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Water Resources Data Florida

Water Year 1990

Volume 4. Northwest Florida

U.S. GEOLOGICAL SURVEY
RESTON, VA.

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Prepared in cooperation with the State of Florida
and with other agencies

CALENDAR FOR WATER YEAR 1990

1989

OCTOBER

S	M	T	W	T	F	S
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1990

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SEPTEMBER

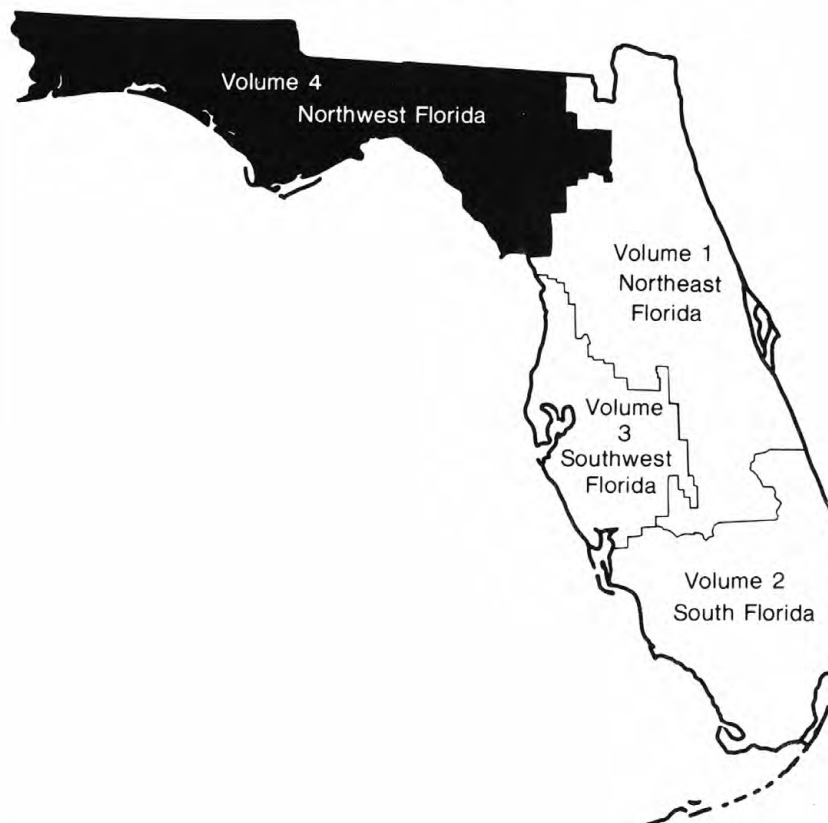
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Water Resources Data Florida Water Year 1990

Volume 4. Northwest Florida

by P.E. Meadows, J.B. Martin, and P.R. Mixson



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT FL-90-4
Prepared in cooperation with the State of Florida
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, Jr., Secretary

U. S. GEOLOGICAL SURVEY

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Prepared in cooperation with the
State of Florida
and with other agencies as listed
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PREFACE

This volume of the annual hydrologic data report of Florida is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for Florida are contained in four volumes:

Volume 1. Northeast Florida
Volume 2. South Florida
Volume 3. Southwest Florida
Volume 4. Northwest Florida

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data. This report was prepared for publication by P. R. Mixson under the supervision of M. A. Franklin, J. B. Martin and P. E. Meadows. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data.

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This report was prepared in cooperation with the State of Florida and with other agencies under the general supervision of I. H. Kantrowitz, District Chief, Florida.

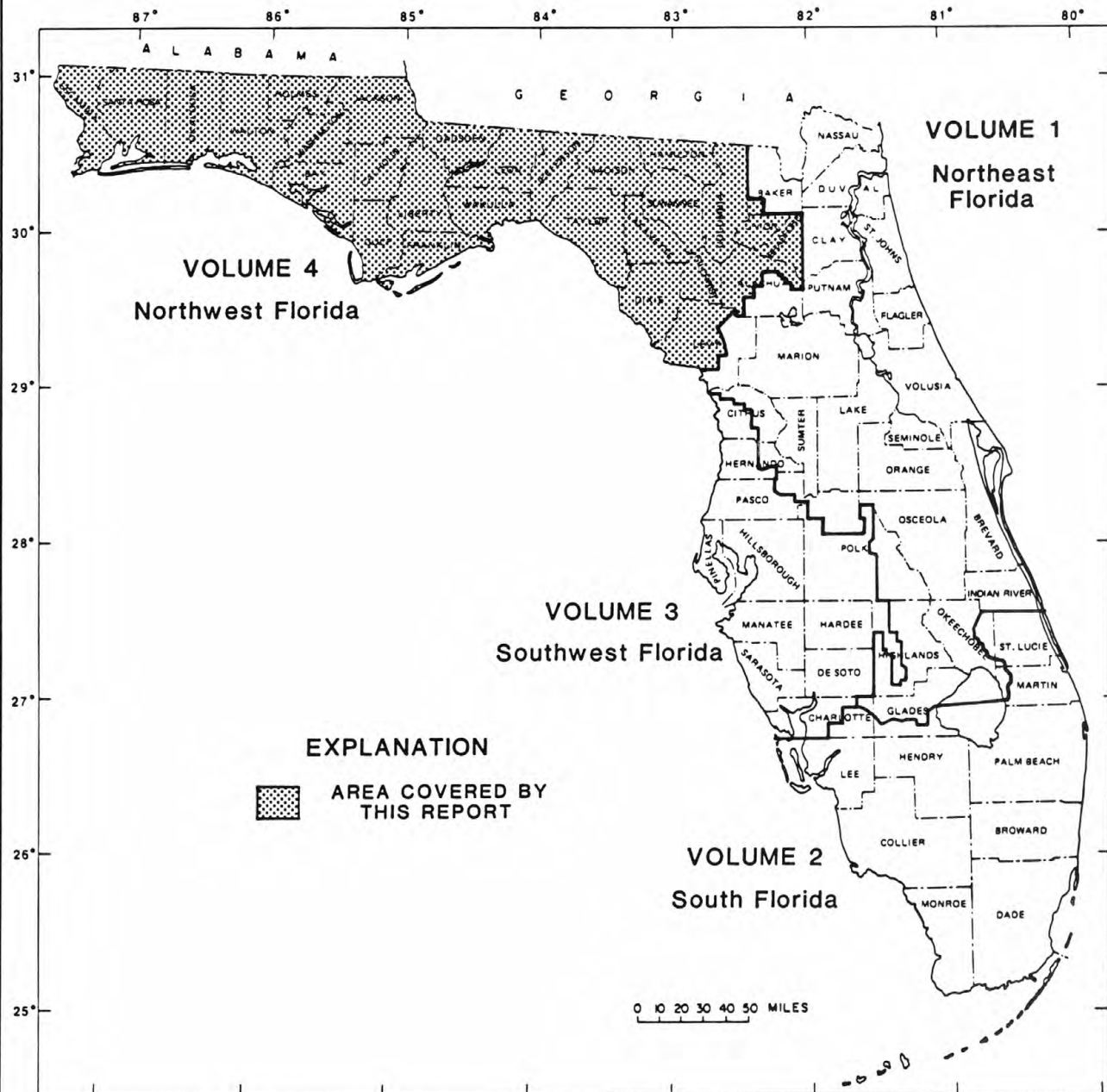


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[Letters after station names designate type of data: (d) discharge,
(c) chemical, (b) biological, (m) microbiological, (s) sediment, (t) temperature,
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INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State, local, and Federal agencies, obtains a large amount of data pertaining to the water resources of Florida each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - Florida."

This report series includes records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground-water wells. This volume contains records for continuous or daily discharge for 50 streams, periodic discharge for 0 streams, miscellaneous discharge for 53 streams, continuous or daily stage for 11 streams, and peak discharge for 7 streams; continuous or daily elevations for 6 lakes, and periodic elevations for 3 lakes; continuous ground-water levels for 0 wells, and periodic ground-water levels for 20 wells; quality-of-water for 14 surface-water sites and 0 wells.

This series of annual reports for Florida began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Florida were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from Distribution Branch, Text Products Section, U.S. Geological Survey, Books and Open-File Reports, Federal Center, Building 41, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report FL-89-4." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the Office Chief at the address given on the back of the title page or by telephone (904) 681-7620.

COOPERATION

The U.S. Geological Survey and agencies of the State of Florida have had cooperative agreements for the collection of water-resource records since 1930. Organizations that assisted in collecting the data in this report through cooperative agreement with the Survey are:

Florida Department of Environmental Regulation
Northwest Florida Water Management District
Suwannee River Water Management District
County of Walton

City of Perry
City of Tallahassee
Corps of Engineers, U.S. Army, Mobile District
U.S. Bureau of Land Management

Assistance with funds or services was given by the U.S. Army Corps of Engineer, Mobile District, in collecting records for 8 hydrologic gaging stations throughout northwest Florida.

SUMMARY OF HYDROLOGIC CONDITIONS

Rainfall

Rainfall for Northwest Florida was below average for the 1990 water year. Based on rainfall data at six National Oceanic and Atmospheric Administration stations, (Cross City, Lake City, Madison, Tallahassee, Chipley, and Pensacola), total rainfall for the 12-month period ranged from 37.44 in. at Lake City to 54.13 in. at Pensacola. The cumulative monthly departure for the water year ranged from -3.46 in. at Chipley to -16.8 in. at Lake City. This was the third consecutive year of significantly below-normal rainfall for the area around Tallahassee and the second year for the Madison and Lake City area. The distribution of rainfall was again divided seasonally, however, the deficient period was in spring and summer rather than fall and winter, as was the case in the 1989 water year. A violent storm, with torrential rain, moved across the extreme northwestern panhandle of Florida and into southern Alabama March 16-17 with 24-hour rainfall totals ranging from 10 to 15 in. in parts of the panhandle. The following summary gives the cumulative rainfall and departure from the 30 year (1951-80) normal for each of the stations.

Station	<u>October-March</u>		<u>April-September</u>		<u>Water year</u>	
	Total rain	Departure	Total rain	Departure	Total rain	Departure
Cross City	17.42	-2.07	34.58	-2.61	52.00	-4.18
Lake City	16.25	-3.74	21.19	-13.06	37.44	-16.80
Madison	23.28	+1.43	14.90	-15.65	38.18	-14.22
Tallahassee	26.35	+0.10	24.42	-13.92	50.77	-13.82
Chipley	27.02	+1.78	24.42	-5.24	51.49	-3.46
Pensacola	32.99	+6.87	21.14	+13.90	54.13	-7.03

Surface Water

Annual mean streamflow for the 1990 water year in Northwest Florida ranged from 11 to 170 percent of the long-term average. Those streams with above-normal flows were in areas hit hardest by the March storm. Annual mean flows in the western panhandle generally ranged from normal to 70 percent above normal. Mean flow for streams in the Big Bend area ranged from 25 to 60 percent below normal with the exception of the Fenholloway River, which was 80 percent below normal. The Suwannee River basin ranged from 50 to 90 percent below the long-term average.

Streamflows in the Suwannee River basin began the water year below the long-term average. Streamflows steadily declined through the fall but recovered to near normal during the winter. In late spring, streamflows began a steady decline which resulted in a new record minimum monthly mean flow for September. Streamflow for streams in the costal area around Steinhatchee and Perry were below normal for the entire year, except for July which was near normal. In the Ochlockonee River basin and eastern panhandle, streamflows began the year near normal but increased to above normal during the winter. During the spring a steady decline began which continued through the end of the year. Streamflow in the western panhandle started the year near normal, with the exception of Shoal River which was well above normal. As a result of the well-above average rainfall in March, most streams approached or reached new record monthly mean flows during that month. Streamflow began a steady decline following the March flood and ended the year well below normal.

Discharge hydrographs for some representative streams in Northwest Florida are shown in figures 2 through 8. The upper graphs show the 1990 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for all years through the 1989 water year. The lower graphs show the monthly mean discharge for the period 1981-90.

Ground Water

Water levels in the Floridian aquifer system began the water year below mean levels, except in the western panhandle where levels were well above normal and in the eastern part of the area where water levels began the year at record lows. Water levels for the Big Bend and western panhandle areas are not available for the 1990 water year because the cooperative monitoring program for those areas was discontinued.

Water levels in the southern costal part of the area are represented by the USGS well near Trenton where levels declined from near average in October to near-record lows by September. Water levels in the Suwannee River basin are represented by the well at Lake City where new record lows were set for the entire year.

Water level hydrographs for the two representative wells in the Northwest Florida area are shown in figure 9. The graphs show the 1990 monthly maximum water level compared to the maximum, minimum, and mean monthly maximum water level for the period of record.

Surface-Water Quality

Specific conductance and total phosphorus concentration were selected as measures of ambient water-quality conditions. Specific conductance can be used to estimate the amount of dissolved substances in water (see definition of terms). The average specific conductance by water year for three major rivers in northwest Florida is shown in figure 10. The average specific conductances for the 1990 water year were: 285 μ S/cm (microsiemens per centimeter) for the Suwannee River; 97 μ S/cm for the Apalachicola River; and 113 μ S/cm for the Escambia River. The average specific conductances for the 1990 water year were greater than the long-term averages: 230 μ S/cm for the Suwannee River; 95 μ S/cm for the Apalachicola River; and 84 μ S/cm for the Escambia River. The average specific conductances for the three sites being monitored do not indicate persistent trends as a function of time. The apparent variation in average specific conductance among water years for the Suwannee River is likely caused by variable mixes of spring flow (ground water) and overland runoff.

Phosphorus is an important primary nutrient for aquatic plants and long-term changes in phosphorus concentrations may indicate effects of land-use change within a stream drainage basin. The average concentrations of total phosphorus by water year for three major rivers are shown in figure 11. The average total phosphorus concentration for the 1990 water year was 0.13 mg/L for the Suwannee River and about 0.03 mg/L for the Apalachicola and Escambia Rivers. The average concentrations of phosphorus for the 1990 water year were about the same as the long-term averages and no persistent trend with time is evident. The phosphorus concentrations for the Apalachicola and Escambia Rivers are consistently less than 0.1 mg/L in the 1990 water year. For the Suwannee River, total phosphorus concentrations in the 1990 water year ranged from 0.09 to 0.20 mg/L. The greater concentrations in the Suwannee River are likely the result of naturally occurring phosphate-bearing rock in the drainage basin.

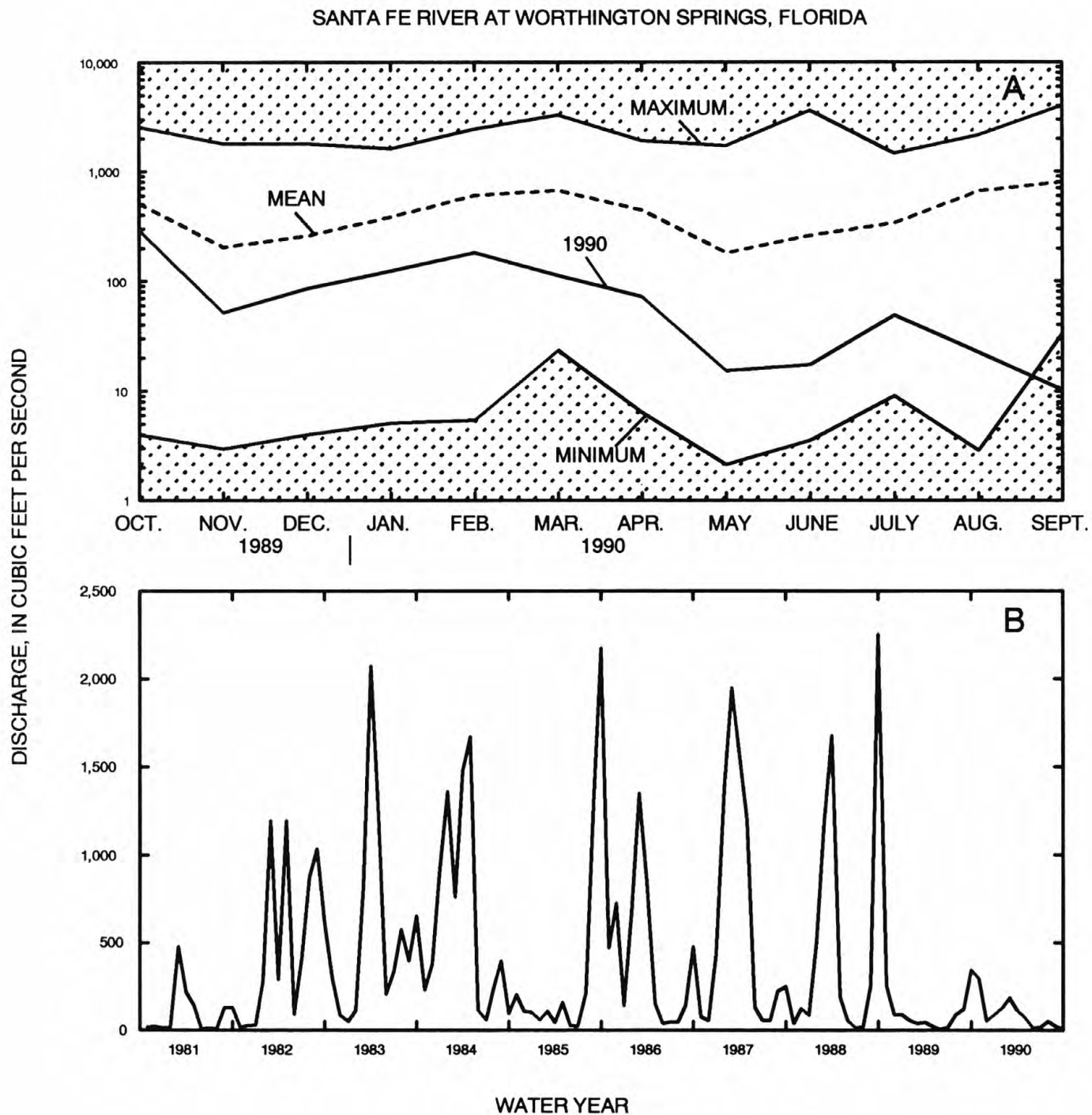


Figure 2.--Santa Fe River near Worthington Springs (A) 1990 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1932-89, and (B) the monthly mean discharge for the period 1981-90.

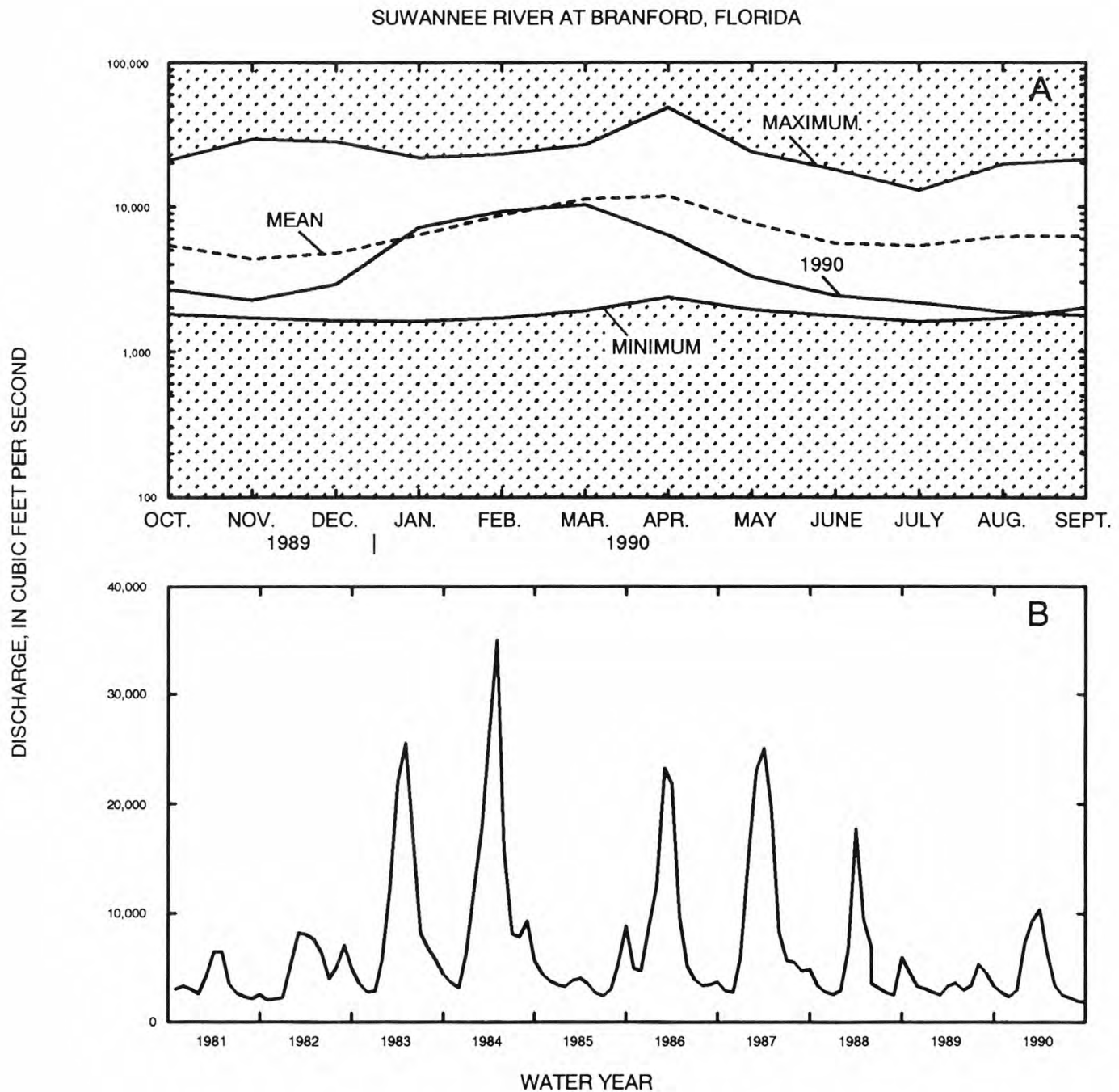


Figure 3.-- Suwannee River at Branford (A) 1990 monthly mean compared to the maximum, minimum, and mean monthly mean discharge for the period 1931-89, and (B) the monthly mean discharge for the period 1981-90.

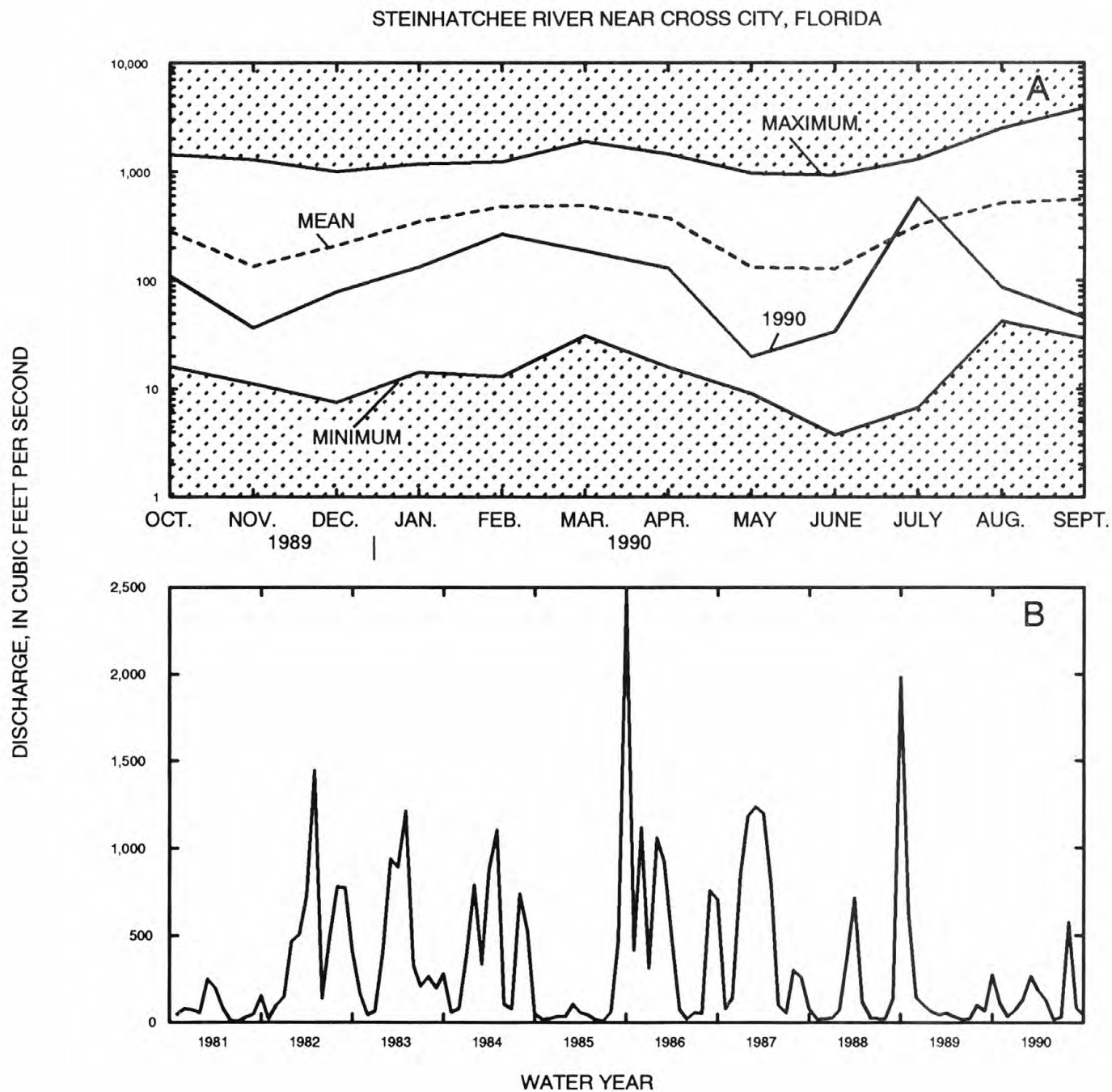


Figure 4.-- Steinhatchee River near Cross City (A) 1990 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1950-89, and (B) the monthly mean discharge for the period 1981-90.

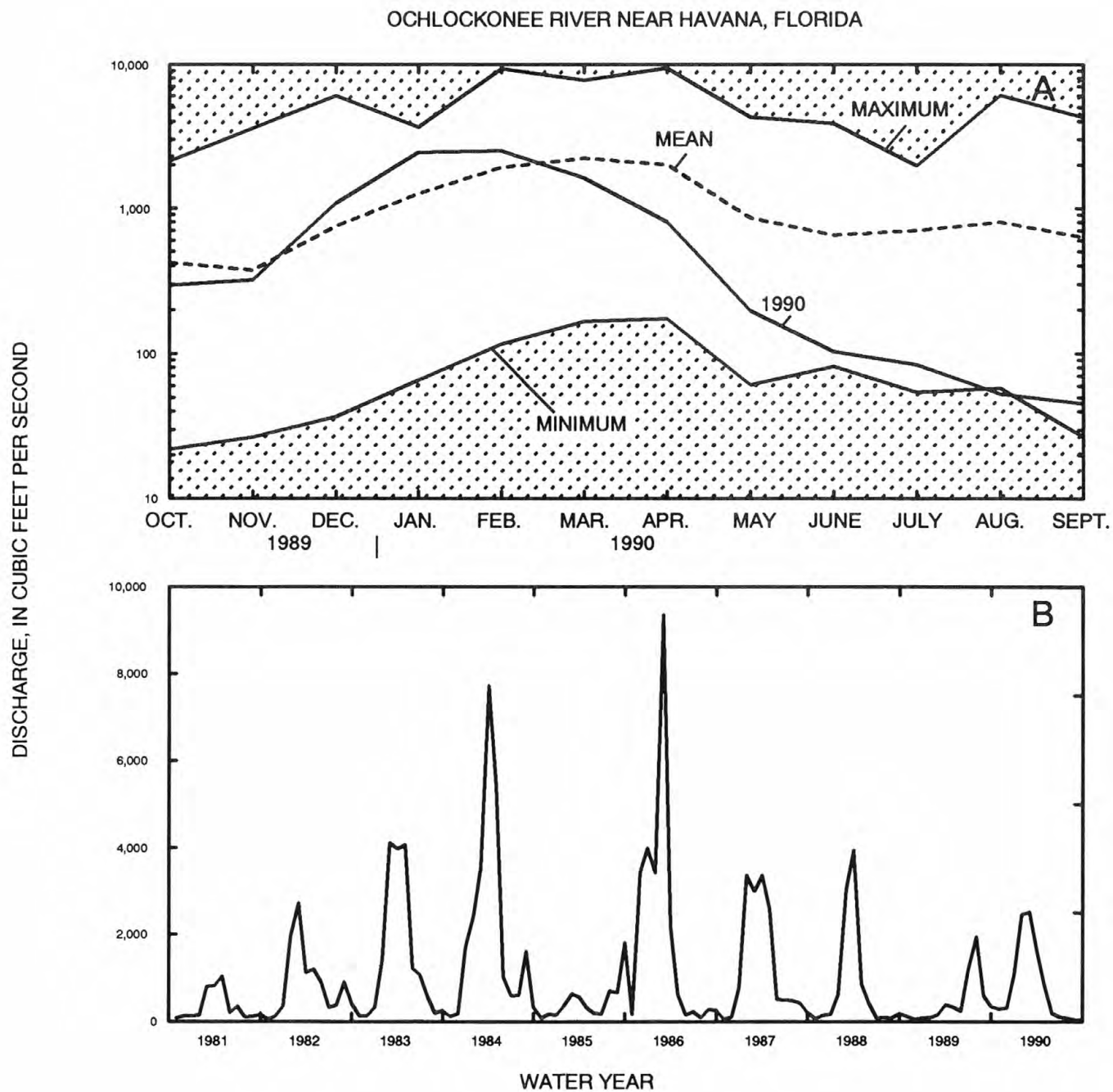


Figure 5.--Ochlockonee River near Havana (A) 1990 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1926-89, and (B) the monthly mean discharge for the period 1981-90.

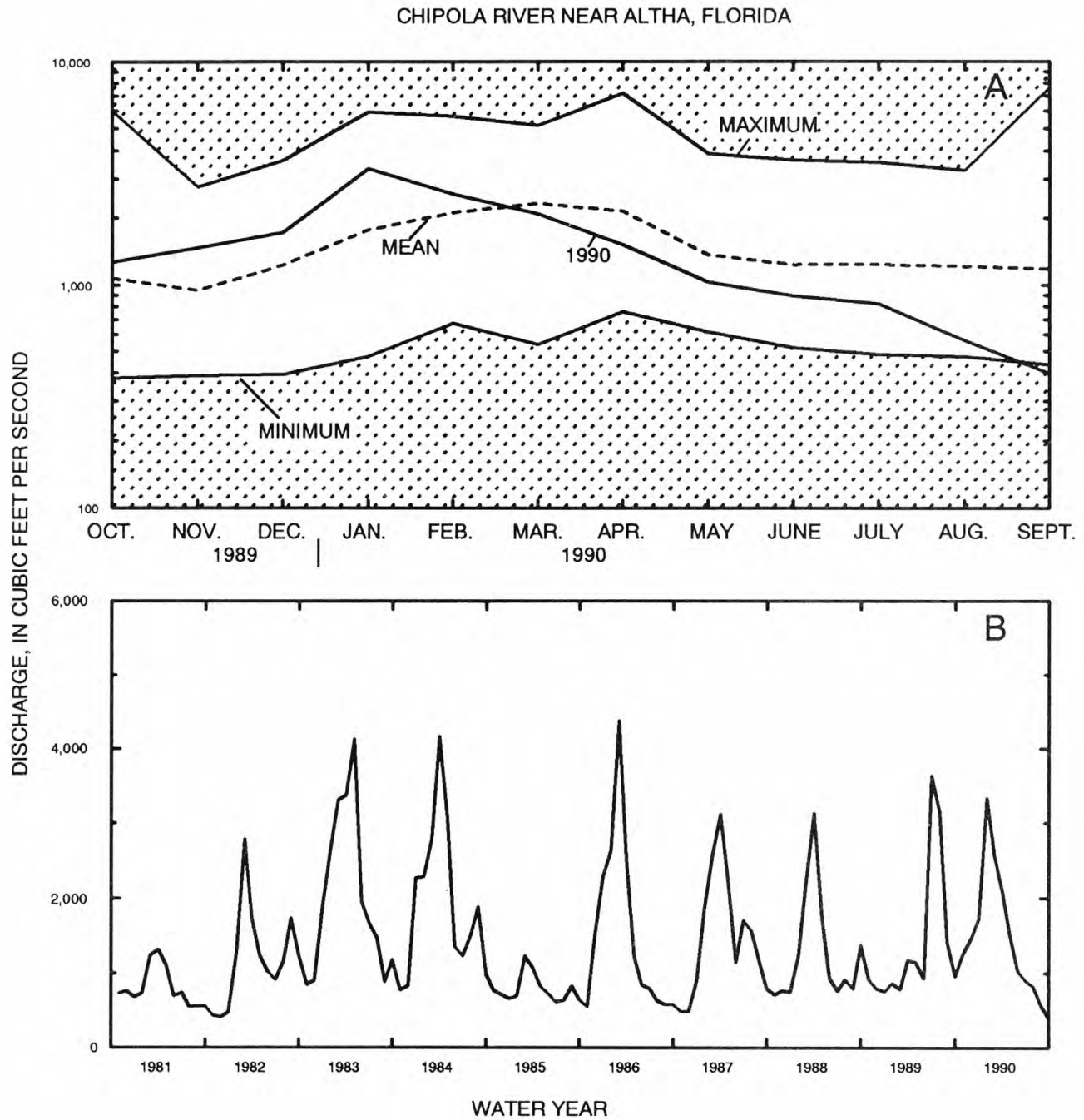


Figure 6.--Chipola River near Altha (A) 1990 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1943-89, and (B) the monthly mean discharge for the period 1981-90.

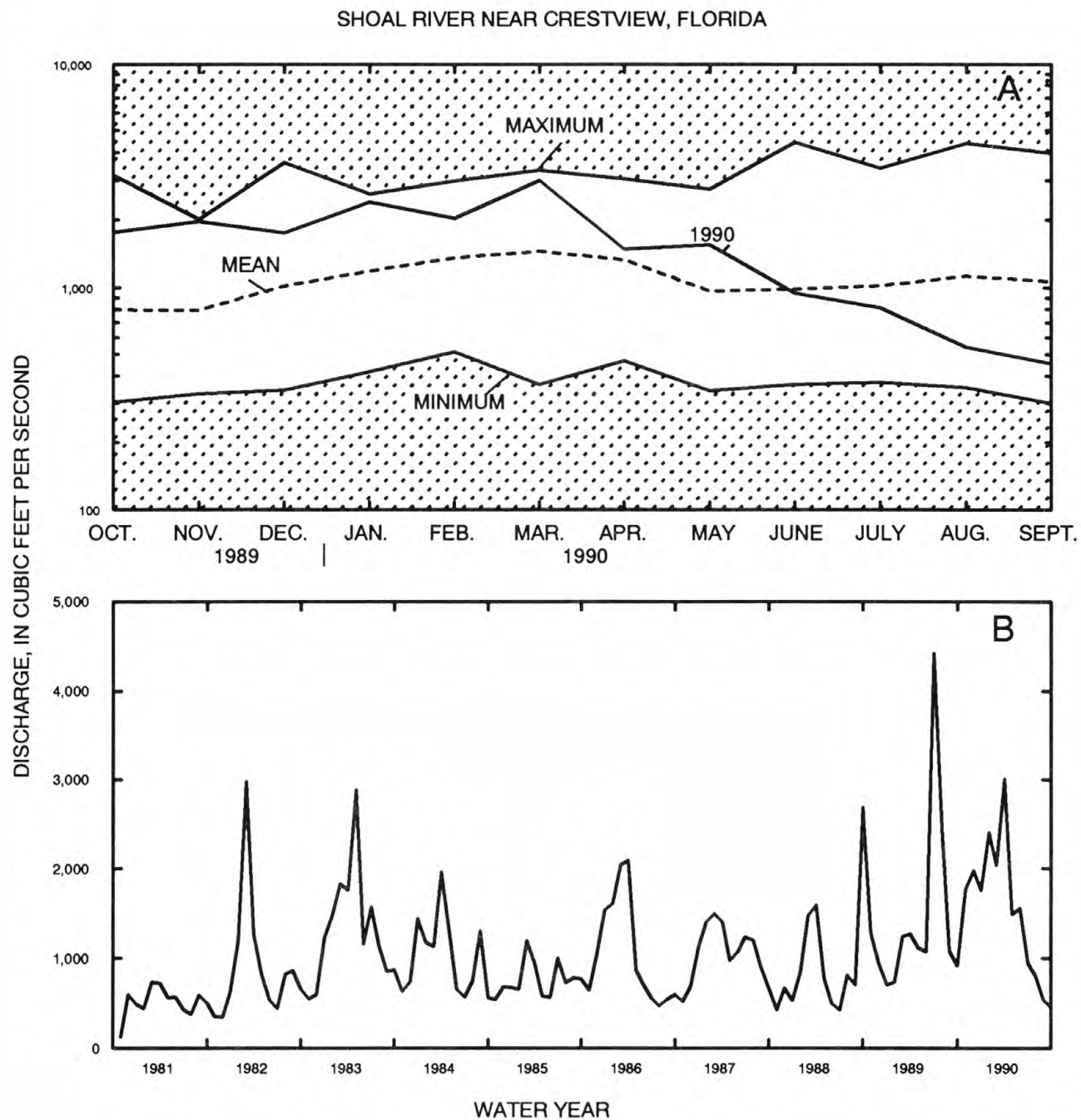


Figure 7.-- Shoal River near Crestview (A) 1990 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1938-89, and (B) the monthly mean discharge for the period 1981-90.

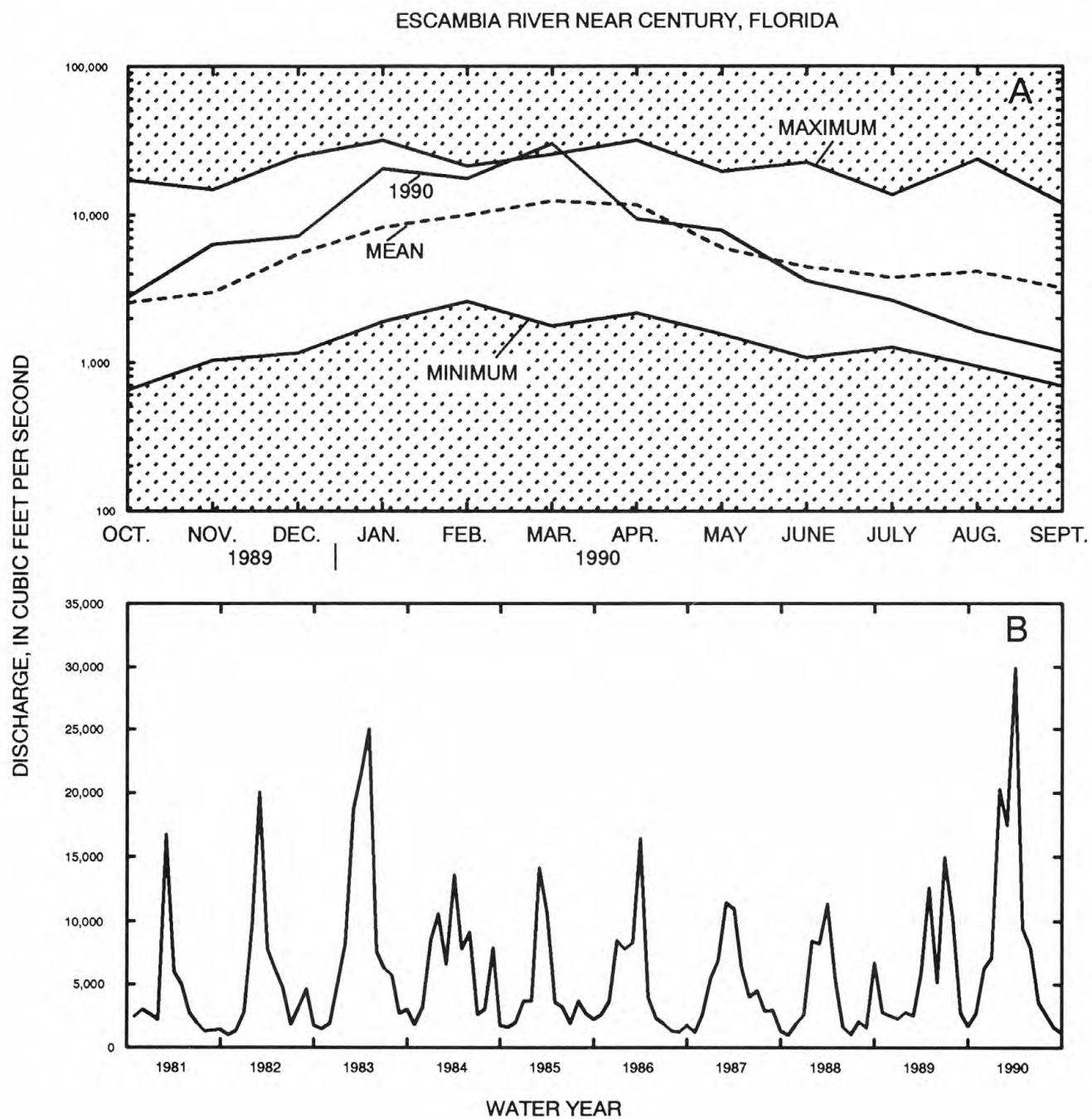


Figure 8.--Escambia River near Century (A) 1990 monthly mean discharge compared to the maximum, minimum, and mean monthly mean discharge for the period 1934-89, and (B) the monthly mean discharge for the period 1981-90.

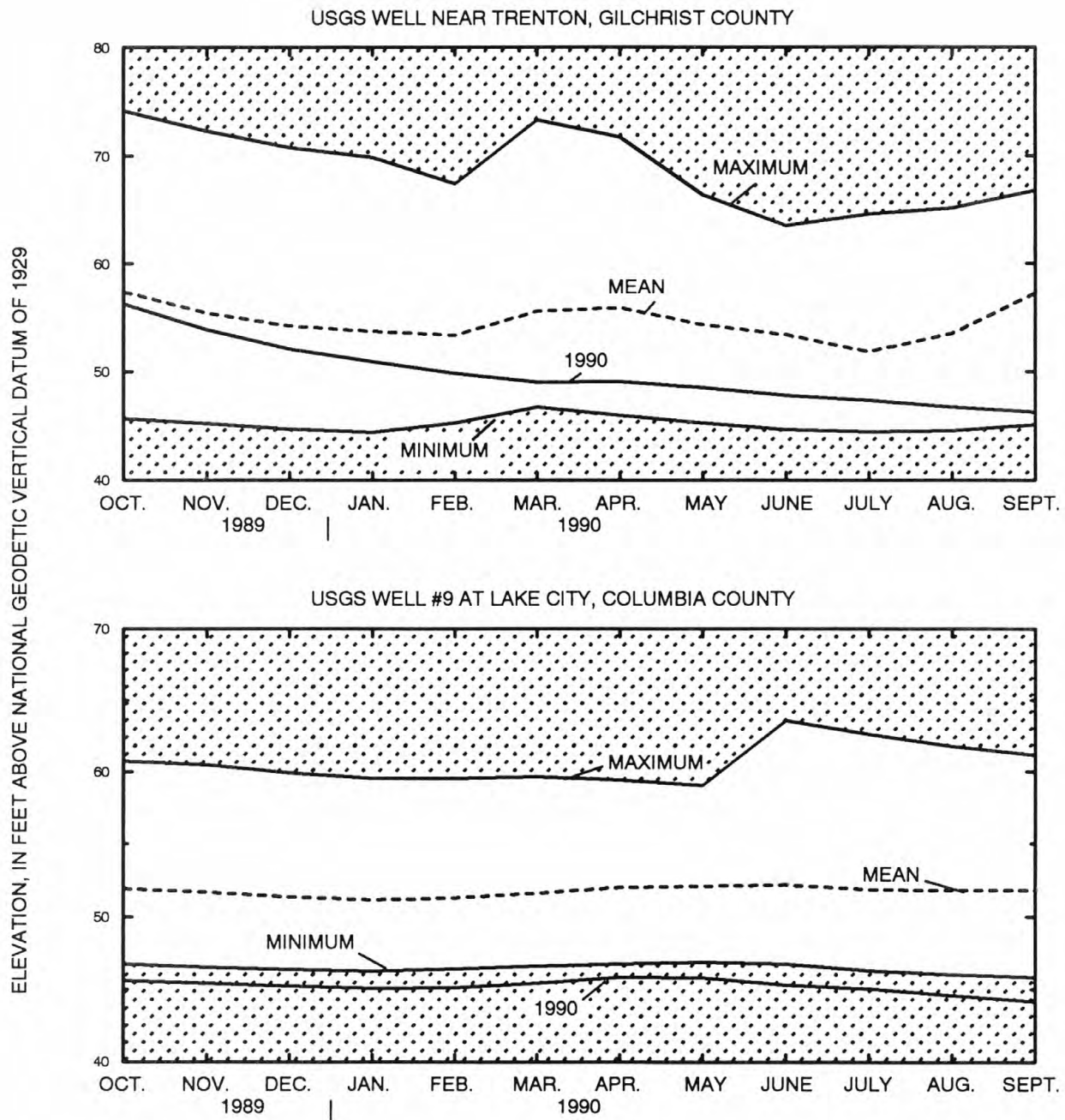


Figure 9.-- Monthly mean maximum water level for the 1990 water year compared to maximum, minimum, and mean monthly maximum water levels for the period 1965-89 for USGS well near Trenton, Gilchrist County, and 1948-89 for USGS well #9 at Lake City, Columbia County.

