Hydrologic Unit 03140103, at left downstream side of culvert on U.S. Highway 90, 1.2 mi upstream from mouth, and 2.0 mi southwest of Milligan.

DRAINAGE AREA.--7.77 mi^2.

PERIOD OF RECORD ANALYZED.--April 1964 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	11	12	12	13	14	16	17	21
5	9.1	9.4	9.6	10	11	13	13	16
10	8.1	8.4	8.5	9.0	9.8	11	12	14
20	7.4	7.6	7.7	8.2	8.8	9.7	10	12

02368500 Shoal River near Mossy Head, Fla.

LOCATION.--Lat 30°47'45", long 86°18'25", in SW¼ sec.36, T.4 N., R.21 W., Walton County, Hydrologic Unit 03140103, near center span on downstream side of bridge on State Highway 285, about 200 ft downstream from Machine Branch, 3.9 mi north of Mossy Head, and 34 mi upstream from mouth.

DRAINAGE AREA.--123 mi^2.

PERIOD OF RECORD ANALYZED.--April 1951 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	71	74	78	86	98	115	130	157
5	54	56	59	64	72	83	92	108
10	47	48	51	56	62	70	78	90
20	41	43	45	50	56	62	68	78
30	38	40	42	46	53	58	63	72

02369000 Shoal River near Crestview, Fla.

LOCATION.--Lat 30°41'50", long 86°34'15", in SW¼ sec.5, T.2 N., R.23 W., Okaloosa County, Hydrologic Unit 03140103, near center of bridge on downstream side of downstream bridge on State Highway 85, 3.5 mi downstream from Titi Creek, 4.2 mi south of Crestview, and 7 mi upstream from mouth.

DRAINAGE AREA.--474 mi^2.

PERIOD OF RECORD ANALYZED.--April 1939 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	396	420	441	487	545	620	675	785
5	315	330	344	371	407	455	489	567
10	280	291	303	324	351	386	413	477
20	255	263	273	289	313	337	360	413
30	240	250	258	270	295	312	335	380
50	230	235	243	256	276	288	308	351

02369500 Yellow River near Holt, Fla.

LOCATION.--Lat 30°40'25", long 86°44'50", in sec.16, T.2 N., R.25 W., Okaloosa County, Hydrologic Unit 03140103, near right bank on upstream side of county highway bridge 2½ mi south of Holt.

DRAINAGE AREA.--1,210 mi^2.

PERIOD OF RECORD ANALYZED.--April 1934 to March 1941.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	923	967	995	1040	1180	1290	1390	1690
5	854	874	893	928	1010	1080	1160	1380
10	821	836	853	881	928	980	1390	1250

BLACKWATER RIVER BASIN

02370000 Blackwater River near Baker, Fla.

LOCATION.--Lat 30°50'00", long 86°44'05", in SW¼ sec.22, T.4 N., R.25 W., Okaloosa County, Blackwater River State Forest, Hydrologic Unit 03140104, near right bank on downstream side of bridge on State Highway 4, 0.3 mi downstream from Red Wash Branch, 3.8 mi northwest of Baker, and 35 mi upstream from mouth.

DRAINAGE AREA.--205 mi^2.

PERIOD OF RECORD ANALYZED.--April 1950 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	85	89	92	99	116	138	154	185
5	69	71	73	76	86	97	104	121
10	63	65	66	70	75	82	86	98
20	59	60	61	64	69	73	74	83
30	57	58	59	62	66	68	70	76

02370200 Big Juniper Creek near Munson, Fla.

LOCATION.--Lat 30°51'50", long 86°54'20", in SW¼ sec.12, T.4 N., R.27 W., Santa Rosa County, Hydrologic Unit 03140104, on right bank 300 ft upstream from bridge on State Highway 4, 0.3 mi downstream from Gunstock Branch, 2 mi west of Munson, and 3.7 mi upstream from Sweetwater Creek.

DRAINAGE AREA.--36 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--April 1958 to March 1966.

REMARKS.--Data adjusted by use of a flow correlation analysis with gaging station 02370000, Blackwater River near Baker.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	19	20	20	22	24	28	30	35
5	16	17	17	18	19	21	23	25
10	15	16	16	17	18	19	19	22

BLACKWATER RIVER BASIN

02370500 Big Coldwater Creek near Milton, Fla.

LOCATION.--Lat 30°42'30", long 86°58'20", in SW¼ sec.5, T.2 N., R.27 W., Santa Rosa County, Hydrologic Unit 03140104, at right bank on downstream side of bridge on State Highway 191, 3 mi upstream from mouth, and 6.5 mi northeast of Milton.