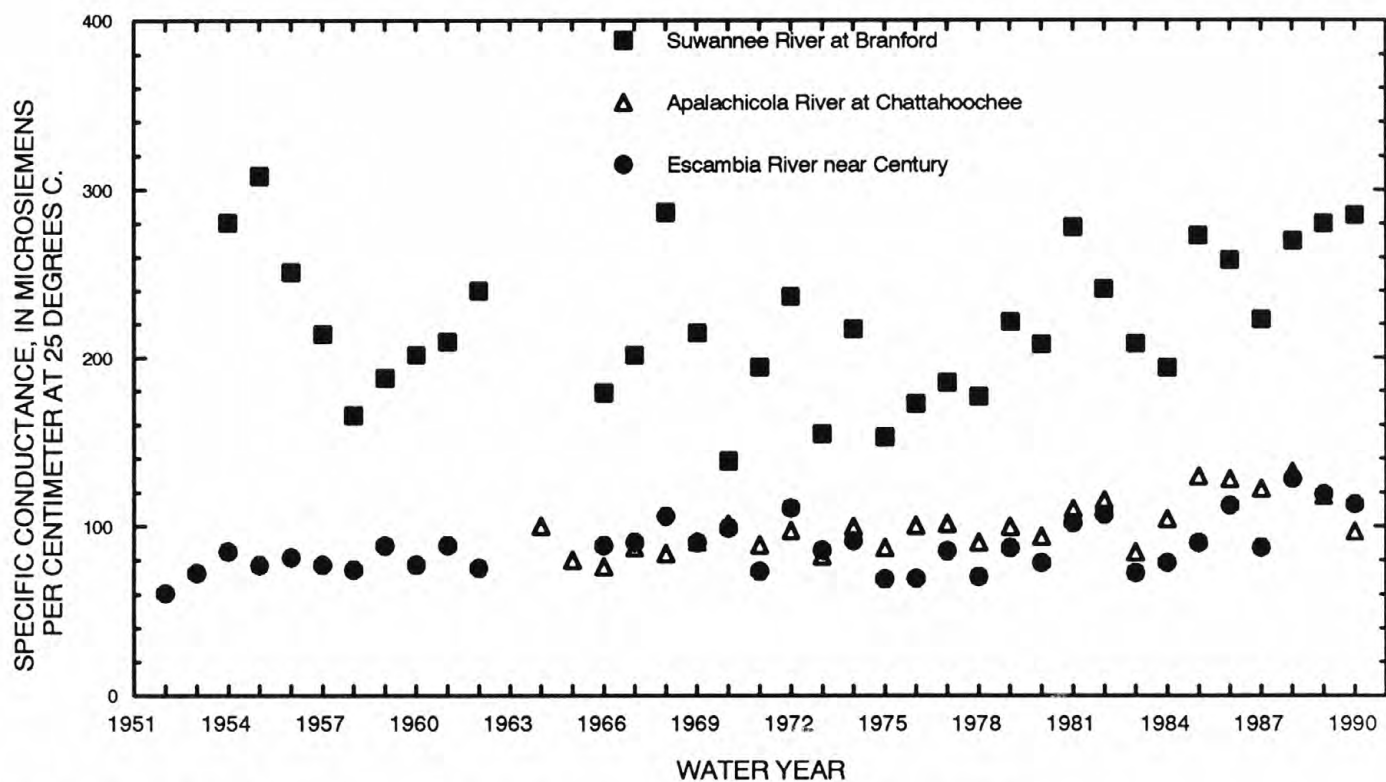


Figure 10.-- Annual average specific conductance at sites on Suwannee, Apalachicola, and Escambia Rivers, 1951-90.

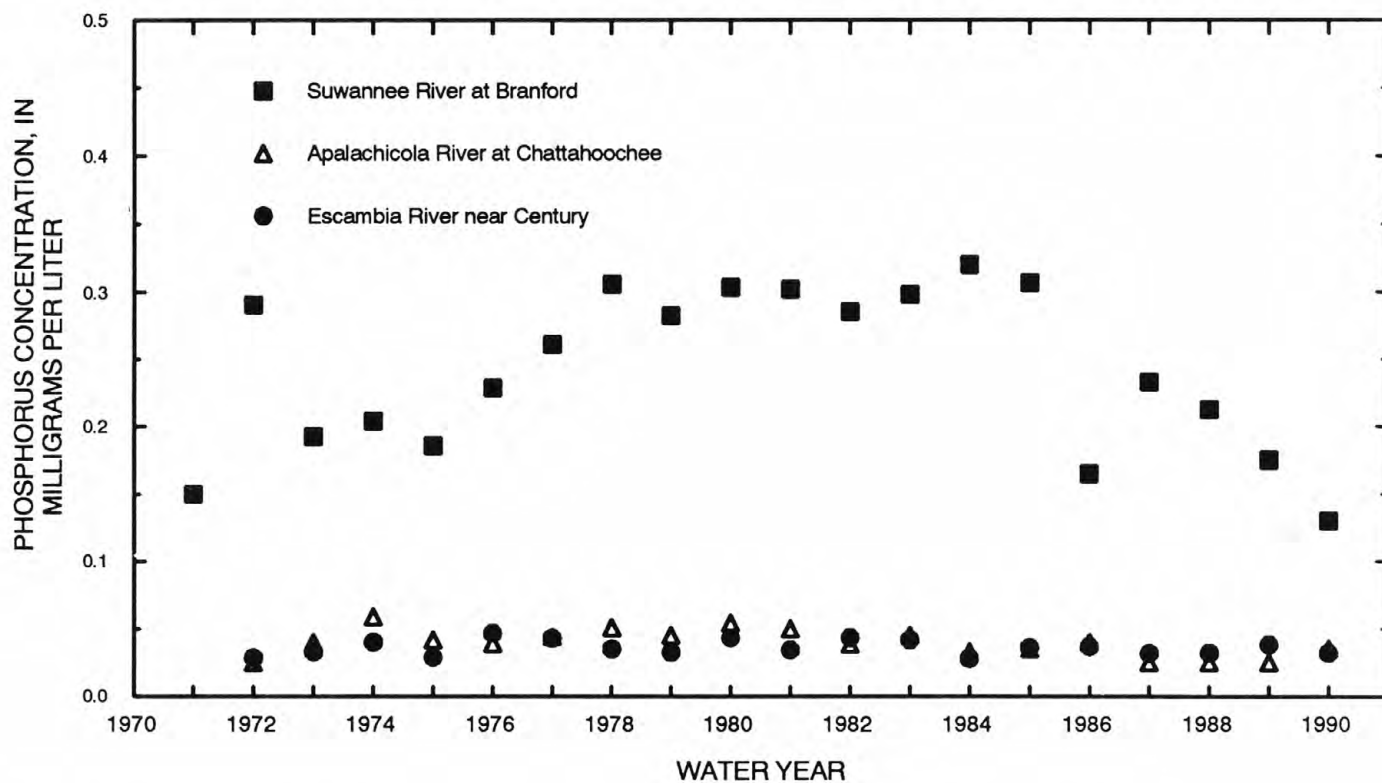


Figure 11.-- Annual average total phosphorus concentrations at sites on Suwannee, Apalachicola, and Escambia Rivers, 1970-90.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research. The NASQAN stations are shown in Figure 15.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

Radiochemical Program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Tritium Network is a network of stations that has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.



Figure 12.--NASQAN stations in the State of Florida.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1990 water year that began October 1, 1989, and ended September 30, 1990. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and for surface-water stations where only miscellaneous measurements are made.

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete number for each station, such as 02326500, which appears just to the left of the station name, includes the two-digit Part number "02" plus the 6 to 13 digit downstream-order number "326500." The part number refers to an area whose boundaries coincide with natural drainage lines; for example, Part "02" is the South Atlantic Slope and eastern Gulf of Mexico basins.

Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. This site-identification number, once assigned, is a unique number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description. (See figure below.)

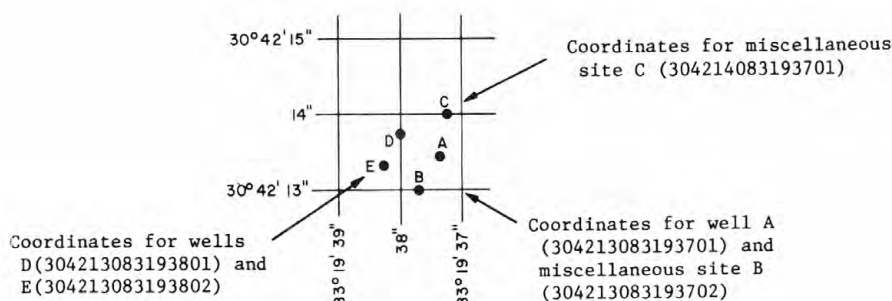


Figure 13.--System for numbering wells and miscellaneous sites (latitude and longitude).

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a recording device through which either instantaneous or mean daily discharges may be computed for any period of time. Complete records of lake or reservoirs, similarly, are those for which stage or content may be computed for any period of time. They may be obtained using a recording device or daily readings. Because daily mean discharges or elevations commonly are published for such stations, they are referred to as "daily stations."

Location of all complete-record stations for which data are given in this report are shown in figures preceding each sub-basin.

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records."

Data Collection and Computation

The base data collected at gaging stations consist of records of gage heights and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of gage height are obtained from either direct readings on a nonrecording gage or from a water-stage recorder that gives the fluctuations on a paper tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any gage height are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect measurements of peak discharge; such as slope-area, contracted opening measurements, computations of flow over dams or weirs, step backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharges are computed from the daily figures. If the stage-discharge relation was subjected to change because of occasional or continual change in the physical features of the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by the technician are used in applying the gage-height corrections to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by the same method.

At some stream-gaging stations the stage-discharge relation is affected by backwater from streams, tides, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in determining discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by a rapid change in stage; at these stations the rate of change in stage is used as a factor in determining discharge.

At some stations there is no relation between stage and discharge because of the flat stream gradients and/or tidal fluctuations. Discharge is determined from ratings which are based on a relation between recorded velocity index unit at a fixed point and mean velocity at a fixed measuring section, and a relation between recorded stage and cross-sectional area at the measuring site.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations. Records are published for the water year, which begins on October 1 and ends on September 30.

Data Presentation

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

Manuscript

LOCATION.--This paragraph reports the latitude and longitude (given in degrees, minutes, and seconds); a landline location designation; the hydrologic-unit number; the distance and direction from a geographic point of reference.

DRAINAGE AREA.--Drainage areas are delineated and measured using the most accurate topographic maps available, and are updated as necessary.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will be identified by date in this paragraph of the station description for water-discharge stations. (See next section, "Identifying Estimated Daily Discharge.") The paragraph will begin with this information presented as the first entry. This paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station and other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages, discharges or contents. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Data Table

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables are identified by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records depends primarily on: (1) The stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of their true values; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second (ft^3/s) for values less than $1 \text{ ft}^3/\text{s}$; to the nearest tenth between 1.0 and $10 \text{ ft}^3/\text{s}$; to whole numbers between 10 and $1,000 \text{ ft}^3/\text{s}$; and to 3 significant figures for more than $1,000 \text{ ft}^3/\text{s}$. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

Information used in the preparation of the records in this publication, such as discharge measurement notes, gage-height records, temperature measurements, and rating tables is on file in the Tallahassee office of the Florida District. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the offices whose addresses are given on the back of the title page of this report.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern is assuring that the data obtained represents the quality of the water in its natural state. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the natural water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals depends on flow conditions and other factors which must be evaluated by the collector.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratory in Arvada, Colorado. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Data Presentation

Information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each complete-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

REMARK CODES.--The following remark codes may appear with the water-quality data in this report:

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

NOTE: In March 1989 the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that values below 75 mg/L have a median positive bias of 2 mg/L above the true value for the period between 1982 and 1989. Sulfate values in this report have not been corrected for this bias.

Records of Ground-Water Levels

Ground-water level data from a statewide network of wells are published herein. The records include data from wells equipped with water-level recorders and data from wells where water levels are measured periodically.

Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table.

Water-level records are obtained from direct measurements with a steel tape, pressure gage, manometer, or from the graph or punched tape of a water-level recorder. The measurements in this report are given in feet above or below National Geodetic Vertical Datum of 1929 or in some tables as feet below land-surface datum. Land-surface datum is a datum plane that is approximately at land surface at each well. The elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description.

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given to a tenth of a foot or a larger unit.

Data Presentation

Each well record consists of two parts, the manuscript or station description and the data table of water levels observed during the water year. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

WATER RESOURCES DATA FOR FLORIDA, 1990
Volume 4: Northwest Florida

Manuscript

WELL NUMBER.--This entry designates the unique well-identification number, based on latitude and longitude, and the local well number or name (or both).

LOCATION.--This paragraph reports the latitude and longitude (given in degrees, minutes, and seconds); a landline location designation; the hydrologic-unit number; and the distance and direction from a geographic point of reference.

AQUIFER.--This entry designates by name (if a name exists) and geologic age the aquifer(s) open to the well. The aquifer code also may be shown.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the measurement method used and the measuring point. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base and so on), and in relation to land surface (such as 1.3 ft above land-surface datum).

DATUM.--The elevation of the land-surface datum is described in feet above (or below) National Geodetic Vertical Datum of 1929 (NGVD of 1929); it is reported with a precision depending on the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

Data Table

A table of water levels follows the station description for each well. For wells equipped with recorders, only abbreviated tables are published; generally, daily maximums are listed for every fifth day and at the end of the month (eom). The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the abbreviated table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level.

Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that, for most sampling sites, they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes only slowly; therefore, for most general purposes, one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

Data Collection and Computation

Methods for collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed at the end of the introductory text. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casing.

Data Presentation

The records of ground-water quality are published with the ground-water-level records for each county. Data for quality of ground water are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. The Remark Codes listed for surface-water-quality records are also applicable to ground-water-quality records.

ACCESS TO WATSTORE DATA

The National WATER Data STORAGE and RETRIEVAL System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from the offices whose addresses are given on the back of the title page.

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, Virginia 22092

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C plus or minus 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5°C plus or minus 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as Gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C plus or minus 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by micro-organisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square mile (g/mi^2).

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cubic-feet-per-second day (CFS-Day) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic feet per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a 0.45 μ m membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Elevation is a value given a gaging station or a ground-water well, for which the elevation of the gage datum has not been determined by leveling from a bench mark. The approximate elevation of the gage was then obtained by barometric observation or from topographic map.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate (CaCO_3).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Measuring point (MP) is an arbitrary permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

Micrograms per gram ($\mu\text{g/g}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter ($\mu\text{G/L}$, $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L and is based on the mass of dry sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay	0.00024 - 0.004	Sedimentation
Silt	.004 - .062	Sedimentation
Sand	.062 - 2.0	Sedimentation or sieve
Gravel	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Recurrence interval is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called return period.

Runoff in inches (IN., in.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft³/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

7-day 10-year low flow (7 Q₁₀) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water, per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is the part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) **dissolved** and (2) **total recoverable** concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 μ m membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) **dissolved** and (2) **total** concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata*, is the following:

Kingdom	.	.	.	.	.	.	Animal
Phylum	.	.	.	.	.	.	Arthropoda
Class	.	.	.	.	.	.	Insecta
Order	.	.	.	.	.	.	phemeroptera
Family	.	.	.	.	.	.	Ephemeraeidae
Genus	.	.	.	.	.	.	<i>Hexagenia</i>
Species	.	.	.	.	.	.	<i>Hexagenia limbata</i>

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1987, is called the "1987 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WSP is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F. P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and Warren E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 pages.
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STAGE, DISCHARGE, AND WATER QUALITY OF STREAMS

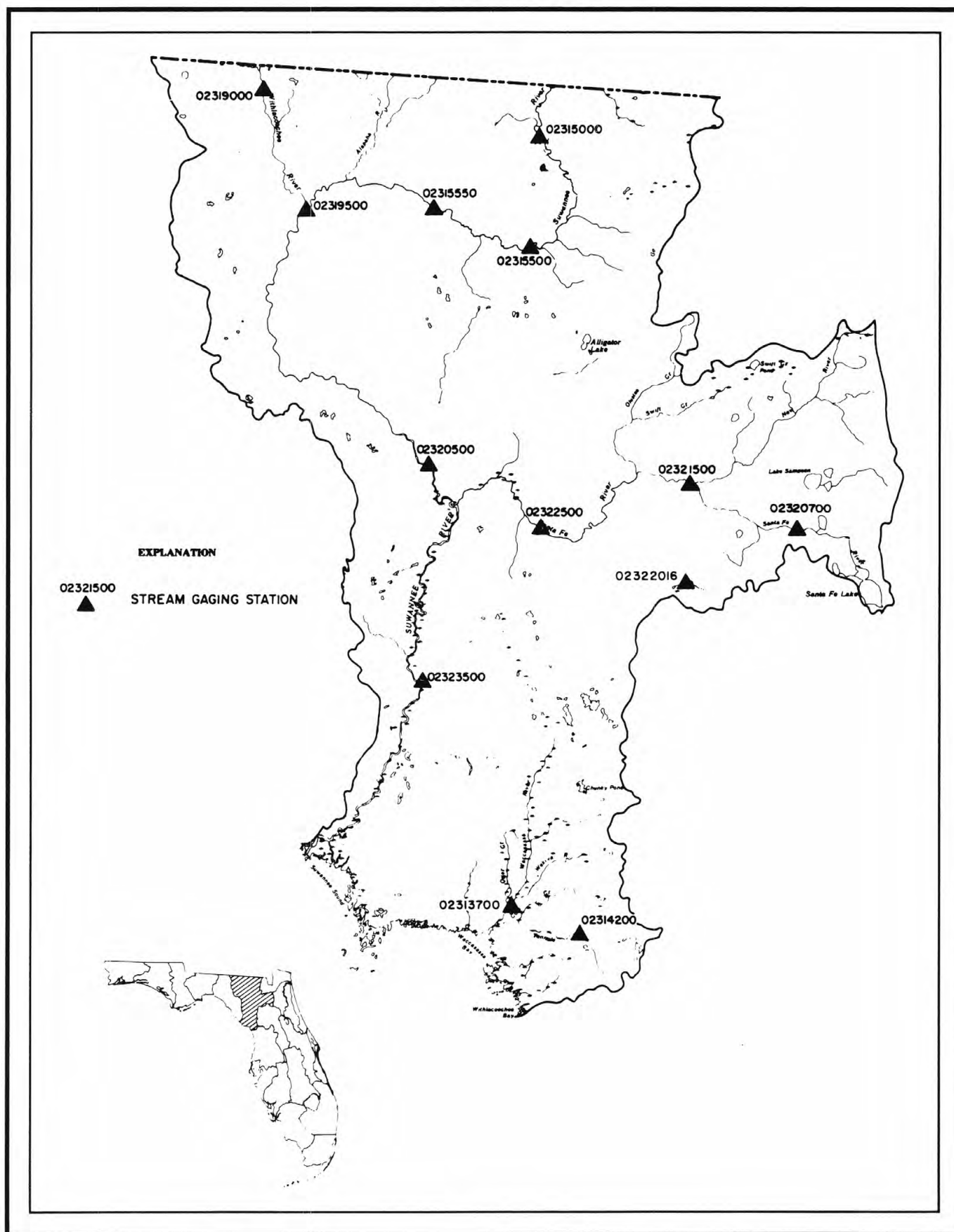


Figure 14.--Location of stream gaging stations in the Waccasassa and Suwannee River basins.

WACCASASSA RIVER BASIN

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02313700 WACCASASSA RIVER NEAR GULF HAMMOCK, FL

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 mi², approximately, including that of Otter Creek.

PERIOD OF RECORD.--March 1963 to September 1978; November 1980 to September 1984 (fragmentary); October 1984 to current year (incomplete).

REVISED RECORDS.--WSP 2105: 1969. WRD FL-72-1: Drainage area.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is 10.51 ft below National Geodetic Vertical Datum of 1929. Prior to Nov. 24, 1980, water-stage and deflection-meter recorders at same site at datum 10.00 ft higher.

REMARKS.--Records poor. Flow affected by tide. Discharge computed from continuous velocity record obtained from water-current meter. Records include flow of Otter Creek. Above bankfull stage, discharge measurements are made along abandoned railroad fill and include all flow from about 1.5 mi northwest to 0.8 mi northeast of gaging station.

AVERAGE DISCHARGE.--19 years (water years 1964-78, 1986-88, 90), 300 ft³/s 217,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft³/s, Sept. 12, 1964, gage height, 16.96 ft, present datum; maximum daily reverse flow 2,310 ft³/s, Aug. 31, 1985, minimum gage height, 7.23 ft, Nov. 23, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge 1,360 ft³/s, July 14; maximum gage height 14.29 ft, July 14; maximum daily reverse flow 151 ft³/s, July 3; minimum gage height, 7.55 ft, Nov. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	244	101	524	299	281	345	471	173	178	-50	87	e150
2	636	148	573	37	313	241	321	166	189	97	147	17
3	383	340	539	203	266	390	565	108	166	-151	137	143
4	353	351	306	194	156	313	281	176	160	-49	43	211
5	225	288	121	343	284	282	349	168	146	46	19	168
6	134	324	217	450	50	217	320	178	125	47	127	190
7	23	222	217	606	282	324	424	135	94	38	155	165
8	161	199	330	1050	314	201	306	86	115	11	193	166
9	171	326	1130	617	454	214	281	48	130	177	134	157
10	57	281	333	527	556	243	321	39	116	148	265	177
11	87	320	206	478	767	141	324	109	113	-39	451	185
12	130	227	98	390	619	166	282	93	136	136	310	151
13	59	110	284	197	543	206	249	63	71	15	349	147
14	36	252	70	179	498	162	285	68	88	1360	352	209
15	132	65	53	266	286	97	276	62	35	e1000	360	205
16	143	-43	145	239	379	117	300	45	41	e700	507	252
17	27	205	86	192	766	307	311	4.3	134	e500	528	206
18	47	176	336	176	509	251	332	-18	185	353	434	177
19	106	192	293	151	427	207	229	78	136	e300	335	144
20	222	149	744	312	829	182	227	54	76	e250	328	139
21	128	127	167	230	487	91	248	36	91	e200	317	163
22	83	109	123	216	516	75	346	-115	66	e200	367	151
23	274	535	174	180	1170	106	301	-77	130	189	145	185
24	210	369	52	263	948	132	310	-64	-5.1	209	-34	140
25	34	122	66	331	749	114	215	-21	84	233	97	139
26	65	388	230	379	557	110	223	102	75	190	115	156
27	76	572	106	219	464	70	204	70	13	222	133	128
28	111	723	20	258	479	183	1.4	-45	45	108	-.20	137
29	134	837	-45	295	---	246	321	216	-15	15	10	176
30	144	791	-26	327	---	154	190	174	-14	150	12	199
31	248	---	-49	443	---	533	---	152	---	74	e150	---
TOTAL	4883	8806	7423	10047	13949	6420	8813.4	2263.3	2903.9	6679	6572.80	4933
MEAN	158	294	239	324	498	207	294	73.0	96.8	215	212	164
MAX	636	837	1130	1050	1170	533	565	216	189	1360	528	252
MIN	23	-43	-49	37	50	70	1.4	-115	-15	-151	-34	17
AC-FT	9690	17470	14720	19930	27670	12730	17480	4490	5760	13250	13040	9780
CFSM	.33	.61	.50	.68	1.04	.43	.61	.15	.20	.45	.44	.34
IN.	.38	.68	.58	.78	1.08	.50	.68	.18	.23	.52	.51	.38

WTR YR 1990 TOTAL 83693.40 MEAN 229 MAX 1360 MIN -151 AC-FT 166000 CFSM .48 IN. 6.49

e Estimated

WACCASASSA RIVER BASIN
02314200 TENMILE CREEK AT LEBANON STATION, FL

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. Highways 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 mi², approximately; 34 mi², approximately, includes that of Horse Hole Creek.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 15.00 ft above National Geodetic Vertical Datum of 1929. Since Feb. 26, 1964, nonrecording gage at Horse Hole Creek. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records poor. Records do not include considerable amount of water diverted naturally above station into Horse Hole Creek basin. Discharge measurements of Horse Hole Creek, drainage area 8.1 mi², approximately, are made at bridge on U.S. Highways 19 and 98, 1.9 mi south of Tenmile Creek station.

AVERAGE DISCHARGE.--27 years, 37.1 ft³/s, 26,880 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,290 ft³/s Sept. 11, 1964, gage height, 12.38 ft; no flow for many days in 1964, 1967, 1977, 1981, 1985, 1986, 1989, 1990.

EXTREMES FOR PERIOD OF RECORD (Horse Hole Creek-02314205).--Maximum discharge measured, 1,270 ft³/s Sept. 11, 1964, elevation, 26.56 ft above NGVD; creek dry at times each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
July 14	1800	*330	*8.80				

Minimum discharge, no flow, for part of each day June 21, 22.

Discharge measurements in cubic feet per second, of Horse Hole Creek near Lebanon Station for the water year 1990 are given in table below.

DATE	TIME	STREAM FLOW INSTAN- TANEOUS (CFS)	DATE	TIME	STREAM FLOW INSTAN- TANEOUS (CFS)
Oct. 17...	1950	.00	June 1...	1025	Dry
Dec. 12...	1205	.00	July 26...	0945	2.30
Feb. 5...	1825	.00	Sept 19...	1500	.00
Apr. 5..	1200	Dry			

WACCASASSA RIVER BASIN
02314200 TENMILE CREEK AT LEBANON STATION, FL--Continued

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DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	.69	.77	12	2.0	11	.70	.24	.03	18	3.7	117
2	28	.68	.74	12	1.9	9.1	.77	.20	.05	11	2.7	69
3	29	.68	.70	9.2	1.8	7.9	2.3	.19	.05	8.4	2.5	47
4	16	.67	.70	8.0	1.7	6.8	1.4	.19	.04	7.1	1.8	36
5	11	.67	.72	11	1.6	5.3	.99	.20	.03	3.9	.95	30
6	6.8	.66	.72	11	1.5	4.2	.86	.21	.02	1.8	.56	24
7	4.4	.67	.72	11	1.5	3.2	.79	.21	.03	.83	.93	19
8	3.3	.67	.96	24	1.4	2.6	.72	.19	.04	.61	2.0	15
9	2.4	.85	2.8	23	1.4	2.1	.68	.21	.04	.65	5.2	12
10	1.8	.86	2.3	17	1.5	1.7	.64	.20	.04	15	11	9.8
11	1.6	.80	2.3	14	3.6	1.5	.62	.17	.03	25	11	11
12	1.4	.77	2.0	12	4.5	1.3	.59	.17	.03	18	9.5	11
13	1.2	.77	2.6	10	3.6	1.1	.58	.17	.02	10	6.7	10
14	1.1	.76	2.6	8.5	3.1	1.0	.58	.15	.02	247	7.1	9.2
15	.96	.74	2.2	7.5	2.7	.92	.57	.13	.02	244	9.9	8.2
16	.88	.76	2.1	6.8	2.5	.84	.56	.12	.02	155	9.2	8.0
17	.92	.77	2.0	6.1	4.2	.83	.54	.11	.02	102	6.7	7.4
18	.96	.72	2.5	5.5	5.8	1.0	.52	.10	.02	70	4.7	6.2
19	.87	.71	5.4	5.0	4.4	.99	.52	.10	.02	56	7.9	4.7
20	.77	.70	38	4.5	7.0	.89	.49	.09	.01	47	11	3.6
21	.72	.68	33	4.1	6.2	.77	.45	.09	.00	62	13	2.9
22	.69	.66	21	3.5	4.1	.71	.41	.10	.06	45	12	2.1
23	.68	.79	28	3.0	37	.68	.43	.06	.11	32	31	1.5
24	.66	.80	26	2.8	59	.65	.42	.06	.16	25	73	1.0
25	.66	.75	20	2.6	32	.65	.37	.08	.64	29	55	.70
26	.66	.82	17	2.7	22	.63	.37	.07	3.4	21	76	.53
27	.66	.89	15	2.5	17	.63	.35	.05	23	16	63	.47
28	.66	.90	13	2.3	14	.63	.34	.05	11	12	46	.69
29	.67	.87	11	2.2	---	.63	.31	.04	6.3	10	34	11
30	.69	.79	9.9	2.2	---	.64	.26	.03	32	7.6	27	14
31	.69	---	8.6	2.1	---	.72	---	.03	---	5.3	47	---
TOTAL	146.80	22.55	275.33	248.1	249.0	71.61	19.13	4.01	77.25	1306.19	592.04	492.99
MEAN	4.74	.75	8.88	8.00	8.89	2.31	.64	.13	2.57	42.1	19.1	16.4
MAX	29	.90	38	24	59	11	2.3	.24	32	247	76	117
MIN	.66	.66	.70	2.1	1.4	.63	.26	.03	.00	.61	.56	.47
AC-FT	291	45	546	492	494	142	38	8.0	153	2590	1170	978
CFSM	.18	.03	.34	.31	.34	.09	.02	.00	.10	1.62	.73	.63
IN.	.21	.03	.39	.35	.36	.10	.03	.01	.11	1.87	.85	.71
CAL YR 1989	TOTAL 1906.55	MEAN 5.22	MAX 132	MIN .00	AC-FT 3780	CFSM .20	IN. 2.73					
WTR YR 1990	TOTAL 3505.00	MEAN 9.60	MAX 247	MIN .00	AC-FT 6950	CFSM .37	IN. 5.01					

SUWANNEE RIVER BASIN
02315000 SUWANNEE RIVER NEAR BENTON, FL

LOCATION.--Lat 30°30'26", long 82°42'59", in NE¼ sec.9, T.1 N., R.16 E., Columbia County, Hydrologic Unit 03110201, near left bank on downstream side of bridge on State Highway 6, 3.7 mi northwest of Benton, 6.4 mi south of Florida-Georgia State Line, 13.7 mi east of Jasper, and 196 mi, upstream from mouth.

DRAINAGE AREA.--2,090 mi², approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD.--October 1975 to current year. Miscellaneous discharge measurements for some periods July 1934 to September 1975. Records for December 1931 to June 1934, at site 2.0 mi upstream (at Turner Bridge) not equivalent owing to difference in drainage areas.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Oct. 1, 1975 to Oct. 14, 1986, nonrecording gage at same site and datum. Dec. 8, 1931 to June 30, 1934, nonrecording gage at site 2.0 mi upstream at datum unknown.

REMARKS.--No estimated daily discharges. Records fair, except those below 10 cfs, which are poor.

AVERAGE DISCHARGE.--15 years, 1,371 ft³/s, 8.91 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,300 ft³/s Apr. 6, 1984, gage height, 99.90 ft; minimum daily, 2.7 ft³/s Sept. 29, 1990; minimum gage height, 74.10 ft, Oct. 27, 28, 29, 1986.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge measured, 27,700 ft³/s Apr. 6, 1973, gage height, 102.80 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,950 ft³/s Mar. 2, gage height, 87.87 ft; minimum daily, 2.7 ft³/s Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	315	121	39	667	1390	3940	1480	272	28	4.1	18	22		
2	334	117	38	743	1380	3950	1440	252	28	3.9	16	20		
3	357	112	36	760	1370	3930	1390	234	42	4.2	14	18		
4	341	108	35	772	1400	3870	1320	217	32	6.1	12	15		
5	318	104	32	785	1500	3780	1240	202	31	17	10	17		
6	299	101	30	809	1500	3660	1170	199	29	25	8.8	18		
7	282	99	29	880	1460	3520	1100	191	29	20	8.1	18		
8	268	98	36	1120	1420	3360	1030	183	35	17	8.7	19		
9	261	99	50	1200	1360	3200	973	176	32	14	13	20		
10	245	97	58	1220	1420	3040	926	170	27	13	17	22		
11	235	94	67	1250	1940	2870	887	164	25	13	17	21		
12	227	91	76	1280	1930	2700	852	155	22	18	19	20		
13	218	90	93	1290	1860	2530	811	146	19	17	25	19		
14	209	88	98	1290	1820	2370	772	140	16	26	16	16		
15	201	85	97	1290	1790	2220	732	134	13	21	12	14		
16	191	88	102	1290	1750	2070	691	130	16	17	9.1	14		
17	185	88	105	1290	1820	1940	648	125	21	15	9.8	13		
18	179	83	121	1270	1910	1890	610	121	20	16	11	17		
19	175	79	216	1260	1980	1790	569	117	15	19	11	15		
20	172	76	434	1240	2270	1690	541	112	13	21	14	12		
21	169	72	491	1250	2550	1600	518	109	11	53	12	9.4		
22	164	69	488	1350	2710	1510	492	106	10	47	14	7.6		
23	157	69	512	1360	3100	1420	464	102	8.9	44	18	6.6		
24	153	60	529	1330	3410	1330	448	97	8.0	44	15	5.3		
25	148	53	545	1300	3550	1230	425	92	6.2	41	13	3.2		
26	144	49	559	1300	3680	1150	396	83	4.7	38	12	2.8		
27	140	47	576	1300	3790	1060	364	69	5.1	31	13	2.9		
28	137	44	585	1290	3890	980	342	52	7.1	27	13	3.1		
29	132	42	593	1280	---	907	312	41	6.5	24	12	2.7		
30	128	41	593	1300	---	881	292	33	5.0	22	16	5.4		
31	124	---	594	1360	---	1370	---	29	---	20	25	---		
TOTAL	6608	2464	7857	36126	59950	71758	23235	4253	565.5	698.3	432.5	399.0		
MEAN	213	82.1	253	1165	2141	2315	774	137	18.8	22.5	14.0	13.3		
MAX	357	121	594	1360	3890	3950	1480	272	42	53	25	22		
MIN	124	41	29	667	1360	881	292	29	4.7	3.9	8.1	2.7		
AC-FT	13110	4890	15580	71660	118900	142300	46090	8440	1120	1390	858	791		
CFSM	.10	.04	.12	.56	1.02	1.11	.37	.07	.01	.01	.01	.01		
IN.	.12	.04	.14	.64	1.07	1.28	.41	.08	.01	.01	.01	.01		
CAL YR 1989	TOTAL	81701	MEAN	224	MAX	700	MIN	14	AC-FT	162100	CFSM	.11	IN.	1.45
WTR YR 1990	TOTAL	214346.3	MEAN	587	MAX	3950	MIN	2.7	AC-FT	425200	CFSM	.28	IN.	3.82

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DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76.06	75.20	74.64	77.65	80.16	87.83	80.46	75.92	74.53	74.25	74.57	74.72
2	76.13	75.17	74.63	77.95	80.15	87.86	80.32	75.83	74.53	74.24	74.55	74.70
3	76.23	75.15	74.61	78.01	80.10	87.81	80.16	75.75	74.67	74.25	74.53	74.67
4	76.17	75.12	74.59	78.05	80.21	87.66	79.93	75.67	74.58	74.28	74.51	74.64
5	76.09	75.09	74.57	78.10	80.55	87.42	79.68	75.60	74.57	74.44	74.49	74.65
6	76.02	75.08	74.55	78.19	80.53	87.11	79.42	75.59	74.55	74.53	74.48	74.67
7	75.95	75.06	74.54	78.46	80.42	86.74	79.17	75.55	74.55	74.49	74.47	74.67
8	75.91	75.05	74.61	79.34	80.26	86.30	78.93	75.51	74.60	74.45	74.48	74.68
9	75.89	75.06	74.74	79.64	80.06	85.85	78.71	75.48	74.57	74.41	74.55	74.69
10	75.83	75.05	74.81	79.70	80.26	85.40	78.54	75.45	74.53	74.41	74.60	74.71
11	75.79	75.03	74.88	79.79	81.98	84.93	78.40	75.42	74.51	74.41	74.61	74.71
12	75.76	75.02	74.94	79.88	81.94	84.44	78.27	75.38	74.48	74.48	74.62	74.69
13	75.71	75.01	75.05	79.93	81.70	83.94	78.12	75.33	74.44	74.47	74.70	74.68
14	75.67	74.99	75.09	79.92	81.59	83.42	77.96	75.30	74.41	74.57	74.61	74.65
15	75.63	74.98	75.07	79.92	81.49	82.91	77.81	75.28	74.37	74.53	74.56	74.62
16	75.58	75.00	75.10	79.91	81.35	82.39	77.65	75.25	74.41	74.48	74.53	74.62
17	75.55	75.00	75.12	79.89	81.59	81.95	77.48	75.23	74.46	74.46	74.54	74.61
18	75.52	74.96	75.21	79.84	81.87	81.78	77.32	75.21	74.45	74.47	74.57	74.65
19	75.49	74.94	75.72	79.78	82.09	81.47	77.16	75.19	74.40	74.52	74.56	74.64
20	75.48	74.92	76.73	79.70	83.07	81.14	77.04	75.16	74.36	74.54	74.61	74.59
21	75.46	74.89	76.95	79.72	84.02	80.84	76.95	75.15	74.34	74.85	74.59	74.56
22	75.43	74.87	76.94	80.09	84.48	80.55	76.84	75.14	74.33	74.81	74.62	74.53
23	75.40	74.87	77.03	80.10	85.58	80.24	76.73	75.12	74.32	74.80	74.67	74.52
24	75.37	74.81	77.10	80.02	86.43	79.93	76.67	75.08	74.31	74.80	74.64	74.50
25	75.36	74.74	77.17	79.91	86.82	79.60	76.58	75.04	74.28	74.77	74.61	74.46
26	75.33	74.72	77.23	79.89	87.14	79.29	76.46	74.98	74.26	74.74	74.60	74.45
27	75.31	74.70	77.29	79.87	87.45	78.99	76.33	74.88	74.26	74.69	74.60	74.45
28	75.29	74.67	77.33	79.85	87.70	78.68	76.23	74.75	74.30	74.65	74.61	74.46
29	75.26	74.66	77.35	79.81	---	78.41	76.10	74.65	74.29	74.63	74.60	74.45
30	75.24	74.65	77.35	79.86	---	78.31	76.01	74.58	74.26	74.61	74.64	74.50
31	75.21	---	77.34	80.06	---	80.07	---	74.54	---	74.59	74.75	

SUWANNEE RIVER BASIN
02315500 SUWANNEE RIVER AT WHITE SPRINGS, FL

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 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 mi² approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD.--May 1906 to December 1908, February 1927 to current year.

REVISED RECORDS.--WSP 1504: 1906, 1908. WSP 1905: WDR FL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to July 31, 1932, nonrecording gage at site 1.0 mi downstream at datum 48.54 ft. August 1, 1932 to October 10, 1979, water-stage recorder at datum 48.54 ft. October 11, 1979 to December 1, 1983, non-recording gage at site 2.2 miles downstream at NGVD. December 2, 1983 to April 30, 1988, non-recording gage at same site and datum.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--65 years (water years 1907-08, 1928-90), 1,817 ft³/s, 10.15 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,100 ft³/s Apr. 10, 1973, gage height, 88.56 ft present datum; minimum, 2.8 ft³/s Sept. 26, 28, 1990; minimum gage height, 49.59 ft present datum June 24-26, 1955, Nov. 3-8, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 4,030 ft³/s Mar. 1, 2, maximum gage height, 63.15 ft Mar. 2; minimum, 2.8 ft³/s Sept 26, 28, gage height 49.72 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	450	157	e52	778	e1430	4030	e1460	344	38	e13	22	23
2	502	153	e51	e840	1460	4030	1640	321	34	13	19	23
3	517	147	50	910	1440	4020	1600	302	41	11	17	18
4	502	137	46	916	1460	e3960	1560	281	e51	11	16	15
5	464	130	43	918	1530	3900	1440	e266	56	9.5	14	13
6	433	126	43	927	1560	3810	1310	248	41	8.5	13	11
7	414	126	41	974	1540	3650	e1220	245	44	23	12	11
8	402	122	47	1270	1490	3530	1150	e234	60	22	11	11
9	382	132	e64	1380	1410	3340	1100	226	e59	20	e13	9.5
10	368	123	76	1380	e1460	e3170	1040	223	58	20	14	9.5
11	346	115	88	1390	1900	3010	999	210	58	18	17	10
12	334	112	87	1410	2100	2920	949	202	52	23	27	9.5
13	319	110	126	1410	2010	2680	904	186	41	e32	26	10
14	e305	107	135	1410	1930	2570	851	183	36	44	31	10
15	292	107	137	1400	1900	2420	809	181	29	51	21	9.0
16	279	110	e137	1390	1860	2200	773	168	e24	33	18	e8.5
17	269	107	137	1390	e1890	e2110	725	163	e27	26	14	7.5
18	248	102	173	1370	2000	e2000	670	157	29	31	12	6.5
19	245	98	235	1350	2030	1920	e633	e150	e31	e27	12	6.0
20	227	94	447	e1340	2500	1760	600	146	34	24	12	5.5
21	e223	92	610	1320	2920	1700	e575	144	26	24	13	5.0
22	218	89	615	1390	3070	e1590	548	140	21	66	14	4.5
23	215	97	e620	1430	3320	1490	523	136	20	55	14	4.5
24	207	87	627	1420	3750	e1400	500	129	e19	55	14	4.0
25	195	74	638	1380	3840	e1300	488	118	e18	54	15	4.0
26	192	68	652	1380	3860	1220	464	e106	e16	47	14	2.8
27	191	66	e668	1360	3920	1100	435	e95	e15	39	12	3.2
28	e181	64	e683	1360	3980	1040	411	e80	14	35	12	2.8
29	173	60	685	1350	---	977	e394	76	13	32	12	3.2
30	165	54	685	1340	---	888	380	e57	e13	e28	11	e4.0
31	162	---	683	1400	---	e1140	---	41	---	24	18	---
TOTAL	9420	3166	9381	39283	63560	74875	26151	5558	1018	919.0	490	264.5
MEAN	304	106	303	1267	2270	2415	872	179	33.9	29.6	15.8	8.82
MAX	517	157	685	1430	3980	4030	1640	344	60	66	31	23
MIN	162	54	41	778	1410	888	380	41	13	8.5	11	2.8
AC-FT	18680	6280	18610	77920	126100	148500	51870	11020	2020	1820	972	525
CFSM	.13	.04	.12	.52	.93	.99	.36	.07	.01	.01	.01	.00
IN.	.14	.05	.14	.60	.97	1.15	.40	.09	.02	.01	.01	.00

CAL YR 1989 TOTAL 100480 MEAN 275 MAX 846 MIN 41 AC-FT 199300 CFSM .11 IN. 1.54
WTR YR 1990 TOTAL 234085.5 MEAN 641 MAX 4030 MIN 2.8 AC-FT 464300 CFSM .26 IN. 3.58

e Estimated

SUWANNEE RIVER BASIN
02315500 SUWANNEE RIVER AT WHITE SPRINGS, FL--Continued.

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GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52.45	51.10	e50.37	53.78	e55.90	63.13	e56.00	52.05	50.25	e49.90	50.07	50.09
2	52.67	51.07	e50.36	e54.00	55.99	63.15	56.49	51.94	50.20	49.90	50.03	50.06
3	52.73	51.04	50.35	54.25	55.94	63.10	56.40	51.84	50.28	49.88	50.00	50.00
4	52.67	50.98	50.32	54.27	55.99	e62.95	56.27	51.73	e50.36	49.88	49.98	49.94
5	52.51	50.94	50.29	54.28	56.19	62.79	55.95	e51.65	50.40	49.85	49.96	49.92
6	52.38	50.91	50.29	54.31	56.27	62.52	55.53	51.57	50.28	49.83	49.94	49.88
7	52.30	50.91	50.28	54.48	56.21	62.07	e55.25	51.55	50.30	50.07	49.92	49.88
8	52.25	50.89	50.33	55.40	56.09	61.76	55.03	e51.50	50.44	50.05	49.90	49.88
9	52.17	50.95	e50.47	55.76	55.85	61.23	54.89	51.46	e50.43	50.02	e49.93	49.85
10	52.11	50.90	50.57	55.76	e56.00	e60.75	54.70	51.44	50.42	50.02	49.96	49.85
11	52.02	50.85	50.67	55.78	57.22	60.30	54.56	51.37	50.42	49.98	50.00	49.86
12	51.97	50.83	50.66	55.84	57.79	60.06	54.39	51.33	50.37	50.06	50.14	49.85
13	51.90	50.81	50.91	55.85	57.53	59.40	54.23	51.25	50.28	e50.18	50.12	49.86
14	e51.84	50.80	50.96	55.84	57.30	59.07	54.04	51.23	50.23	50.30	50.18	49.86
15	51.78	50.80	50.98	55.82	57.23	58.66	53.89	51.22	50.14	50.36	50.06	49.84
16	51.72	50.81	e50.98	55.78	57.10	58.06	53.76	51.16	e50.08	50.21	50.02	e49.83
17	51.67	50.80	50.98	55.78	e57.20	e57.80	53.59	51.13	e50.12	50.12	49.96	49.82
18	51.57	50.76	51.18	55.72	57.50	e57.50	53.38	51.10	50.14	50.18	49.92	49.80
19	51.55	50.74	51.51	55.67	57.59	57.28	e53.23	e51.06	e50.17	e50.14	49.92	49.79
20	51.47	50.71	52.48	e55.61	58.88	56.83	53.10	51.03	50.20	50.11	49.92	49.78
21	e51.44	50.70	53.14	55.56	60.05	56.66	e53.00	51.02	50.10	50.11	49.93	49.77
22	51.42	50.68	53.16	55.79	60.46	e56.35	52.89	51.00	50.04	50.50	49.95	49.76
23	51.40	50.73	e53.18	55.92	61.17	56.09	52.79	50.97	50.03	50.41	49.96	49.76
24	51.36	50.66	53.21	55.87	62.35	e55.80	52.70	50.93	e50.01	50.41	49.96	49.75
25	51.30	50.55	53.25	55.76	62.61	e55.50	52.65	50.86	e49.98	50.40	49.97	49.75
26	51.28	50.50	53.31	55.75	62.68	55.25	52.55	e50.79	e49.96	50.35	49.96	49.72
27	51.27	50.49	e53.37	55.70	62.83	54.86	52.43	e50.72	e49.94	50.28	49.92	49.73
28	e51.22	50.47	e53.43	55.68	63.01	54.70	52.33	e50.60	49.93	50.23	49.92	49.72
29	51.18	50.44	53.44	55.65	---	54.49	e52.26	50.57	49.92	50.20	49.92	49.73
30	51.14	50.39	53.44	55.63	---	54.17	52.20	e50.41	e49.91	e50.15	49.90	e49.75
31	51.12	---	53.43	55.82	---	e55.00	---	50.28	---	50.10	50.01	---
TOTAL	1605.86	1523.21	1601.30	1717.11	1630.93	1817.28	1620.48	1586.76	1505.33	1554.18	1549.33	1495.08
MEAN	51.80	50.77	51.65	55.39	58.25	58.62	54.02	51.19	50.18	50.13	49.98	49.84
MAX	52.73	51.10	53.44	55.92	63.01	63.15	56.49	52.05	50.44	50.50	50.18	50.09
MIN	51.12	50.39	50.28	53.78	55.85	54.17	52.20	50.28	49.91	49.83	49.90	49.72

CAL YR 1989 TOTAL 18842.48 MEAN 51.62 MAX 53.98 MIN 50.24
WTR YR 1990 TOTAL 19206.85 MEAN 52.62 MAX 63.15 MIN 49.72

e Estimated

SUWANNEE RIVER BASIN

02315550 SUWANNEE RIVER AT SUWANNEE SPRINGS, FL

LOCATION.--Lat 30°23'34", long 82°56'00", in NE¼ sec.20, T.1 S., R.14 E., Suwannee County, Hydrologic Unit 03110201, on left bank 0.2 mi upstream from springs at town of Suwannee Springs, 7.5 mi north of Live Oak, and 150 mi upstream from mouth.

DRAINAGE AREA.--2,630 mi², approximately, includes part of watershed in Okefenokee Swamp, which is indeterminate.

PERIOD OF RECORD.--October 1974 to current year. Prior to November 1960, six miscellaneous discharge measurements made in 1906, 1951 and 1956. November 1960 to September 1974 (gage heights and discharge measurements only).

REVISED RECORDS.--WSP 2105: WDR FL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark). Dec. 13, 1960 to Apr. 26, 1972 and Aug. 21, 1974 to May 8, 1980, auxiliary nonrecording gage 0.3 mi downstream from base gage at same datum. Since Oct. 1, 1982 water stage recorder at Suwannee River at Ellaville (02319500), about 23 mi. downstream from base gage, used to determine discharge during backwater conditions.

REMARKS.--Records fair. Flow affected by backwater from Withlacoochee and Alapaha Rivers at times.

AVERAGE DISCHARGE.--16 years (water years 1975-90), 1,737 ft³/s, 8.97 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,100 ft³/s Apr. 12, 1973, gage height, 78.91 ft, from flood marks; minimum, 50 ft³/s Sept. 28, 1990; minimum gage height, 37.17 ft, Sept. 28, 1990..

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,080 ft³/s, Mar. 3, gage height, 51.34 ft; minimum, 50 ft³/s, Sept. 28, gage height, 37.17 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	457	225	144	762	1530	4020	1850	449	123	e127	e100	118
2	491	218	141	871	1540	4060	1920	404	123	e128	e93	121
3	526	215	141	930	1530	4070	1930	367	123	e126	e91	120
4	537	208	136	931	1530	4070	1880	337	125	e116	e90	116
5	504	199	132	926	1590	4060	1760	315	134	e102	e87	111
6	469	195	131	930	1650	4020	1640	294	131	e87	e87	106
7	451	194	130	963	1650	3940	1530	287	126	e109	e84	100
8	448	194	138	1070	1620	3830	1420	276	128	e102	e81	95
9	461	196	149	1270	1580	3710	1340	268	135	e94	e79	94
10	461	197	159	1330	1560	3580	1270	262	142	e94	e102	93
11	413	191	161	1320	1750	3440	1220	252	134	e91	e115	93
12	390	186	166	1340	2070	3310	1160	240	129	e93	e102	90
13	367	183	180	1340	2090	3150	1100	233	127	e106	e91	83
14	338	180	190	1320	2040	2980	1060	225	125	e122	e94	80
15	323	178	192	1300	1990	2810	1020	218	e125	e141	e95	78
16	312	177	196	1280	1950	2640	974	211	e123	153	e98	79
17	314	173	197	1260	1950	2490	918	203	e122	141	e94	76
18	305	168	207	1270	2010	2360	854	197	e121	143	e90	72
19	285	165	239	1300	2090	2260	795	191	e121	151	e85	66
20	275	163	323	1350	2440	2140	747	186	e127	143	e79	63
21	270	163	531	1420	2870	2010	713	181	e126	137	e84	60
22	267	160	606	1550	3100	1890	692	178	e126	130	e79	58
23	263	167	614	1680	3360	1780	667	176	e126	148	e91	60
24	270	171	626	1730	3660	1680	641	170	e126	146	e91	60
25	264	167	642	1720	3800	1580	614	166	e127	137	e91	61
26	252	161	664	1660	3850	1490	589	166	e127	129	e93	58
27	245	158	689	1590	3900	1410	556	169	e127	122	e93	54
28	238	157	702	1530	3970	1330	526	159	e127	117	e94	53
29	231	154	716	1490	---	1270	518	153	e127	116	e94	54
30	227	149	712	1470	---	1190	495	139	e127	116	102	55
31	226	---	702	1500	---	1380	---	129	---	115	115	---
TOTAL	10880	5412	10656	40403	64670	83950	32399	7201	3810	3782	2864	2427
MEAN	351	180	344	1303	2310	2708	1080	232	127	122	92.4	80.9
MAX	537	225	716	1730	3970	4070	1930	449	142	153	115	121
MIN	226	149	130	762	1530	1190	495	129	121	87	79	53
AC-FT	21580	10730	21140	80140	128300	166500	64260	14280	7560	7500	5680	4810
CFSM	.13	.07	.13	.50	.88	1.03	.41	.09	.05	.05	.04	.03
IN.	.15	.08	.15	.57	.91	1.19	.46	.10	.05	.05	.04	.03

CAL YR 1989 TOTAL 108497 MEAN 297 MAX 781 MIN 130 AC-FT 215200 CFSM .11 IN. 1.53
WTR YR 1990 TOTAL 268454 MEAN 735 MAX 4070 MIN 53 AC-FT 532500 CFSM .28 IN. 3.80
e Estimated

SUWANNEE RIVER BASIN
02315550 SUWANNEE RIVER AT SUWANNEE SPRINGS, FL--Continued

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GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39.41	38.20	37.74	40.94	44.15	51.22	44.27	39.52	37.62	---	---	37.60
2	39.54	38.15	37.72	41.34	44.18	51.30	44.54	39.33	37.62	---	---	37.63
3	39.67	38.14	37.73	41.56	44.15	51.31	44.59	39.18	37.61	---	---	37.62
4	39.70	38.09	37.69	41.58	44.15	51.23	44.48	39.04	37.63	---	---	37.59
5	39.56	38.02	37.66	41.58	44.25	51.06	44.18	38.93	37.70	---	---	37.55
6	39.40	38.00	37.65	41.62	44.39	50.82	43.86	38.84	37.67	---	---	37.51
7	39.31	38.00	37.65	41.78	44.36	50.47	43.56	38.81	37.64	---	---	37.47
8	39.29	38.00	37.73	42.21	44.23	50.09	43.23	38.74	37.65	---	---	37.42
9	39.33	38.03	37.83	42.92	44.07	49.69	42.92	38.69	37.69	---	---	37.42
10	39.32	38.04	37.93	43.19	43.98	49.29	42.66	38.66	37.76	---	---	37.42
11	39.10	38.00	37.96	43.25	44.54	48.90	42.47	38.59	37.69	---	---	37.41
12	39.01	37.97	38.01	43.34	45.50	48.49	42.23	38.52	37.64	---	---	37.40
13	38.92	37.95	38.12	43.39	45.59	48.05	42.01	38.47	37.62	---	---	37.35
14	38.79	37.94	38.18	43.41	45.49	47.58	41.83	38.42	---	37.68	---	37.34
15	38.73	37.93	38.20	43.46	45.38	47.10	41.68	38.38	---	37.86	---	37.32
16	38.68	37.93	38.23	43.55	45.27	46.61	41.51	38.33	---	37.99	---	37.33
17	38.70	37.90	38.23	43.69	45.30	46.18	41.31	38.28	---	37.89	---	37.31
18	38.66	37.87	38.31	43.87	45.51	45.85	41.08	38.24	---	37.91	---	37.28
19	38.56	37.85	38.55	44.04	45.79	45.59	40.85	38.21	---	37.98	---	37.25
20	38.50	37.85	39.10	44.22	46.75	45.29	40.67	38.18	---	37.90	---	37.23
21	38.46	37.85	40.06	44.40	47.89	44.96	40.54	38.15	---	37.85	---	37.21
22	38.45	37.83	40.37	44.69	48.52	44.64	40.46	38.13	---	37.79	---	37.20
23	38.43	37.90	40.41	45.02	49.23	44.36	40.36	38.11	---	37.93	---	37.21
24	38.48	37.93	40.45	45.12	50.00	44.08	40.26	38.06	---	37.92	---	37.21
25	38.44	37.90	40.52	45.04	50.45	43.80	40.16	38.03	---	37.83	---	37.22
26	38.37	37.86	40.60	44.76	50.68	43.52	40.06	38.02	---	37.77	---	37.20
27	38.32	37.84	40.70	44.44	50.66	43.22	39.94	38.04	---	37.70	---	37.19
28	38.27	37.84	40.76	44.21	51.06	42.90	39.82	37.96	---	37.66	---	37.18
29	38.22	37.82	40.81	44.07	---	42.64	39.79	37.90	---	37.65	---	37.19
30	38.20	37.78	40.79	43.97	---	42.32	39.71	37.77	---	37.64	37.48	37.20
31	38.20	---	40.73	44.02	---	42.88	---	37.68	---	37.63	37.58	---
TOTAL	1204.02	1138.41	1206.42	1344.68	1295.72	1455.44	1255.03	1191.21	---	---	---	1120.46
MEAN	38.84	37.95	38.92	43.38	46.28	46.95	41.83	38.43	---	---	---	37.35
MAX	39.70	38.20	40.81	45.12	51.06	51.31	44.59	39.52	---	---	---	37.63
MIN	38.20	37.78	37.65	40.94	43.98	42.32	39.71	37.68	---	---	---	37.18

CAL YR 1989 TOTAL 14163.52 MEAN 38.80 MAX 40.96 MIN 37.55

SUWANNEE RIVER BASIN
02319000 WITHLACOOCHEE RIVER NEAR PINETTA, FL

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 mi², approximately.

PERIOD OF RECORD.--October 1931 to current year. Monthly discharge only for October and November 1931, published in WSP 1304.

REVISED RECORDS.--WSP 972: 1941-42. WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 47.21 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Oct. 11, 1931 to Dec. 3, 1941, nonrecording gage at same site and datum. Dec. 3, 1941 to Aug. 2, 1972, water-stage recorder at same site and datum. Aug. 2, 1972 to Apr. 22, 1986, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--59 years, 1,669 ft³/s, 10.68 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,400 ft³/s Apr. 5, 1948, gage height, 38.64 ft from flood marks; minimum, 70 ft³/s Aug. 23, 1955, gage height, 6.27 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1928 reached a stage of 36.75 ft from floodmarks, discharge, 53,600 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,650 ft³/s, Jan. 18, maximum gage height observed, 17.58 ft; minimum, 102 ft³/s, Sept. 28-29, gage height, 6.46 ft, Aug. 14 and 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	222	192	252	1730	3710	6100	1760	390	192	144	120	118
2	234	186	252	1980	3810	5840	1890	366	189	144	118	116
3	270	189	252	2090	3690	5420	1960	348	183	156	116	116
4	258	186	252	2180	3380	4760	2130	321	192	156	116	116
5	243	186	252	2330	3130	3920	2320	306	189	147	116	120
6	222	180	246	2560	2960	3130	2420	294	180	144	114	120
7	225	189	246	2950	2830	2650	2420	502	177	144	114	116
8	255	219	330	3450	2700	2360	2250	486	174	138	110	110
9	246	219	494	3850	2550	2170	1990	398	168	132	114	112
10	240	219	530	4120	2400	2070	1740	354	168	138	118	112
11	225	231	712	4190	3170	1960	1470	324	210	138	118	108
12	216	228	877	4200	3260	1840	1300	300	198	162	114	108
13	216	222	1020	4220	3140	1710	1160	294	174	147	112	112
14	210	222	1170	4690	3190	1600	1150	276	168	225	106	112
15	213	246	1280	5460	3360	1490	1080	264	168	228	108	116
16	213	258	1380	6140	3570	1400	1010	258	177	231	106	118
17	207	249	1420	6550	3760	1370	940	246	162	207	108	112
18	219	252	1400	6650	4020	1880	800	234	162	192	138	112
19	225	237	1450	6230	4050	2090	730	234	168	171	108	110
20	231	228	1660	5210	4140	2200	628	228	162	159	114	112
21	243	231	1840	3840	4350	2320	574	222	159	171	118	108
22	231	228	1910	3070	4660	2490	510	219	150	165	120	106
23	237	240	1950	2700	5150	2680	478	225	150	171	118	108
24	243	261	1880	2530	5600	2800	454	225	150	159	118	106
25	252	261	1910	2460	5900	2800	418	216	150	159	126	104
26	240	297	1970	2520	6070	2610	390	216	144	171	147	104
27	222	285	2020	2780	6170	2260	378	216	162	162	135	104
28	216	267	2010	3030	6190	1900	378	204	156	162	120	102
29	210	237	1950	3160	---	1530	384	198	156	144	116	102
30	210	237	1850	3280	---	1290	390	216	144	126	110	108
31	204	---	1700	3500	---	1470	---	198	---	120	118	---
TOTAL	7098	6882	36465	113650	110910	80110	35502	8778	5082	5013	3634	3328
MEAN	229	229	1176	3666	3961	2584	1183	283	169	162	117	111
MAX	270	297	2020	6650	6190	6100	2420	502	210	231	147	120
MIN	204	180	246	1730	2400	1290	378	198	144	120	106	102
AC-FT	14080	13650	72330	225400	220000	158900	70420	17410	10080	9940	7210	6600
CFSM	.01	.01	.06	.17	.19	.12	.06	.01	.01	.01	.01	.01
IN.	.01	.01	.06	.20	.19	.14	.06	.02	.01	.01	.01	.01
CAL YR 1989	TOTAL 293071	MEAN 803	MAX 4820	MIN 178	AC-FT 581300	CFSM .04	IN. .51					
WTR YR 1990	TOTAL 416452	MEAN 1141	MAX 6650	MIN 102	AC-FT 826000	CFSM .05	IN. .73					

SUWANNEE RIVER BASIN

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02319500 SUWANNEE RIVER AT ELLAVILLE, FL

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.--January 1927 to current year.

REVISED RECORDS.--WSP 1905: WDR FL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 27.22 ft above National Geodetic Vertical Datum of 1929. Prior to June 20, 1932, nonrecording gage at same site and datum. Nov. 8, 1955 to Sept. 30, 1970, nonrecording gage 1.1 mi downstream from base gage at datum 2.67 ft lower, used as supplementary gage when flow was less than 4,800 ft³/s.

REMARKS.--Records good. Since Nov. 7, 1953, slight regulation at low water caused by diversions above control 0.7 mi downstream from gage by a steam-electric powerplant for cooling of condensers. Total diverted flow is returned to river below control. Records include flow of large spring on left bank about 200 ft downstream; spring flow may reverse during high stages.

AVERAGE DISCHARGE.--63 years, 6,432 ft³/s, 12.53 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 95,300 ft³/s, Apr. 7, 8, 1948, gage height, 40.88 ft, from floodmarks; minimum, 882 ft³/s, July 17, 1955; minimum gage height, 1.54 ft, Sept. 29, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,100 ft³/s, Mar. 2, gage height, 14.08 ft; minimum, 958 ft³/s, Sept. 29, gage height, 1.54 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1800	1390	1400	3450	8450	14000	6160	2850	1610	1350	1260	1170
2	1820	1420	1400	3610	8560	14100	6470	2790	1590	1350	1250	1160
3	1850	1510	1390	3780	8590	14100	6540	2720	1570	1340	1240	1150
4	1900	1600	1380	3920	8530	13800	6550	2650	1570	1320	1220	1140
5	1880	1580	1370	4060	8350	13400	6590	2600	1580	1300	1210	1130
6	1840	1570	1370	4280	8220	12800	6600	2560	1580	1290	1200	1120
7	1810	1480	1360	4640	8120	12200	6540	2600	1560	1280	1190	1110
8	1820	1430	1430	5190	7960	11600	6360	2640	1560	1270	1180	1100
9	1810	1450	1530	5840	7790	11100	6070	2630	1590	1280	1120	1120
10	1800	1440	1650	6420	7630	10700	5710	2560	1610	1270	1080	1120
11	1780	1440	1700	6850	7840	10200	5350	2480	1630	1270	1080	1110
12	1730	1430	1790	7170	8400	9800	5030	2440	1600	1260	1080	1110
13	1690	1450	1910	7380	8650	9370	4780	2400	1570	1270	1070	1100
14	1660	1540	2060	7670	8740	8960	4590	2270	1540	1360	1080	1100
15	1620	1410	2210	8200	8760	8550	4440	2170	1510	1400	1080	1100
16	1600	1430	2300	8920	8800	8150	4280	2110	1510	1430	1080	1100
17	1590	1400	2380	9650	8920	7820	4110	2050	1500	1440	1060	1080
18	1600	1410	2450	10300	9160	7690	3960	1990	1470	1410	1060	1070
19	1570	1520	2540	10600	9500	7820	3780	1930	1470	1410	1050	1060
20	1540	1510	2750	10700	9910	7840	3640	1890	1460	1390	1040	1060
21	1530	1510	3050	10500	10500	7770	3510	1860	1440	1400	1050	1050
22	1520	1500	3220	10200	11000	7740	3410	1840	1440	1390	1060	1050
23	1500	1530	3280	10000	11600	7770	3320	1810	1440	1380	1070	1030
24	1510	1520	3300	9960	12200	7810	3240	1790	1410	1380	1050	1030
25	1510	1550	3340	9750	12800	7790	3170	1760	1400	1360	1050	1020
26	1490	1570	3410	9330	13300	7680	3100	1780	1390	1330	1060	1020
27	1460	1560	3490	8890	13600	7430	3020	1820	1390	1320	1060	1020
28	1450	1540	3560	8610	13900	7000	2970	1810	1380	1340	1070	1060
29	1450	1490	3580	8480	---	6510	2920	1750	1360	1320	1050	982
30	1470	1420	3560	8370	---	6050	2900	1690	1360	1310	1060	975
31	1410	---	3490	8350	---	5850	---	1660	---	1280	1140	---
TOTAL	51010	44600	73650	235070	269780	293400	139110	67900	45090	41500	34350	32447
MEAN	1645	1487	2376	7583	9635	9465	4637	2190	1503	1339	1108	1082
MAX	1900	1600	3580	10700	13900	14100	6600	2850	1630	1440	1260	1170
MIN	1410	1390	1360	3450	7630	5850	2900	1660	1360	1260	1040	975
AC-FT	101200	88460	146100	466300	535100	582000	275900	134700	89440	82320	68130	64360
CFSM	.24	.21	.34	1.09	1.38	1.36	.67	.31	.22	.19	.16	.16
IN.	.27	.24	.39	1.25	1.44	1.57	.74	.36	.24	.22	.18	.17

CAL YR 1989 TOTAL 901610 MEAN 2470 MAX 6770 MIN 1280 AC-FT 1788000 CFSM .35 IN. 4.81
WTR YR 1990 TOTAL 1327907 MEAN 3638 MAX 14100 MIN 975 AC-FT 2634000 CFSM .52 IN. 7.09

SUWANNEE RIVER BASIN

02319500 SUWANNEE RIVER AT ELLAVILLE, FL--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.40	1.98	1.99	4.04	8.65	13.98	6.61	3.24	2.21	1.87	1.83	1.74
2	2.40	2.00	1.98	4.20	8.76	14.06	6.97	3.17	2.18	1.87	1.81	1.73
3	2.42	2.08	1.97	4.38	8.79	14.02	7.10	3.09	2.16	1.86	1.80	1.73
4	2.46	2.15	1.96	4.52	8.73	13.80	7.17	3.03	2.15	1.85	1.79	1.71
5	2.44	2.14	1.96	4.65	8.55	13.42	7.26	2.97	2.15	1.84	1.78	1.70
6	2.39	2.13	1.95	4.88	8.42	12.90	7.30	2.92	2.15	1.83	1.77	1.69
7	2.36	2.05	1.95	5.21	8.32	12.32	7.24	2.96	2.12	1.82	1.76	1.68
8	2.37	2.00	2.02	5.71	8.16	11.78	7.06	3.01	2.11	1.82	1.76	1.68
9	2.35	2.03	2.17	6.31	7.99	11.31	6.75	3.05	2.12	1.83	1.79	1.79
10	2.34	2.01	2.34	6.83	7.83	10.87	6.38	2.97	2.14	1.82	1.76	1.79
11	2.31	2.01	2.44	7.18	8.04	10.44	6.00	2.85	2.15	1.82	1.75	1.78
12	2.27	2.01	2.57	7.41	8.60	10.00	5.67	2.83	2.12	1.81	1.75	1.78
13	2.23	2.02	2.67	7.58	8.85	9.57	5.40	2.80	2.10	1.84	1.75	1.77
14	2.20	2.11	2.78	7.87	8.94	9.16	5.20	2.70	2.06	1.92	1.75	1.77
15	2.17	1.99	2.89	8.40	8.96	8.75	5.04	2.63	2.04	1.95	1.75	1.77
16	2.15	2.00	2.95	9.12	9.00	8.35	4.88	2.60	2.04	1.97	1.75	1.78
17	2.14	1.98	3.01	9.85	9.12	8.02	4.70	2.57	2.03	1.99	1.74	1.76
18	2.15	1.99	3.06	10.46	9.36	7.89	4.51	2.52	2.00	1.96	1.73	1.74
19	2.13	2.08	3.14	10.80	9.70	8.02	4.27	2.49	1.99	1.96	1.73	1.74
20	2.10	2.08	3.36	10.89	10.11	8.04	4.10	2.47	1.99	1.95	1.72	1.73
21	2.09	2.08	3.68	10.68	10.66	7.97	3.97	2.45	1.97	1.96	1.73	1.73
22	2.08	2.07	3.86	10.40	11.21	7.94	3.86	2.43	1.96	1.94	1.74	1.72
23	2.07	2.09	3.92	10.25	11.76	7.97	3.76	2.40	1.96	1.94	1.75	1.71
24	2.07	2.08	3.93	10.16	12.35	8.01	3.67	2.39	1.94	1.94	1.72	1.71
25	2.08	2.11	3.97	9.95	12.89	7.99	3.59	2.36	1.92	1.91	1.73	1.70
26	2.06	2.13	4.04	9.53	13.28	7.88	3.51	2.38	1.91	1.90	1.73	1.70
27	2.04	2.12	4.12	9.09	13.58	7.63	3.43	2.42	1.91	1.88	1.74	1.70
28	2.02	2.10	4.18	8.81	13.82	7.23	3.37	2.41	1.90	1.90	1.75	1.69
29	2.03	2.06	4.20	8.68	---	6.79	3.32	2.35	1.89	1.88	1.73	1.56
30	2.04	2.00	4.17	8.57	---	6.38	3.29	2.30	1.88	1.87	1.74	1.56
31	1.99	---	4.09	8.55	---	6.22	---	2.27	---	1.85	1.75	---
TOTAL	68.35	61.68	93.32	244.96	274.43	298.71	155.38	83.03	61.25	58.55	54.38	51.64
MEAN	2.20	2.06	3.01	7.90	9.80	9.64	5.18	2.68	2.04	1.89	1.75	1.72
MAX	2.46	2.15	4.20	10.89	13.82	14.06	7.30	3.24	2.21	1.99	1.83	1.79
MIN	1.99	1.98	1.95	4.04	7.83	6.22	3.29	2.27	1.88	1.81	1.72	1.56
CAL YR 1989	TOTAL 1109.19		MEAN 3.04	MAX 7.47	MIN 1.94							
WTR YR 1990	TOTAL 1505.68		MEAN 4.13	MAX 14.06	MIN 1.56							

SUWANNEE RIVER BASIN

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02320500 SUWANNEE RIVER AT BRANFORD, FL
(National stream-quality accounting network station)

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. Highway 27 at Branford, 10.2 mi upstream from Santa Fe River and 75 mi upstream from mouth.

DRAINAGE AREA.--7,880 mi², includes part of watershed in Okefenokee Swamp which is indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1931 to current year.

REVISED RECORDS.--WSP 1905: WDR FL-75-1: Drainage area.

GAGE.--Nonrecording gage. Datum of gage is 4.81 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges during year. Records good.

AVERAGE DISCHARGE.--59 years, 6,939 ft³/s, 11.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 83,900 ft³/s Apr. 11, 1948, gage height, 34.07 ft; minimum, 1,530 ft³/s, July 1, 2, 1955; minimum gage height, 1.97 ft observed, Jan. 10, 11, 14, 17, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1928 reached a stage of 32.0 ft from floodmark; discharge, 65,000 ft³/s computed on basis of measured crest flow at Ellaville (station 02319500).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 12,900 ft³/s, Mar. 4, gage height, 14.86 ft; minimum daily discharge, 1,700 ft³/s, Sept. 30, minimum gage height, 2.42 ft, Sept. 25, 1990.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2900	2380	2120	4220	8590	12400	7600	4370	2640	2150	2040	1840
2	2960	2370	2110	4200	8610	12600	7690	4080	2620	2150	2000	1820
3	2910	2350	2090	4300	8540	12800	7870	4000	2610	2150	1980	1820
4	2920	2320	2030	4530	8690	12900	7920	3920	2580	2140	1960	1800
5	2920	2300	1990	4560	8630	12900	7960	3850	2570	2130	1950	1790
6	2920	2290	2090	4600	8560	12700	8000	3760	2560	2120	1940	1800
7	2880	2280	2090	4770	8510	12500	8010	3630	2550	2120	1930	1800
8	2890	2270	2100	5110	8410	12300	7950	3580	2540	2100	1930	1810
9	2900	2350	2120	5290	8370	12000	7840	3550	2520	2070	1950	1780
10	2910	2320	2200	5750	8270	11700	7660	3510	2500	2050	1940	1810
11	2870	2260	2320	6110	8220	11400	7460	3510	2510	2090	1920	1780
12	2760	2230	2400	6410	8290	11100	7180	3440	2490	2090	1900	1800
13	2750	2250	2560	6550	8510	10800	6830	3390	2470	2090	1880	1810
14	2720	2240	2590	6710	8650	10500	6630	3350	2430	2400	1860	1780
15	2650	2230	2710	7030	8760	10200	6400	3260	2370	2340	1890	1780
16	2670	2260	2780	7490	8820	9870	6290	3220	2380	2220	1860	1780
17	2630	2210	2890	8030	8890	9590	6030	3200	2390	2220	1840	1770
18	2620	2210	2970	8520	8950	9350	5880	3110	2390	2210	1850	1750
19	2590	2180	3010	9010	9050	9150	5700	3050	2340	2220	1840	1730
20	2550	2170	3060	9210	9320	9100	5460	3000	2320	2250	1820	1740
21	2540	2170	3170	9400	9580	9050	5360	2980	2320	2230	1850	1730
22	2520	2190	3290	9430	10000	8950	5230	2950	2330	2230	1870	1750
23	2510	2220	3390	9400	10400	8910	5040	2900	2340	2230	1860	1760
24	2500	2170	3470	9390	10600	8850	4910	2870	2300	2180	1860	1720
25	2470	2160	3760	9390	11000	8820	4780	2840	2300	2180	1820	1710
26	2450	2150	3930	9340	11400	8760	4690	2790	2300	2180	1820	1720
27	2440	2180	4030	9170	11800	8680	4600	2780	2260	2170	1820	1720
28	2420	2190	4090	8970	12100	8450	4510	2740	2220	2160	1810	1730
29	2420	2180	4160	8830	---	8330	4450	2760	2170	2110	1810	1740
30	2410	2150	4220	8730	---	8000	4440	2710	2150	2100	1790	1700
31	2400	---	4240	8670	---	7840	---	2680	---	2060	1840	---
TOTAL	83000	67230	89980	223120	259520	320500	190370	101780	72470	67140	58430	53070
MEAN	2677	2241	2903	7197	9269	10340	6346	3283	2416	2166	1885	1769
MAX	2960	2380	4240	9430	12100	12900	8010	4370	2640	2400	2040	1840
MIN	2400	2150	1990	4200	8220	7840	4440	2680	2150	2050	1790	1700
AC-FT	164600	133400	178500	442600	514800	635700	377600	201900	143700	133200	115900	105300
CFSM	.34	.28	.37	.91	1.18	1.31	.81	.42	.31	.27	.24	.22
IN.	.39	.32	.42	1.05	1.23	1.51	.90	.48	.34	.32	.28	.25
CAL YR 1989	TOTAL 1186760	MEAN 3251	MAX 6830	MIN 1990	AC-FT 2354000	CFSM .41	IN. 5.60					
WTR YR 1990	TOTAL 1586610	MEAN 4347	MAX 12900	MIN 1700	AC-FT 3147000	CFSM .55	IN. 7.49					

SUWANNEE RIVER BASIN
02320500 SUWANNEE RIVER AT BRANFORD, FL--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.31	3.54	3.14	6.20	10.85	14.43	9.90	6.37	3.94	3.04	2.99	2.69
2	4.40	3.53	3.11	6.17	10.86	14.63	9.99	6.00	3.91	3.04	2.94	2.65
3	4.33	3.48	3.08	6.30	10.80	14.81	10.17	5.89	3.88	3.04	2.90	2.65
4	4.35	3.44	2.98	6.59	10.95	14.86	10.22	5.79	3.84	3.03	2.87	2.60
5	4.35	3.40	2.90	6.62	10.88	14.83	10.26	5.70	3.82	3.01	2.86	2.57
6	4.35	3.39	3.08	6.67	10.82	14.73	10.30	5.57	3.80	3.00	2.85	2.59
7	4.30	3.37	3.08	6.87	10.77	14.55	10.32	5.40	3.78	3.01	2.83	2.58
8	4.32	3.36	3.10	7.27	10.68	14.31	10.25	5.33	3.76	2.97	2.84	2.59
9	4.33	3.50	3.14	7.48	10.64	14.07	10.15	5.29	3.73	2.93	2.87	2.54
10	4.34	3.45	3.28	8.02	10.55	13.81	9.98	5.25	3.68	2.90	2.87	2.57
11	4.29	3.35	3.48	8.40	10.50	13.55	9.78	5.25	3.70	2.97	2.83	2.52
12	4.13	3.30	3.63	8.73	10.56	13.28	9.50	5.15	3.65	2.98	2.81	2.55
13	4.10	3.34	3.89	8.87	10.77	13.00	9.15	5.08	3.63	2.98	2.77	2.56
14	4.06	3.32	3.94	9.04	10.91	12.69	8.94	5.02	3.56	3.53	2.75	2.51
15	3.95	3.31	4.11	9.36	11.01	12.42	8.70	4.90	3.47	3.43	2.81	2.51
16	3.98	3.35	4.22	9.83	11.07	12.11	8.58	4.84	3.47	3.23	2.75	2.54
17	3.93	3.26	4.39	10.35	11.14	11.84	8.29	4.81	3.48	3.23	2.73	2.51
18	3.91	3.26	4.50	10.82	11.20	11.60	8.13	4.68	3.48	3.22	2.75	2.46
19	3.86	3.22	4.56	11.30	11.30	11.40	7.93	4.59	3.39	3.25	2.73	2.45
20	3.79	3.21	4.64	11.49	11.57	11.35	7.66	4.52	3.36	3.30	2.71	2.46
21	3.77	3.20	4.79	11.68	11.83	11.30	7.55	4.49	3.36	3.28	2.76	2.45
22	3.75	3.25	4.97	11.71	12.25	11.20	7.40	4.45	3.37	3.28	2.81	2.48
23	3.74	3.29	5.11	11.67	12.58	11.16	7.17	4.37	3.38	3.28	2.77	2.50
24	3.72	3.20	5.22	11.66	12.85	11.10	7.02	4.32	3.33	3.21	2.78	2.43
25	3.67	3.19	5.62	11.66	13.21	11.07	6.87	4.27	3.32	3.20	2.70	2.42
26	3.65	3.18	5.85	11.60	13.58	11.01	6.76	4.20	3.31	3.22	2.69	2.45
27	3.62	3.23	5.97	11.43	13.89	10.94	6.65	4.16	3.25	3.20	2.68	2.45
28	3.60	3.25	6.05	11.23	14.19	10.72	6.54	4.11	3.18	3.18	2.66	2.47
29	3.59	3.23	6.14	11.08	---	10.60	6.46	4.14	3.07	3.11	2.65	2.48
30	3.58	3.17	6.21	10.98	---	10.29	6.46	4.05	3.05	3.09	2.62	2.43
31	3.56	---	6.24	10.93	---	10.14	---	4.00	---	3.03	2.70	---
TOTAL	123.63	99.57	134.42	292.01	322.21	387.80	257.08	151.99	105.95	97.17	86.28	75.66
MEAN	3.99	3.32	4.34	9.42	11.51	12.51	8.57	4.90	3.53	3.13	2.78	2.52
MAX	4.40	3.54	6.24	11.71	14.19	14.86	10.32	6.37	3.94	3.53	2.99	2.69
MIN	3.56	3.17	2.90	6.17	10.50	10.14	6.46	4.00	3.05	2.90	2.62	2.42
CAL YR 1989	TOTAL 1798.94		MEAN 4.93	MAX 9.41	MIN 2.90							
WTR YR 1990	TOTAL 2133.77		MEAN 5.85	MAX 14.86	MIN 2.42							

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1954 to September 1957, October 1962 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNIT)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	
NOV 15...	1520	2230	322	8.2	21.0	.80	7.1	81	K12	K8	160	
MAR 21...	0930	9050	170	7.6	17.5	3.4	6.1	63	K24	40	79	
MAY 31...	1430	2680	318	8.1	23.5	1.1	7.0	82	--	--	160	
AUG 15...	1500	1890	330	8.3	27.0	.30	6.8	84	--	--	170	
		HARD- NESS, NONCARB F.W.H.W. ,FET, (MG/L CACO3)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA- LINITY LAB (MG/L AS CACO3)	ALKA- LINITY WAT.DIS FIELD INC.T. (MG/L CACO3)
NOV 15...	24	24	48	9.6	8.0	10	.3	.70	166	136	136	
MAR 21...	17	17	24	4.5	5.8	14	.3	1.0	73	62	60	
MAY 31...	27	27	50	9.2	6.6	8	.2	.60	163	136	134	
AUG 15...	23	23	51	10	6.1	7	.2	.60	173	146	142	
		CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
NOV 15...	1.6	23	6.6	.20	8.8	201	190	.27	1210	.010	.84	
MAR 21...	3.0	9.0	7.3	<.10	6.7	142	97	.19	3470	<.010	.50	
MAY 31...	2.1	19	7.5	.10	7.6	191	180	.26	1380	<.010	.70	
AUG 15...	1.4	23	7.4	.30	6.2	203	190	.28	1040	<.010	.50	
		NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
NOV 15...	.020	.010	.01	.03	.18	.20	.160	.150	.150	.46	40	
MAR 21...	.050	.050	.06	--	.75	.80	.140	.130	.130	.40	280	
MAY 31...	.050	<.010	--	--	.15	.20	.090	.080	.070	.21	40	
AUG 15...	.050	.030	.04	--	.15	.20	.130	.110	.100	.31	30	

SUWANNEE RIVER BASIN
02320500 SUWANNEE RIVER AT BRANFORD, FL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 15...	<1	9	<.5	1	1	<3	<1	90	<1	<4	7
MAR 21...	<1	17	<.5	<1	<5	<3	<10	510	10	<4	18
MAY 31...	<1	11	<.5	<1	1	<3	1	74	5	<4	11
AUG 15...	<1	8	<.5	<1	1	<3	1	12	<1	<4	8
DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, DIS- SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 15...	<.1	<10	<1	<1	<1	110	<6	12	8	48	25
MAR 21...	<.1	<10	<10	<1	<1	43	<6	7	10	244	80
MAY 31...	<.1	<10	7	<1	<1	110	<6	<3	10	72	10
AUG 15...	<.1	<10	<1	<1	<1	110	<6	<3	3	15	67

SUWANNEE RIVER BASIN
02320700 SANTA FE RIVER NEAR GRAHAM, FL

43

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 mi².

PERIOD OF RECORD.--August 1957 to current year.

REVISED RECORDS.--WSP 2105: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 103.55 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good except for those below 2 ft³/s, which are poor. Records do not include diversions during periods of high stages from Santa Fe Lake through Lochloosa Creek in St. Johns River basin.

AVERAGE DISCHARGE.--33 years, 54.6 ft³/s, 7.81 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,360 ft³/s, Sept. 12, 1964, gage height, 14.97 ft; minimum, 0.02 ft³/s, June 1, 1981, gage height, 2.72 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge base of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 3	1600	*52	*5.24				

Minimum discharge, 0.07 ft³/s, June 14, 15, gage height, 2.77 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	3.1	2.6	10	9.4	20	8.9	3.0	.16	7.5	.28	.48
2	45	2.9	2.4	12	8.5	18	8.0	2.3	.16	5.0	.27	1.2
3	51	2.6	2.2	10	8.3	18	31	1.8	.16	3.8	.28	.52
4	50	2.3	2.0	9.9	7.9	17	25	1.5	.17	2.8	.28	.24
5	41	2.1	1.9	9.6	7.4	15	23	1.2	.21	2.2	.28	.21
6	32	2.0	1.9	11	6.7	14	23	1.0	.23	1.7	.28	.20
7	25	1.9	1.8	18	6.2	13	20	.78	.20	1.2	.28	.17
8	22	1.8	2.1	20	5.8	12	15	.58	.31	.92	.66	.17
9	20	2.4	5.3	20	5.5	11	11	.48	.23	.58	2.5	.17
10	18	3.8	6.5	19	5.5	9.7	8.8	.61	.22	.37	1.5	.17
11	16	3.6	5.6	18	7.8	8.8	7.7	.50	.21	.34	.90	.19
12	15	3.0	5.3	16	8.4	7.9	7.4	.36	.15	.29	.59	.18
13	14	2.6	6.4	14	8.0	7.3	6.2	.27	.13	.81	.41	.16
14	12	2.4	6.7	12	7.6	6.7	5.4	.21	.11	5.9	.35	.16
15	11	2.2	6.1	11	7.1	6.2	4.8	.21	.10	7.0	.35	.19
16	10	2.3	5.9	9.9	6.8	5.7	4.2	.21	.11	4.2	.31	.15
17	9.0	2.2	5.7	9.1	6.9	5.4	3.7	.22	1.3	2.7	.28	.19
18	8.2	2.1	5.6	8.4	7.5	5.8	3.1	.20	2.5	2.0	.25	.18
19	8.3	2.0	7.2	7.8	7.3	5.7	2.8	.20	.88	1.7	.24	.15
20	7.8	1.9	10	7.3	9.5	5.3	2.5	.21	.40	1.3	.20	.13
21	6.8	1.8	12	6.9	10	4.9	2.2	.21	.27	1.6	.20	.13
22	6.0	1.6	10	6.6	9.5	4.6	1.9	.22	.28	1.4	.20	.12
23	5.4	2.2	12	6.1	19	4.4	1.9	.20	4.7	1.9	.16	.12
24	4.9	3.4	12	5.7	27	4.1	2.1	.23	4.3	1.1	.17	.11
25	4.5	3.3	11	5.6	24	3.7	1.8	.21	2.0	1.1	.15	.10
26	4.0	3.1	11	6.3	28	3.4	1.4	.19	1.4	.70	.15	.11
27	3.8	3.1	11	6.1	27	3.1	1.1	.19	2.1	.45	.18	.11
28	3.7	3.1	11	5.6	23	2.8	1.7	.21	1.5	.33	.18	.11
29	3.7	3.1	11	5.4	---	2.5	4.9	.19	1.7	.36	.19	.17
30	3.4	2.8	10	5.4	---	2.4	4.3	.16	12	.28	.17	.23
31	3.2	---	9.6	8.0	---	5.6	---	.15	---	.28	.19	---
TOTAL	507.7	76.7	213.8	320.7	315.6	254.0	244.8	18.00	38.19	61.81	12.43	6.52
MEAN	16.4	2.56	6.90	10.3	11.3	8.19	8.16	.58	1.27	1.99	.40	.22
MAX	51	3.8	12	20	28	20	31	3.0	12	7.5	2.5	1.2
MIN	3.2	1.6	1.8	5.4	5.5	2.4	1.1	.15	.10	.28	.15	.10
AC-FT	1010	152	424	636	626	504	486	36	76	123	25	13
CFSM	.17	.03	.07	.11	.12	.09	.09	.01	.01	.02	.00	.00
IN.	.20	.03	.08	.13	.12	.10	.10	.01	.01	.02	.00	.00

CAL YR 1989	TOTAL 3152.63	MEAN 8.64	MAX 79	MIN .07	AC-FT 6250	CFSM .09	IN. 1.24
WTR YR 1990	TOTAL 2070.25	MEAN 5.67	MAX 51	MIN .10	AC-FT 4110	CFSM .06	IN. .81

SUWANNEE RIVER BASIN
02321500 SANTA FE RIVER AT WORTHINGTON SPRINGS, FL
(National stream-quality accounting network station)

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1931 to current year. Published as "near Worthington" prior to October 1965. Monthly discharge only for October 1931, published in WSP 1304.