DRAINAGE AREA.--237 mi^2.

PERIOD OF RECORD ANALYZED.--April 1939 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	257	266	274	290	311	354	380	443
5	214	220	226	238	253	284	301	346
10	194	199	203	213	228	252	268	304
20	178	183	186	195	209	227	243	273
30	170	174	177	185	199	214	230	258
50	161	165	168	176	190	202	218	242

02370700 Pond Creek near Milton, Fla.

LOCATION.--Lat 30°40'50", long 87°07'55", in SE¼ sec.15, T.2 N., R.29 W., Santa Rosa County, Hydrologic Unit 03140104, near center of span on downstream side of bridge on State Highway 191, 0.6 mi downstream from Reader Creek, 6.4 mi northwest of Milton, and 10 mi upstream from mouth.

DRAINAGE AREA.--58.7 mi^2.

PERIOD OF RECORD ANALYZED.--April 1958 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	47	48	49	51	56	60	63	67
5	38	39	40	41	44	47	49	51
10	34	34	35	36	38	40	42	44
20	30	30	31	32	33	35	36	38

02375500 Escambia River near Century, Fla.

LOCATION.--Lat 30°57'54", long 87°14'03", in NW¼ sec.10, T.5 N., R.30 W., Santa Rosa County, Hydrologic Unit 03140305, on left bank 16 ft downstream from bridge on State Highway 4, 1.2 mi downstream from Escambia Creek, 1.7 mi east of Century, and 52 mi upstream from mouth.

DRAINAGE AREA.--3,817 mi².

PERIOD OF RECORD ANALYZED.--April 1935 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	1100	1190	1240	1380	1630	1940	2160	2680
5	836	889	917	1000	1130	1330	1480	1830
10	735	777	794	859	947	1100	1240	1530
20	666	701	710	761	826	949	1080	1330
30	630	665	675	710	770	860	1000	1210
50	601	630	631	669	715	803	938	1140

02376000 Pine Barren Creek near Barth, Fla.

LOCATION.--Lat 30°47'55", long 87°22'05", in SW¼ sec.5, T.3 N., R.31 W., Escambia County, Hydrologic Unit 03140305, near right bank 10 ft downstream from Wiggins Bridge on private road, 0.3 mi upstream from Blue Water Creek, 4.0 mi northwest of Barth, and 7.3 mi upstream from mouth.

DRAINAGE AREA.--75.3 mi².

PERIOD OF RECORD ANALYZED.--April 1953 to March 1978.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	77	79	82	85	92	98	102	111
5	65	67	69	71	76	80	83	89
10	60	61	63	65	69	72	75	80
20	55	57	58	60	63	66	69	74
30	53	54	55	56	60	63	65	70

02376300 Brushy Creek near Walnut Hill, Fla.

LOCATION.--Lat 30°53'21", long 87°32'24", in SE¼ sec.4, T.4 N., R.33 W., Escambia County, Hydrologic Unit 03140106, near right bank on downstream side of county road bridge, 1,000 ft downstream from Rocky Creek, 2.0 mi west of Walnut Hill, and 7.9 mi upstream from mouth.

DRAINAGE AREA.--49 mi^2, approximately.

PERIOD OF RECORD ANALYZED.--April 1958 to March 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	51	52	54	56	61	64	68	75
5	45	46	48	50	53	55	58	62
10	42	43	44	46	48	51	54	57
20	40	41	42	44	45	48	52	53

02376500 Perdido River at Barrineau Park, Fla.

LOCATION.--Lat 30°41'25", long 87°26'25", in NW¼ sec.23, T.4 S., R.6 E., Baldwin County, Ala., Hydrologic Unit 03140106, on right bank 25 ft downstream from county highway bridge, 1,000 ft downstream from Alligator Creek, 0.5 mi southwest of Barrineau Park, and 27 mi upstream from mouth.

DRAINAGE AREA.--394 mi^2.

PERIOD OF RECORD ANALYZED.--April 1942 to March 1977.

MAGNITUDE AND FREQUENCY OF ANNUAL LOW FLOWS

Recurrence interval in years	Lowest average flow, in cubic feet per second, for indicated number of consecutive days							
	1	7	14	30	60	90	120	183
2	270	283	294	319	364	413	457	519
5	230	241	247	261	288	319	344	391
10	210	221	226	234	253	276	295	336
20	200	205	208	214	227	244	260	296
30	190	195	199	201	210	225	240	270
50	185	189	190	193	199	211	225	256

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