REVISED RECORDS.--WSP 2105: WDR FL-76-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 42.74 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Jan. 16, 1939, nonrecording gage at site 0.2 mi downstream at present datum; Jan. 16, 1939 to July 23, 1953, nonrecording gage at present site and datum.

REMARKS.--Records good, except for periods of missing gage-heights, which are considered fair. Records do not include diversions, during periods of high stages, from Santa Fe Lake through to Lochloosa Creek in St. Johns River Basin.

AVERAGE DISCHARGE.--59 years, 435 ft³/s, 10.27 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft³/s, Sept. 13, 1964, gage height, 28.40 ft; minimum, 0.50 ft³/s, June 24, 1955, gage height, 6.74 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 734 ft³/s, Oct. 4, gage height, 14.18 ft; minimum, 1.5 ft³/s, Sept 27, 28, 29, gage height, 6.99 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	451	59	45	106	91	461	106	40	6.6	22	e28	16
2	590	58	43	109	88	395	98	34	5.9	31	e26	21
3	677	57	41	103	87	321	200	27	7.2	25	e24	27
4	729	55	39	99	87	256	233	24	9.6	23	e22	29
5	716	52	37	96	88	204	183	21	10	21	e21	24
6	670	49	36	102	82	166	142	19	13	17	e20	19
7	600	46	36	135	77	140	113	17	15	15	e23	17
8	552	45	40	203	72	123	94	16	12	13	e34	14
9	507	51	76	267	68	110	81	15	12	10	e49	11
10	432	66	98	244	68	105	71	19	11	8.4	e67	10
11	365	66	90	231	126	96	69	17	13	7.2	e72	14
12	325	59	81	225	149	88	65	16	15	6.6	e37	12
13	296	53	77	207	139	80	58	14	9.6	8.6	e29	11
14	264	50	75	181	137	75	53	13	7.4	46	e23	9.0
15	226	48	71	156	128	69	48	14	6.4	153	e20	8.1
16	190	52	69	136	117	64	44	24	6.0	177	e18	9.1
17	162	52	68	120	108	64	40	15	5.6	126	e16	9.5
18	151	52	67	108	106	74	36	13	8.1	90	e14	8.0
19	172	49	73	99	99	71	33	11	23	78	e12	6.7
20	150	46	96	92	138	64	31	10	20	65	e11	5.9
21	122	44	121	88	208	57	29	9.6	12	80	e9.5	5.1
22	106	42	124	87	221	52	28	11	10	78	e8.8	4.3
23	94	48	131	82	289	49	36	10	25	80	e9.0	3.7
24	86	58	141	79	443	45	49	10	44	75	9.4	2.7
25	79	58	139	76	450	42	43	9.2	47	59	12	2.2
26	74	54	138	75	456	39	33	8.4	36	46	11	1.9
27	71	51	136	75	488	36	26	7.7	42	36	12	1.8
28	69	50	130	72	495	34	30	7.4	40	e31	14	1.5
29	66	49	124	71	---	34	51	8.4	28	e32	13	1.8
30	63	47	117	70	---	34	46	8.8	21	e31	16	2.8
31	61	---	110	76	---	67	---	7.6	---	e30	21	---
TOTAL	9116	1566	2669	3870	5105	3515	2169	477.1	521.4	1520.8	701.7	309.1
MEAN	294	52.2	86.1	125	182	113	72.3	15.4	17.4	49.1	22.6	10.3
MAX	729	66	141	267	495	461	233	40	47	177	72	29
MIN	61	42	36	70	68	34	26	7.4	5.6	6.6	8.8	1.5
AC-FT	18080	3110	5290	7680	10130	6970	4300	946	1030	3020	1390	613
CFSM	.51	.09	.15	.22	.32	.20	.13	.03	.03	.09	.04	.02
IN.	.59	.10	.17	.25	.33	.23	.14	.03	.03	.10	.05	.02

CAL YR 1989 TOTAL 35390.8 MEAN 97.0 MAX 729 MIN 1.2 AC-FT 70200 CFSM .17 IN. 2.29
WTR YR 1990 TOTAL 31540.1 MEAN 86.4 MAX 729 MIN 1.5 AC-FT 62560 CFSM .15 IN. 2.04

e Estimated

SUWANNEE RIVER BASIN
02321500 SANTA FE RIVER AT WORTHINGTON SPRINGS, FL--Continued

45

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1957 to September 1960, October 1963 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNIT)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS AS CACO3)
NOV 16...	1045	52	177	7.5	18.5	1.9	7.2	77	K590	380	63
MAR 19...	1630	71	187	7.4	17.5	2.0	8.2	85	130	61	59
MAY 30...	1530	8.8	265	7.8	23.0	2.0	6.9	80	K7	21	76
AUG 14...	1630	23	187	7.5	26.0	.60	6.8	83	150	48	61
DATE	HARD- NESS, NONCARB F.WH.W. (MG/L CACO3)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA- LINITY LAB (MG/L AS CACO3)	ALKA- LINITY WAT.DIS FIELD INC.T. (MG/L CACO3)
NOV 16...	28	28	16	5.6	11	27	.6	1.4	37	35	30
MAR 19...	29	29	15	5.3	13	32	.8	1.3	34	30	28
MAY 30...	9	9	17	8.2	19	35	1	1.7	75	67	62
AUG 14...	7	7	13	6.8	12	30	.7	1.3	57	54	47
DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
NOV 16...	2.1	16	20	.20	7.9	125	100	.17	18	<.010	.17
MAR 19...	2.3	15	25	<.10	6.0	141	100	.19	27	<.010	.30
MAY 30...	2.1	17	30	.30	2.5	157	140	.21	3.7	<.010	<.10
AUG 14...	3.3	10	19	.10	4.5	144	100	.20	8.9	<.010	<.10
DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)
NOV 16...	.040	.050	.06	.76	.80	.310	.290	.270	.83	150	<1
MAR 19...	.060	.060	.08	.74	.80	.300	.280	.290	.89	170	<1
MAY 30...	.070	.030	.04	.53	.60	.680	.630	.620	1.9	60	<1
AUG 14...	.080	.080	.10	.62	.70	.700	.630	.660	2.0	140	<1

SUWANNEE RIVER BASIN
02321500 SANTA FE RIVER AT WORTHINGTON SPRINGS, FL--Continued

WATER-QUALITY RECORDS--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV 16...	13	<.5	1	<1	<3	<1	320	<1	<4	19	<.1
MAR 19...	14	<.5	<1	<5	<3	<10	290	<10	<4	18	<.1
MAY 30...	14	<.5	<1	2	<3	5	100	<1	<4	58	<.1
AUG 14...	11	<.5	<1	<1	<3	3	220	1	<4	19	<.1
DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
NOV 16...	<10	<1	<1	<1	55	<6	7	5	.70	100	
MAR 19...	<10	<10	<1	<1	53	<6	4	--	--	--	
MAY 30...	<10	<1	<1	<1	100	<6	5	8	.19	50	
AUG 14...	<10	<1	<1	<1	72	<6	7	7	.43	57	

SUWANNEE RIVER BASIN
02322016 BLUES CREEK NEAR GAINESVILLE, FL

47

LOCATION.--Lat 29°43'41", long 82°25'54", in NW¼ sec.8, T.9 S., R.19 E., Alachua County, Hydrologic Unit 03080102, about 1 mi above sink, 1 mi northwest of University of Florida Agricultural Experiment Station, 6.0 mi southeast of Alachua and 7.6 mi northwest of Gainesville.

DRAINAGE AREA.--5.04 mi², of which 3.5 mi² are noncontributing at low and medium discharge.

PERIOD OF RECORD.--June 1984 to current year.

REVISED RECORDS.--WDR FL-88-4: 1985, 1987(M).

GAGE.--Water-stage recorder. Elevation of the gage is 105 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--6 years (water years 1985-1990), 3.47 ft³/s, 9.35 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 324 ft³/s, Aug. 31, 1985, gage height, 6.15 ft from floodmarks; minimum daily, 0.10 ft³/s, June 4, 5, 15, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 55 ft³/s, July 14, gage height 4.05 ft; minimum daily, 0.18 ft³/s, June 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	.59	.57	1.9	1.1	2.4	1.5	1.1	.18	2.3	1.9	1.8
2	16	.54	.64	1.7	1.5	2.1	3.2	.83	.24	4.5	1.3	2.0
3	8.4	.53	.35	1.8	1.7	2.4	6.2	.66	1.6	5.8	1.4	1.9
4	4.9	.51	.63	1.5	1.4	2.0	4.1	.57	1.1	4.5	1.1	1.4
5	3.5	.49	.62	1.4	1.0	1.8	2.7	.52	1.2	2.9	.83	1.2
6	2.7	.49	.76	2.3	1.4	1.4	2.1	.48	.79	1.9	.94	1.3
7	2.2	.49	.68	3.4	1.6	e1.4	1.7	.44	.84	1.4	.84	1.1
8	2.0	.49	2.5	4.1	1.2	e1.3	1.4	.39	1.2	1.1	1.4	.76
9	1.7	1.4	3.7	3.2	.92	e1.2	1.2	.39	.90	.83	1.4	.70
10	1.6	1.1	2.6	2.8	1.5	e1.2	1.1	.56	.67	.72	1.5	.66
11	1.5	.72	2.0	2.4	2.2	e1.1	.96	.37	.53	.66	1.6	.62
12	1.7	.59	1.5	2.1	2.2	e1.0	.83	.33	.40	.84	1.4	.66
13	1.5	.50	1.7	1.8	2.1	e.96	.75	.30	.34	1.2	.65	.70
14	1.3	.49	1.4	1.6	1.5	e.90	.69	.33	.27	26	.70	.54
15	1.2	.49	1.3	1.5	1.2	e.80	.64	.33	.26	28	.74	.47
16	1.2	.49	1.3	1.4	1.2	e.78	.58	.28	.23	17	.59	.53
17	1.1	.49	1.2	1.4	1.9	e.90	.54	.27	.40	11	.79	.60
18	1.8	.44	1.3	1.4	2.6	e.84	.50	.24	.38	6.5	1.0	.44
19	1.6	.44	2.1	1.3	2.8	e.82	.49	.23	.23	4.9	.65	.40
20	1.3	.44	4.1	1.3	3.5	e.80	.47	.23	.20	13	1.1	.37
21	1.1	.42	3.3	1.2	2.6	e.78	.44	.23	.24	22	1.2	.37
22	.99	.41	2.6	1.4	2.3	e.76	.43	.24	1.1	20	.73	.34
23	.92	.76	3.5	1.2	7.4	e.74	3.7	.23	11	12	1.0	.28
24	.84	.70	2.9	1.4	7.2	e.72	3.2	.21	7.6	7.7	.92	.26
25	.77	.51	2.5	1.9	4.9	e.70	2.1	.20	4.0	5.7	.55	.29
26	.74	.48	2.5	2.3	3.7	e.68	1.5	.20	10	4.1	.51	.32
27	.73	.44	2.2	1.2	3.0	e.66	1.1	.24	16	2.7	2.7	.35
28	.69	.44	2.0	1.1	2.7	.64	2.0	.26	8.8	2.5	5.0	.38
29	.67	.43	1.8	1.4	---	.66	2.2	.20	4.9	3.2	3.0	.95
30	.65	.39	1.7	1.6	---	.71	1.5	.19	3.4	2.5	2.2	.56
31	.63	---	1.6	1.6	---	2.5	---	.19	---	2.2	1.9	---
TOTAL	88.93	16.70	57.55	56.6	68.32	35.65	49.82	11.24	79.00	219.65	41.54	22.25
MEAN	2.87	.56	1.86	1.83	2.44	1.15	1.66	.36	2.63	7.09	1.34	.74
MAX	23	1.4	4.1	4.1	7.4	2.5	6.2	1.1	16	28	5.0	2.0
MIN	.63	.39	.35	1.1	.92	.64	.43	.19	.18	.66	.51	.26
AC-FT	176	33	114	112	136	71	99	22	157	436	82	44
CFSM	1.86	.36	1.21	1.19	1.58	.75	1.08	.24	1.71	4.60	.87	.48
IN.	2.15	.40	1.39	1.37	1.65	.86	1.20	.27	1.91	5.31	1.00	.54
CAL YR 1989	TOTAL 351.69	MEAN .96	MAX 23	MIN .10	AC-FT 698	CFSM .63	IN. 8.50					
WTR YR 1990	TOTAL 747.25	MEAN 2.05	MAX 28	MIN .18	AC-FT 1480	CFSM 1.33	IN. 18.05					

e Estimated

SUWANNEE RIVER BASIN

02322500 SANTA FE RIVER NEAR FORT WHITE, FL

LOCATION.--Lat 29°50'55", long 82°42'55", in SE1/4 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 from mouth.

DRAINAGE AREA.--1,017 mi².

PERIOD OF RECORD.--October 1927 to January 1930, June 1932 to current year.

REVISED RECORDS.--WDR FL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 20.86 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to June 3, 1932, nonrecording gage at several sites within 200 ft of present site at various datums. Oct. 1, 1947 to Feb. 10, 1949, auxiliary nonrecording gage and since Feb. 11, 1949, auxiliary water-stage recorder at bridge on U.S. Highway 129, 16 mi downstream from base gage at datum 3.5 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

AVERAGE DISCHARGE.--60 years (water years 1928-29, 1933-90), 1,608 ft³/s, 21.47 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,000 ft³/s, Sept. 16, 1964, gage height, 15.34 ft; minimum 609 ft³/s, May 22, 1957; minimum gage height, 0.45 ft Mar. 20, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,480 ft³/s, Oct. 7, gage height, 1.47 ft; minimum, 691 ft³/s, June 22; minimum gage height, 0.59 ft Dec. 5-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1300	946	878	856	861	1080	861	837	720	725	787	793
2	1330	937	869	840	861	1090	877	835	729	731	788	791
3	1360	930	872	844	861	1100	895	827	725	726	798	784
4	1410	922	878	852	861	1080	910	827	733	725	787	781
5	1440	914	855	852	861	1060	928	825	728	733	780	782
6	1450	908	845	865	854	1040	945	819	726	733	775	781
7	1460	916	852	869	852	1020	957	816	732	730	791	778
8	1450	909	868	877	852	1000	950	810	733	725	807	776
9	1420	951	877	878	852	989	944	811	726	728	799	783
10	1400	905	857	887	854	977	944	823	732	724	800	781
11	1370	902	854	900	861	965	943	806	730	721	815	776
12	1330	900	863	912	853	951	917	799	729	722	802	769
13	1290	895	855	906	852	946	905	798	721	734	793	763
14	1270	889	840	902	852	946	902	793	716	774	803	760
15	1250	895	836	912	852	936	898	792	716	764	825	762
16	1220	897	838	908	852	923	888	782	716	766	832	769
17	1190	886	835	903	854	924	879	782	720	790	831	762
18	1170	891	835	899	869	901	871	782	710	809	834	e761
19	1160	895	835	891	869	895	853	775	706	811	829	e761
20	1120	886	843	886	879	891	852	764	704	822	822	e761
21	1110	886	844	886	870	886	852	763	699	821	829	e760
22	1080	892	844	881	890	881	855	767	707	818	826	e760
23	1070	900	844	878	920	876	856	758	747	822	834	e760
24	1050	886	844	874	919	869	851	755	735	827	828	e759
25	1030	886	849	871	952	865	845	751	727	827	815	e759
26	1020	886	866	871	984	861	844	748	746	827	807	e758
27	1000	883	869	866	1020	861	844	742	749	821	806	e757
28	988	878	869	863	1050	854	852	738	736	811	806	e756
29	971	870	863	866	---	844	842	733	731	807	801	e754
30	967	878	861	861	---	853	835	733	731	799	801	e771
31	959	---	861	861	---	883	---	726	---	792	798	---
TOTAL	37635	27019	26499	27217	24767	29247	26595	24317	21760	23965	25049	23068
MEAN	1214	901	855	878	885	943	886	784	725	773	808	769
MAX	1460	951	878	912	1050	1100	957	837	749	827	834	793
MIN	959	870	835	840	852	844	835	726	699	721	775	754
AC-FT	74650	53590	52560	53980	49130	58010	52750	48230	43160	47530	49680	45760
CFSM	1.19	.89	.84	.86	.87	.93	.87	.77	.71	.76	.79	.76
IN.	1.38	.99	.97	1.00	.91	1.07	.97	.89	.80	.88	.92	.84
CAL YR 1989	TOTAL 371896	MEAN 1019	MAX 1460	MIN 821	AC-FT 737700	CFSM 1.00	IN. 13.60					
WTR YR 1990	TOTAL 317138	MEAN 869	MAX 1460	MIN 699	AC-FT 629000	CFSM .85	IN. 11.60					

e Estimated

SUWANNEE RIVER BASIN
02323500 SUWANNEE RIVER NEAR WILCOX, FL

49

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 mi², approximately, includes part of watershed in Okefenokee Swamp which is indeterminate.

PERIOD OF RECORD.--October 1930 to September 1931, October 1941 to current year. Monthly discharge only for some periods, published in WSP 1304.

REVISED RECORDS.--WSP 1905: WDR FL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.53 ft below National Geodetic Vertical Datum of 1929. Prior to July 4, 1931, nonrecording gage at site 400 ft upstream at present datum. July 4 to Sept. 30, 1931, and Mar. 26 to May 14, 1942, water-stage recorder, and May 15, 1942 to Jan. 24, 1951, nonrecording gage at present site and datum. Since Feb. 1, 1951, auxiliary water-stage recorder about 9.0 mi downstream from base gage. Datum of auxiliary gage is 2.99 ft below National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow generally affected by tide when discharge is less than 17,500 ft³/s.

AVERAGE DISCHARGE.--50 years (water years 1931, 1942-90), 10,580 ft³/s, 14.79 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 84,700 ft³/s, Apr. 14, 1948, gage height, 22.32 ft; minimum daily since January 1951, 2,960 ft³/s, Oct. 25, 1981; minimum gage height since January 1951, 0.57 ft Jan. 19, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,400 ft³/s Mar. 8; maximum gage height, 6.93 ft Mar. 4; minimum daily, 4,190 ft³/s, July 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4960	4940	5850	6790	10800	12900	9730	6710	5060	4770	5040	4630
2	5430	4940	5570	7950	10800	12900	9640	6580	5150	4560	5130	4780
3	5640	5050	6160	6810	10800	12900	10200	6060	5040	5010	4920	4720
4	5580	5210	e7100	6710	10500	13900	10800	6020	4850	4580	4830	4590
5	5320	5330	e6200	6970	11500	14300	10300	5790	4740	4690	4460	4920
6	5220	4920	e5100	7050	11300	14400	9740	5850	4780	4630	4660	4760
7	5360	4900	e4800	6910	10700	14400	9750	6310	5060	4750	4590	4680
8	5410	4560	e5100	7220	10400	14600	10600	5640	4950	4610	4510	4660
9	6700	4470	e5300	7680	10000	13500	10200	5160	4810	4760	4530	4780
10	5530	5250	e4550	7570	9400	12900	9420	5270	4890	4720	4400	4740
11	5760	5370	e4600	7920	9900	12600	9350	6370	4830	4690	4330	4870
12	5520	4970	4870	7900	10900	12300	10300	5680	5190	4550	4390	4900
13	5440	4780	6050	9600	10200	12300	9740	5520	5140	4190	4380	4700
14	5130	4740	6430	9060	10400	12100	9080	5850	5080	4260	4330	4520
15	5080	4560	5350	9010	10100	11500	8600	5630	4940	4940	4320	4570
16	5060	4800	5560	9250	10200	11100	8730	5510	4890	5180	4370	4390
17	5010	6540	6520	9530	10900	10800	8750	5480	5260	5720	4260	4630
18	4970	6100	6810	9960	11200	12200	8680	5720	5380	5000	4290	5090
19	5720	5800	6100	10700	10900	11900	8800	5480	4830	5000	4430	5080
20	7920	5550	6970	10900	11700	12300	8350	5100	4470	4910	4370	4820
21	6750	5520	6800	11100	12000	12400	7700	5000	4440	4710	4330	4570
22	6170	5190	8060	11800	11000	11500	7360	4800	4380	4700	4520	4730
23	6180	4940	8650	11800	11100	11200	6970	5180	4270	4810	4340	4670
24	6480	6480	8880	11300	12400	10700	6880	4830	4640	4950	4540	5630
25	6310	5780	7230	10600	13100	10200	6700	4710	4790	4970	4600	4770
26	6180	4860	6630	11500	13600	10300	6400	4780	4790	4860	4590	4650
27	6360	5140	6460	11900	13600	10200	6230	4670	4700	5300	4860	4640
28	6350	5170	6370	11100	13000	10400	5900	4670	4660	5460	4920	4860
29	6150	5580	6280	10500	---	9750	6630	4870	4860	5220	5000	4530
30	5650	6910	6260	10500	---	9320	6680	5020	4780	5130	4880	4580
31	5020	---	6050	10800	---	9360	---	4890	---	5230	4630	---
TOTAL	178360	158350	192660	288390	312400	371130	258210	169150	145650	150860	141750	142460
MEAN	5754	5278	6215	9303	11160	11970	8607	5456	4855	4866	4573	4749
MAX	7920	6910	8880	11900	13600	14600	10800	6710	5380	5720	5130	5630
MIN	4960	4470	4550	6710	9400	9320	5900	4670	4270	4190	4260	4390
AC-FT	353800	314100	382100	572000	619600	736100	512200	335500	288900	299200	281200	282600
CFSM	.60	.55	.64	.97	1.16	1.24	.89	.57	.50	.50	.47	.49
IN.	.69	.61	.74	1.11	1.21	1.43	1.00	.65	.56	.58	.55	.55
CAL YR 1989	TOTAL 2294990	MEAN 6288	MAX 9170	MIN 4470	AC-FT 4552000	CFSM .65	IN. 8.86					
WTR YR 1990	TOTAL 2509370	MEAN 6875	MAX 14600	MIN 4190	AC-FT 4977000	CFSM .71	IN. 9.68					

e Estimated

SUWANNEE RIVER BASIN
02323500 SUWANNEE RIVER NEAR WILCOX, FL--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.56	3.03	2.13	3.52	4.89	6.44	5.00	3.25	2.82	2.62	2.64	2.85
2	3.55	2.98	2.44	2.71	4.93	6.66	4.82	3.20	2.87	2.83	2.60	2.78
3	3.03	2.86	2.22	2.89	4.89	6.89	4.90	3.36	2.88	2.62	2.64	2.85
4	2.95	2.78	---	3.10	4.99	6.85	4.66	3.44	2.99	2.62	2.72	2.94
5	3.05	2.66	---	3.13	4.90	6.81	4.76	3.49	3.08	2.69	2.93	2.84
6	3.22	2.82	---	3.26	4.69	6.78	4.91	3.45	3.00	2.74	2.96	2.91
7	3.18	2.79	---	3.42	4.86	6.73	5.04	2.99	2.90	2.73	3.01	3.01
8	3.12	3.06	---	3.69	4.94	6.61	4.72	3.15	2.91	2.84	3.04	3.02
9	2.64	3.37	---	3.48	5.02	6.63	4.70	3.57	2.99	2.80	3.03	2.92
10	2.79	2.85	---	3.72	5.18	6.64	4.87	3.89	2.96	2.82	3.06	2.89
11	2.77	2.80	---	3.85	5.16	6.60	4.88	3.18	2.95	2.85	3.08	2.81
12	2.91	2.99	3.02	4.09	4.76	6.51	4.48	3.13	2.78	2.91	3.01	2.71
13	2.98	3.00	3.15	3.67	4.80	6.37	4.28	3.26	2.74	3.17	3.01	2.71
14	3.16	3.16	2.38	3.80	4.94	6.21	4.32	3.01	2.75	3.82	3.04	2.92
15	3.28	3.33	2.68	4.05	5.08	6.14	4.37	2.95	2.78	3.18	3.05	2.96
16	3.26	3.29	2.99	4.18	5.24	6.06	4.28	3.01	2.83	2.83	3.01	3.07
17	3.29	2.22	2.47	4.36	5.15	6.04	4.08	2.97	2.73	2.66	3.09	2.99
18	3.28	2.27	2.42	4.56	4.94	5.68	3.93	2.80	2.66	2.86	3.03	2.73
19	3.16	2.22	2.49	4.70	5.06	5.34	3.61	2.86	2.81	2.89	2.99	2.59
20	2.34	2.39	2.47	4.89	5.09	5.17	3.65	3.21	3.00	2.99	3.10	2.74
21	2.09	2.57	2.38	5.05	4.99	5.00	3.78	3.40	3.01	3.19	3.17	2.93
22	2.31	2.80	2.34	5.04	5.39	5.10	3.93	3.47	3.08	3.26	3.11	2.88
23	2.42	2.77	2.17	5.01	5.71	5.16	4.02	3.17	3.28	3.21	3.16	2.85
24	2.36	2.09	2.13	5.11	5.74	5.24	3.94	3.21	3.05	3.05	3.00	2.10
25	2.35	2.33	2.43	5.34	5.67	5.39	3.84	3.31	2.88	2.99	2.88	2.21
26	2.46	2.83	2.93	5.27	5.73	5.37	3.88	3.28	2.81	2.99	2.82	2.41
27	2.36	2.82	3.06	4.97	5.91	5.31	3.94	3.41	2.79	2.77	2.76	2.34
28	2.36	2.81	3.26	5.03	6.19	5.18	4.09	3.47	2.71	2.60	2.67	2.40
29	2.27	2.62	3.36	5.12	---	5.22	3.88	3.39	2.59	2.62	2.56	2.51
30	2.63	1.73	3.42	5.11	---	5.25	3.50	2.96	2.64	2.68	2.65	2.60
31	2.96	---	3.62	5.03	---	5.36	---	2.91	---	2.62	2.79	---
TOTAL	88.09	82.24	---	131.15	144.84	184.74	129.06	100.15	86.27	89.45	90.61	82.47
MEAN	2.84	2.74	---	4.23	5.17	5.96	4.30	3.23	2.88	2.89	2.92	2.75
MAX	3.56	3.37	---	5.34	6.19	6.89	5.04	3.89	3.28	3.82	3.17	3.07
MIN	2.09	1.73	---	2.71	4.69	5.00	3.50	2.80	2.59	2.60	2.56	2.10

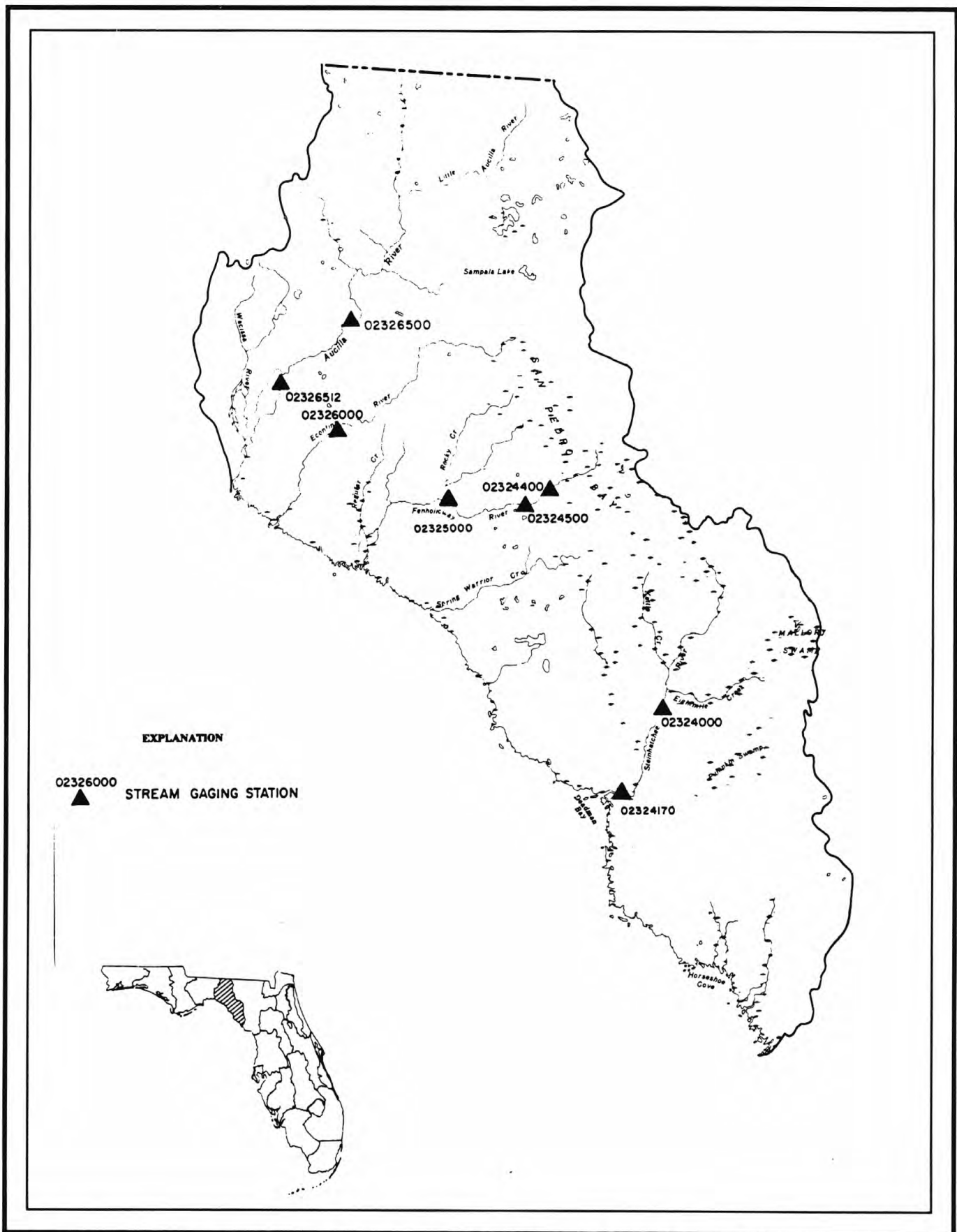


Figure 15.--Location of stream gaging stations in the Steinatchee, Fenholloway, Econfinia, and Aucilla River basins.

STEINHATCHEE RIVER BASIN
02324000 STEINHATCHEE RIVER NEAR CROSS CITY, FL

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 mi², approximately. See REMARKS.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1950 to current year.

REVISED RECORDS.--WSP 1234: 1950. WSP 1724: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.84 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Below about 500 ft³/s, all flow enters sinkhole 0.5 mi downstream from gage. Above about 4,000 ft³/s, discharge measurements are made along U.S. Highways 19, 98, and Alternate 27, measurements include all flow from about 3 mi northwest to 5 mi southwest of main channel, drainage area is increased by about 30 mi².

AVERAGE DISCHARGE.--40 years, 328 ft³/s, 12.73 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft³/s, Sept. 13, 14, 1964, gage height, 18.90 ft; minimum, 2.5 ft³/s, July 18, 1981; minimum gage height, 2.38 ft July 29-31, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,860 ft³/s, July 16, gage height, 12.56 ft; minimum daily discharge, 9.0 ft³/s, June 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	162	32	28	120	133	461	149	47	9.5	35	176	126
2	260	31	28	113	128	408	147	44	9.5	36	145	141
3	242	29	26	112	126	383	301	40	9.5	56	121	128
4	214	27	24	116	122	345	310	e34	9.9	59	101	109
5	190	26	24	122	117	308	295	e30	11	62	85	92
6	176	25	24	137	110	279	284	e27	18	52	72	79
7	163	24	24	168	106	253	267	e25	15	42	68	68
8	151	24	33	193	100	227	238	e23	29	35	101	58
9	135	45	70	177	96	207	210	e21	31	31	109	50
10	124	57	68	170	102	191	188	e20	37	33	103	45
11	122	54	65	173	183	178	167	e20	29	31	88	41
12	120	50	63	173	179	164	146	e19	24	32	81	39
13	113	47	77	164	160	150	125	e18	20	121	78	34
14	104	46	74	153	146	137	109	e17	17	831	73	30
15	98	44	73	145	135	125	98	e16	15	1520	71	30
16	93	40	75	137	125	115	88	e15	13	1830	66	31
17	88	35	74	129	179	124	78	e15	12	1800	60	28
18	98	34	78	123	207	175	70	e14	11	1620	52	24
19	98	33	88	116	205	168	63	e13	10	1480	47	20
20	89	32	105	110	310	158	58	e13	9.5	1300	46	18
21	81	31	111	116	346	151	54	e12	9.0	1250	53	16
22	76	31	113	120	374	143	49	e12	15	1080	49	15
23	70	37	132	109	602	133	47	e12	80	923	60	14
24	64	40	133	101	707	121	62	14	139	787	106	13
25	57	39	129	99	712	110	59	14	126	649	114	12
26	51	39	126	136	656	100	51	12	85	533	112	11
27	47	37	123	130	587	91	45	12	75	439	89	11
28	42	35	118	123	521	84	43	14	59	357	88	11
29	38	33	114	116	---	78	56	14	48	304	88	20
30	35	30	109	113	---	75	53	13	41	252	86	55
31	34	---	105	131	---	144	---	11	---	212	103	---
TOTAL	3435	1087	2434	4145	7474	5786	3910	611	1016.9	17792	2691	1369
MEAN	111	36.2	78.5	134	267	187	130	19.7	33.9	574	86.8	45.6
MAX	260	57	133	193	712	461	310	47	139	1830	176	141
MIN	34	24	24	99	96	75	43	11	9.0	31	46	11
AC-FT	6810	2160	4830	8220	14820	11480	7760	1210	2020	35290	5340	2720
CFSM	.32	.10	.22	.38	.76	.53	.37	.06	.10	1.64	.25	.13
IN.	.37	.12	.26	.44	.79	.61	.42	.06	.11	1.89	.29	.15

CAL YR 1989 TOTAL 27982.7 MEAN 76.7 MAX 672 MIN 9.4 AC-FT 55500 CFSM .22 IN. 2.97
WTR YR 1990 TOTAL 51750.9 MEAN 142 MAX 1830 MIN 9.0 AC-FT 102600 CFSM .41 IN. 5.50
e Estimated

STEINHATCHEE RIVER BASIN
02324000 STEINHATCHEE RIVER NEAR CROSS CITY, FL--Continued

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PERIOD OF RECORD.--May 1966 to July 1986, October 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNIT)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
NOV 17...	1020	35	392	7.9	18.0	1.1	6.3	66	K350	80	210
MAR 22...	0930	144	243	7.9	13.5	1.5	8.2	77	67	94	130
JUN 01...	0945	9.5	465	8.0	24.5	.60	6.7	80	K11	K7	260
AUG 16...	1230	66	312	8.0	25.0	2.0	6.5	78	74	120	180
DATE	HARD- NESS, NONCARB F.WH.W. (MG/L CACO3)	HARD- NESS NONCARB BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA- LITY LAB (MG/L AS CACO3)	ALKA- LITY WAT.DIS FIELD INC.T. (MG/L CACO3)
NOV 17...	17	17	71	7.3	4.8	5	.2	.20	228	191	187
MAR 22...	19	19	45	4.7	4.3	7	.2	.10	151	113	124
JUN 01...	14	14	92	7.8	4.5	4	.1	.30	296	248	243
AUG 16...	23	23	61	5.9	4.1	5	.1	.20	176	154	144
DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
NOV 17...	4.6	4.0	9.8	.20	8.1	259	220	.35	24	<.010	<.10
MAR 22...	2.7	2.1	8.0	.10	6.2	210	140	.29	82	<.010	<.10
JUN 01...	4.8	8.6	9.9	.20	5.1	305	280	.41	7.8	<.010	<.10
AUG 16...	3.0	2.8	8.7	.30	7.7	257	180	.35	46	<.010	<.10
DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)
NOV 17...	.040	.030	.04	.56	.60	.060	.060	.060	.18	60	<1
MAR 22...	.040	.040	.05	.86	.90	.060	.050	.050	.15	170	<1
JUN 01...	.020	<.010	--	.38	.40	.030	.010	<.010	--	20	<1
AUG 16...	.060	.080	.10	.84	.90	.100	.080	.050	.15	150	<1

STEINHATCHEE RIVER BASIN
02324000 STEINHATCHEE RIVER NEAR CROSS CITY, FL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV 17...	10	<.5	<1	1	<3	1	480	<1	4	29	<.1
MAR 22...	7	<.5	<1	<5	<3	<10	680	<10	<4	18	<.1
JUN 01...	9	<.5	<1	1	<3	1	66	<1	8	43	<.1
AUG 16...	9	<.5	<1	1	<3	1	820	<1	<4	46	<.1
	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
NOV 17...	<10	1	<1	<1	100	<6	<3	13	1.2	100	
MAR 22...	<10	<10	<1	<1	60	<6	<3	5	1.9	100	
JUN 01...	<10	1	<1	<1	170	<6	4	9	.23	67	
AUG 16...	<10	1	<1	<1	78	<6	7	8	1.4	62	

STEINHATCHEE RIVER BASIN
02324170 STEINHATCHEE RIVER AT STEINHATCHEE, FL

55

LOCATION.--Lat 29°40'05", long 83°22'39", in SW1/4 sec.25, T.9 S., R.9 E., Taylor County, Hydrologic Unit 03110102, near right bank at abandoned State Highway 358 bridge abutment, 800 ft above State Highway 358 bridge, 2.2 mi upstream from mouth, at Steinhatchee.

DRAINAGE AREA.--582 mi², approximately.

PERIOD OF RECORD.--October 1987 to current year (incomplete).

REVISED RECORDS.--WRD FL-89-4: 1988.

GAGE.--Water-stage and water-current meter recorders. Datum of gage is 13.84 ft below National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Flow affected by tide. Periods of missing record due to water-current meter malfunction and vandalism.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge 7,500 ft³/s, Sept. 10, 1988; maximum gage height 18.34 ft, July 14, 1990; maximum daily reverse flow 743 ft³/s, Aug. 31, 1989; minimum gage height 9.86 ft, Jan. 22, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,900 ft³/s, Apr. 7; maximum gage height, 18.34 ft, July 14; maximum daily reverse flow, 355 ft³/s, Apr. 20; minimum gage height, 9.96 ft, Nov. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	283	4.5	121	---	---	---	51	272	---	---	---	---
2	704	81	221	---	---	---	21	169	---	---	---	---
3	675	98	269	---	---	---	1150	-12	---	---	---	---
4	454	19	167	---	---	---	798	15	---	---	---	---
5	295	-68	275	---	---	---	1690	97	---	---	---	---
6	255	-63	150	---	---	---	1500	203	---	---	---	---
7	271	48	264	---	---	---	1900	35	---	---	---	---
8	318	133	467	---	---	---	1800	33	---	---	---	---
9	218	315	460	---	---	---	382	80	---	---	---	---
10	300	268	299	---	---	---	71	386	---	---	---	---
11	271	333	364	---	---	---	730	147	---	---	---	---
12	375	404	595	---	---	---	1140	222	---	---	---	---
13	600	264	566	---	---	---	392	290	---	---	---	---
14	732	258	320	---	---	---	-103	208	---	---	---	---
15	771	347	194	---	---	---	56	184	---	---	---	---
16	802	496	409	---	---	---	-93	146	---	---	---	---
17	861	187	319	---	---	---	-196	204	---	---	---	---
18	1040	139	316	---	---	---	-200	169	---	---	---	---
19	926	-39	373	---	---	---	-273	102	---	---	---	---
20	585	30	293	---	---	---	-355	139	---	---	---	---
21	-55	180	216	---	---	---	-249	155	---	---	---	---
22	-174	243	253	---	---	---	-31	258	---	---	---	---
23	-117	384	315	---	---	---	264	216	---	---	---	---
24	-39	133	363	---	---	---	293	196	---	---	---	---
25	-75	104	257	---	---	---	20	291	---	---	---	---
26	-120	322	253	---	---	---	57	305	---	---	---	---
27	-58	286	291	---	---	---	-97	191	---	---	---	---
28	-42	256	364	---	---	---	-127	221	---	---	---	---
29	-94	349	335	---	---	---	49	154	---	---	---	---
30	7.0	237	414	---	---	---	342	69	---	---	---	---
31	71	---	533	---	---	---	---	47	---	---	---	---
TOTAL	10040.0	5748.5	10036	---	---	---	10982	5192	---	---	---	---
MEAN	324	192	324	---	---	---	366	167	---	---	---	---
MAX	1040	496	595	---	---	---	1900	386	---	---	---	---
MIN	-174	-68	121	---	---	---	-355	-12	---	---	---	---
AC-FT	19910	11400	19910	---	---	---	21780	10300	---	---	---	---
CFSM	.56	.33	.56	---	---	---	.63	.29	---	---	---	---
IN.	.64	.37	.64	---	---	---	.70	.33	---	---	---	---

CAL YR 1989 TOTAL 85997.8 MEAN 236 MAX 1840 MIN -743 AC-FT 170600 CFSM .40 IN. 5.50

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.45	14.49	13.62	13.69	13.99	14.85	14.55	14.41	14.72	14.69	14.62	14.80
2	14.82	14.54	13.99	13.04	14.02	15.34	14.57	14.40	14.65	14.78	14.49	14.65
3	14.39	14.42	13.12	13.79	14.14	15.07	14.20	14.75	14.69	14.52	14.38	14.72
4	14.40	14.44	13.51	14.13	14.57	14.39	13.79	14.78	14.74	14.62	14.52	14.75
5	14.71	14.43	14.10	14.04	12.91	14.29	14.21	15.00	14.79	14.56	14.86	14.55
6	14.99	14.80	14.36	14.12	13.43	14.19	14.64	14.62	14.62	14.58	14.69	14.76
7	14.92	14.78	14.44	14.31	13.87	13.65	14.18	13.99	14.39	14.43	14.67	14.83
8	14.71	15.16	14.88	14.14	13.87	14.02	13.74	14.57	14.61	14.50	14.91	14.81
9	13.96	15.25	14.02	13.67	14.21	14.65	13.96	15.33	14.64	14.47	14.93	14.69
10	14.45	14.40	13.37	13.91	14.77	14.69	14.53	15.34	14.61	14.53	14.99	14.75
11	14.31	14.22	13.93	13.80	14.13	14.71	14.41	14.03	14.59	14.74	15.02	14.77
12	14.32	14.44	14.70	13.96	13.46	14.70	13.27	14.51	14.39	14.80	15.01	14.72
13	14.35	14.49	13.66	12.78	14.15	14.52	13.67	14.67	14.48	15.48	15.01	14.84
14	14.58	14.75	13.39	13.52	14.28	14.76	14.24	14.30	14.58	15.90	15.12	14.96
15	14.59	14.97	14.24	13.79	14.87	15.08	14.60	14.45	14.72	15.08	15.12	14.88
16	14.64	14.47	13.85	13.93	14.94	15.43	14.36	14.62	14.67	14.75	15.03	15.06
17	14.70	13.47	13.61	14.13	14.11	15.18	14.27	14.72	14.36	14.49	14.98	14.63
18	14.79	13.63	13.66	14.19	14.04	13.73	14.09	14.30	14.26	14.70	14.88	14.30
19	14.11	13.92	14.00	13.98	14.41	14.23	13.65	14.49	14.44	14.74	14.85	14.42
20	13.08	14.36	13.62	14.24	13.51	13.34	14.02	14.88	14.63	14.72	15.00	14.63
21	13.59	14.47	13.76	14.22	13.66	13.42	14.35	14.86	14.62	15.07	15.06	14.85
22	13.99	14.87	12.82	13.47	14.68	14.13	14.38	14.81	14.69	15.07	14.95	14.74
23	14.00	14.29	12.51	13.56	14.86	14.06	14.41	14.32	14.87	15.02	15.13	14.60
24	13.71	13.40	12.20	13.94	13.41	14.20	14.41	14.67	14.54	14.74	14.95	13.73
25	13.72	14.27	13.43	14.52	12.86	14.41	14.50	14.88	14.42	14.78	14.91	14.36
26	13.83	14.53	13.68	12.90	13.05	14.20	14.73	14.98	14.51	14.77	14.93	14.57
27	13.65	14.33	13.97	13.21	13.62	14.00	14.99	15.23	14.59	14.52	14.77	14.56
28	13.59	14.20	14.03	13.61	14.44	14.04	15.46	15.42	14.64	14.42	14.76	14.45
29	13.60	13.47	14.16	14.25	---	14.62	14.68	15.04	14.59	14.57	14.76	14.71
30	14.09	12.62	14.32	14.10	---	14.85	14.54	14.74	14.67	14.70	14.70	14.75
31	14.47	---	14.79	13.80	---	14.83	---	14.83	---	14.60	14.85	

LOCATION.--Lat 30°05'53", long 83°28'19", in NE1/4 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 mi² approximately.

PERIOD OF RECORD.--February to August 1955 (discharge measurements only); September 1955 to current year.

REVISED RECORDS.--WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 53.59 ft above National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark).

REMARKS.--Records good.

AVERAGE DISCHARGE.--35 years, 53.6 ft³/s, 38,800 acre ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,210 ft³/s, Sept. 12, 1964, gage height, 15.21 ft; minimum, 0.49 ft³/s, June 15, 1985; minimum gage height, 0.50 ft, June 29.30, July 1, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum(*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 14	1800	*106	*5.24				

Minimum discharge, .61 ft³/s, June 3, Sept. 24, 25, 28, minimum gage height, 0.71 ft, Oct. 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.0	1.6	11	18	66	58	11	.78	1.7	7.2	4.3
2	1.5	1.0	1.6	13	17	60	63	9.8	.76	1.7	6.2	3.7
3	1.4	1.0	1.6	11	16	57	80	8.4	.71	2.2	5.2	3.2
4	1.3	1.1	1.6	9.9	15	54	74	7.4	.78	1.9	4.5	2.8
5	1.2	1.1	1.6	8.8	15	50	68	6.5	.79	1.7	3.9	2.5
6	1.1	1.1	1.7	10	14	47	62	5.8	.78	1.9	3.2	2.2
7	1.1	1.2	1.7	14	13	43	55	5.1	1.2	2.5	2.7	1.9
8	1.0	1.2	3.3	40	12	40	50	4.4	2.4	3.7	2.4	1.7
9	.99	1.6	5.4	41	11	37	45	4.0	2.3	2.9	2.4	1.5
10	.95	1.6	3.4	40	11	35	41	4.1	6.6	2.3	3.0	1.3
11	.96	1.5	2.6	38	13	32	38	3.8	5.1	1.9	2.8	1.2
12	e.94	1.4	2.2	37	13	29	34	3.3	3.7	1.7	2.6	1.1
13	e.93	1.3	2.5	34	11	26	30	2.9	2.8	2.4	2.3	.94
14	e.92	1.4	2.8	31	10	24	27	2.5	2.3	63	2.0	.86
15	e.92	1.4	2.7	29	9.5	22	24	2.3	2.1	67	1.8	.81
16	e.91	1.4	2.7	27	9.1	20	22	2.1	2.0	52	1.6	.79
17	e.90	1.3	2.6	25	14	26	19	1.8	4.9	48	1.4	.74
18	e.89	1.4	3.5	24	21	44	17	1.6	8.1	48	1.2	.71
19	.88	1.4	7.3	22	27	44	15	1.5	6.1	51	1.1	.68
20	.87	1.3	14	21	54	43	13	1.4	4.8	44	.99	.67
21	.86	1.3	11	19	60	41	12	1.3	3.9	41	1.1	.66
22	.84	1.4	8.8	18	72	39	11	1.3	3.7	35	1.4	.65
23	.84	1.7	8.2	17	97	36	9.8	1.2	5.6	30	1.8	.65
24	.83	1.6	7.5	15	100	33	9.0	1.1	5.6	26	1.7	.62
25	.77	1.5	6.9	15	97	30	8.0	1.1	4.5	21	1.5	.64
26	.79	1.5	6.5	15	88	28	7.2	.99	3.5	17	1.4	.65
27	.88	1.5	6.2	15	80	25	6.5	.95	2.7	15	1.3	.65
28	.88	1.6	5.8	14	73	23	7.2	1.0	2.4	13	2.0	.69
29	.88	1.6	5.5	13	---	21	13	.96	2.4	11	2.4	.89
30	.96	1.5	5.2	12	---	21	13	.85	2.0	9.7	2.1	1.2
31	1.1	---	5.0	16	---	57	---	.80	---	8.3	3.6	---
TOTAL	30.59	40.9	143.0	655.7	990.6	1153	931.7	101.25	95.30	628.5	78.79	40.90
MEAN	.99	1.36	4.61	21.2	35.4	37.2	31.1	3.27	3.18	20.3	2.54	1.36
MAX	1.5	1.7	14	41	100	66	80	11	8.1	67	7.2	4.3
MIN	.77	1.0	1.6	8.8	9.1	20	6.5	.80	.71	1.7	.99	.62
AC-FT	61	81	284	1300	1960	2290	1850	201	189	1250	156	81
CFSM	.02	.02	.08	.35	.59	.62	.52	.05	.05	.34	.04	.02
IN.	.02	.03	.09	.41	.61	.71	.58	.06	.06	.39	.05	.03

CAL YR 1989 TOTAL 1895.07 MEAN 5.19 MAX 51 MIN .51 AC-FT 3760 CFSM .09 IN. 1.17
WTR YR 1990 TOTAL 4890.23 MEAN 13.4 MAX 100 MIN .62 AC-FT 9700 CFSM .22 IN. 3.03

e Estimated

FENHOLLOWAY RIVER BASIN
02324500 FENHOLLOWAY RIVER AT FOLEY, FL

LOCATION.--Lat 30°03'55", long 83°34'29", in NE¼ sec.7, T.5 S., R.8 E., Taylor County, Hydrologic Unit 03110102, near center of span on downstream side of bridge of U.S. Highway 19, 1.6 mi west of Foley, 2.4 mi downstream from clarifier flume of the Procter and Gamble plant, 11.4 mi upstream from Spring Creek, and 24.4 mi upstream from mouth.

DRAINAGE AREA.--120 mi², approximately.

PERIOD OF RECORD.--September 1946 to current year.

REVISED RECORDS.--WSP 1905: Drainage area. WRD FL-77-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 24.85 ft above National Geodetic Vertical Datum of 1929. Prior to June 24, 1947, nonrecording gage and June 24, 1947 to Feb. 4, 1971, water-stage recorder, at site about 1.6 mi upstream at datum 4.51 ft higher.

REMARKS.--Records good. Since Feb. 1, 1954, large ground-water withdrawals by cellulose plant upstream. Records include return flow from plant.

AVERAGE DISCHARGE.--44 years; 131 ft³/s, 94,910 acre ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,810 ft³/s, Sept. 12, 1964, gage height, 18.52 ft; no flow Jan. 2-4, 1971, caused by diversion of flow into lagoon; minimum gage height, 6.40 ft Jan. 8, 9, 1950, at former site and datum. Maximum discharge, 1,120 ft³/s, Apr. 5, 1973, gage height 15.03; minimum discharge, 0.80 ft³/s, Aug. 16, 1972; minimum gage height, 8.70 ft May 13, 14, 15, 1989, present site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 192 ft³/s, Feb. 25, gage height, 11.93 ft; minimum, 24 ft³/s, July 6, gage height, 9.06 ft, (result of plant shutdown upstream).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	58	59	76	70	154	e96	69	65	67	73	78
2	68	61	60	67	71	143	e100	68	64	69	71	77
3	67	62	59	68	69	142	e119	67	65	67	73	74
4	64	64	59	70	70	131	134	66	81	70	73	76
5	64	65	64	71	66	123	135	68	70	69	74	74
6	61	62	61	76	64	141	122	67	66	35	74	75
7	64	64	62	80	64	115	114	66	66	56	67	73
8	58	63	95	81	65	104	105	62	63	68	68	73
9	61	75	74	70	65	100	100	67	67	67	70	74
10	63	63	68	68	68	96	98	74	66	66	74	76
11	60	67	67	76	66	93	93	65	63	68	75	79
12	61	65	65	90	65	87	90	65	57	68	76	85
13	61	64	67	93	72	85	86	65	62	80	74	77
14	61	64	67	92	64	88	82	66	64	111	75	74
15	64	63	66	89	67	89	80	67	64	78	73	74
16	64	61	68	84	71	84	78	66	65	74	71	77
17	64	62	63	79	79	103	75	62	76	78	74	74
18	70	58	73	80	71	117	68	65	69	84	72	75
19	67	64	88	78	80	122	65	65	68	91	73	74
20	64	64	78	75	93	108	64	68	67	92	74	78
21	63	66	72	74	141	110	63	69	68	94	72	77
22	63	62	72	71	161	106	64	77	73	92	70	74
23	67	73	73	70	181	95	58	69	64	92	82	75
24	67	65	73	70	188	93	57	68	68	82	77	71
25	61	65	71	69	192	87	63	66	68	79	73	71
26	62	66	74	69	172	83	66	67	61	78	72	73
27	63	66	75	64	172	81	63	67	66	77	73	74
28	61	65	68	64	167	77	74	67	68	75	69	73
29	60	64	70	67	---	e75	67	66	67	74	74	79
30	62	59	66	67	---	e80	66	59	67	73	77	78
31	62	---	67	72	---	e92	---	65	---	72	75	---
TOTAL	1964	1920	2144	2320	2774	3204	2545	2068	1998	2346	2268	2262
MEAN	63.4	64.0	69.2	74.8	99.1	103	84.8	66.7	66.6	75.7	73.2	75.4
MAX	70	75	95	93	192	154	135	77	81	111	82	85
MIN	58	58	59	64	64	75	57	59	57	35	67	71
AC-FT	3900	3810	4250	4600	5500	6360	5050	4100	3960	4650	4500	4490
CFSM	.53	.53	.58	.62	.83	.86	.71	.56	.55	.63	.61	.63
IN.	.61	.60	.66	.72	.86	.99	.79	.64	.62	.73	.70	.70

CAL YR 1989 TOTAL 25098.2 MEAN 68.8 MAX 120 MIN 5.4 AC-FT 49780 CFSM .57 IN. 7.78
WTR YR 1990 TOTAL 27813 MEAN 76.2 MAX 192 MIN 35 AC-FT 55170 CFSM .63 IN. 8.62

e Estimated

FENHOLLOWAY RIVER BASIN
02325000 FENHOLLOWAY RIVER NEAR PERRY, FL

59

LOCATION.--Lat 30°04'16", long 83°39'45", in SE¼ sec.6, T.5 S., R.7 E., Taylor County, Hydrologic Unit 03110102, near right bank on downstream side of bridge on State Highway 356, 1.0 mi southwest of the community of Hampton Springs, 5.5 mi southwest of Perry and 14 mi upstream from mouth.

DRAINAGE AREA.--160 mi², approximately.

PERIOD OF RECORD.--August 1946 to June 1952 (discharge measurements only); August 1952 to October 1954 (gage heights and discharge measurements only); November 1964 to July 1977 (crest-stage and periodic discharge measurements only); August 1977 to September 1984. May 1986 to current year.

REVISED RECORDS.--WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. August 13, 1946 to October 1954, nonrecording gage at same site at datum 5.00 ft higher. November 1964 to July 1977, crest-stage gage at same site and datum.

REMARKS.--No estimated daily discharges. Records fair. Natural flow of stream affected by large ground-water withdrawals by cellulose plant about 10 mi upstream. Flow affected by backwater from Spring Creek at times.

AVERAGE DISCHARGE.--11 years (water years 1978-84, 1987-90), 208 ft³/s, 17.65 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum measured discharge, 1,360 ft³/s, Sept. 18, 1964, maximum gage height, 24.39 ft, Sept. 13, 1964 from floodmarks (backwater from Spring Creek); minimum measured, 37 ft³/s, Feb. 16, 1951; minimum gage height, 11.40 ft, May 15, 16, 1989, revised.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 252 ft³/s, Feb. 26; gage height, 14.47 ft; minimum daily discharge, 64 ft³/s, July 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	101	89	135	142	234	182	128	91	94	125	108
2	117	98	89	125	140	225	190	126	90	94	123	112
3	115	100	88	124	139	224	207	123	89	95	120	107
4	114	99	87	126	137	217	203	120	98	94	117	108
5	113	100	88	128	135	207	204	119	115	95	117	109
6	112	99	90	133	129	200	201	118	102	84	115	107
7	111	98	85	148	129	204	193	117	100	64	113	105
8	110	99	97	167	127	189	185	112	99	92	103	104
9	108	105	109	161	127	182	179	113	101	93	111	102
10	110	101	98	158	128	176	175	119	106	91	114	102
11	109	99	98	162	130	171	172	115	103	90	111	103
12	109	99	100	168	124	167	167	109	100	90	114	109
13	108	97	98	173	125	162	162	109	93	93	110	105
14	108	97	99	173	129	161	158	108	99	141	110	101
15	108	96	99	171	118	161	154	108	99	171	110	98
16	109	96	100	167	125	159	151	106	98	173	107	99
17	109	95	98	163	143	169	148	105	110	175	107	99
18	110	94	103	159	139	191	142	98	106	181	107	96
19	112	93	114	158	142	192	134	101	103	190	104	95
20	109	96	130	156	165	196	131	100	100	184	106	95
21	107	95	120	153	180	193	128	102	100	179	104	96
22	107	96	119	151	202	185	127	109	101	174	105	95
23	107	97	123	148	235	182	125	104	102	172	107	93
24	108	97	122	147	245	179	115	100	99	170	114	90
25	107	95	124	145	250	171	120	97	97	156	106	88
26	102	95	125	147	252	167	122	96	97	151	104	88
27	104	94	124	140	242	161	121	96	91	150	103	88
28	102	94	123	136	238	157	125	95	97	143	107	88
29	101	93	119	136	---	157	140	95	95	138	100	92
30	101	90	119	138	---	156	128	91	94	135	106	98
31	101	---	117	145	---	178	---	86	---	129	107	---
TOTAL	3361	2908	3294	4041	4517	5673	4689	3325	2975	4081	3407	2980
MEAN	108	96.9	106	150	161	183	156	107	99.2	132	110	99.3
MAX	117	105	130	173	252	234	207	128	115	190	125	112
MIN	101	90	85	124	118	156	115	86	89	64	100	88
AC-FT	6670	5770	6530	9210	8960	11250	9300	6600	5900	8090	6760	5910
CFSM	.68	.61	.66	.94	1.01	1.14	.98	.67	.62	.82	.69	.62
IN.	.78	.68	.77	1.08	1.05	1.32	1.09	.77	.69	.95	.79	.69
CAL YR 1989	TOTAL 41406	MEAN 113	MAX 158	MIN 59	AC-FT 82130	CFSM .71	IN. 9.63					
WTR YR 1990	TOTAL 45851	MEAN 126	MAX 252	MIN 64	AC-FT 90950	CFSM .79	IN. 10.66					

ECONFINA RIVER BASIN
02326000 ECONFINA RIVER NEAR PERRY, FL.

LOCATION.--Lat 30°10'14", long 83°49'26", in NE¹/₄ sec.4, T.4 S., R.5 E., Taylor County, Hydrologic Unit 03110102, on downstream side of concrete bridge, 3.0 mi downstream from Natural Well Branch, 14 mi upstream from mouth, and 14.7 mi northwest of Perry.

DRAINAGE AREA.--198 mi².

PERIOD OF RECORD.--February 1950 to current year.

REVISED RECORDS.--WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 14.35 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--40 years, 140 ft³/s, 9.60 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,540 ft³/s, Sept. 17, 1957, gage height, 12.78 ft; minimum, 2.3 ft³/s, July 8, 1955; minimum gage height, 1.85 ft Sept. 27, 28, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 241 ft³/s, Feb. 27, gage height, 6.24 ft; minimum, 12 ft³/s, Sept. 27, 28; gage height, 1.85 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	15	14	61	95	227	97	122	24	24	52	20
2	24	15	14	67	104	216	101	109	24	23	48	20
3	23	15	14	72	109	204	106	92	23	24	44	19
4	23	15	13	77	110	191	105	79	25	23	41	19
5	23	14	13	81	112	178	101	69	25	23	38	20
6	22	14	13	87	110	165	96	62	25	23	36	20
7	21	14	13	96	109	153	91	57	26	22	33	19
8	21	14	17	115	108	142	85	53	28	21	32	19
9	20	17	22	131	106	132	79	49	26	21	31	18
10	20	16	31	151	103	123	73	49	27	21	30	18
11	20	16	41	169	103	114	71	47	27	21	30	17
12	20	16	41	178	101	106	71	44	26	21	28	17
13	20	15	37	177	98	99	68	41	26	23	27	17
14	19	15	36	172	94	92	64	39	25	58	26	17
15	19	15	37	164	90	85	60	37	25	106	26	17
16	19	15	37	156	87	78	56	35	24	122	25	17
17	18	14	35	147	92	84	52	34	26	149	24	16
18	18	14	34	138	98	118	48	32	25	155	24	16
19	18	14	36	130	108	130	44	31	28	136	23	15
20	18	14	42	122	131	138	42	30	31	117	23	15
21	18	14	52	116	141	139	39	29	29	112	23	14
22	17	14	61	111	153	135	38	29	28	108	22	14
23	17	15	65	105	180	129	36	28	29	109	22	14
24	17	14	65	99	203	122	34	27	28	122	22	13
25	17	14	63	95	220	115	33	26	29	116	21	13
26	17	15	60	91	234	107	31	26	29	104	21	13
27	16	14	59	87	240	100	30	25	28	95	20	13
28	16	14	57	84	236	93	71	25	26	82	21	13
29	16	14	55	81	---	86	164	25	25	72	20	14
30	16	14	54	78	---	81	138	24	25	64	20	14
31	16	---	54	84	---	88	---	24	---	58	20	---
TOTAL	593	439	1185	3522	3675	3970	2124	1399	792	2175	873	491
MEAN	19.1	14.6	38.2	114	131	128	70.8	45.1	26.4	70.2	28.2	16.4
MAX	24	17	65	178	240	227	164	122	31	155	52	20
MIN	16	14	13	61	87	78	30	24	23	21	20	13
AC-FT	1180	871	2350	6990	7290	7870	4210	2770	1570	4310	1730	974
CFSM	.10	.07	.19	.57	.66	.65	.36	.23	.13	.35	.14	.08
IN.	.11	.08	.22	.66	.69	.75	.40	.26	.15	.41	.16	.09

CAL YR 1989	TOTAL 20428.2	MEAN 56.0	MAX 404	MIN 8.0	AC-FT 40520	CFSM .28	IN. 3.84
WTR YR 1990	TOTAL 21238	MEAN 58.2	MAX 240	MIN 13	AC-FT 42130	CFSM .29	IN. 3.99

AUCILLA RIVER BASIN
02326500 AUCILLA RIVER AT LAMONT, FL

61

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 mi².

PERIOD OF RECORD.--February 1950 to September 1979; November 1983 to current year (gage heights and peak discharge only).

REVISED RECORDS.--WSP 1204, 1905: Drainage area. WSP 1504: 1953.

GAGE.--Water-stage recorder. Datum of gage is 42.90 ft above National Geodetic Vertical Datum of 1929, unadjusted.

REMARKS.--Pumpage above and below station for irrigation during dry seasons. Since Aug. 27, 1963, low-head rock and concrete dam 0.6 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s, Apr. 8, 1973, gage height, 16.57 ft, river dry at gage June 13-16, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 1,900 ft³/s, Feb. 23, gage height, 10.69 ft; minimum gage height, 3.70 ft Sept. 26-29.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.53	4.17	4.56	6.80	7.74	10.33	7.66	5.49	4.31	4.06	4.06	4.01
2	4.74	4.17	4.52	6.83	7.79	10.23	7.60	5.50	4.28	4.05	4.08	3.97
3	4.72	4.17	4.50	6.84	7.85	10.13	7.71	5.48	---	4.18	4.08	3.96
4	4.62	4.17	4.47	6.87	7.95	10.01	7.65	5.45	---	4.21	4.06	3.93
5	4.53	4.20	4.45	6.88	8.02	9.86	7.53	5.38	---	4.19	4.03	3.91
6	4.48	4.23	4.43	7.12	7.98	9.72	7.43	5.30	---	4.15	4.01	3.91
7	4.46	4.33	4.43	7.56	7.91	9.56	7.30	5.22	---	4.10	3.98	3.90
8	4.52	4.51	4.80	8.29	7.84	9.40	7.14	5.11	---	4.08	3.97	3.88
9	4.53	4.79	5.56	8.47	7.75	9.25	7.00	5.04	---	4.04	4.00	3.85
10	4.45	4.84	5.59	8.47	8.09	9.08	6.88	5.10	---	4.03	4.16	3.83
11	4.41	4.75	5.47	8.47	9.23	8.89	6.99	5.04	---	4.02	4.21	3.81
12	4.38	4.65	5.44	8.44	9.66	8.68	6.99	4.92	---	4.01	4.14	3.80
13	4.35	4.61	5.66	8.35	9.82	8.47	6.88	4.83	---	4.07	4.07	3.84
14	4.33	4.60	5.69	8.26	9.85	8.24	6.81	4.78	---	4.90	4.03	3.89
15	4.31	4.60	5.68	8.17	9.81	8.00	6.74	4.72	---	5.34	4.01	3.88
16	4.30	4.56	5.71	8.09	9.78	7.79	6.66	4.65	---	5.17	3.99	3.87
17	4.29	4.53	5.72	7.99	9.99	7.93	6.54	4.59	---	5.03	3.97	3.85
18	4.34	4.53	5.78	7.89	10.03	8.47	6.41	4.53	---	4.88	3.94	3.88
19	4.48	4.51	6.08	7.77	10.05	8.57	6.30	4.46	---	4.73	3.93	3.88
20	4.48	4.49	6.56	7.65	10.30	8.60	6.20	4.41	---	4.64	3.93	3.84
21	4.40	4.47	6.68	7.64	10.37	8.60	6.10	4.38	---	4.50	3.92	3.81
22	4.34	4.47	6.68	7.74	10.43	8.54	5.99	4.35	---	4.60	3.91	3.79
23	4.31	4.68	6.74	7.60	10.64	8.43	5.89	4.33	---	4.66	3.91	3.77
24	4.28	4.82	6.75	7.53	10.67	8.28	5.80	4.31	---	4.49	3.91	3.74
25	4.25	4.77	6.75	7.51	10.62	8.12	5.70	4.29	---	4.34	3.90	3.72
26	4.23	4.73	6.72	7.52	10.56	7.96	5.59	4.27	---	4.23	3.90	3.71
27	4.22	4.69	6.69	7.41	10.49	7.82	5.49	4.27	---	4.19	3.89	3.70
28	4.20	4.65	6.65	7.33	10.42	7.69	5.51	4.45	4.14	4.16	3.90	3.70
29	4.17	4.63	6.61	7.27	---	7.58	5.60	4.57	4.12	4.12	3.97	3.74
30	4.16	4.60	6.56	7.27	---	7.51	5.52	4.50	4.10	4.09	3.98	3.83
31	4.17	---	6.56	7.59	---	7.66	---	4.38	---	4.06	4.04	---
TOTAL	135.98	135.92	178.49	237.62	261.64	269.40	197.61	148.10	---	135.32	123.88	115.20
MEAN	4.39	4.53	5.76	7.67	9.34	8.69	6.59	4.78	---	4.37	4.00	3.84
MAX	4.74	4.84	6.75	8.47	10.67	10.33	7.71	5.50	---	5.34	4.21	4.01
MIN	4.16	4.17	4.43	6.80	7.74	7.51	5.49	4.27	---	4.01	3.89	3.70

CAL YR 1989 TOTAL 2112.64 MEAN 5.79 MAX 9.51 MIN 4.05

AUCILLA RIVER BASIN
02326512 AUCILLA RIVER NEAR SCANLON, FL

LOCATION.--Lat 30°13'52", long 83°55'08", in SW 1/4 sec.10, T.3 S., R.4 E., Taylor County, Hydrologic Unit 03110103, on left bank, 3 mi west of Cabbage Grove, 6.9 mi north of Scanlon, 12 mi southwest of Lamont and 14 mi upstream from mouth.

DRAINAGE AREA.--805 mi².

PERIOD OF RECORD.--March 1950 to November 1957, crest-stage partial-record station; May 1965, May 1967 (one discharge measurement made each water year); August 1976 to current year.

REVISED RECORDS.--WRD FL-88-4: 1986, 1987.

GAGE.--Water-stage recorder. Datum of gage is 3.14 ft above National Geodetic Vertical Datum of 1929, unadjusted. February 1950 to November 1957, crest-stage gage at same site at present datum. August 30, 1976 to April 24, 1982, water-stage recorder at same site and datum. April 25, 1982 to October 24, 1984, nonrecording gage.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--14 years, 547 ft³/s, 9.23 in/yr.

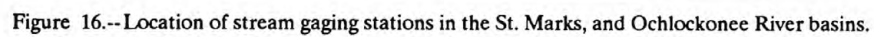
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,460 ft³/s, Apr. 8, 1984, gage height, 20.47 ft from floodmark; minimum, 21 ft³/s, Sept. 24-29, 1990; minimum gage height, 2.60 ft, Sept. 26, 27, 28, 1990.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 9, 1973, reached a stage of about 23.5 ft, from floodmarks, (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,990 ft³/s, Feb. 25, gage height, 16.30 ft; minimum, 21 ft³/s, Sept. 24-29, minimum gage height, 2.60 ft, Sept. 26, 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	38	52	363	579	1790	588	120	45	37	37	33
2	61	38	51	367	595	1710	577	118	42	36	37	32
3	65	37	50	363	599	1620	591	116	41	38	38	31
4	64	37	49	364	625	1550	590	113	42	38	36	31
5	59	36	48	368	636	1480	569	108	41	39	36	32
6	56	36	48	399	635	1380	546	103	42	38	35	30
7	53	38	47	494	626	1270	520	95	41	37	34	29
8	52	40	74	676	611	1170	483	87	41	37	34	28
9	53	53	105	748	593	1080	445	81	41	37	35	27
10	53	55	141	764	585	1000	416	80	41	35	36	27
11	51	61	132	754	686	924	412	80	40	35	37	26
12	49	57	125	746	824	852	422	75	41	34	39	26
13	48	53	141	727	978	785	399	69	41	38	38	27
14	47	51	157	707	1100	730	373	65	40	52	36	26
15	46	51	155	687	1170	683	355	62	38	82	35	26
16	45	51	157	669	1200	643	334	59	37	100	35	26
17	44	50	159	652	1260	668	309	57	40	85	34	24
18	49	49	162	633	1350	763	284	54	48	78	34	23
19	49	48	193	611	1420	793	257	51	59	70	33	23
20	50	48	294	588	1500	800	236	50	56	64	32	23
21	51	47	331	569	1560	795	218	48	49	61	32	23
22	49	47	334	587	1640	789	198	47	46	55	33	22
23	46	51	337	584	1790	771	183	46	43	59	31	22
24	44	54	342	560	1900	743	171	45	40	60	31	21
25	43	62	341	549	1970	709	157	44	39	54	31	21
26	42	61	337	544	1970	671	140	43	39	48	30	21
27	40	59	329	531	1920	635	126	43	38	44	29	21
28	40	57	322	511	1860	602	125	43	37	42	29	21
29	39	55	313	495	---	577	134	47	36	41	29	23
30	38	54	304	487	---	560	130	51	37	40	30	24
31	38	---	306	539	---	576	---	49	---	38	33	---
TOTAL	1521	1474	5936	17636	32182	29119	10288	2149	1261	1552	1049	769
MEAN	49.1	49.1	191	569	1149	939	343	69.3	42.0	50.1	33.8	25.6
MAX	65	62	342	764	1970	1790	591	120	59	100	39	33
MIN	38	36	47	363	579	560	125	43	36	34	29	21
AC-FT	3020	2920	11770	34980	63830	57760	20410	4260	2500	3080	2080	1530
CFSM	.06	.06	.24	.71	1.43	1.17	.43	.09	.05	.06	.04	.03
IN.	.07	.07	.27	.81	1.49	1.35	.48	.10	.06	.07	.05	.04
CAL YR 1989	TOTAL	80579	MEAN 221	MAX 1080	MIN 34	AC-FT 159800	CFSM .27	IN. 3.72				
WTR YR 1990	TOTAL	104936	MEAN 287	MAX 1970	MIN 21	AC-FT 208100	CFSM .36	IN. 4.85				



ST. MARKS RIVER BASIN
02326900 ST. MARKS RIVER NEAR NEWPORT, FL

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 mi² including 290 mi² of Lake Miccosukee, which contributes at high stages to the St. Marks River.

PERIOD OF RECORD.--October 1956 to September 1976. October 1976 to September 1977 (gage heights only); October 1977 to current year.

REVISED RECORDS.--WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3.53 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--34 years (water years 1957-76, 1978-90), 698 ft³/s, 505,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,750 ft³/s, Apr. 7, 1973, gage height, 11.81 ft; minimum discharge, 310 ft³/s, Apr. 25, 1964, Oct. 4-6, 1968; minimum gage height, 4.20 ft Mar. 17, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,240 ft³/s, Feb. 23, gage height, 7.51 ft; minimum daily, 359 ft³/s, Sept. 24, 25, 27, gage height, 5.40 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e762	410	416	547	612	899	582	493	432	382	391	380
2	e730	410	416	543	605	857	582	487	431	383	387	379
3	e698	408	413	556	605	825	608	482	430	383	386	379
4	e666	406	409	585	608	787	608	478	429	382	386	378
5	e634	406	409	575	590	757	598	476	429	379	385	377
6	e602	411	408	576	576	732	594	473	428	376	385	377
7	e570	426	409	611	569	707	577	467	426	373	385	375
8	e538	433	480	686	562	678	551	465	425	372	383	374
9	e506	478	528	675	558	660	535	472	424	370	385	372
10	e474	458	510	676	690	641	529	476	425	375	384	371
11	446	454	516	677	927	624	537	466	426	372	384	370
12	437	452	553	650	943	609	528	463	422	370	382	370
13	435	450	582	607	965	595	521	459	418	387	381	371
14	434	450	547	584	1010	584	518	455	415	408	382	373
15	433	449	529	569	940	576	514	451	412	394	382	374
16	433	447	519	555	869	572	507	449	409	391	381	377
17	432	436	504	547	959	621	500	447	407	390	385	372
18	441	432	504	540	952	654	494	442	406	390	382	369
19	439	428	544	532	957	657	486	442	403	391	380	368
20	431	428	648	528	1090	686	484	441	402	393	379	368
21	427	427	649	530	1070	719	482	442	400	396	379	368
22	424	429	654	533	1080	697	480	442	402	401	379	367
23	421	439	659	531	1240	651	477	440	400	404	378	365
24	418	433	620	531	1190	617	477	440	398	401	379	359
25	415	431	578	546	1160	595	476	440	394	398	378	359
26	413	431	554	558	1140	577	475	440	391	397	376	360
27	411	429	538	553	1050	562	474	439	389	396	376	359
28	409	428	526	556	962	552	498	441	387	395	378	362
29	407	424	517	567	---	549	501	438	385	395	377	369
30	408	418	510	571	---	557	498	435	384	394	379	370
31	409	---	513	614	---	587	---	433	---	392	380	---
TOTAL	15103	12961	16162	17909	24479	20384	15691	14114	12329	12030	11834	11112
MEAN	487	432	521	578	874	658	523	455	411	388	382	370
MAX	762	478	659	686	1240	899	608	493	432	408	391	380
MIN	407	406	408	528	558	549	474	433	384	370	376	359
AC-FT	29960	25710	32060	35520	48550	40430	31120	28000	24450	23860	23470	22040
CFSM	.91	.81	.97	1.08	1.63	1.23	.98	.85	.77	.73	.71	.69
IN.	1.05	.90	1.12	1.25	1.70	1.42	1.09	.98	.86	.84	.82	.77

CAL YR 1989 TOTAL 287955 MEAN 789 MAX 1730 MIN 406 AC-FT 571200 CFSM 1.47 IN. 20.02
WTR YR 1990 TOTAL 184108 MEAN 504 MAX 1240 MIN 359 AC-FT 365200 CFSM .94 IN. 12.80

e Estimated

OCHLOCKONEE RIVER BASIN
02327100 SOPCHOPPY RIVER NEAR SOPCHOPPY, FL
(Hydrologic bench-mark station)

65

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 343, 4.7 mi north of Sopchoppy, 5.2 mi upstream from Duval Branch, and 24 mi upstream from mouth.

DRAINAGE AREA.--102 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Water years 1961-64 (annual maximum); June 1964 to current year.

REVISED RECORDS.--WSP 1905, WRD FL-76-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Jan. 27, 1961 to June 3, 1964, nonrecording gage and crest-stage gage at same site at datum 9.63 ft higher.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--26 years (water years 1965-90), 192 ft³/s, 25.56 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,260 ft³/s, July 31, 1975, gage height, 34.47 ft, from rating curve extended above 3,500 ft³/s, by velocity-area study; minimum, 0.90 ft³/s, June 5, 1989; minimum gage height, 7.94 ft June 4, 5, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 2	1300	*1,140	*20.45				

Minimum discharge, 1.4 ft³/s, June 27, 28, 29, minimum gage height, 7.98 ft June 27, 28, 29, Sept. 23-28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	608	11	84	294	129	341	150	27	1.8	1.7	8.8	4.8
2	1100	9.4	75	350	121	275	166	20	1.8	3.1	6.9	8.4
3	984	8.1	66	350	113	251	244	16	1.8	3.0	5.7	14
4	732	6.9	56	313	111	229	250	12	2.0	3.0	4.5	14
5	538	6.1	48	275	106	191	215	9.6	2.7	6.0	3.8	12
6	389	5.5	41	272	91	155	174	7.7	3.1	4.7	3.7	10
7	299	6.0	37	391	79	125	139	6.2	2.4	2.9	3.5	8.1
8	255	24	61	586	69	101	109	5.1	3.0	4.2	6.1	6.6
9	195	182	164	575	60	82	83	4.8	2.6	3.1	25	5.3
10	147	305	206	504	83	67	64	5.4	2.4	2.2	19	4.2
11	112	318	209	413	186	55	69	4.4	2.3	2.1	12	3.5
12	86	286	198	342	232	45	76	4.4	2.0	1.9	8.3	2.9
13	67	240	223	283	226	36	67	4.2	1.9	3.4	6.8	2.6
14	52	197	214	237	196	29	54	3.9	1.8	12	5.7	2.4
15	41	165	197	199	168	24	43	3.5	1.8	17	5.0	2.5
16	33	146	184	170	161	21	36	3.1	1.8	14	4.2	2.4
17	26	131	173	146	382	64	29	2.8	1.9	11	4.0	2.1
18	82	113	166	125	488	202	23	2.6	1.9	7.7	6.5	2.0
19	160	96	199	108	619	230	18	2.3	1.8	70	5.1	1.8
20	160	81	310	93	1070	210	15	2.4	1.8	147	4.4	1.8
21	147	68	343	83	1080	172	12	2.9	1.8	117	4.7	1.8
22	120	59	335	91	951	139	9.9	2.4	1.8	109	4.3	1.8
23	94	108	309	91	1060	113	8.6	2.1	2.0	87	3.9	1.8
24	74	141	278	84	1080	91	8.6	2.0	1.8	77	3.5	1.7
25	58	142	246	89	904	73	7.6	2.0	1.7	58	3.0	1.7
26	45	132	218	118	697	58	6.6	2.0	1.6	39	2.9	1.7
27	35	115	195	129	547	45	5.7	1.8	1.5	33	2.6	1.7
28	27	100	174	127	429	35	5.6	2.2	1.5	23	3.2	3.6
29	21	94	154	116	---	27	6.5	2.0	1.7	17	4.2	6.7
30	17	90	137	110	---	37	26	1.8	2.1	13	4.8	8.8
31	14	---	133	132	---	123	---	1.7	---	11	4.1	---
TOTAL	6718	3386.0	5433	7196	11438	3646	2121.1	170.3	60.1	904.0	190.2	142.7
MEAN	217	113	175	232	408	118	70.7	5.49	2.00	29.2	6.14	4.76
MAX	1100	318	343	586	1080	341	250	27	3.1	147	25	14
MIN	14	5.5	37	83	60	21	5.6	1.7	1.5	1.7	2.6	1.7
AC-FT	13330	6720	10780	14270	22690	7230	4210	338	119	1790	377	283
CFSM	2.12	1.11	1.72	2.28	4.00	1.15	.69	.05	.02	.29	.06	.05
IN.	2.45	1.23	1.98	2.62	4.17	1.33	.77	.06	.02	.33	.07	.05

CAL YR 1989	TOTAL 57709.0	MEAN 158	MAX 1290	MIN 1.0	AC-FT 114500	CFSM 1.55	IN. 21.05
WTR YR 1990	TOTAL 41405.4	MEAN 113	MAX 1100	MIN 1.5	AC-FT 82130	CFSM 1.11	IN. 15.10

OCHLOCKONEE RIVER BASIN
02327100 SOPCHOPPY RIVER NEAR SOPCHOPPY, FL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNIT)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
NOV 24...	1400	140	40	4.2	12.5	1.3	9.2	85	220	25	6
MAR 22...	1730	132	33	4.2	13.0	2.5	9.2	86	29	63	5
MAY 25...	1400	2.0	222	7.7	23.5	1.0	6.5	76	20	22	120
AUG 17...	1100	3.7	148	7.6	26.5	.60	5.7	70	65	43	76
	HARD- NESS, NONCARB F.W.H.W. ,FET, (MG/L CACO3)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA- LINITY LAB (MG/L AS CACO3)	ALKA- LINITY WAT.DIS FIELD INC.T. (MG/L CACO3)
NOV 24...	--	--	1.6	.41	1.9	42	.4	.10	<1	<1.0	<1
MAR 22...	--	--	1.4	.25	1.6	--	.3	<.10	<1	<1.0	<1
MAY 25...	8	8	42	4.0	2.8	5	.1	.40	141	114	116
AUG 17...	9	9	26	2.7	2.7	7	.1	.20	85	67	70
	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
NOV 24...	--	<1.0	5.6	.20	5.8	83	--	.11	31	.010	<.10
MAR 22...	--	<1.0	3.5	<.10	3.4	65	--	.09	23	.010	.30
MAY 25...	4.4	1.2	5.1	.10	7.8	147	130	.20	.79	<.010	<.10
AUG 17...	3.3	1.7	4.7	<.10	8.2	130	87	.18	1.3	<.010	<.10
	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
NOV 24...	.030	.030	.04	.03	.57	.60	.020	.010	.020	.06	530
MAR 22...	.020	.020	.03	.03	.48	.50	.030	.010	.010	.03	430
MAY 25...	<.010	.010	.01	--	--	.40	.060	.050	.050	.15	80
AUG 17...	.040	.060	.08	--	.46	.50	.080	.060	.040	.12	260

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 24...	<1	3	<.5	<1	<1	<3	1	430	1	<4	6
MAR 22...	<1	2	<.5	1	<5	<3	<10	290	<10	<4	3
MAY 25...	<1	11	<.5	<1	1	<3	5	280	1	<4	5
AUG 17...	<1	10	<.5	<1	<1	<3	1	430	2	<4	8

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 24...	<.1	<10	1	<1	<1	5	<6	<3	4	1.5	75
MAR 22...	<.1	<10	<10	<1	<1	4	<6	3	5	1.8	100
MAY 25...	<.1	<10	<1	<1	<1	110	<6	<3	4	.02	50
AUG 17...	<.1	<10	1	<1	<1	66	<6	--	4	.04	75

OCHLOCKONEE RIVER BASIN
02329000 OCHLOCKONEE RIVER NEAR HAVANA, FL
(National stream-quality accounting network station)

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 mi², approximately. At site used prior to January 1929, 1,220 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1926 to current year. June 1926 to December 1929 (published as "at Ochlockonee"). Records published for both sites December 1928 to December 1929.

REVISED RECORDS.--WSP 822: 1929 (M). WSP 1504: 1928. WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 59.36 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1930, nonrecording gage at site about 10 mi downstream at datum 9.36 ft lower. Dec. 12, 1928, to Nov. 17, 1963, nonrecording gage at site 100 ft upstream at present datum. Nov. 18, 1963 to Nov. 15, 1976, nonrecording gage at same site and datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--64 years, 1,037 ft³/s, 12.35 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,900 ft³/s, Apr. 4, 1948, gage height, 35.08 ft; minimum, 17 ft³/s, Oct. 23-28, Nov. 1, 1954; minimum gage height, 10.75 ft Oct. 31, Nov. 1, 3, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,450 ft³/s, Jan. 14, gage height, 25.82 ft; minimum, 25 ft³/s, Sept. 27, 28, 30, gage height, 10.94 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	251	172	319	1250	2050	3960	926	259	190	54	61	71
2	274	162	343	1250	2060	3420	948	247	172	54	57	77
3	316	153	324	1220	1980	2950	1060	231	157	63	54	92
4	385	145	296	1290	1850	2490	1190	218	143	62	53	89
5	408	138	274	1450	1660	2190	1350	206	135	84	54	76
6	399	136	257	1790	1470	1950	1480	195	128	104	51	67
7	375	144	244	2220	1340	1730	1510	184	123	95	53	59
8	356	157	286	2900	1230	1510	1470	186	122	83	61	53
9	320	266	513	3400	1160	1350	1400	189	117	78	66	48
10	283	399	732	3540	1140	1240	1310	189	116	75	73	45
11	255	540	947	3740	1220	1140	1200	181	120	73	67	42
12	234	642	1180	4310	1270	1060	1040	183	121	80	60	41
13	214	665	1400	5190	1470	992	911	184	111	107	65	38
14	199	610	1530	5320	1830	933	822	175	102	107	72	39
15	187	519	1620	4700	2080	881	761	167	94	100	60	38
16	178	440	1680	3920	2250	833	718	158	88	86	51	36
17	172	381	1670	3270	2500	898	680	153	83	80	47	35
18	192	345	1580	2710	2450	1090	636	158	79	79	43	39
19	227	322	1470	2280	2360	1180	581	152	80	76	39	43
20	312	304	1400	1970	2380	1360	528	144	81	73	38	40
21	445	288	1350	1750	2500	1640	483	147	99	80	36	36
22	481	276	1360	1570	3300	1850	443	188	79	108	34	34
23	451	277	1440	1450	4610	1960	408	179	77	103	33	32
24	402	278	1510	1390	4940	2010	376	168	69	92	35	30
25	352	285	1560	1410	5000	1980	355	189	68	93	37	29
26	308	301	1570	1560	4940	1840	348	232	68	94	40	27
27	271	297	1520	1580	4670	1610	325	266	67	102	41	26
28	241	290	1430	1660	4390	1350	302	261	66	92	68	26
29	218	314	1320	1780	---	1140	282	242	68	78	63	28
30	200	297	1210	1880	---	985	267	228	58	71	59	27
31	185	---	1130	1990	---	957	---	211	---	66	67	---
TOTAL	9091	9543	33465	75740	70100	50479	24110	6070	3081	2592	1638	1363
MEAN	293	318	1080	2443	2504	1628	804	196	103	83.6	52.8	45.4
MAX	481	665	1680	5320	5000	3960	1510	266	190	108	73	92
MIN	172	136	244	1220	1140	833	267	144	58	54	33	26
AC-FT	18030	18930	66380	150200	139000	100100	47820	12040	6110	5140	3250	2700
CFSM	.26	.28	.95	2.14	2.20	1.43	.70	.17	.09	.07	.05	.04
IN.	.30	.31	1.09	2.47	2.29	1.65	.79	.20	.10	.08	.05	.04
CAL YR 1989	TOTAL 214372	MEAN 587	MAX 3830	MIN 74	AC-FT 425200	CFSM .52	IN. 7.00					
WTR YR 1990	TOTAL 287272	MEAN 787	MAX 5320	MIN 26	AC-FT 569800	CFSM .69	IN. 9.37					

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.38	12.86	14.23	19.52	21.87	24.79	18.09	13.71	13.04	11.54	11.51	11.64
2	13.60	12.75	14.42	19.49	21.88	24.27	18.20	13.60	12.86	11.54	11.44	11.72
3	13.97	12.65	14.27	19.39	21.68	23.65	18.71	13.45	12.69	11.64	11.40	11.93
4	14.57	12.56	14.03	19.65	21.30	22.95	19.27	13.32	12.54	11.59	11.39	11.89
5	14.76	12.49	13.84	20.20	20.79	22.24	19.88	13.20	12.46	11.85	11.40	11.72
6	14.68	12.46	13.69	21.15	20.28	21.59	20.31	13.09	12.38	12.08	11.35	11.59
7	14.49	12.55	13.57	22.30	19.83	20.96	20.41	12.98	12.33	11.97	11.38	11.48
8	14.33	12.69	13.93	23.59	19.44	20.39	20.29	13.00	12.32	11.80	11.51	11.39
9	14.02	13.75	15.66	24.25	19.14	19.89	20.05	13.03	12.27	11.74	11.57	11.31
10	13.68	14.86	17.04	24.43	19.06	19.46	19.74	13.02	12.26	11.70	11.67	11.26
11	13.41	15.86	18.19	24.62	19.39	19.09	19.31	12.95	12.32	11.67	11.59	11.22
12	13.21	16.51	19.22	25.05	19.58	18.74	18.65	12.96	12.32	11.76	11.49	11.19
13	13.02	16.65	20.07	25.65	20.27	18.41	18.01	12.98	12.21	12.11	11.56	11.15
14	12.85	16.31	20.46	25.74	21.23	18.12	17.54	12.89	12.10	12.11	11.67	11.17
15	12.72	15.72	20.69	25.33	21.94	17.85	17.21	12.80	12.01	12.02	11.50	11.15
16	12.62	15.17	20.84	24.76	22.38	17.60	16.97	12.71	11.94	11.84	11.38	11.12
17	12.55	14.73	20.80	24.08	22.99	17.93	16.75	12.65	11.87	11.77	11.33	11.10
18	12.77	14.44	20.58	23.31	22.88	18.87	16.47	12.71	11.83	11.76	11.29	11.16
19	13.15	14.25	20.30	22.47	22.65	19.23	16.13	12.64	11.85	11.71	11.25	11.23
20	13.93	14.10	20.07	21.63	22.70	19.92	15.79	12.55	11.87	11.68	11.23	11.18
21	15.06	13.96	19.87	21.00	22.97	20.74	15.48	12.58	12.10	11.77	11.21	11.12
22	15.40	13.86	19.93	20.57	24.08	21.30	15.19	13.02	11.86	12.13	11.17	11.09
23	15.25	13.86	20.19	20.23	25.27	21.62	14.93	12.93	11.83	12.07	11.14	11.06
24	14.89	13.88	20.41	20.03	25.50	21.75	14.69	12.81	11.73	11.92	11.16	11.03
25	14.49	13.93	20.54	20.08	25.53	21.66	14.52	13.02	11.71	11.94	11.18	11.00
26	14.13	14.08	20.55	20.53	25.50	21.27	14.47	13.45	11.72	11.96	11.21	10.97
27	13.82	14.04	20.42	20.59	25.31	20.65	14.27	13.77	11.71	12.06	11.22	10.95
28	13.55	13.98	20.15	20.77	25.11	19.89	14.08	13.73	11.71	11.93	11.61	10.95
29	13.32	14.18	19.78	21.09	---	19.09	13.91	13.55	11.74	11.74	11.53	10.98
30	13.14	14.04	19.35	21.39	---	18.38	13.78	13.42	11.60	11.65	11.47	10.98
31	12.99	---	19.01	21.68	---	18.24	---	13.25	---	11.58	11.59	

OCHLOCKONEE RIVER BASIN
02329000 OCHLOCKONEE RIVER NEAR HAVANA, FL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1962 to June 1972, October 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNIT)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
NOV 09...	1600	282	137	7.5	19.0	7.7	8.0	87	400	K830	33
FEB 13...	1650	1540	--	6.5	15.0	21	7.3	72	600	300	18
JUN 18...	1815	84	181	7.1	30.0	5.5	7.9	104	--	--	50
AUG 25...	1940	42	216	7.8	29.0	2.9	6.5	84	30	33	57
DATE	HARD- NESS, NONCARB F.W.H.W. ,FET, (MG/L CACO3)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA- LITY LAB (MG/L CACO3)	ALKA- LITY WAT.DIS FIELD INC.T. (MG/L CACO3)
NOV 09...	9	9	8.0	3.2	13	44	1	2.5	32	24	26
FEB 13...	12	12	4.0	1.9	6.9	42	.7	2.1	10	6.0	8
JUN 18...	7	7	12	4.8	15	38	1	2.2	48	43	39
AUG 25...	0	0	13	5.9	17	37	1	4.0	88	80	72
DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
NOV 09...	1.5	7.0	19	.10	8.4	85	76	.12	65	<.010	.57
FEB 13...	3.7	3.2	11	.10	5.5	57	40	.08	237	.010	.32
JUN 18...	6.6	9.2	23	.20	4.8	107	98	.15	24	<.010	.20
AUG 25...	2.4	13	27	<.10	3.4	123	130	.17	14	.020	.40
DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
NOV 09...	.020	.040	.05	--	.48	.50	.190	.050	.060	.18	60
FEB 13...	.080	.070	.09	.03	.62	.70	.150	.040	.040	.12	200
JUN 18...	.020	.020	.03	--	.68	.70	.130	.140	.130	.40	50
AUG 25...	.050	.060	.08	.07	.35	.40	.090	.110	.100	.31	20

OCHLOCKONEE RIVER BASIN
02329000 OCHLOCKONEE RIVER NEAR HAVANA, FL--Continued

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WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 09...	<1	16	<.5	<1	1	<3	2	450	<1	<4	33
FEB 13...	<1	17	<.5	<1	<5	<3	<10	720	<10	<4	25
JUN 18...	1	21	<.5	2	1	<3	10	780	<1	<4	120
AUG 25...	1	18	<.5	<1	2	<3	<1	39	<1	<4	11
DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 09...	<.1	<10	<1	<1	<1	42	<6	9	20	15	85
FEB 13...	<.1	<10	<10	<1	<1	19	<6	3	25	104	72
JUN 18...	<.1	<10	<1	<1	<1	62	<6	4	9	2.0	--
AUG 25...	<.1	<10	<1	<1	<1	81	<6	5	24	2.7	71

OCHLOCKONEE RIVER BASIN
02329500 LITTLE RIVER NEAR QUINCY, FL

LOCATION.--Lat 30°35'14", long 84°29'48", in NW1/4 sec.12, T.2 N., R.3 W., Gadsden County, Hydrologic Unit 03120003, near left bank on downstream side of bridge on State Highway 12, 0.5 mi southwest of Shady Rest, 1.1 mi down stream from confluence of Willacoochee and Attapulgus Creeks, 4.5 mi east of Quincy, and 12 mi upstream from mouth.

DRAINAGE AREA.--237 mi².

PERIOD OF RECORD.--April 1950 to March 1979; April 1979 to September 1980 (discharge measurements only); October 1980 to current year.

REVISED RECORDS.--WSP 1704: 1958, 1959; WSP 1905: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 83.19 ft above National Geodetic Vertical Datum of 1929, unadjusted. Prior to June 5, 1978 at site 50 ft downstream at same datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--38 years (water years 1951-78, 1981-90), 289 ft³/s, 16.56 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,600 ft³/s, Sept. 22, 1969, gage height, 24.65 ft, from floodmarks; minimum, 6.7 ft³/s, Oct. 5, 6, 1968, July 2, 1969, minimum gage height, 0.32 ft, observed, Sept. 28, 1990.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 24	2200	*1440	*10.88				

Minimum discharge, 11 ft³/s, Sept. 28, gage height, 0.32 ft., observed.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	200	47	122	800	250	294	523	89	37	21	24	83
2	353	46	111	762	215	279	421	72	39	24	24	88
3	318	49	94	561	207	307	412	68	42	35	22	70
4	173	52	85	360	199	318	303	63	42	35	21	51
5	111	50	81	254	188	270	232	59	53	34	18	41
6	82	50	81	301	170	228	177	55	46	37	22	32
7	68	64	83	437	159	208	148	55	62	32	47	27
8	63	132	302	881	160	195	132	55	62	32	38	24
9	59	431	901	972	162	185	119	59	40	32	26	22
10	60	620	1150	920	238	182	112	77	45	25	21	21
11	53	665	1040	645	586	177	168	88	46	19	19	20
12	50	418	641	383	807	164	222	74	39	25	21	24
13	48	178	463	277	826	158	177	67	35	45	20	19
14	46	131	429	234	509	152	141	59	32	59	18	23
15	47	118	353	215	274	147	120	52	29	67	16	26
16	47	117	309	206	267	144	113	47	29	57	20	39
17	47	118	279	199	553	355	106	44	33	43	45	34
18	124	106	243	193	567	789	94	43	69	34	44	26
19	367	98	279	191	515	930	88	42	57	34	43	20
20	337	94	415	183	726	791	82	42	44	73	35	18
21	189	92	432	248	770	433	81	47	55	94	30	17
22	115	90	366	380	880	239	79	67	41	75	31	17
23	87	110	279	307	1140	201	77	73	66	55	27	e12
24	75	131	217	238	1350	183	76	61	62	49	28	e12
25	69	125	193	243	1200	166	75	54	42	41	46	e12
26	63	114	185	475	746	152	72	51	36	34	56	15
27	59	103	181	457	409	139	69	50	29	31	46	13
28	57	99	173	359	313	131	81	50	29	28	143	e11
29	52	112	165	251	---	129	132	49	26	24	106	e15
30	49	117	160	297	---	155	107	42	22	23	66	23
31	48	---	233	300	---	492	---	39	---	21	55	---
TOTAL	3516	4677	10045	12529	14386	8693	4739	1793	1289	1238	1178	855
MEAN	113	156	324	404	514	280	158	57.8	43.0	39.9	38.0	28.5
MAX	367	665	1150	972	1350	930	523	89	69	94	143	88
MIN	46	46	81	183	159	129	69	39	22	19	16	11
AC-FT	6970	9280	19920	24850	28530	17240	9400	3560	2560	2460	2340	1700
CFSM	.48	.66	1.37	1.71	2.17	1.18	.67	.24	.18	.17	.16	.12
IN.	.55	.73	1.58	1.97	2.26	1.36	.74	.28	.20	.19	.18	.13

CAL YR 1989	TOTAL 62643	MEAN 172	MAX 2260	MIN 16	AC-FT 124300	CFSM .72	IN. 9.83
WTR YR 1990	TOTAL 64938	MEAN 178	MAX 1350	MIN 11	AC-FT 128800	CFSM .75	IN. 10.19

e Estimated

OCHLOCKONEE RIVER BASIN
02329534 QUINCY CREEK AT S267 AT QUINCY, FL

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LOCATION.--Lat 30°36'00", long 84°34'50", in NW¼ sec.6, T.2 N., R.3 W., Gadsden County, Hydrologic Unit 03120003, at culvert on State Highway 267, 0.9 mi north of Quincy, and 6.2 mi upstream from mouth.

DRAINAGE AREA.--16.8 mi².

PERIOD OF RECORD.--October 1974 to September 1977, December 1977 to current year.

REVISED RECORDS.--WDR FL-83-4: 1980(M). WDR FL-85-4: 1975(P), 1976, 1977, 1979(M).

GAGE.--Water-stage recorder. Datum of gage is 128.50 ft above National Geodetic Vertical Datum of 1929. Prior to June 18, 1990, datum at 0.50 ft higher.

REMARKS.--No estimated daily discharges. Records good. Streamflow affected by city water plant withdrawal about 400 ft above gage.

AVERAGE DISCHARGE.--15 years (water years 1975-77, 1978-90), 27.0 ft³/s, 21.82 in/yr (unadjusted).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,470 ft³/s, March 6, 1984, gage height, 9.14 ft; minimum, 2.3 ft³/s, May 7, 8, 1985, May 26-29, 1986; minimum gage height, 0.44 ft, Sept. 27, 1990.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 22, 1969, reached a stage of 12.18 ft, present datum, from floodmarks, discharge, 3,170 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 8	1300	*382	*5.70	No other peak greater than base discharge.			

Minimum discharge, 2.6 ft³/s, Sept. 27, minimum gage height, 0.44 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	8.4	15	61	22	26	26	13	6.0	8.4	6.0	12
2	35	8.7	13	41	21	26	23	12	5.8	9.5	5.9	10
3	26	8.4	13	33	21	28	20	11	8.1	12	5.7	9.4
4	20	8.0	12	28	20	24	18	11	9.2	9.9	5.4	8.3
5	17	7.7	12	28	18	22	16	11	10	11	5.2	7.2
6	14	9.6	12	31	18	21	16	11	9.2	11	9.7	6.7
7	12	23	12	58	17	20	14	10	9.0	8.9	15	6.2
8	12	27	138	63	16	19	12	9.5	8.9	13	13	5.6
9	10	55	86	44	16	18	12	12	9.4	11	11	5.4
10	9.7	30	53	36	43	18	12	14	9.8	9.7	11	5.0
11	9.1	23	39	31	34	17	23	12	8.9	8.3	9.9	4.7
12	8.9	19	41	27	27	16	18	12	7.8	7.5	8.5	4.7
13	8.7	17	37	25	23	16	17	11	6.5	9.4	7.9	4.8
14	8.6	17	30	24	21	15	16	11	5.7	13	6.4	5.1
15	8.7	17	26	22	20	14	16	11	5.4	12	5.5	6.2
16	9.0	17	30	21	32	13	15	9.7	5.2	9.8	5.3	6.2
17	8.6	15	25	20	34	72	14	9.1	10	9.0	7.6	5.6
18	52	14	27	20	27	42	14	8.6	12	8.5	10	4.9
19	36	14	31	19	46	31	14	8.0	11	14	8.3	4.6
20	26	13	28	19	49	25	13	8.0	9.4	13	7.5	4.5
21	21	13	25	35	34	21	13	9.1	12	12	9.1	4.1
22	18	13	23	25	91	19	14	10	17	13	8.2	4.4
23	15	18	21	22	70	17	17	8.9	16	12	8.6	3.9
24	14	15	19	20	47	15	15	8.4	13	11	15	3.5
25	13	14	18	32	38	14	14	7.8	12	9.2	30	3.8
26	12	13	18	32	33	13	13	7.1	9.8	8.7	20	3.2
27	11	12	18	27	30	12	12	7.1	9.1	9.8	16	3.5
28	10	14	16	24	28	12	22	8.9	11	7.1	24	3.6
29	9.6	15	16	28	---	12	17	8.6	12	6.6	15	7.8
30	9.2	16	15	26	---	45	15	7.5	10	6.3	13	7.7
31	8.7	---	70	24	---	35	---	6.5	---	6.2	13	---
TOTAL	523.8	494.8	939	946	896	698	481	304.8	289.2	310.8	336.7	172.6
MEAN	16.9	16.5	30.3	30.5	32.0	22.5	16.0	9.83	9.64	10.0	10.9	5.75
MAX	52	55	138	63	91	72	26	14	17	14	30	12
MIN	8.6	7.7	12	19	16	12	12	6.5	5.2	6.2	5.2	3.2
AC-FT	1040	981	1860	1880	1780	1380	954	605	574	616	668	342
CFSM	1.01	.98	1.80	1.82	1.90	1.34	.95	.59	.57	.60	.65	.34
IN.	1.16	1.10	2.08	2.09	1.98	1.55	1.07	.67	.64	.69	.75	.38

CAL YR 1989	TOTAL 7219.0	MEAN 19.8	MAX 227	MIN 4.8	AC-FT 14320	CFSM 1.18	IN. 15.98
WTR YR 1990	TOTAL 6392.7	MEAN 17.5	MAX 138	MIN 3.2	AC-FT 12680	CFSM 1.04	IN. 14.16

OCHLOCKONEE RIVER BASIN
02329600 LITTLE RIVER NEAR MIDWAY, FL

LOCATION.--Lat 30°30'44", long 84°31'25", in SW¼ sec.3, T.1 N., R.3 W., Gadsden County, Hydrologic Unit 03120003, at bridge on State Highway 268, 0.5 mi upstream from Monroe Creek, 3.2 mi above mouth, and 3.7 mi west of Midway.

DRAINAGE AREA.--305 mi².

PERIOD OF RECORD.--Annual maximums, water years 1965-85. October 1985 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 22, 1985, nonrecording and crest-stage gages at same site and datum.

REMARKS.--Records good, except those below 200 ft³/s, which are poor.

AVERAGE DISCHARGE.--5 years (water years 1986-1990) 383 ft³/s, 17.05 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,200 ft³/s, Sept. 22, 1969, from rating curve extended above 15,000 ft³/s; gage height, 86.25 ft from floodmarks; minimum daily, 22 ft³/s, Sept. 27, 28, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge estimated, 1,730 ft³/s, Feb. 25, gage height, 73.68 ft; minimum daily, 22 ft³/s, Sept. 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	271	66	147	1280	338	366	650	121	106	37	36	198
2	478	50	150	1220	295	351	531	95	116	36	30	162
3	418	55	125	911	274	373	467	80	133	52	26	122
4	253	56	116	577	267	391	379	70	119	51	25	92
5	166	56	114	388	251	353	288	72	118	47	23	65
6	139	57	113	433	225	307	244	74	105	52	26	47
7	136	109	111	580	206	281	209	74	103	49	43	40
8	250	182	368	1360	198	277	194	76	101	45	46	38
9	167	625	1220	1360	212	272	185	83	79	43	35	36
10	130	711	1400	1270	348	264	183	104	74	38	35	35
11	128	780	1440	1040	728	254	237	108	73	34	31	35
12	128	593	1120	618	824	230	275	96	70	33	26	34
13	125	297	706	382	963	210	234	85	64	36	24	32
14	121	204	544	326	776	199	187	77	60	47	24	36
15	120	195	463	293	374	210	135	71	57	77	23	41
16	118	198	421	281	402	214	117	72	54	69	23	45
17	114	191	378	272	794	478	108	71	58	59	30	42
18	190	172	346	262	762	1030	98	63	94	53	46	37
19	439	153	389	266	692	1050	92	62	99	72	47	35
20	434	141	520	267	958	1060	93	63	85	126	45	34
21	302	131	527	362	965	711	92	69	96	146	41	33
22	217	142	460	528	1080	347	92	78	100	147	45	32
23	170	191	375	420	1590	273	95	85	115	117	46	29
24	120	207	295	343	1610	244	93	79	108	95	46	26
25	61	189	266	395	1690	222	89	76	77	62	79	24
26	50	171	260	570	1290	206	84	75	56	38	120	23
27	52	147	260	597	646	181	80	78	52	41	110	22
28	57	188	251	480	404	172	102	96	46	42	232	22
29	58	268	237	361	---	183	180	103	46	42	264	26
30	60	185	226	366	---	227	145	102	41	44	212	32
31	68	---	317	393	---	630	---	103	---	34	207	---
TOTAL	5540	6710	13665	18201	19162	11566	5958	2561	2505	1864	2046	1475
MEAN	179	224	441	587	684	373	199	82.6	83.5	60.1	66.0	49.2
MAX	478	780	1440	1360	1690	1060	650	121	133	147	264	198
MIN	50	50	111	262	198	172	80	62	41	33	23	22
AC-FT	10990	13310	27100	36100	38010	22940	11820	5080	4970	3700	4060	2930
CFSM	.59	.73	1.45	1.93	2.24	1.22	.65	.27	.27	.20	.22	.16
IN.	.68	.82	1.67	2.22	2.34	1.41	.73	.31	.31	.23	.25	.18
CAL YR 1989	TOTAL 100825	MEAN 276	MAX 4500	MIN 38	AC-FT 200000	CFSM .91	IN. 12.30					
WTR YR 1990	TOTAL 91253	MEAN 250	MAX 1690	MIN 22	AC-FT 181000	CFSM .82	IN. 11.13					

02330000 OCHLOCKONEE RIVER NEAR BLOXHAM, FL

LOCATION.--Lat 30°23'10", long 84°38'59", in NE1/4 sec.20, T.1 S., R.4 W., Leon County, Hydrologic Unit 03120003, on left bank 900 ft upstream from bridge on State Highway 20, 1,200 ft downstream from C.H. Corn Hydroelectric Dam, 1.5 mi southwest of Bloxham, and 65 mi upstream from mouth.

DRAINAGE AREA.--1,700 mi², approximately.

PERIOD OF RECORD.--June 1926 to current year. Low-flow records not equivalent prior to October 1, 1954, due to undetermined amount of seepage inflow.

REVISED RECORDS.--WSP 1002: 1940-42. WSP 1704: 1958-59. WSP 1905, WRD FL-76-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 24.69 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 9, 1930, nonrecording gage at site 700 ft upstream at datum 5.00 ft higher. Apr. 9, 1930 to Jan. 19, 1939, water-stage recorder at present site at datum 5.00 ft higher. Jan. 20, 1939 to Sept. 30, 1954, water-stage recorder at site 2,000 ft downstream at datum 5.00 ft higher. Oct. 1, 1954 to Sept. 30, 1985, water-stage recorder at site 2,000 ft downstream at present datum.

REMARKS.--No estimated daily discharges. Records fair. Flow regulated since 1929 by C.H. Corn Hydroelectric Dam (formerly Jackson Bluff Dam) above station and storage in Lake Talquin (02329900). Since October 1981, the publication of adjusted values for storage has been discontinued since the difference between adjusted and the unadjusted values have been minimal.

AVERAGE DISCHARGE.--62 years (water years 1927-82, 85-90), 1,676 ft³/s, 13.39 in/yr, unadjusted; 27 years (water years 1955-81) 1,781 ft³/s, 14.23 in/yr, adjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 89,400 ft³/s, Sept. 23, 1969, gage height, 29.2 ft, from floodmark; minimum discharge, since October 1954, 1.0 ft³/s, Nov. 1, 2, 1957, caused by closure of breaks in earth embankment of C.H. Corn Hydroelectric Dam (indeterminate prior to October 1954).

EXTREMES OUTSIDE THE PERIOD OF RECORD.--Maximum stage since 1834, 32.64 ft, Sept. 30, 1957, from flood marks established by local resident, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,870 ft³/s, Jan. 12, Feb. 24, gage height, 16.86 ft; minimum daily discharge 78 ft³/s, Sept. 11, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1460	462	919	2280	2780	4380	2600	533	189	185	177	931
2	1500	312	461	3060	2910	4870	2590	496	220	183	196	1100
3	1440	252	439	3090	2940	4370	2320	372	570	199	181	606
4	1180	252	438	3100	2670	3320	1970	218	539	197	181	401
5	451	252	438	3060	2320	3240	1640	214	557	194	180	338
6	395	252	436	2890	2380	2970	1400	216	482	194	170	274
7	389	526	795	3330	2290	2450	1700	212	388	195	174	129
8	420	1250	1150	4980	1700	2110	1770	305	375	197	174	107
9	930	1660	1370	4730	1540	2080	1770	478	374	198	176	106
10	924	1790	2040	4880	1950	2020	1740	391	323	199	176	92
11	332	1770	3040	4910	3240	1950	2230	390	182	192	176	78
12	386	1760	3910	5430	3270	1930	2390	389	182	191	176	106
13	389	1390	3330	5220	3120	1800	1360	389	180	163	171	91
14	388	708	2630	4680	2790	1110	1460	388	179	157	184	92
15	388	665	2490	5560	2800	916	1540	317	178	157	186	92
16	415	661	2470	4760	2820	1330	1090	242	177	158	185	94
17	398	657	2010	4490	3120	2080	961	238	176	157	185	92
18	1260	656	2230	3790	3930	3410	729	235	176	158	183	92
19	1240	655	3000	2910	5030	3470	713	238	173	157	182	91
20	416	653	3310	2740	6370	2720	705	238	166	232	183	89
21	325	496	2900	3000	5750	2610	701	238	168	534	185	92
22	436	373	2320	3080	4040	2630	577	238	252	630	183	94
23	663	715	2250	2460	5440	2600	539	236	419	432	175	92
24	1240	735	2250	1650	6810	2590	550	214	438	405	172	91
25	1120	734	1990	1820	6660	2530	536	193	447	405	166	89
26	330	729	1910	2880	6400	2460	488	214	280	169	165	94
27	283	720	1980	3460	5250	2310	488	178	171	162	183	89
28	280	647	2050	3100	4270	1910	436	181	180	159	269	84
29	273	1000	2050	2810	---	1710	396	184	180	162	200	78
30	281	1260	1910	2790	---	2040	519	186	182	210	278	81
31	264	---	1640	2780	---	2550	---	187	---	301	440	---
TOTAL	20196	23992	60156	109720	104590	78466	37908	8748	8503	7232	6012	5885
MEAN	651	800	1941	3539	3735	2531	1264	282	283	233	194	196
MAX	1500	1790	3910	5560	6810	4870	2600	533	570	630	440	1100
MIN	264	252	436	1650	1540	916	396	178	166	157	165	78
AC-FT	40060	47590	119300	217600	207500	155600	75190	17350	16870	14340	11920	11670
CFSM	.38	.47	1.14	2.08	2.20	1.49	.74	.17	.17	.14	.11	.12
IN.	.44	.53	1.32	2.40	2.29	1.72	.83	.19	.19	.16	.13	.13
CAL YR 1989	TOTAL	403306	MEAN 1105	MAX 6350	MIN 157	AC-FT 800000	CFSM .65	IN. 8.83				
WTR YR 1990	TOTAL	471408	MEAN 1292	MAX 6810	MIN 78	AC-FT 935000	CFSM .76	IN. 10.32				

OCHLOCKONEE RIVER BASIN
02330100 TELOGIA CREEK NEAR BRISTOL, FL

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 mi².

PERIOD OF RECORD.--March 1950 to September 1971, October 1974 to September 1979, October 1980 to current year.

REVISED RECORDS.--WSP 1504: 1950-51, 1953 (M), 1955-56.

GAGE.--Water-stage recorder. Datum of gage is 99.50 ft above National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark).

REMARKS.--Records fair, Oct. 1-30; poor, Oct. 31 to May 30; and, good, May 31 to Sept. 30.

AVERAGE DISCHARGE.--36 years, (water years 1951-71, 1975-79, 1981-90) 219 ft³/s, 23.60 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,600 ft³/s Sept. 22, 1969, gage height, 16.65 ft, from floodmark; minimum, 28 ft³/s Sept. 14, Oct. 26, 27, 1954, gage height, 1.35 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft.)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft.)
Dec. 10	0200	*1650	*7.52	No other peak greater than base discharge.			

Minimum discharge, 30 ft³/s, Sept. 27,28; gage height, 1.59 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	232	85	182	515	195	188	498	93	51	45	55	61
2	507	85	132	1160	173	180	343	79	56	49	45	61
3	720	88	117	749	165	191	206	72	120	75	44	53
4	349	89	110	378	162	204	172	68	109	63	43	46
5	178	88	106	256	157	184	145	65	209	63	43	43
6	135	87	102	240	149	162	129	65	184	61	61	40
7	118	106	102	333	139	151	119	71	112	57	67	38
8	145	160	283	670	136	145	111	67	84	52	60	37
9	163	522	954	1060	135	e140	102	66	75	46	57	36
10	133	742	1370	765	217	e140	97	89	95	46	52	35
11	110	583	717	413	415	e135	116	101	88	56	46	35
12	104	244	399	281	572	e130	143	83	71	63	42	34
13	100	148	341	220	390	e125	133	70	60	59	40	38
14	97	129	362	191	204	e125	109	68	55	78	40	39
15	94	121	322	179	167	120	102	67	52	90	38	60
16	95	130	279	174	164	119	103	65	50	88	37	62
17	93	140	290	171	258	301	102	84	53	76	36	48
18	226	132	276	168	373	651	92	71	53	73	40	42
19	606	117	266	165	429	846	87	60	50	63	44	38
20	798	111	333	160	499	417	83	56	47	82	44	36
21	367	107	332	164	630	218	78	55	52	113	45	34
22	181	104	262	268	650	165	77	57	58	121	49	34
23	141	114	200	399	923	150	78	65	63	132	47	32
24	124	136	176	251	1150	139	79	61	64	114	42	31
25	113	135	166	212	658	131	76	55	58	80	42	31
26	105	117	161	311	384	123	73	51	52	65	56	31
27	99	109	160	356	264	116	71	49	49	60	60	31
28	94	115	155	267	208	112	93	84	47	54	71	31
29	91	231	150	189	---	112	140	101	47	50	85	39
30	88	294	145	189	---	150	122	74	47	47	72	57
31	87	---	182	208	---	337	---	57	---	49	60	---
TOTAL	6493	5369	9132	11062	9966	6407	3879	2169	2211	2170	1563	1233
MEAN	209	179	295	357	356	207	129	70.0	73.7	70.0	50.4	41.1
MAX	798	742	1370	1160	1150	846	498	101	209	132	85	62
MIN	87	85	102	160	135	112	71	49	47	45	36	31
AC-FT	12880	10650	18110	21940	19770	12710	7690	4300	4390	4300	3100	2450
CFSM	1.66	1.42	2.34	2.83	2.82	1.64	1.03	.56	.58	.56	.40	.33
IN.	1.92	1.59	2.70	3.27	2.94	1.89	1.15	.64	.85	.64	.46	.36

CAL YR 1989 TOTAL 66780 MEAN 183 MAX 2050 MIN 45 AC-FT 132500 CFSM 1.45 IN. 19.72
WTR YR 1990 TOTAL 61654 MEAN 169 MAX 1370 MIN 31 AC-FT 122300 CFSM 1.34 IN. 18.20

e Estimated

Volume 4: Northwest Florida

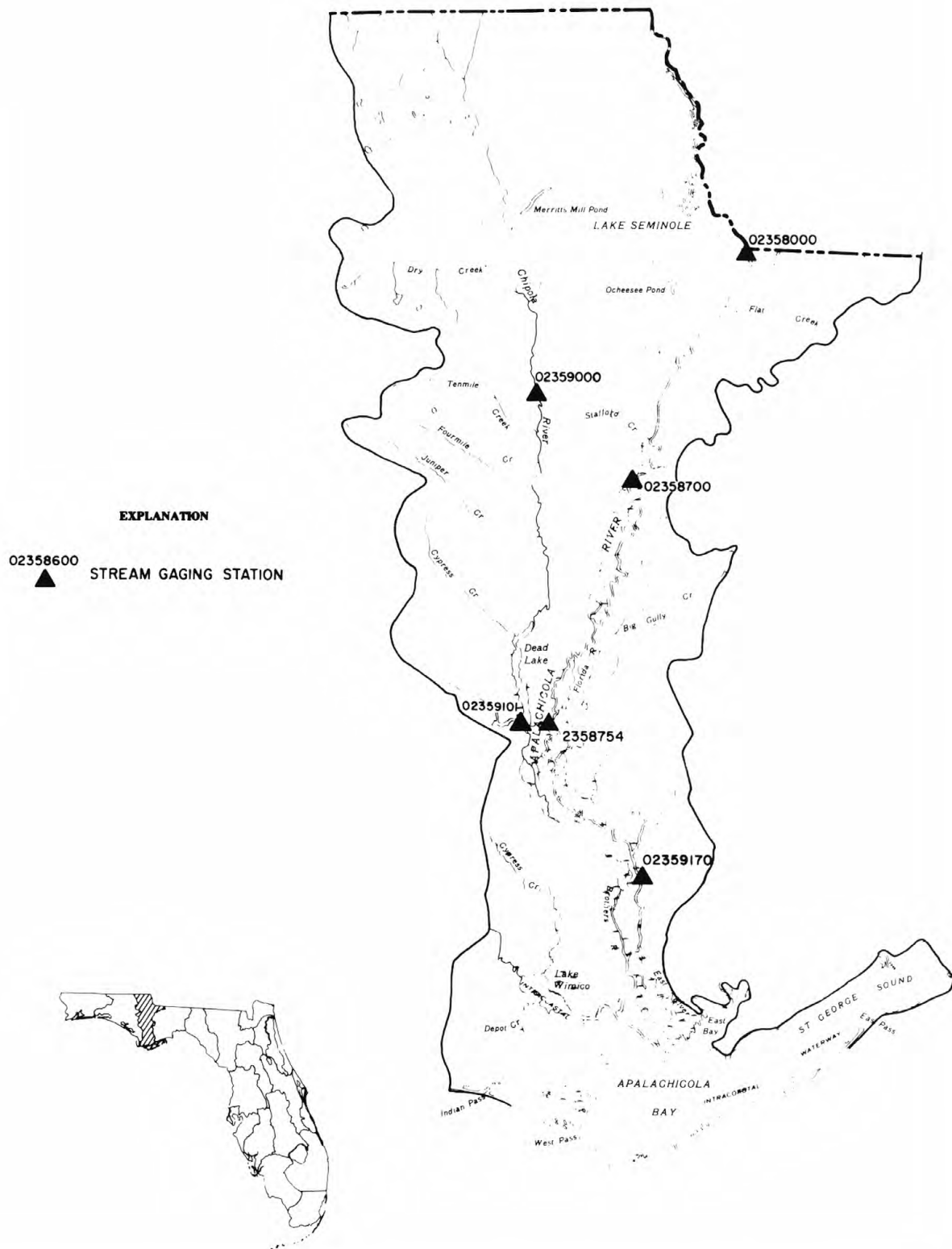


Figure 17.--Location of stream gaging stations in the Apalachicola River basin.

APALACHICOLA RIVER BASIN
02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE, FL
(National stream-quality accounting network station)

LOCATION.--Lat 30°42'03", long 84°51'33", in NW 1/4 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 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1304. Prior to October 1939, published as "near River Junction." Gage-height records collected at site 0.9 mi downstream October 1919 to September 1925, and at site approximately 100 ft downstream October 1925 to December 1958 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1906: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (National Weather Service bench mark). Prior to Dec. 16, 1939, water-stage recorder at site 0.9 mi downstream at datum 44.85 ft higher. Dec. 16, 1939 to June 25, 1952, water-stage recorder, June 26, 1952 to June 2, 1954, nonrecording gage, and June 3, 1954 to Oct. 14, 1958, water-stage recorder, at site approximately 100 ft downstream at datum 45.58 ft. Oct. 15, 1958 to Sept. 30, 1987, water-stage recorder at datum 40.58 ft.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Lake Seminole Reservoir (02357500) 0.6 mi upstream since Feb. 4, 1957, Walter F. George Lake (02343240) since 1962, Bartlett's Ferry Reservoir (02341000) since 1926, West Point Lake (02339400) since October 1974, and Lake Sidney Lanier Reservoir (02334400) since 1956.

AVERAGE DISCHARGE.--62 years, 22,128 ft³/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 293,000 ft³/s Mar. 20, 1929, gage height, 79.55 ft, extended above 193,000 ft³/s; minimum, 2,570 ft³/s Aug. 6, 1986; minimum gage height, 38.46 ft Aug. 31, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 181,000 ft³/s, Mar. 21, gage height, 74.04 ft; minimum, 6,270 ft³/s, Sept. 30; gage height, 40.35 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	15300	16500	19300	25300	53700	58400	50300	14500	17200	13100	9040	8380		
2	29700	16800	19500	39400	56600	50100	48600	15400	17100	11600	8730	8390		
3	42800	16600	19400	50400	54000	42000	47100	16200	17200	11600	8880	8350		
4	46100	16400	19200	54500	45400	36600	44100	15700	17200	10900	9010	8170		
5	42800	16300	19200	55600	41100	33100	43100	15800	17500	10300	8950	8240		
6	32900	16500	18900	49400	36300	32700	38000	16300	17700	10500	8500	8280		
7	18900	16600	19900	54300	31600	33200	34500	16900	17500	10700	8620	8630		
8	17400	16800	23700	64900	31000	33500	29000	16900	17300	10600	7900	8670		
9	20400	17500	38900	71400	32700	33700	27400	17000	17300	10500	7860	8560		
10	28800	22300	48700	69600	38400	33500	27800	17200	17400	10600	8070	7930		
11	26400	26100	49900	68500	42200	32900	29000	17100	17100	9940	8520	7490		
12	21700	24000	47900	68800	44000	31500	30700	17100	16800	9890	8530	7750		
13	16800	19800	47000	66100	47700	28400	32300	17300	16700	9760	8440	8050		
14	16400	19300	45700	53400	51500	26000	27800	17600	16400	9900	8600	8180		
15	16300	18000	44600	47000	50900	25700	25800	17600	16500	9880	8930	8220		
16	14600	16900	40800	51100	50500	27200	24800	17700	16400	9920	9230	8280		
17	13800	19300	35400	48200	55900	66000	23300	17700	16300	10100	8710	8190		
18	14900	19700	33800	43400	59000	106000	23100	17600	16800	9050	8780	8230		
19	15100	18600	33900	41400	59900	154000	19100	17600	17000	8020	8630	8230		
20	15600	18300	33900	37500	61300	177000	18300	17600	15700	8260	8680	8260		
21	16000	18400	34800	30700	66800	170000	19400	17400	15900	8380	8630	8080		
22	16300	18700	40900	29700	72900	135000	20000	17500	16000	8260	8650	7900		
23	15800	19800	46800	36100	75100	117000	19800	17400	16100	8130	8490	7820		
24	15700	20700	43800	46800	75700	102000	19300	17500	16200	8110	8640	7270		
25	16300	20800	35900	53600	73400	90700	18800	17400	16000	8320	9180	7000		
26	16300	19500	33100	55000	67900	83200	17100	17300	16300	8590	9170	6970		
27	16600	19000	29900	55600	63900	77500	17100	18100	15000	8560	8950	6990		
28	16300	19100	28500	55800	62500	70300	19100	17800	13600	8700	9160	6970		
29	16100	19300	27400	53600	---	58800	19200	17700	13100	8490	8840	6990		
30	16100	19300	25600	49600	---	53400	19200	17500	14100	8790	8330	6890		
31	16200	---	22200	51100	---	55200	---	17500	---	8700	8330	---		
TOTAL	644400	566900	1028500	1577800	1501900	2074600	833100	529900	491400	298150	268980	237360		
MEAN	20790	18900	33180	50900	53640	66920	27770	17090	16380	9618	8677	7912		
MAX	46100	26100	49900	71400	75700	177000	50300	18100	17700	13100	9230	8670		
MIN	13800	16300	18900	25300	31000	25700	17100	14500	13100	8020	7860	6890		
AC-FT	1278000	1124000	2040000	3130000	2979000	4115000	1652000	1051000	974700	591400	533500	470800		
CFSM	1.21	1.10	1.93	2.96	3.12	3.89	1.61	.99	.95	.56	.50	.46		
IN.	1.39	1.23	2.22	3.41	3.25	4.49	1.80	1.15	1.06	.64	.58	.51		
CAL YR 1989	TOTAL	7451750	MEAN	20420	MAX	59200	MIN	9140	AC-FT	14780000	CFSM	1.19	IN.	16.12
WTR YR 1990	TOTAL	10052990	MEAN	27540	MAX	177000	MIN	6890	AC-FT	19940000	CFSM	1.60	IN.	21.74

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DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44.67	45.24	46.45	49.22	57.31	58.39	56.52	44.59	45.85	43.88	41.85	41.40
2	50.45	45.39	46.53	53.76	57.99	56.45	56.10	45.03	45.81	43.15	41.70	41.40
3	54.66	45.30	46.49	56.53	57.38	54.46	55.74	45.42	45.85	43.13	41.77	41.39
4	55.50	45.19	46.40	57.49	55.31	53.05	55.01	45.17	45.85	42.78	41.83	41.30
5	54.67	45.16	46.41	57.75	54.24	52.12	54.76	45.20	45.96	42.50	41.81	41.33
6	51.83	45.24	46.28	56.29	52.96	52.01	53.43	45.46	46.05	42.58	41.58	41.35
7	46.28	45.29	46.67	57.44	51.70	52.15	52.49	45.74	45.99	42.68	41.64	41.52
8	45.65	45.37	48.30	59.82	51.49	52.23	50.70	45.71	45.91	42.62	41.28	41.54
9	46.87	45.66	53.59	61.20	52.00	52.26	50.04	45.75	45.90	42.59	41.26	41.49
10	50.38	47.69	56.13	60.83	53.51	52.22	50.24	45.87	45.92	42.65	41.36	41.17
11	49.36	49.23	56.42	60.59	54.52	52.06	50.71	45.83	45.80	42.30	41.59	40.95
12	47.42	48.37	55.93	60.66	54.97	51.65	51.34	45.82	45.70	42.28	41.59	41.09
13	45.39	46.63	55.72	60.07	55.89	50.45	51.90	45.88	45.63	42.21	41.55	41.24
14	45.22	46.43	55.40	57.23	56.80	49.49	50.23	46.01	45.48	42.28	41.63	41.30
15	45.16	45.90	55.13	55.71	56.66	49.36	49.42	46.03	45.55	42.27	41.79	41.32
16	44.31	45.41	54.16	56.71	56.56	49.95	49.00	46.05	45.51	42.29	41.94	41.35
17	43.92	46.42	52.74	56.02	57.81	59.95	48.41	46.07	45.44	42.37	41.69	41.30
18	44.47	46.61	52.30	54.81	58.52	66.72	48.33	46.03	45.69	41.85	41.72	41.33
19	44.56	46.13	52.32	54.32	58.73	71.68	46.67	46.02	45.75	41.34	41.64	41.32
20	44.82	46.02	52.33	53.30	59.03	73.71	46.33	46.02	45.14	41.46	41.67	41.34
21	45.02	46.08	52.59	51.34	60.23	73.14	46.77	45.95	45.25	41.52	41.64	41.25
22	45.15	46.18	54.18	50.97	61.53	69.91	47.04	46.00	45.29	41.46	41.65	41.16
23	44.90	46.65	55.67	52.92	61.96	68.05	46.95	45.92	45.37	41.39	41.57	41.12
24	44.87	47.03	54.91	55.67	62.09	66.30	46.73	45.99	45.41	41.38	41.65	40.84
25	45.14	47.07	52.86	57.30	61.62	64.91	46.53	45.94	45.33	41.49	41.92	40.71
26	45.16	46.52	52.10	57.61	60.46	63.60	45.76	45.90	45.46	41.63	41.91	40.70
27	45.30	46.33	51.06	57.74	59.59	62.46	45.80	46.24	44.82	41.61	41.80	40.71
28	45.14	46.35	50.48	57.80	59.30	60.98	46.67	46.12	44.14	41.68	41.90	40.70
29	45.08	46.44	50.04	57.27	---	58.46	46.71	46.06	43.86	41.58	41.69	40.71
30	45.04	46.44	49.35	56.35	---	57.24	46.70	45.98	44.38	41.72	41.38	40.65
31	45.08	---	47.93	56.71	---	57.67	---	45.96	---	41.68	41.38	

APALACHICOLA RIVER BASIN
02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE, FL--Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNIT)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
NOV 14...	1400	17900	107	7.6	19.0	8.4	8.2	87	>600	390	37
FEB 19...	1600	60100	78	7.6	15.0	17	11.0	108	510	>290	27
APR 17...	1445	23200	91	7.6	19.5	10	10.3	112	K9	29	32
AUG 24...	1600	8660	112	7.7	29.5	3.4	7.2	94	--	--	36
	HARD- NESS, NONCARB F.W.H.W. ,FET, (MG/L CACO3)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA- LITY LAB (MG/L AS CACO3)	ALKA- LITY WAT.DIS FIELD INC.T. (MG/L CACO3)
NOV 14...	2	2	13	1.2	5.5	23	.4	1.8	44	36	36
FEB 19...	3	3	8.8	1.1	4.2	24	.4	1.5	28	24	23
APR 17...	0	0	11	1.0	3.8	20	.3	1.1	38	33	31
AUG 24...	0	0	12	1.5	7.1	29	.5	1.6	48	40	39
	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
NOV 14...	1.7	7.0	4.9	.10	8.4	61	64	.08	2950	.010	.43
FEB 19...	1.2	6.0	3.8	.10	7.9	61	48	.08	9900	<.010	.50
APR 17...	1.6	4.8	3.5	<.10	6.0	59	51	.08	3700	<.010	.40
AUG 24...	1.5	6.8	5.7	<.10	7.4	71	66	.10	1660	.010	.10
	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
NOV 14...	.030	.020	.03	.03	.47	.50	.040	.010	.010	.03	40
FEB 19...	.070	.070	.09	--	.23	.30	.030	<.010	<.010	--	60
APR 17...	.020	.010	.01	--	.38	.40	.050	.010	<.010	--	60
AUG 24...	.040	.040	.05	.03	.36	.40	.020	<.010	<.010	--	20

APALACHICOLA RIVER BASIN
02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE, FL--Continued

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WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 14...	<1	17	<.5	<1	<1	<3	1	87	<1	<4	3
FEB 19...	<1	17	<.5	1	<5	<3	<10	300	<10	<4	3
APR 17...	<1	19	<.5	<1	<1	<3	2	200	<1	<4	8
AUG 24...	<1	17	<.5	<1	<1	<3	<1	17	<1	<4	<1
DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 14...	<.1	<10	<1	<1	<1	27	<6	8	15	725	60
FEB 19...	<.1	<10	10	<1	<1	23	<6	<3	16	2600	--
APR 17...	<.1	<10	1	<1	<1	25	<6	<3	--	--	--
AUG 24...	<.1	<10	1	<1	<1	42	<6	<3	8	187	62

APALACHICOLA RIVER BASIN
02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE, FL--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (000009)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (000061)	STREAM STAGE (FT ABOVE DATUM) (000065)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT , 1989						
20...	1000	649	16000	45.01	8	346
20...	1020	649	16000	45.03	8	346
20...	1030	559	16000	45.01	9	389
20...	1035	559	16000	45.01	10	432
20...	1120	504	16000	45.00	8	346
20...	1130	504	16200	45.11	10	437
20...	1140	382	16100	45.04	9	391
20...	1145	382	16100	45.04	10	435
20...	1150	227	16000	45.03	9	389
20...	1155	227	16000	45.02	9	389
DEC						
12...	1240	965	47200	55.76	7	892
12...	1245	965	47200	55.76	9	1150
12...	1300	842	47200	55.77	8	1020
12...	1315	842	46800	55.68	8	1010
12...	1320	698	46800	55.68	6	758
12...	1330	698	47000	55.71	6	761
12...	1345	612	47600	55.86	7	900
12...	1400	612	47500	55.85	9	1150
12...	1430	435	47700	55.85	6	773
12...	1445	435	47500	55.84	11	1410
JAN , 1990						
24...	1555	967	48000	55.96	20	2590
24...	1600	967	48000	55.96	18	2330
24...	1605	847	48000	55.96	17	2200
24...	1610	847	48100	55.98	15	1950
24...	1615	738	48100	55.98	15	1950
24...	1620	738	48100	55.98	17	2210
24...	1630	600	48000	55.96	15	1940
24...	1635	600	48000	55.96	16	2070
24...	1645	437	48000	55.95	20	2590
24...	1700	437	48100	55.99	15	1950
FEB						
10...	1400	938	41600	54.38	12	1350
10...	1405	938	41600	54.38	12	1350
10...	1415	821	41800	54.42	13	1470
10...	1420	821	41800	54.42	12	1350
10...	1430	727	42000	54.46	12	1360
10...	1445	727	42000	54.47	12	1360
10...	1500	583	42200	54.52	12	1370
10...	1515	583	42300	54.54	12	1370
10...	1545	423	42500	54.61	13	1490
10...	1610	423	42600	54.62	14	1610
14...	1500	976	51300	56.75	14	1940
14...	1515	976	51500	56.79	14	1950
14...	1520	851	51500	56.79	15	2090
14...	1530	851	51600	56.83	14	1950
14...	1545	740	51500	56.80	13	1810
14...	1600	740	51700	56.84	13	1810
14...	1615	600	51600	56.83	15	2090
14...	1625	600	51600	56.81	13	1810
14...	1630	423	51600	56.81	11	1530
14...	1645	423	51700	56.85	12	1680
19...	1510	986	60100	58.76	18	2920
19...	1515	986	60100	58.76	16	2600
19...	1530	859	60100	58.77	16	2600
19...	1545	859	60000	58.75	19	3080
19...	1550	738	60000	58.75	17	2750
19...	1555	738	60100	58.77	14	2270
19...	1600	599	60100	58.77	16	2600
19...	1615	599	60000	58.75	14	2270
19...	1630	431	59900	58.72	14	2260
19...	1700	431	60100	58.77	15	2430
23...	1500	1010	75200	62.00	25	5080
23...	1505	1010	75200	62.00	23	4670
23...	1510	862	75200	62.00	23	4670
23...	1515	862	75200	62.00	25	5080
23...	1545	710	75400	62.03	25	5090
23...	1600	575	75400	62.04	25	5090
23...	1615	385	75200	62.00	16	3250

APALACHICOLA RIVER BASIN

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2358000 APALACHICOLA RIVER AT CHATTAHOOCHEE, FL--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (000009)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	STREAM STAGE (FT ABOVE DATUM) (00065)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
FEB , 1990						
23...	1620	385	75200	62.00	16	3250
26...	1400	1300	68100	60.52	26	4780
26...	1415	1300	68200	60.54	24	4420
26...	1430	862	68200	60.53	23	4240
26...	1435	862	68200	60.53	21	3870
26...	1445	725	68200	60.53	20	3680
26...	1450	725	68200	60.53	20	3680
26...	1500	585	68100	60.51	19	3490
26...	1515	585	68000	60.49	16	2940
26...	1545	405	68100	60.52	16	2940
26...	1600	405	67400	60.35	17	3090
MAR						
02...	1140	974	50600	56.58	24	3280
02...	1145	974	50600	56.58	27	3690
02...	1150	850	50600	56.58	23	3140
02...	1200	850	50500	56.56	25	3410
02...	1230	746	50400	56.54	23	3130
02...	1245	746	50300	56.52	20	2720
02...	1300	605	50300	56.52	19	2580
02...	1315	605	50100	56.47	22	2980
02...	1330	433	50200	56.48	25	3390
02...	1335	433	50200	56.48	19	2580
APR						
17...	1240	670	23300	48.38	16	1010
17...	1300	670	23300	48.38	17	1070
17...	1305	575	23300	48.38	13	818
17...	1315	575	23300	48.38	13	818
17...	1320	520	23300	48.38	14	881
17...	1335	520	23300	48.38	13	818
17...	1340	440	23300	48.38	12	755
17...	1400	440	23800	48.61	11	707
17...	1420	320	23200	48.37	11	689
MAY						
21...	1240	660	17400	45.94	9	423
21...	1250	660	17400	45.94	9	423
21...	1255	566	17400	45.94	9	423
21...	1300	566	17400	45.94	9	423
21...	1305	504	17400	45.94	10	470
21...	1310	504	17400	45.94	8	376
21...	1315	382	17400	45.94	7	329
21...	1320	382	17400	45.94	7	329
21...	1325	227	17400	45.94	7	329
21...	1330	227	17400	45.94	6	282
JUL						
16...	1700	634	10300	42.46	15	417
16...	1705	634	10300	42.46	12	334
16...	1710	552	10300	42.48	13	362
16...	1715	552	10300	42.48	12	334
16...	1720	500	10300	42.48	12	334
16...	1725	500	10300	42.48	12	334
16...	1730	397	10300	42.48	14	389
16...	1735	397	10300	42.48	11	306
16...	1740	242	10400	42.51	10	281
16...	1745	242	10400	42.51	10	281
10...	1400	620	7700	41.06	7	146
10...	1415	620	7700	41.06	7	146
10...	1430	546	7660	41.04	5	103
10...	1445	546	7640	41.03	5	103
10...	1500	500	7660	41.04	6	124
10...	1530	500	7660	41.04	3	62
10...	1600	404	7640	41.03	2	41
10...	1615	404	7620	41.02	2	41
10...	1630	250	7600	41.01	3	62
10...	1645	250	7640	41.03	1	21

APALACHICOLA RIVER BASIN
2358000 APALACHICOLA RIVER AT CHATTAHOOCHEE, FL--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM (80171)	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM (80172)	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM (80173)	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM (80174)
FEB , 1990												
27...	1315	936	0	4	22	53	74	87	96	100	100	100
27...	1430	765	0	1	15	33	49	64	93	100	100	100
27...	1445	540	3	5	16	35	48	70	97	100	100	100
JUL												
17...	1330	330	0	1	13	25	34	54	82	97	100	100
17...	1415	517	0	1	7	12	16	20	32	79	98	100
17...	1510	590	0	2	9	35	57	69	82	95	99	100
SEP												
10...	1700	310	2	4	43	72	79	89	93	95	100	100
10...	1715	520	2	7	34	43	50	59	82	95	100	100
10...	1830	580	0	1	5	13	20	28	46	95	100	100

02358700 APALACHICOLA RIVER NEAR BLOUNTSTOWN, FL

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, approximately.

PERIOD OF RECORD.--January 1920 to September 1957 gage-height records collected in this vicinity by the National Weather Service are in the files of the Geological Survey. Miscellaneous discharge measurements from some periods August 1938 to August 1957 are in files of the U.S. Army Corps of Engineers, Mobile, Alabama District. October 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 26.96 ft above National Geodetic Vertical Datum of 1929 (National Weather Service bench mark). Prior to Sept. 17, 1921, nonrecording gage near present site at different datum. Sept. 17, 1921 to Aug. 28, 1957, nonrecording gage at several sites within 500 ft of present site at present datum. Since Aug. 26, 1960, auxiliary nonrecording gage at site 2.2 mi upstream at bridge on State Highway 20, at present datum.

REMARKS.--Records fair.

COOPERATION.--Records from October 1957 to current year, were collected and computed by the U.S. Army Corps of Engineers and were reviewed by the Geological Survey.

AVERAGE DISCHARGE.--33 years, 23,360 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 185,000 ft³/s (estimated), Mar. 21, 1990; maximum gage height, 24.75 ft, Jan. 29, 1978; minimum daily discharge, 4,680 ft³/s (estimated), Aug. 3, 1986; minimum daily gage height, 0.02 ft, Aug. 18, 1986.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1920, 28.6 ft present datum, Mar. 21, 1929, discharge not determined, from National Weather Service records.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 185,000 ft³/s, (estimated) Mar. 21; minimum daily, 7,940 ft³/s, Sept. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	14400	16000	19300	26600	49800	62800	e45700	e14400	16800	13000	8850	8730		
2	21900	16400	19400	33800	52400	56000	e41800	e13700	16600	11600	9010	8710		
3	36900	16500	19400	43200	54400	48200	e40800	e15100	16600	11200	8770	8670		
4	42000	16300	19200	48000	49800	42900	e40200	e17200	16800	11000	8980	8600		
5	43400	16000	19000	50700	45200	38500	e36500	e17200	17200	10300	9090	8560		
6	39500	16200	18800	50800	41700	36600	e35400	e17100	17000	10200	9240	8580		
7	27600	16500	19000	49400	37000	36400	e32500	e17700	17100	10200	8950	8690		
8	20300	16600	21600	56800	34700	36400	e31400	e18000	16600	10400	8670	8780		
9	19400	18100	30800	66500	34600	36400	e26500	e18100	16600	10300	8370	8820		
10	26800	20400	38600	71600	37000	36400	e27000	e18100	16600	10300	8330	8690		
11	28100	25200	41900	72800	41500	36100	e26500	e18200	16400	10200	8520	8260		
12	25200	25800	43500	72200	42700	35400	e27900	e18200	16100	9620	8680	8150		
13	19200	22000	44400	68500	44700	33600	e30200	e18200	15900	9780	8710	8380		
14	17100	19900	45000	61700	47600	30000	e31000	e18300	15500	9880	8710	8510		
15	16600	19100	45200	51500	49200	28900	e25200	e18300	15400	9890	8780	8600		
16	15700	17200	43500	48800	48900	28700	e24600	17400	15400	9810	9330	8640		
17	13600	17700	39700	49200	50600	40700	e23000	17500	15500	9840	9040	8710		
18	14900	19900	37000	46400	55200	e74900	e21400	17500	15600	9830	9010	8670		
19	15700	18900	36100	44100	58700	e125000	e20900	17400	15800	8690	9040	8680		
20	15400	18400	35800	41400	61000	e183000	e16500	17300	14900	8640	8960	8740		
21	15900	18300	35800	37100	62800	e185000	e16400	17200	14300	8670	9060	8690		
22	16100	18500	37900	33600	70600	e174000	e17700	17200	14700	8600	9090	8540		
23	16000	19000	42500	35100	77600	e149000	e18100	17200	14500	8350	8980	8470		
24	15400	20400	44400	41000	81100	e141000	e18000	17000	14900	8260	8860	8370		
25	15900	20800	41000	47000	81400	e119000	e18200	17100	16600	8280	9140	7980		
26	16100	20300	37000	50000	77400	e97300	e17200	16900	14200	8540	9360	7950		
27	16300	19300	34100	51400	70600	e76100	e16400	17100	13600	8670	9350	7940		
28	16200	19100	31600	53200	66200	e65600	e16000	17800	12400	8670	9360	7950		
29	16000	19400	29700	53900	---	e58300	e15500	17400	12300	8720	9360	7980		
30	15800	19400	28700	50300	---	e46200	e15400	17000	12500	8640	8840	8000		
31	15800	---	25300	49300	---	e45500	---	17000	---	8860	8680	---		
TOTAL	649200	567600	1025200	1555900	1524400	2203900	773900	533800	464400	298940	277120	254040		
MEAN	20940	18920	33070	50190	54440	71090	25800	17220	15480	9643	8939	8468		
MAX	43400	25800	45200	72800	81400	185000	45700	18300	17200	13000	9360	8820		
MIN	13600	16000	18800	26600	34600	28700	15400	13700	12300	8260	8330	7940		
AC-FT	1288000	1126000	2033000	3086000	3024000	4371000	1535000	1059000	921100	592900	549700	503900		
CFSM	1.19	1.07	1.88	2.85	3.09	4.04	1.47	.98	.88	.55	.51	.48		
IN.	1.37	1.20	2.17	3.29	3.22	4.66	1.64	1.13	.98	.63	.59	.54		
CAL YR 1989	TOTAL	7386220	MEAN	20240	MAX	54400	MIN	8950	AC-FT	14650000	CFSM	1.15	IN.	15.61
WTR YR 1990	TOTAL	10128400	MEAN	27750	MAX	185000	MIN	7940	AC-FT	20090000	CFSM	1.58	IN.	21.41

e Estimated

APALACHICOLA RIVER BASIN
02358700 APALACHICOLA RIVER NEAR BLOUNTSTOWN, FL--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.29	7.07	8.50	11.30	17.74	19.23	---	---	7.87	6.07	3.22	2.83
2	9.53	7.28	8.54	13.74	18.16	18.55	---	---	7.79	5.22	3.32	2.81
3	14.60	7.30	8.54	16.23	18.38	17.37	---	---	7.81	5.00	3.14	2.78
4	15.96	7.20	8.46	17.34	17.74	16.16	---	---	7.89	4.83	3.28	2.71
5	16.27	7.11	8.39	17.94	16.69	15.05	---	---	8.06	4.41	3.34	2.67
6	15.30	7.19	8.30	17.96	15.88	14.54	---	---	7.99	4.31	3.42	2.67
7	11.66	7.29	8.38	17.65	14.63	14.46	---	---	8.01	4.39	3.23	2.75
8	8.90	7.37	9.41	18.65	14.00	14.47	---	---	7.84	4.42	3.01	2.81
9	8.53	7.99	12.78	19.54	13.98	14.48	---	---	7.85	4.35	2.77	2.83
10	11.36	8.95	15.08	19.97	14.64	14.48	---	---	7.84	4.33	2.74	2.72
11	11.81	10.77	15.92	20.05	15.82	14.40	---	---	7.77	4.27	2.88	2.38
12	10.76	10.98	16.30	20.01	16.12	14.19	---	---	7.63	3.90	2.99	2.28
13	8.46	9.57	16.52	19.71	16.58	13.66	---	---	7.54	3.99	3.00	2.45
14	7.58	8.74	16.66	19.14	17.24	12.51	---	---	7.38	4.04	2.99	2.54
15	7.36	8.42	16.70	18.06	17.60	12.10	---	---	7.34	4.04	3.04	2.60
16	6.93	7.62	16.30	17.51	17.54	12.03	---	8.01	7.34	3.98	3.39	2.62
17	5.88	7.82	15.37	17.60	17.91	15.61	---	8.04	7.38	3.99	3.20	2.66
18	6.57	8.76	14.65	16.97	18.47	---	---	8.04	7.42	3.98	3.17	2.62
19	6.97	8.32	14.39	16.44	18.86	---	---	8.04	7.55	3.23	3.18	2.62
20	6.82	8.11	14.32	15.79	19.08	---	---	8.00	7.10	3.18	3.12	2.61
21	7.03	8.10	14.32	14.66	19.23	---	---	7.97	6.82	3.19	3.17	2.61
22	7.12	8.16	14.90	13.66	19.88	---	---	7.97	7.00	3.13	3.18	2.48
23	7.10	8.37	16.06	14.10	20.35	---	---	7.95	6.93	2.93	3.10	2.42
24	6.78	8.98	16.52	15.68	20.57	---	---	7.90	7.13	2.85	3.01	2.33
25	7.04	9.13	15.69	17.10	20.59	---	---	7.92	7.93	2.85	3.18	2.03
26	7.14	8.90	14.64	17.78	20.34	---	---	7.86	6.78	3.04	3.31	2.00
27	7.20	8.50	13.82	18.05	19.88	---	---	7.95	6.50	3.13	3.29	1.98
28	7.18	8.43	13.05	18.24	19.52	---	---	8.25	5.77	3.12	3.29	1.98
29	7.09	8.56	12.39	18.32	---	---	---	8.11	5.70	3.15	3.28	1.99
30	7.00	8.55	12.03	17.85	---	---	---	7.93	5.82	3.08	2.93	2.00
31	7.00	---	10.83	17.62	---	---	---	7.92	---	3.24	2.80	---
TOTAL	275.22	249.54	407.76	534.66	497.42	---	---	---	219.78	119.64	96.97	74.78
MEAN	8.88	8.32	13.15	17.25	17.76	---	---	---	7.33	3.86	3.13	2.49
MAX	16.27	10.98	16.70	20.05	20.59	---	---	---	8.06	6.07	3.42	2.83
MIN	5.88	7.07	8.30	11.30	13.98	---	---	---	5.70	2.85	2.74	1.98

CAL YR 1989 TOTAL 3028.62 MEAN 8.30 MAX 18.25 MIN 2.79

LOCATION.--Lat 30°08'02", long 85°08'39", NE 1/4 sec.16, T.4S, R.9 W., Gulf County, Hydrologic Unit 03130011, on right bank at George C. Gaskins State Park, 3.7 mi northeast of Wewahitchka and 44.2 mi upstream from mouth.

DRAINAGE AREA.--17,800 mi², approximately.

PERIOD OF RECORD.--January 1950 to February 1954, August 1955 to September 1980, October 1980 to September 1987, October 1988 to September 1989. Prior to October 1979, discharge records are available in files of the U.S. Army Corps of Engineers, Mobile, Alabama District.

GAGE.--Water-stage recorder. Datum of gage is 12.136 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Water-stage recorder January 17, 1950, to February 8, 1954, and August 2, 1955, to August 17, 1955, at site 200 ft downstream of present location at datum 3.405 ft higher. Water stage recorder August 17, 1955, to October 18, 1955, at site 200 ft downstream of present location at datum 1.278 ft higher. Water-stage recorder October 18, 1955, to August 30, 1979, at site 200 ft downstream at present datum. Since August 1979, at present site and datum.

REMARKS.--Records good below 55,000 cfs. Rating not defined by discharge measurements above 55,000 ft³/s, but extended based on corresponding discharge at upstream and downstream stations.

COOPERATION.--Records from October 1957, to current year, were collected and computed by U.S. Army Corps of Engineers and were reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 180,000 ft³/s, Mar. 20, 1990, gage height 15.00 ft; minimum 4,590 ft³/s, Nov. 5, 1981; minimum gage height, -1.56 ft, Nov. 5, 1981, and Aug. 5, 1986.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1929, reached a stage of 19.20 ft (from flood profile by U.S. Army Corps of Engineers).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 180,000 ft³/s, Mar. 22, gage height 15.00 ft; minimum daily discharge, 7,950 ft³/s (estimated), Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14800	14900	18100	26700	47800	65000	56200	17800	16300	13000	8910	8720
2	16100	15000	18100	26300	47000	61400	52300	16100	16200	12800	8980	8660
3	20100	15300	18100	28500	48000	57200	49500	15700	16100	12100	9020	8630
4	25300	15300	18000	32400	49700	50600	46400	15800	16100	11900	8950	8530
5	29500	15100	17900	37600	49000	43500	43500	15600	16400	11600	9050	8510
6	32700	15000	17800	45500	44800	37300	41100	15400	16500	11100	9090	8440
7	33300	15400	17700	50700	40100	34400	38700	15600	16500	10800	9090	8440
8	29500	15700	18500	53400	35500	33000	35600	15900	16400	10800	9020	8560
9	24300	17000	20300	54700	33200	32300	33300	16100	16400	10600	8660	8630
10	21900	18100	24500	61400	32100	32100	30700	16300	16400	10500	8410	8650
11	23000	19800	29600	67400	32400	31700	29300	16400	16300	10400	8380	8390
12	23700	21700	34600	70300	33900	31700	28600	16400	16000	10300	8530	8090
13	22400	22600	39500	70100	35400	31200	28700	16400	15700	10200	8590	8020
14	19600	21600	42600	69900	37200	30300	29300	16500	15400	10400	8590	8200
15	17700	20500	43500	66500	40000	28900	29200	16600	15100	10400	8630	8350
16	16700	19800	43500	59100	43400	27400	27900	16600	15100	10200	8770	8410
17	15300	18700	42200	52300	45900	27900	26500	16600	15000	10100	9020	8480
18	14800	18800	39500	49000	47000	30900	25100	16700	15000	10100	8920	8470
19	15200	19000	36500	46000	50700	43400	23900	16600	15200	9790	8920	8410
20	15500	18500	34800	42900	54500	92200	22100	16600	15200	9140	8910	8450
21	15600	18000	33800	39700	57000	143000	20300	16500	14500	9020	8890	8560
22	15800	17800	33300	35700	60800	173000	19900	16500	14500	9020	8910	8530
23	16000	17800	33700	33300	66100	173000	19900	16500	14600	8970	8880	8380
24	15500	18100	35000	32200	71500	156000	19800	16400	14600	8950	8820	8290
25	15200	18800	37300	33500	75300	135000	19400	16300	14500	8770	8950	8120
26	15300	19000	38000	36100	76300	117000	19000	16300	14300	8740	9110	e8050
27	15300	18700	35700	41700	74400	102000	18100	16300	14300	8880	9200	e8060
28	15400	18300	33700	46000	69600	90200	17600	16500	13700	8850	9310	e7950
29	15300	18200	31600	49000	---	80400	18100	16700	13000	8830	9310	e7960
30	15100	18200	29600	50200	---	72700	18500	16600	12800	8770	9170	e7980
31	15000	---	28100	49700	---	63500	---	16500	---	8780	8880	---
TOTAL	600900	540700	945100	1457800	1398600	2128200	888500	506800	458100	313810	275870	250920
MEAN	19380	18020	30490	47030	49950	68650	29620	16350	15270	10120	8899	8364
MAX	33300	22600	43500	70300	76300	173000	56200	17800	16500	13000	9310	8720
MIN	14800	14900	17700	26300	32100	27400	17600	15400	12800	8740	8380	7950
AC-FT	1192000	1072000	1875000	2892000	2774000	4221000	1762000	1005000	908600	622400	547200	497700
CFSM	1.09	1.01	1.71	2.64	2.81	3.86	1.66	.92	.86	.57	.50	.47
IN.	1.26	1.13	1.98	3.05	2.92	4.45	1.86	1.06	.96	.66	.58	.52
CAL YR 1989	TOTAL 7260500	MEAN 19890	MAX 54200	MIN 9480	AC-FT 14400000	CFSM 1.12	IN. 15.17					
WTR YR 1990	TOTAL 9765300	MEAN 26750	MAX 173000	MIN 7950	AC-FT 19370000	CFSM 1.50	IN. 20.41					

e Estimated

APALACHICOLA RIVER BASIN
02359000 CHIPOLA RIVER NEAR ALTHA, FL
(National stream-quality accounting network station)

LOCATION.--Lat 30°32'02", long 85°09'55", in NW¼ sec.32, T.2 N., R.9 W., Calhoun County, Hydrologic Unit 03130012, near center of span 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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1912 to December 1913, September 1921 to September 1927, August 1929 to September 1931, March 1943 to current year. Monthly discharge only for some periods published in WSP 1304.

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

GAGE.--Water-stage recorder. Datum of gage is 19.95 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Jan. 13, 1950, and Mar. 13, 1978 to Mar. 20, 1979, nonrecording gage at same site and datum.

REMARKS.--Records good, except for estimated, which are fair.

AVERAGE DISCHARGE.--55 years (water years 1922-27, 1930-31, 1944-90), 1,487 ft³/s, 25.86 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft³/s, Sept. 20, 1926, gage height, 33.55 ft, from flood marks, from rating curve extended above 12,800 ft³/s, on basis of slope-area measurement of peak flow; minimum, 330 ft³/s, Oct. 31, Nov. 1, 2, 1968; minimum gage height, 8.29 ft Nov. 13-15, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 5,000 ft³/s, Jan. 14, estimated; minimum discharge, 343 ft³/s, Sept. 24, 25, gage height, 8.40 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1120	883	1350	2360	e2900	2780	1860	1130	898	792	688	420
2	1260	878	1360	2550	e2800	2510	1940	1090	893	805	687	435
3	1340	880	1370	2950	e2700	2340	2250	1050	895	1200	688	429
4	1610	877	1330	3620	e2600	2200	2290	1020	932	984	680	415
5	2040	873	1250	4160	e2500	2100	2200	1010	1070	869	688	401
6	2240	869	1190	4290	e2400	2050	2090	1020	993	836	754	390
7	2120	874	1150	4150	e2350	2040	1910	1010	967	806	704	382
8	1680	883	1290	4220	e2300	1960	1710	996	953	779	678	390
9	1240	e1100	1510	3970	e2200	1860	1620	1010	926	812	677	375
10	1080	e1300	1530	3930	e2100	1760	1570	1060	904	796	649	372
11	1090	e1400	1550	4310	e2050	1700	1630	1090	890	756	599	374
12	1080	e1700	1730	e4600	2030	1640	1610	1120	874	746	611	383
13	1040	e2000	1990	e4800	2040	1590	1550	1150	885	780	595	376
14	1000	e2100	1930	e5000	2120	1550	1530	1150	862	812	586	380
15	978	e2400	1820	e4700	2160	1520	1520	1130	838	787	529	390
16	960	e2200	1860	e4300	2090	1520	1440	1130	821	765	642	383
17	946	e2000	1960	e4000	2090	2070	1400	1150	847	763	435	373
18	1410	e1900	1940	e3700	2060	2540	1360	1100	896	757	525	370
19	1740	e1800	1850	e3300	2260	2560	1330	1020	894	894	533	496
20	1620	e1750	1910	e3000	2620	2760	1270	992	926	975	576	463
21	1450	e1800	1910	e2600	2780	3010	1220	993	907	995	523	444
22	1310	e1750	1970	e2300	2990	3090	1180	992	898	939	475	382
23	1210	e1700	2150	e2000	3420	2930	1140	993	964	893	473	359
24	1090	e1650	2300	e1600	3500	2580	1160	985	911	834	465	348
25	1030	e1600	2290	e1800	3410	2180	1130	962	892	799	455	353
26	995	e1500	2130	e2000	3310	1910	1100	940	874	774	453	457
27	965	1400	1940	e2200	3220	1760	1080	920	841	772	431	440
28	942	1380	1780	e2400	3040	1640	1140	955	831	745	424	368
29	922	1360	1670	e2600	---	1550	1180	951	821	726	430	384
30	908	1340	1610	e2800	---	1570	1180	925	806	710	417	386
31	896	---	1810	e3000	---	1790	---	907	---	700	418	---
TOTAL	39312	44147	53430	103210	72040	65060	45590	31951	26909	25601	17488	11918
MEAN	1268	1472	1724	3329	2573	2099	1520	1031	897	826	564	397
MAX	2240	2400	2300	5000	3500	3090	2290	1150	1070	1200	754	496
MIN	896	869	1150	1600	2030	1520	1080	907	806	700	417	348
AC-FT	77980	87570	106000	204700	142900	129000	90430	63370	53370	50780	34690	23640
CFSM	1.62	1.88	2.21	4.26	3.29	2.69	1.95	1.32	1.15	1.06	.72	.51
IN.	1.87	2.10	2.54	4.92	3.43	3.10	2.17	1.52	1.28	1.22	.83	.57

CAL YR 1989 TOTAL 564135 MEAN 1546 MAX 5810 MIN 658 AC-FT 1119000 CFSM 1.98 IN. 26.87
WTR YR 1990 TOTAL 536656 MEAN 1470 MAX 5000 MIN 348 AC-FT 1064000 CFSM 1.88 IN. 25.56
e Estimated

APALACHICOLA RIVER BASIN
02359000 CHIPOLA RIVER NEAR ALTHA, FL--Continued

89

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1962 to June 1972, October 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNIT)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
NOV 29...	0900	1380	189	8.0	17.0	1.9	8.0	81	340	120	94
FEB 16...	0830	2080	155	7.9	17.5	6.6	8.2	85	120	58	84
JUN 25...	1100	892	230	8.2	23.5	2.0	6.0	70	64	30	120
AUG 24...	1100	467	218	8.2	25.0	1.0	7.3	88	40	28	110
DATE	HARD- NESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA- LITY LAB AS CACO3)	ALKA- LITY WAT.DIS FIELD INC.T. (MG/L CACO3)
NOV 29...	6	6	32	3.4	3.5	7	.2	.60	105	88	86
FEB 16...	7	7	29	2.8	3.0	7	.1	.70	91	77	75
JUN 25...	10	10	39	4.6	2.5	4	.1	.40	122	107	100
AUG 24...	6	6	36	5.6	2.8	5	.1	.50	126	107	103
DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
NOV 29...	1.7	1.0	6.2	<.10	6.4	138	110	.19	514	<.010	.49
FEB 16...	1.9	1.0	5.5	.10	4.3	112	93	.15	629	<.010	.70
JUN 25...	1.3	1.4	6.2	.10	6.5	126	120	.17	303	<.010	1.3
AUG 24...	1.3	1.9	6.0	.10	6.3	135	120	.18	170	<.010	.90
DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, NH4, WATER, DIS., SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)
NOV 29...	.010	.020	.03	--	<.20	.020	<.010	.010	.03	20	<1
FEB 16...	.020	.020	.03	.28	.30	.030	<.010	<.010	--	40	<1
JUN 25...	.020	.020	.03	.38	.40	.020	<.010	<.010	--	20	<1
AUG 24...	<.010	<.010	--	--	.20	.020	.010	.010	.03	10	<1

APALACHICOLA RIVER BASIN
02359000 CHIPOLA RIVER NEAR ALTHA, FL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV 29...	11	<.5	<1	<1	<3	<1	98	<1	<4	6	<.1
FEB 16...	11	<.5	2	<5	<3	<10	230	10	<4	3	<.1
JUN 25...	10	<.5	1	1	<3	1	4	<1	<4	6	<.1
AUG 24...	10	<.5	<1	<1	<3	<1	19	<1	<4	8	<.1

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 29...	<10	1	<1	<1	37	<6	<3	8	30	50
FEB 16...	<10	10	<1	1	35	<6	25	16	90	81
JUN 25...	<10	<1	<1	<1	42	<6	4	14	34	71
AUG 24...	<10	<1	<1	<1	48	<6	<3	6	7.6	50

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02359101 CHIPOLA RIVER AT DEAD LAKE OUTLET NEAR WEWAHITCHKA, FL

LOCATION.--Lat 30°07'38", long 85°10'39", in NE¼ sec.19, T.4 S., R.9 W., Gulf County, Hydrologic Unit 03130012 on upstream side of bridge on county road 22A, 1.7 mi northeast of Wewahitchka.

DRAINAGE AREA.--1206 mi².

PERIOD OF RECORD.--November 1979 to September 1984 (gage heights and discharge measurements only), February 1988 to Sept. 30, 1990 (gage height only), discontinued.

GAGE.--Water-stage recorder. Datum of gage is National Vertical Datum of 1929 (Florida Department of Transportation bench mark).

REMARKS.--Sheet pile dam 50 feet downstream removed December 1987. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 25.38 ft, Mar. 23, 1990; minimum, 10.62 ft, Sept. 28, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum gage height 25.38 ft, Mar. 23; minimum, 10.62 ft, Sept. 28.

GAGE HEIGHT (FEET ABOVE DATUM) WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.04	15.35	16.71	18.97	20.18	21.08	20.75	16.48	15.72	14.22	11.93	11.48
2	15.50	15.34	16.68	18.98	20.13	20.91	20.54	16.19	15.68	14.25	11.98	11.46
3	16.39	15.37	16.67	19.15	20.11	20.77	20.43	15.87	15.64	14.10	12.02	11.43
4	17.37	15.38	16.63	19.45	20.14	20.57	20.32	15.73	15.62	14.04	11.98	11.41
5	18.15	15.37	16.60	19.85	20.14	20.33	20.20	15.63	15.68	14.05	11.98	11.38
6	18.79	15.34	16.56	20.35	20.07	20.06	20.07	15.55	15.78	13.80	12.00	11.36
7	19.22	15.46	16.50	20.76	19.95	19.81	19.95	15.48	15.81	13.50	12.05	11.33
8	19.31	15.65	16.70	21.10	19.76	19.60	19.77	15.51	15.80	13.30	12.02	11.31
9	18.95	16.22	17.12	21.20	19.54	19.44	19.55	15.58	15.78	13.15	11.92	11.28
10	18.39	16.75	17.70	21.22	19.38	19.33	19.30	15.70	15.82	13.03	11.76	11.26
11	18.08	17.24	18.32	21.26	19.36	19.24	19.14	15.74	15.80	12.96	11.65	11.23
12	18.00	17.70	18.91	21.36	19.43	19.18	18.96	15.76	15.72	12.96	11.63	11.21
13	17.92	18.10	19.40	21.42	19.53	19.12	18.84	15.80	15.60	13.01	11.64	11.18
14	17.59	18.32	19.73	21.43	19.61	19.03	18.79	15.82	15.48	13.17	11.63	11.16
15	17.09	18.34	19.91	21.37	19.71	18.89	18.80	15.85	15.35	13.19	11.62	11.13
16	16.61	18.23	20.01	21.17	19.87	18.70	18.73	15.87	15.26	13.11	11.63	11.16
17	16.18	17.91	19.99	20.90	20.05	18.77	18.58	15.89	15.22	13.00	11.73	11.21
18	15.88	17.63	19.97	20.66	20.10	19.01	18.39	15.91	15.22	12.88	11.76	11.19
19	15.87	17.44	19.92	20.44	20.28	19.57	18.19	15.90	15.24	12.77	11.74	11.14
20	16.05	17.22	19.82	20.26	20.48	20.47	17.94	15.88	15.29	12.52	11.73	11.13
21	16.16	17.00	19.71	20.11	20.63	22.92	17.62	15.85	15.21	12.38	11.75	11.17
22	16.20	16.82	19.61	19.95	20.84	24.84	17.35	15.85	15.18	12.37	11.78	11.20
23	16.16	16.78	19.55	19.76	21.09	25.34	17.22	15.81	15.31	12.35	11.72	11.13
24	16.05	16.73	19.56	19.58	21.26	24.99	17.11	15.76	15.22	12.33	11.66	11.03
25	15.86	16.79	19.67	19.55	21.36	24.32	16.99	15.73	15.15	12.22	11.66	10.91
26	15.74	16.88	19.78	19.63	21.37	23.48	16.85	15.71	15.04	12.10	11.63	10.75
27	15.66	16.88	19.78	19.79	21.33	22.67	16.67	15.67	14.95	12.08	11.61	10.65
28	15.60	16.82	19.66	19.95	21.23	22.00	16.49	15.68	14.82	12.04	11.58	10.63
29	15.55	16.78	19.45	20.09	---	21.50	16.44	15.77	14.55	12.00	11.56	10.69
30	15.48	16.74	19.22	20.17	---	21.22	16.49	15.80	14.32	11.95	11.53	10.74
31	15.41	---	19.02	20.20	---	21.03	---	15.78	---	11.92	11.51	---
TOTAL	520.25	502.58	578.86	630.08	566.93	648.19	556.47	489.55	461.26	400.75	364.39	334.34
MEAN	16.78	16.75	18.67	20.33	20.25	20.91	18.55	15.79	15.38	12.93	11.75	11.14
MAX	19.31	18.34	20.01	21.43	21.37	25.34	20.75	16.48	15.82	14.25	12.05	11.48
MIN	15.04	15.34	16.50	18.97	19.36	18.70	16.44	15.48	14.32	11.92	11.51	10.63
CAL YR 1989	TOTAL 5928.55		MEAN	16.24	MAX 21.38	MIN 11.98						
WTR YR 1990	TOTAL 6053.65		MEAN	16.59	MAX 25.34	MIN 10.63						

APALACHICOLA RIVER BASIN
02359170 APALACHICOLA RIVER NEAR SUMATRA, FL

LOCATION.--Lat 29°56'57", Long 85°00'56", in SW1/4 sec.14, T.6 S., R.8 W., Franklin County, Hydrologic Unit 03130011, on left bank at Brickyard Landing, 2.4 mi west of Fort Gadsden, 5.3 mi southwest of Sumatra, and 20.6 mi upstream from mouth.

DRAINAGE AREA.--19,200 mi², approximately.

PERIOD OF RECORD.--September 1977 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--No estimated daily discharges. Records fair. Discharges below 15,000 ft³/s are tide affected.

AVERAGE DISCHARGE.--13 years, 26,140 ft³/s (18.49 in/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 179,000 ft³/s, Mar. 24, 1990, gage height, 13.82 ft; minimum daily, 5,800 ft³/s, Nov. 4, 5, 1981, estimated; minimum recorded gage height, 1.11 ft, Dec. 5, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 179,000 ft³/s, Mar. 24, gage height, 13.82 ft; minimum 8,150 ft³/s, Sept. 27, gage height, 2.13 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	16100	16500	20700	36500	51900	76800	79300	21000	18900	14400	9730	9810		
2	17000	16400	20700	34100	51300	73000	69900	20100	18700	14400	9680	9650		
3	18500	16600	20500	32700	50600	69800	63200	18800	18500	14100	9730	9580		
4	21900	16600	20100	33200	50600	65300	58000	18300	18400	14000	9680	9630		
5	26000	16600	20200	35900	51200	59600	54000	18000	18500	13400	9860	9580		
6	30400	16600	20200	40600	51100	52900	50700	17700	18800	12700	10200	9450		
7	35100	17000	20200	46100	49400	46300	48300	17400	18900	12400	10200	9300		
8	37900	17600	21300	51700	46300	41900	45800	17500	18900	12100	10200	9250		
9	36800	19300	23000	55500	42900	39200	43500	18300	19000	11900	10300	9300		
10	32900	20300	24600	58100	40300	37700	40900	19200	19000	11700	9970	9350		
11	29800	21200	27500	61700	38300	36800	39000	18600	18800	11600	9860	9230		
12	28600	22900	31800	66500	37200	36400	36300	18500	18600	11700	9890	9050		
13	28200	25000	37100	70500	37700	36100	34500	18600	18400	11600	9990	9080		
14	27100	26400	41300	72500	39200	35700	33900	18400	18000	13000	10100	9200		
15	24900	26800	44600	73300	40900	34800	34200	18400	17700	12200	10100	9230		
16	22400	26700	46700	72100	43100	33500	34400	18600	17300	11700	10100	9180		
17	20500	25000	47200	67800	45700	33600	33600	18800	17300	11500	10100	9380		
18	19500	23500	47100	62000	47400	33100	32200	18700	17300	11400	10200	9250		
19	18300	22800	46500	57000	50200	34400	30700	18800	17300	11400	9990	9230		
20	17400	22500	45400	53000	54600	42200	29200	19000	17400	11000	10100	9080		
21	17100	21800	43200	49600	56600	67900	27400	19100	17300	10600	10200	9200		
22	17300	21300	41200	46600	59800	117000	25500	19200	17500	10600	10300	9080		
23	17500	21500	39900	43400	64400	161000	24900	18900	18100	10600	10100	8790		
24	17400	20800	39300	40400	68300	178000	24600	18900	17500	10400	9860	8290		
25	17100	20900	39700	38800	73000	172000	23900	19000	17000	10100	9810	8360		
26	16900	21500	41300	38600	77000	156000	23100	19100	16700	10200	10200	8220		
27	16700	21800	42500	39900	79400	139000	22400	19100	16500	10400	10100	8150		
28	16700	21800	42300	42900	79300	122000	21900	19100	16200	10000	10200	8430		
29	16500	21600	40800	46000	---	108000	21200	19100	15500	10100	10000	8520		
30	16500	20800	38800	49000	---	97500	21000	19100	14500	9970	9940	8690		
31	16500	---	37100	51200	---	89900	---	19000	---	9730	9970	---		
TOTAL	695500	630100	1072800	1567200	1477700	2327400	1127500	582300	532500	360900	310660	272540		
MEAN	22440	21000	34610	50550	52770	75080	37580	18780	17750	11640	10020	9085		
MAX	37900	26800	47200	73300	79400	178000	79300	21000	19000	14400	10300	9810		
MIN	16100	16400	20100	32700	37200	33100	21000	17400	14500	9730	9680	8150		
AC-FT	1380000	1250000	2128000	3109000	2931000	4616000	2236000	1155000	1056000	715800	616200	540600		
CFSM	1.17	1.09	1.80	2.63	2.75	3.91	1.96	.98	.92	.61	.52	.47		
IN.	1.35	1.22	2.08	3.04	2.86	4.51	2.18	1.13	1.03	.70	.60	.53		
CAL YR 1989	TOTAL	8264600	MEAN	22640	MAX	60000	MIN	9380	AC-FT	16390000	CFSM	1.18	IN.	16.01
WTR YR 1990	TOTAL	10957100	MEAN	30020	MAX	178000	MIN	8150	AC-FT	21730000	CFSM	1.56	IN.	21.23

APALACHICOLA RIVER BASIN

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02359170 APALACHICOLA RIVER NEAR SUMATRA, FL.--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.08	5.17	5.83	7.07	7.84	9.31	9.41	5.66	5.35	4.41	2.95	3.04
2	5.28	5.17	5.83	6.93	7.82	9.09	8.85	5.54	5.32	4.44	2.94	2.93
3	5.53	5.19	5.81	6.84	7.78	8.89	8.42	5.37	5.29	4.38	2.95	2.92
4	5.97	5.20	5.77	6.87	7.78	8.61	8.11	5.28	5.28	4.33	2.97	2.91
5	6.35	5.20	5.78	7.03	7.81	8.26	7.88	5.23	5.29	4.24	3.10	2.84
6	6.69	5.21	5.77	7.30	7.81	7.89	7.72	5.17	5.33	4.01	3.12	2.81
7	6.99	5.28	5.77	7.57	7.73	7.58	7.60	5.10	5.34	3.80	3.12	2.79
8	7.15	5.39	5.91	7.83	7.58	7.36	7.48	5.12	5.35	3.75	3.11	2.77
9	7.09	5.65	6.10	8.02	7.41	7.22	7.35	5.26	5.36	3.67	3.07	2.80
10	6.86	5.78	6.23	8.17	7.28	7.14	7.22	5.39	5.36	3.60	3.01	2.83
11	6.65	5.90	6.47	8.39	7.18	7.09	7.11	5.31	5.33	3.58	2.97	2.85
12	6.56	6.09	6.78	8.69	7.11	7.07	6.95	5.29	5.30	3.60	2.98	2.82
13	6.53	6.27	7.11	8.94	7.14	7.05	6.84	5.30	5.27	3.70	3.08	2.80
14	6.45	6.39	7.33	9.06	7.22	7.03	6.80	5.28	5.22	4.02	3.15	2.82
15	6.26	6.42	7.50	9.10	7.31	6.97	6.82	5.28	5.15	3.86	3.20	2.81
16	6.03	6.41	7.60	9.03	7.42	6.89	6.82	5.31	5.09	3.68	3.16	2.82
17	5.80	6.27	7.63	8.77	7.56	6.90	6.77	5.33	5.09	3.58	3.20	2.76
18	5.68	6.14	7.62	8.41	7.64	6.87	6.67	5.32	5.08	3.55	3.15	2.69
19	5.51	6.08	7.60	8.11	7.77	6.95	6.57	5.33	5.08	3.63	3.08	2.72
20	5.34	6.04	7.54	7.90	7.97	7.37	6.45	5.36	5.11	3.44	3.12	2.68
21	5.30	5.97	7.43	7.74	8.08	8.77	6.31	5.38	5.08	3.33	3.11	2.75
22	5.34	5.92	7.33	7.60	8.28	11.41	6.15	5.39	5.11	3.32	3.08	2.71
23	5.36	5.93	7.26	7.44	8.56	13.19	6.09	5.35	5.23	3.25	3.02	2.62
24	5.36	5.84	7.23	7.29	8.80	13.78	6.07	5.34	5.12	3.15	2.93	2.37
25	5.30	5.87	7.25	7.20	9.08	13.57	5.99	5.36	5.04	3.06	2.92	2.38
26	5.25	5.94	7.33	7.19	9.33	13.03	5.92	5.38	4.96	3.04	3.06	2.41
27	5.23	5.97	7.40	7.26	9.47	12.36	5.84	5.38	4.92	3.13	3.09	2.35
28	5.21	5.97	7.39	7.42	9.46	11.65	5.79	5.38	4.87	3.01	3.08	2.48
29	5.19	5.95	7.31	7.57	---	10.98	5.70	5.38	4.69	3.05	3.06	2.67
30	5.17	5.85	7.20	7.71	---	10.44	5.67	5.37	4.53	3.03	3.05	2.66
31	5.18	---	7.11	7.81	---	10.01	---	5.36	---	2.97	3.13	---
TOTAL	181.69	174.46	212.22	242.26	222.22	280.73	207.37	165.30	154.54	111.61	94.96	81.81
MEAN	5.86	5.82	6.85	7.81	7.94	9.06	6.91	5.33	5.15	3.60	3.06	2.73
MAX	7.15	6.42	7.63	9.10	9.47	13.78	9.41	5.66	5.36	4.44	3.20	3.04
MIN	5.08	5.17	5.77	6.84	7.11	6.87	5.67	5.10	4.53	2.97	2.92	2.35

WTR YR 1990 TOTAL 2129.17 MEAN 5.83 MAX 13.78 MIN 2.35

APALACHICOLA RIVER BASIN
02359170 APALACHICOLA RIVER NEAR SUMATRA, FL.--Continued

PERIOD OF RECORD.--October 1987 to current year.

REMARKS.--Discharges for sediment samples represent main channel only.

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (000009)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (000061)	STREAM STAGE (FT ABOVE DATUM) (000065)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT , 1989						
25...	1555	84.0	17000	5.28	16	734
25...	1600	84.0	17000	5.28	20	918
25...	1610	186	17000	5.28	20	918
25...	1615	186	17000	5.28	24	1100
25...	1620	284	17000	5.28	29	1330
25...	1625	284	17000	5.28	26	1190
25...	1640	385	17000	5.28	30	1380
25...	1650	385	17000	5.28	30	1380
25...	1705	489	17000	5.28	19	872
25...	1710	489	17000	5.28	18	826
DEC						
13...	1255	92.0	37300	7.12	22	2220
13...	1300	92.0	37300	7.12	24	2420
13...	1350	171	37500	7.13	36	3650
13...	1400	171	37500	7.13	39	3950
13...	1410	255	37500	7.13	68	6880
13...	1415	255	37500	7.13	56	5670
13...	1420	337	37500	7.13	77	7800
13...	1425	337	37500	7.13	111	11200
13...	1435	444	37700	7.14	130	13200
13...	1440	444	37700	7.14	91	9260
JAN , 1990						
25...	1500	91.0	38800	7.20	18	1890
25...	1510	91.0	38800	7.20	16	1680
25...	1600	171	38800	7.20	30	3140
25...	1610	171	38800	7.20	28	2930
25...	1620	255	38800	7.20	37	3880
25...	1630	255	38800	7.20	42	4400
25...	1645	337	38600	7.19	50	5210
25...	1650	337	38600	7.19	49	5110
25...	1655	445	38600	7.19	48	5000
25...	1700	445	38600	7.19	57	5940
FEB						
15...	1450	91.0	41200	7.33	13	1450
15...	1500	91.0	41200	7.33	16	1780
15...	1515	171	41200	7.33	19	2110
15...	1525	171	41200	7.33	23	2560
15...	1530	255	41200	7.33	48	5340
15...	1535	255	41200	7.33	39	4340
15...	1545	337	41200	7.33	52	5780
15...	1600	337	41200	7.33	70	7790
15...	1615	445	41200	7.33	66	7340
15...	1630	445	41200	7.33	47	5230
20...	1530	91.0	55000	7.99	14	2080
20...	1535	91.0	55000	7.99	13	1930
20...	1540	171	55000	7.99	18	2670
20...	1545	171	55000	7.99	21	3120
20...	1550	255	55000	7.99	31	4600
20...	1555	255	55000	7.99	45	6680
20...	1600	337	55000	7.99	60	8910
20...	1620	337	55000	7.99	51	7570
20...	1630	445	55000	7.99	55	8170
20...	1635	445	55200	8.00	51	7600
25...	1505	90.0	73600	9.12	15	2980
25...	1510	90.0	73600	9.12	20	3970
25...	1530	161	73600	9.12	24	4770
25...	1535	161	73700	9.13	22	4380
25...	1545	241	73700	9.13	53	10500
25...	1550	241	73700	9.13	47	9350
25...	1555	336	73700	9.13	66	13100
25...	1615	456	73700	9.13	73	14500
25...	1620	456	73900	9.14	50	9980

02359170 APALACHICOLA RIVER NEAR SUMATRA, FL--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (000009)	STREAM- FLOW, INSTAN- TANEOUS (CFS) (000061)	STREAM STAGE (FT ABOVE DATUM) (000065)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
MAR 1990						
03...	1100	91.0	70100	8.91	13	2460
03...	1110	91.0	70100	8.91	29	5490
03...	1120	161	70100	8.91	25	4730
03...	1130	161	70100	8.91	20	3790
03...	1140	241	69900	8.90	52	9810
03...	1150	241	69900	8.90	33	6230
03...	1200	335	69900	8.90	65	12300
03...	1210	335	69900	8.90	72	13600
03...	1220	454	69900	8.90	47	8870
03...	1230	454	69900	8.90	51	9630
08...	1300	92.0	41600	7.35	21	2360
08...	1305	92.0	41600	7.35	19	2130
08...	1320	255	41600	7.35	43	4830
08...	1330	337	41600	7.35	38	4270
08...	1340	337	41600	7.35	84	9430
08...	1400	444	41600	7.35	44	4940
APR						
20...	1555	88.0	28900	6.43	29	2260
20...	1610	88.0	28900	6.43	28	2180
20...	1620	189	28900	6.43	26	2030
20...	1622	189	28900	6.43	26	2030
20...	1630	268	28900	6.43	37	2890
20...	1640	337	28700	6.42	46	3560
20...	1650	337	28700	6.42	49	3800
20...	1655	444	28700	6.42	42	3250
20...	1700	444	28700	6.42	41	3180
MAY						
22...	1515	83.0	19300	5.40	37	1930
22...	1520	83.0	19300	5.40	34	1770
22...	1525	185	19300	5.40	41	2140
22...	1530	185	19300	5.40	40	2080
22...	1535	281	19300	5.40	40	2080
22...	1540	281	19300	5.40	44	2290
22...	1545	389	19300	5.40	47	2450
22...	1550	389	19300	5.40	43	2240
22...	1555	481	19300	5.40	39	2030
22...	1600	481	19300	5.40	40	2080
SEP						
12...	1500	181	9050	2.51	18	440
12...	1515	181	9050	2.51	15	367
12...	1520	196	9050	2.51	17	415
12...	1525	196	9050	2.51	18	440
12...	1535	298	9050	2.51	18	440
12...	1540	298	9050	2.51	19	464
12...	1550	397	9050	2.51	17	415
12...	1555	397	9050	2.51	17	415
12...	1610	482	9050	2.51	19	464

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (000009)	BED MAT. SIEVE DIAM. % FINER THAN (80165)	BED MAT. SIEVE DIAM. % FINER THAN (80166)	BED MAT. SIEVE DIAM. % FINER THAN (80167)	BED MAT. SIEVE DIAM. % FINER THAN (80168)	BED MAT. SIEVE DIAM. % FINER THAN (80169)	BED MAT. SIEVE DIAM. % FINER THAN (80170)	BED MAT. SIEVE DIAM. % FINER THAN (80171)	BED MAT. SIEVE DIAM. % FINER THAN (80172)	BED MAT. SIEVE DIAM. % FINER THAN (80173)	BED MAT. SIEVE DIAM. % FINER THAN (80174)
FEB , 1990												
28...	1520	109	2	4	44	93	100	100	100	100	100	100
28...	1540	241	0	10	59	93	100	100	100	100	100	100
28...	1550	415	0	14	73	95	100	100	100	100	100	100
JUL												
18...	1240	103	0	3	33	81	100	100	100	100	100	100
18...	1300	266	0	15	69	95	100	100	100	100	100	100
18...	1320	434	0	10	66	98	100	100	100	100	100	100
SEP												
12...	1400	118	0	2	21	70	93	98	100	100	100	100
12...	1430	300	2	22	80	99	100	100	100	100	100	100
12...	1445	462	2	11	56	93	100	100	100	100	100	100



Figure 18.--Location of stream gaging stations in the Econfina Creek, Choctawhatchee River, Lafayette Creek, Alaqua Creek, and Turkey Creek basins.

ECONFINA CREEK BASIN
02359500 ECONFINA CREEK NEAR BENNETT, FL

97

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 mi².

PERIOD OF RECORD.--October 1935 to current year. Monthly discharge only for October and November 1936, published in WSP 1304.

REVISED RECORDS.--WSP 872: 1937. WSP 1906: Drainage area. WRD FL-80-4: 1979.

GAGE.--Water-stage recorder. Datum of gage is 1.03 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 29, 1962, nonrecording gage and Jan. 30, 1962 to June 16, 1966, water-stage recorder at site 150 ft downstream at present datum. June 17, 1966 to Sept. 28, 1966, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow includes large ground-water inflow.

AVERAGE DISCHARGE.--55 years, 538 ft³/s, 59.88 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,860 ft³/s Apr. 2, 1948, gage height, 12.46 ft observed, from rating curve extended above 2,200 ft³/s; minimum, 307 ft³/s Jan. 9, 1956, gage height, 4.10 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since September 1926, 15.0 ft present datum, from floodmark, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 19	2300	1070	8.11	Jan. 1	0200	*1230	*8.58

Minimum discharge, 419 ft³/s Sept. 24, 25, gage height 5.63 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	684	556	547	1090	573	582	653	504	460	463	508	454
2	797	555	538	851	568	578	610	498	458	461	516	449
3	745	560	533	689	567	581	641	493	491	514	491	448
4	636	558	529	636	575	579	584	490	519	556	479	444
5	600	552	529	624	581	570	560	489	506	525	467	441
6	585	549	529	635	565	562	550	489	498	513	463	437
7	580	564	527	737	558	557	542	488	480	486	475	436
8	576	630	577	901	554	550	535	484	469	469	461	434
9	569	910	664	856	554	550	532	500	471	461	454	433
10	561	849	637	700	578	550	536	557	478	459	450	439
11	562	672	584	655	622	546	570	546	473	501	447	440
12	563	592	577	635	603	543	583	504	461	584	444	440
13	561	573	618	620	566	541	547	517	456	683	442	434
14	571	564	603	610	554	540	534	540	454	741	441	444
15	605	562	567	604	549	538	549	516	452	616	439	455
16	680	586	577	600	559	539	561	496	460	537	440	446
17	631	588	566	596	623	691	539	489	552	502	440	438
18	800	565	555	593	617	866	524	482	631	498	473	431
19	998	556	576	589	656	846	517	477	547	509	509	429
20	953	550	605	586	731	650	514	476	495	526	484	428
21	714	549	579	600	686	590	513	478	478	503	491	427
22	647	548	553	663	695	577	510	487	499	485	526	426
23	621	552	543	636	828	571	508	478	523	487	514	424
24	603	562	537	601	781	564	507	473	501	482	475	420
25	592	548	534	590	652	558	504	469	476	473	463	421
26	582	547	533	588	612	554	500	467	464	468	470	423
27	572	545	533	582	596	547	497	465	461	462	464	422
28	566	549	531	574	588	543	514	465	471	458	475	423
29	562	590	525	576	---	542	540	476	510	454	479	427
30	559	572	522	575	---	568	520	475	476	454	460	444
31	558	---	744	577	---	661	---	465	---	458	457	---
TOTAL	19833	17653	17572	20369	17191	18234	16294	15233	14670	15788	14597	13057
MEAN	640	588	567	657	614	588	543	491	489	509	471	435
MAX	998	910	744	1090	828	866	653	557	631	741	526	455
MIN	558	545	522	574	549	538	497	465	452	454	439	420
AC-FT	39340	35010	34850	40400	34100	36170	32320	30210	29100	31320	28950	25900
CFSM	5.24	4.82	4.65	5.39	5.03	4.82	4.45	4.03	4.01	4.17	3.86	3.57
IN.	6.05	5.38	5.36	6.21	5.24	5.56	4.97	4.64	4.47	4.81	4.45	3.98

CAL YR 1989	TOTAL 228040	MEAN 625	MAX 2850	MIN 430	AC-FT 452300	CFSM 5.12	IN. 69.53
WTR YR 1990	TOTAL 200491	MEAN 549	MAX 1090	MIN 420	AC-FT 397700	CFSM 4.50	IN. 61.13

CHOCTAWHATCHEE RIVER BASIN
02365500 CHOCTAWHATCHEE RIVER AT CARYVILLE, FL

LOCATION.--Lat 30°46'32", long 85°49'40", in NW1/4 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.--August 1929 to current year. Gage-height records collected at same site from 1928 to August 1929 are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 39.02 ft above National Geodetic Vertical Datum of 1929. Aug. 17 to Oct. 11, 1929, nonrecording gage at same site and datum; Oct. 12, 1929 to Sept. 11, 1951, water-stage recorder at same site and datum; Sept. 12, 1951 to Aug. 11, 1976, nonrecording gage at same site and datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--61 years, 5,438 ft³/s, 21.10 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 128,000 ft³/s, Mar. 21, 1990, gage height, 21.16 ft; minimum, 604 ft³/s, Sept. 15, 1968; minimum gage height, -0.82 ft, Sept. 6, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1850 (from information furnished by U.S. Army Corps of Engineers, Mobile District) 27.1 ft Mar. 17, 1929, from National Weather Service records and floodmarks; discharge, 206,000 ft³/s from rating curve extended above 85,000 ft³/s on basis of slope-area determination of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 128,000 ft³/s, Mar. 21, gage height, 21.16 ft; minimum, 926 ft³/s, Sept. 26; minimum gage height, 0.63 ft, Sept. 26, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4020	2030	7040	9290	10200	10200	10800	5970	5040	2140	1740	1340
2	8450	2010	6370	20400	9540	8900	10600	5570	4350	2060	1750	1310
3	13300	2030	5590	27500	8740	8210	e11000	5120	4350	2080	1810	1300
4	17100	2110	5100	32200	8080	8340	e11500	4830	4850	2210	1890	1290
5	17000	2170	4710	32700	7630	9260	e11000	4670	5160	2240	1930	1270
6	13400	2150	4420	30300	7270	9820	e10000	4910	5700	2240	1760	1250
7	9230	2160	4260	29500	6930	9600	e9000	5030	5820	2160	1640	1200
8	5850	3430	4330	34600	6650	8990	e8500	4760	5000	2070	1610	1170
9	4220	20200	6100	38100	6550	8340	e8000	5220	4360	2080	1560	1140
10	3530	42500	9780	37500	6800	7540	e7900	7460	5000	2660	1590	1110
11	3170	42000	12600	35300	8050	6860	e7800	9920	5260	2700	1650	1100
12	2840	38600	13700	30600	10400	6420	e7900	11000	5230	2340	1540	1090
13	2640	31800	13000	25300	12100	6110	e8000	11000	5220	2230	1450	1080
14	2520	24400	13100	20400	12600	5880	e8500	e11100	4550	2320	1390	1070
15	2460	17700	14300	16200	11500	5700	e8500	e11000	3710	3140	1350	1080
16	2550	12900	15100	12900	10200	5670	e8000	e10500	3230	3610	1320	1100
17	2650	10500	14000	10900	10100	7780	e7500	e10000	2910	3140	1300	1100
18	3090	10100	12100	9660	11900	27600	e7500	e8000	3160	2830	1310	1090
19	4160	9910	10600	8810	14700	74600	e7000	e7000	3920	2910	1360	1050
20	4680	8850	10100	8270	17700	119000	e7000	e6000	3870	3090	1450	1020
21	4410	7490	11600	8170	20400	122000	e6000	e5800	3340	3150	1510	1010
22	3930	6580	12800	9450	23100	101000	e5900	e5500	3020	3150	1650	993
23	3430	6180	12800	12600	24400	72200	e5800	e6000	2860	2910	1640	982
24	3020	6310	12100	15800	23400	49300	e5600	e6500	2800	2900	1600	961
25	2740	6810	10500	15700	21200	e38000	e5500	e6000	2770	2970	1620	937
26	2550	6910	8850	14000	18300	e30000	e5400	e5600	2730	2560	1590	929
27	2410	6510	7630	13200	15000	e23000	5320	e5700	2610	2280	1580	933
28	2290	6140	6930	13000	12100	17100	5180	e5800	2440	2110	1530	945
29	2200	6320	6480	12500	---	13100	5350	e5900	2310	1970	1480	959
30	2120	7010	6160	11600	---	12000	5940	e6000	2220	1830	1410	974
31	2070	---	6240	10800	---	11000	---	5840	---	1850	1380	---
TOTAL	158030	353810	288390	607250	355540	843520	231990	213700	117790	77930	48390	32783
MEAN	5098	11790	9303	19590	12700	27210	7733	6894	3926	2514	1561	1093
MAX	17100	42500	15100	38100	24400	122000	11500	11100	5820	3610	1930	1340
MIN	2070	2010	4260	8170	6550	5670	5180	4670	2220	1830	1300	929
AC-FT	313500	701800	572000	1204000	705200	1673000	460200	423900	233600	154600	95980	65030
CFSM	1.46	3.37	2.66	5.60	3.63	7.78	2.21	1.97	1.12	.72	.45	.31
IN.	1.68	3.76	3.07	6.46	3.78	8.97	2.47	2.27	1.25	.83	.51	.35

CAL YR 1989	TOTAL	2381830	MEAN	6526	MAX	42500	MIN	1310	AC-FT	4724000	CFSM	1.86	IN.	25.32
WTR YR 1990	TOTAL	3329123	MEAN	9121	MAX	122000	MIN	929	AC-FT	6603000	CFSM	2.61	IN.	35.39

e Estimated

CHOCTAWHATCHEE RIVER BASIN
02366500 CHOCTAWHATCHEE RIVER NEAR BRUCE, FL
(National stream-quality accounting network station)

99

LOCATION.--Lat 30°27'03", long 85°53'54", in NE1/4 sec.36, T.1 N., R.17 W., Walton County, Hydrologic Unit 03140203, near center of main channel on upstream side 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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1930 to March 1983; Apr. 1983 to May 1984 (discharge measurements only); June 1984 to current year.

REVISED RECORDS.--WSP 872: 1937. WSP 1384: Drainage area. WSP 1504: 1931-34.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Apr. 1, 1983, water-stage recorder at same site at datum 3.94 ft lower. Prior to Apr. 6, 1934, nonrecording gage at site 1.0 mi downstream at datum 4.19 ft lower.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--58 years (1931-82, 1985-90), 7,065 ft³/s, 21.89 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 99,000 ft³/s, Mar. 23, 1990, gage height, 22.88 ft, from floodmarks; minimum, 1,290 ft³/s, Oct. 27, 1968, gage height, 3.46 ft at present datum.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of March 1929 reached a stage of 25.0 ft at former site and datum, from floodmarks, discharge, 220,000 ft³/s, from rating curve extended above 80,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge 99,000 ft³/s, Mar. 23, gage height, 22.88 ft, from floodmarks; minimum daily, 1,580 ft³/s, Sept. 26, 27; minimum gage height 4.29 ft, Sept 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5090	3720	7500	8760	14000	19000	14500	5660	5880	3280	2570	2170
2	5970	3620	7480	9190	e13800	16500	13500	5660	5980	3320	2530	2140
3	7980	3550	7410	11800	e12100	14700	13100	5760	6030	3390	2460	2120
4	8760	3500	7390	17700	12100	13200	13400	5710	5730	3440	2460	2030
5	12300	3510	7180	e25000	11500	12300	13600	5600	6090	3590	2540	1980
6	15300	3570	6810	e29000	10800	11600	13800	5600	6190	3470	2560	1960
7	16500	3640	6430	e30000	10000	10400	13400	5300	6320	3280	2470	1920
8	15700	3670	6030	e28000	9550	11700	13200	5230	6450	3010	2370	1900
9	12900	4660	5800	e27500	9150	12000	12600	5400	6510	2920	2310	1870
10	10800	6130	5700	e32000	8850	12000	11800	5570	6550	2800	2270	1860
11	8890	9240	5800	e35000	8570	11500	11000	5730	6320	2990	2230	1830
12	7410	e40000	6970	e34000	8510	11100	10400	5880	5920	3240	2220	1820
13	6220	e38000	8760	e33000	9020	10300	9980	6680	5890	3420	2140	1820
14	5500	35700	10400	e28000	10400	9670	9780	7590	5880	3360	2070	1810
15	4810	e30000	12200	26000	12000	9330	9460	8930	5860	3380	2050	1810
16	5100	25700	12700	e22000	13100	8760	9260	9640	5820	3450	2050	1820
17	5060	20800	13200	18500	13800	8740	9020	10300	5250	3700	1960	1820
18	5860	17500	14100	14100	11800	8850	8820	10800	4890	4110	1940	1810
19	6160	14400	14700	13300	13000	9190	8590	10800	4630	4120	1900	1780
20	6430	11900	14300	11500	13700	e25000	8380	10500	4320	4140	2010	1750
21	6900	11100	13600	11600	15300	64400	8300	9600	4510	4140	2090	1730
22	7210	10400	9880	11200	e16500	e93000	8300	8470	4550	4160	2210	1700
23	7210	9550	12000	10700	e18000	99000	7370	7590	4410	4210	2300	1680
24	6800	9170	12300	10700	e19500	e95000	6950	6550	e4000	4180	2320	1640
25	6200	8720	12500	11700	e21000	e70000	6710	6250	e3750	3850	2310	1620
26	5660	8910	11900	14500	e22000	51200	6410	6220	e3600	3450	2310	1580
27	5060	8870	11200	16500	e21000	e40000	6300	6610	e3550	3320	2310	1580
28	4720	8530	10400	16200	e20000	31700	6190	6850	e3500	3110	2290	1590
29	4230	8100	9690	15500	---	e25000	5980	6850	e3450	2820	2210	1590
30	4090	7720	9020	15100	---	18400	5700	6510	e3350	2690	2200	e1600
31	3890	---	8510	14700	---	16600	---	6140	---	2600	2180	---
TOTAL	234710	373880	301860	602750	379050	850140	295800	219980	155180	106940	69840	54330
MEAN	7571	12460	9737	19440	13540	27420	9860	7096	5173	3450	2253	1811
MAX	16500	40000	14700	35000	22000	99000	14500	10800	6550	4210	2570	2170
MIN	3890	3500	5700	8760	8510	8740	5700	5230	3350	2600	1900	1580
AC-FT	465500	741600	598700	1196000	751800	1686000	586700	436300	307800	212100	138500	107800
CFSM	1.73	2.84	2.22	4.44	3.09	6.26	2.25	1.62	1.18	.79	.51	.41
IN.	1.99	3.17	2.56	5.11	3.22	7.21	2.51	1.87	1.32	.91	.59	.46
CAL YR 1989	TOTAL 3070390	MEAN 8412	MAX 42200	MIN 2400	AC-FT 6090000	CFSM 1.92	IN. 26.05					
WTR YR 1990	TOTAL 3644460	MEAN 9985	MAX 99000	MIN 1580	AC-FT 7229000	CFSM 2.28	IN. 30.92					

e Estimated

CHOCTAWHATCHEE RIVER BASIN
02366500 CHOCTAWHATCHEE RIVER NEAR BRUCE, FL--Continued.

WATER-QUALITY RECORDS

PERIOD OF RECORD---October 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNIT)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
NOV 28...	1000	8100	71	7.4	15.0	12	7.5	74	58	52	27
FEB 21...	1600	15500	51	7.4	16.5	25	8.2	83	400	190	20
JUN 22...	1300	4590	100	7.2	28.0	22	5.6	71	41	110	42
AUG 23...	1200	2270	138	7.8	27.0	5.8	6.3	78	--	--	55
DATE	HARD- NESS, NONCARB F.W.W. ,FET, (MG/L CACO3)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA- LITY LAB (MG/L AS CACO3)	ALKA- LITY WAT.DIS FIELD INC.T. (MG/L CACO3)
NOV 28...	2	2	8.5	1.5	2.8	17	.2	1.1	28	25	23
FEB 21...	3	3	6.2	1.2	2.1	17	.2	.90	20	17	16
JUN 22...	2	2	13	2.3	3.0	13	.2	.90	44	40	36
AUG 23...	0	0	17	3.0	4.6	15	.3	1.0	63	59	52
DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
NOV 28...	1.9	2.0	4.8	.30	7.1	54	44	.07	1180	<.010	.14
FEB 21...	1.3	1.7	3.7	<.10	4.6	43	31	.06	1800	.010	.10
JUN 22...	4.9	2.1	5.5	<.10	6.4	60	58	.08	744	.010	.30
AUG 23...	1.8	2.5	7.3	<.10	6.4	78	77	.11	478	<.010	.30
DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
NOV 28...	<.010	<.010	--	--	--	.20	.030	<.010	<.010	--	50
FEB 21...	.030	.030	.04	.03	.37	.40	.040	<.010	<.010	--	40
JUN 22...	.050	.030	.04	.03	.65	.70	.040	.030	.010	.03	50
AUG 23...	.020	.020	.03	--	.18	.20	.030	<.010	<.010	--	30

CHOCTAWHATCHEE RIVER BASIN
02366500 CHOCTAWHATCHEE RIVER NEAR BRUCE, FL--Continued.

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WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 28...	<1	15	<.5	<1	<1	<3	1	350	2	<4	19
FEB 21...	<1	12	<.5	<1	<5	<3	<10	93	<10	<4	12
JUN 22...	<1	16	<.5	<1	<1	<3	1	350	<1	<4	20
AUG 23...	<1	14	<.5	<1	<1	<3	2	100	2	<4	24
DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 28...	<.1	<10	1	<1	<1	23	<6	<3	12	262	75
FEB 21...	<.1	<10	<10	<1	<1	18	<6	<3	24	1000	71
JUN 22...	<.1	<10	<1	<1	<1	35	<6	<3	22	273	--
AUG 23...	<.1	<10	1	<1	<1	51	<6	--	16	98	75

DRAINAGE AREA.--11.2 mi².

[illegible]

ALAUQA CREEK BASIN
02367006 ALAUQA CREEK NEAR PORTLAND, FL

LOCATION.--Lat 30°33'22", long 86°10'45", in NE¼ sec.30, T.1 N., R.19 W., Walton County, Hydrologic Unit 03140102, near center on downstream side of bridge on State Highway S-282, 3.2 mi northeast of Portland, and 5.8 mi upstream from mouth.

DRAINAGE AREA.--83.7 mi².

PERIOD OF RECORD.--May and July 1977, October 1978 to January 1980 (discharge measurements only), February 1980 to current year.

REVISED RECORDS.--WRD FL-85-4: 1980-84(M).

GAGE.--Water-stage recorder. Datum of gage 1.84 ft above National Geodetic Vertical Datum of 1929 (Vitro Corporation of America bench mark). Prior to Feb. 14, 1980, nonrecording gage at same site and datum.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--10 years, 203 ft³/s, 32.94 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft³/s (revised), June 9, 1989, gage height, 16.03 ft, extended above 6,480 ft³/s; minimum discharge, 47 ft³/s June 8, 1985, gage height, 2.67 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 2	0900	1,020	9.43	Jan. 1	1000	1,590	9.96
Oct. 19	0600	1,100	9.53	Mar. 18	0700	1,090	9.52
Nov. 8	2400	*2,730	*11.08				

Minimum discharge, 57 ft³/s, Sept. 24, 25, gage height, 2.99 ft.

REVISIONS.--The maximum discharge for the water year 1989 has been revised to 10,800 ft³/s, June 9, 1989, gage height 16.03 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	824	165	229	1220	241	246	348	e135	105	93	106	125
2	954	167	217	773	234	241	252	e125	105	94	92	117
3	571	185	211	420	232	260	268	119	105	271	89	89
4	310	169	202	349	229	241	214	116	143	405	87	79
5	252	161	203	362	214	220	197	118	226	312	82	75
6	225	160	202	414	203	211	189	132	134	163	82	71
7	214	221	201	572	208	205	184	127	119	130	81	69
8	222	726	290	869	209	198	182	113	117	115	77	67
9	233	1870	644	704	269	200	172	145	165	108	74	66
10	195	846	535	432	298	196	172	316	152	103	72	66
11	187	486	324	366	439	189	206	290	126	100	70	67
12	180	359	300	337	389	184	196	159	108	132	69	71
13	177	318	420	313	267	182	168	297	102	164	68	69
14	181	296	431	297	241	179	160	544	100	225	68	94
15	183	289	318	290	232	175	218	410	97	149	67	100
16	266	371	322	282	256	187	237	216	95	115	66	98
17	271	460	295	274	405	506	178	179	133	112	66	75
18	500	344	274	268	361	928	160	253	183	139	70	67
19	931	292	311	261	356	491	152	223	125	223	99	65
20	494	272	374	255	495	306	149	169	106	224	84	64
21	311	260	356	281	400	261	147	155	101	140	77	63
22	266	252	286	310	404	246	144	178	122	119	83	62
23	242	284	258	259	625	235	144	167	196	119	127	60
24	225	293	246	246	467	224	e140	141	146	128	126	58
25	211	247	241	276	328	214	e135	133	110	109	101	57
26	199	241	241	294	286	206	e130	128	98	97	124	58
27	190	234	235	253	267	198	e125	125	95	92	108	58
28	183	237	227	235	256	191	e130	121	105	87	93	58
29	176	319	221	250	---	190	e200	117	123	84	93	61
30	172	271	216	305	---	245	e160	111	98	83	81	69
31	169	---	371	264	---	399	---	107	---	84	109	---
TOTAL	9714	10795	9201	12031	8811	8154	5457	5669	3740	4519	2691	2198
MEAN	313	360	297	388	315	263	182	183	125	146	86.8	73.3
MAX	954	1870	644	1220	625	928	348	544	226	405	127	125
MIN	169	160	201	235	203	175	125	107	95	83	66	57
AC-FT	19270	21410	18250	23860	17480	16170	10820	11240	7420	8960	5340	4360
CFSM	3.74	4.30	3.55	4.64	3.76	3.14	2.17	2.18	1.49	1.74	1.04	.88
IN.	4.32	4.80	4.09	5.35	3.92	3.62	2.43	2.52	1.66	2.01	1.20	.98

CAL YR 1989	TOTAL	109998	MEAN	301	MAX	6900	MIN	84	AC-FT	218200	CFSM	3.60	IN.	48.89
WTR YR 1990	TOTAL	82980	MEAN	227	MAX	1870	MIN	57	AC-FT	164600	CFSM	2.72	IN.	36.88

e Estimated

02367310 JUNIPER CREEK AT STATE HIGHWAY 85, NEAR NICEVILLE, FL

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 Turkey Creek, and 3.0 mi northwest of Niceville.

DRAINAGE AREA.--27.6 mi².

PERIOD OF RECORD.--March 1966 to September 1975; October 1975 to April 1977 (discharge measurements only); May 1977 to current year.

REVISED RECORDS.--WRD FL-77-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.78 ft above National Geodetic Vertical Datum of 1929. March 1966 to September 1975, water-stage recorder at site 40 ft upstream at present datum. October 1975 to April 1977, nonrecording gage at site 40 ft upstream at present datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--22 years, (water years 1967-75, 1978-90), 91.7 ft³/s, 45.12 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,110 ft³/s, Sept. 23, 1975, gage height, 9.56 ft, extended above 415 ft³/s; minimum, 37 ft³/s, June 6, 1985; minimum gage height, 5.19 ft, Sept. 11, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 1	1300	500	8.00	Mar. 17	0400	*1,030	*9.44
Oct. 18	0900	295	7.61	Mar. 30	2000	260	7.56
Nov. 8	1500	453	8.05	May 9	2300	388	7.74
Dec. 31	2000	366	7.80	May 13	1700	366	7.80
Jan. 7	1700	269	7.53	July 24	0300	298	7.62

Minimum discharge, 60 ft³/s, Sept. 27, 28, gage height, 5.91 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	420	95	99	179	103	105	149	116	109	91	84	e85
2	200	100	99	116	104	113	153	115	114	103	97	e80
3	160	99	97	109	104	119	157	113	111	170	117	e78
4	144	95	97	116	103	104	143	112	158	114	85	e77
5	134	94	98	136	102	102	140	120	133	94	81	e76
6	128	95	98	128	102	101	139	120	115	88	80	e74
7	129	152	99	203	103	99	137	111	110	86	79	e72
8	131	343	167	166	106	99	135	110	109	85	78	e70
9	117	214	127	128	138	98	134	192	112	84	77	e66
10	113	139	104	122	131	98	139	193	113	83	76	e67
11	111	124	101	119	118	97	154	122	105	85	75	e65
12	109	118	130	117	104	95	135	116	100	87	75	e66
13	110	114	129	113	102	95	131	262	99	99	74	e67
14	110	114	104	113	102	100	131	204	98	102	74	68
15	107	115	107	112	102	109	162	157	96	84	73	69
16	106	149	112	111	126	300	137	147	95	82	73	67
17	139	112	101	111	125	641	130	142	117	82	73	65
18	239	108	104	110	104	238	129	139	163	85	81	65
19	140	107	115	109	176	198	127	133	116	97	84	64
20	125	106	114	109	128	179	126	132	101	87	82	64
21	110	105	101	121	109	168	124	135	97	81	82	64
22	107	106	98	110	172	164	124	151	108	95	76	64
23	106	107	97	106	141	160	124	129	148	119	82	64
24	104	103	97	107	113	157	123	124	108	185	76	63
25	102	103	98	124	109	153	122	121	97	93	e74	63
26	100	103	98	112	107	151	120	119	93	86	e73	63
27	99	102	97	106	106	147	120	117	91	83	e72	62
28	98	106	96	105	106	146	143	116	94	81	e71	67
29	97	108	95	107	---	146	122	113	93	85	e70	74
30	97	100	94	105	---	198	119	111	91	91	e75	68
31	96	---	230	104	---	173	---	109	---	83	e92	---
TOTAL	4088	3636	3403	3734	3246	4853	4029	4201	3294	2970	2461	2057
MEAN	132	121	110	120	116	157	134	136	110	95.8	79.4	68.6
MAX	420	343	230	203	176	641	162	262	163	185	117	85
MIN	96	94	94	104	102	95	119	109	91	81	70	62
AC-FT	8110	7210	6750	7410	6440	9630	7990	8330	6530	5890	4880	4080
CFSM	4.78	4.39	3.98	4.36	4.20	5.67	4.87	4.91	3.98	3.47	2.88	2.48
IN.	5.51	4.90	4.59	5.03	4.38	6.54	5.43	5.66	4.44	4.00	3.32	2.77

CAL YR 1989 TOTAL 42561 MEAN 117 MAX 471 MIN 58 AC-FT 84420 CFSM 4.22 IN. 57.36
WTR YR 1990 TOTAL 41972 MEAN 115 MAX 641 MIN 62 AC-FT 83250 CFSM 4.17 IN. 56.57

e Estimated



Figure 19.-- Location of stream gaging stations in the Yellow, Blackwater, Escambia River basins, Bayou Marcus and Elevenmile Creek basins, and Perdido River basin.

YELLOW RIVER BASIN
02368000 YELLOW RIVER AT MILLIGAN, FL
(National stream-quality accounting network station)

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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 on U.S. Highway 90, 0.5 mi east of Milligan, 0.5 mi upstream from Trammel Creek, 6.7 mi upstream from Shoal River, and 40 mi upstream from mouth.

DRAINAGE AREA.--624 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1938 to current year.

REVISED RECORDS.--WSP 892: 1938-39. WSP 1384: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 45.00 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 6, 1939, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--52 years, 1,164 ft³/s, 25.33 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,500 ft³/s, Mar. 18, 1990, gage height, 19.00 ft; minimum, 131 ft³/s, June 23, 24, 1967 (result of channel work); minimum gage height, 0.59 ft, Oct. 21, 22, 24, 25, 30, 1968. Prior to June 23, 1967, minimum discharge, 143 ft³/s, Oct. 25, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1929 reached a stage of 26.2 ft, from information by local residents, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 51,500 ft³/s, Mar. 18, gage height, 19.00 ft; minimum, 201 ft³/s, Sept. 25, 26, gage height, 0.95 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2890	468	1680	2190	1640	1850	2410	1370	1210	439	391	303
2	4920	472	1510	2970	1610	1720	2680	1290	981	446	383	311
3	5010	519	1290	4620	1540	1780	2680	1060	857	536	453	295
4	4780	534	1130	6490	1460	1930	2490	908	924	453	420	288
5	4060	545	1040	5640	1410	2020	2320	930	1040	443	498	284
6	2550	535	995	4280	1350	2010	2110	1140	917	446	451	278
7	1580	713	978	5410	1300	1830	1890	1020	815	427	423	267
8	1100	1350	1670	7830	1260	1590	1730	899	731	398	373	260
9	907	6810	2110	8670	1360	1450	1790	950	676	444	344	253
10	804	12700	2170	7820	1660	1370	1780	1280	759	441	322	252
11	732	12200	2290	5850	2170	1310	1810	1440	748	436	305	242
12	672	8610	2320	4140	2370	1270	1780	1600	798	508	292	262
13	643	5320	2240	2890	2510	1220	1790	2070	791	588	282	252
14	640	3060	2180	2310	2440	1180	1710	2560	644	810	275	247
15	643	2110	2300	2070	2070	1170	1670	3460	580	871	268	300
16	651	1910	2350	1910	1760	2170	1670	3940	617	803	263	284
17	714	1990	2180	1790	1790	9520	1790	3190	674	840	259	257
18	908	2170	2000	1720	2120	38300	1810	2220	567	675	263	250
19	1080	2230	1900	1660	2980	42500	1630	1620	542	556	290	245
20	1150	2010	1940	1620	4010	19000	1390	1300	589	507	300	237
21	1010	1670	2090	1710	4280	8570	1230	1150	634	487	286	229
22	827	1450	2140	2010	5080	5110	1160	1120	613	488	322	222
23	718	1430	2020	2350	5450	3520	1150	1190	728	527	698	216
24	651	1630	1740	2580	4500	2690	1270	1370	675	520	495	207
25	609	1760	1490	2520	3890	2340	1360	1340	568	470	415	202
26	575	1730	1340	2200	3350	2180	1310	1120	517	446	383	203
27	548	1570	1300	1980	2630	2050	1200	939	484	446	361	205
28	525	1390	1280	1980	2120	1940	1190	863	464	430	337	205
29	507	1460	1250	1950	---	1850	1190	974	457	392	325	220
30	492	1760	1210	1790	---	1900	1300	1230	446	365	315	228
31	479	---	1400	1670	---	2210	---	1360	---	351	301	---
TOTAL	43375	82106	53533	104620	70110	169550	51290	46903	21046	15989	11093	7504
MEAN	1399	2737	1727	3375	2504	5469	1710	1513	702	516	358	250
MAX	5010	12700	2350	8670	5450	42500	2680	3940	1210	871	698	311
MIN	479	468	978	1620	1260	1170	1150	863	446	351	259	202
AC-FT	86030	162900	106200	207500	139100	336300	101700	93030	41740	31710	22000	14880
CFSM	2.24	4.39	2.77	5.41	4.01	8.76	2.74	2.42	1.12	.83	.57	.40
IN.	2.59	4.89	3.19	6.24	4.18	10.11	3.06	2.80	1.25	.95	.66	.45

CAL YR 1989 TOTAL 513112 MEAN 1406 MAX 12700 MIN 300 AC-FT 1018000 CFSM 2.25 IN. 30.59
WTR YR 1990 TOTAL 677119 MEAN 1855 MAX 42500 MIN 202 AC-FT 1343000 CFSM 2.97 IN. 40.37

YELLOW RIVER BASIN
02368000 YELLOW RIVER AT MILLIGAN, FL.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1962 to June 1972, October 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNIT)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
NOV 22...	1315	1450	48	7.2	15.5	6.5	8.5	85	K80	79	17
FEB 22...	1430	5220	26	6.8	14.5	15	8.4	82	120	>290	9
JUN 21...	1320	650	56	6.8	27.5	11	6.9	87	270	250	23
AUG 20...	1600	304	73	7.7	28.5	5.3	8.8	112	67	67	33
DATE	HARD- NESS, NONCARB F.WH.W. (MG/L AS CACO3)	HARD- NESS NONCARB BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA- LINITY LAB (MG/L CACO3)	ALKA- LINITY WAT.DIS FIELD INC.T. (MG/L CACO3)
NOV 22...	2	2	5.1	1.1	2.2	21	.2	.50	--	15	--
FEB 22...	3	3	2.4	.64	1.5	26	.2	.50	5	6.0	4
JUN 21...	3	3	6.5	1.6	1.7	14	.2	.50	21	20	17
AUG 20...	3	3	10	1.9	2.1	12	.2	.40	34	30	28
DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
NOV 22...	1.8	2.0	3.7	<.10	6.3	36	30	.05	141	<.010	.12
FEB 22...	1.8	1.4	2.6	<.10	3.5	26	16	.04	366	.020	<.10
JUN 21...	6.1	1.4	3.8	<.10	5.2	35	33	.05	61	<.010	.20
AUG 20...	1.2	1.2	4.1	<.10	5.5	49	43	.07	40	<.010	.10
DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)
NOV 22...	<.010	.010	.01	--	--	.70	.020	<.010	<.010	40	<1
FEB 22...	.010	.010	.01	.07	.39	.40	.030	<.010	<.010	60	<1
JUN 21...	.020	<.010	--	--	.48	.50	.020	<.010	<.010	40	<1
AUG 20...	.080	.010	.01	--	.32	.40	.020	.010	<.010	30	<1

YELLOW RIVER BASIN
02368000 YELLOW RIVER AT MILLIGAN, FL.--Continued

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WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV 22...	13	<.5	<1	<1	<3	1	120	<1	<4	24	<.1
FEB 22...	9	<.5	<1	<5	<3	<10	120	<10	<4	16	<.1
JUN 21...	12	<.5	2	1	<3	1	230	<1	<4	15	<.1
AUG 20...	12	<.5	<1	<1	<3	<1	140	<1	<4	23	<.1
	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
NOV 22...	<10	<1	<1	<1	13	<6	4	27	106	44	
FEB 22...	<10	<10	<1	<1	7	<6	3	35	493	54	
JUN 21...	<10	<1	<1	<1	16	<6	9	26	46	69	
AUG 20...	<10	1	<1	<1	24	<6	3	15	12	87	

YELLOW RIVER BASIN
02369000 SHOAL RIVER NEAR CRESTVIEW, FL

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 southbound lane 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 mi².

PERIOD OF RECORD.--July 1938 to current year.

REVISED RECORDS.--WSP 1274: 1939-40, 1944, 1947, 1950. WSP 1384: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 47.21 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 12, 1939 and June 12, 1972 to Aug. 22, 1973, nonrecording gage at same site and datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--52 years, 1,100 ft³/s, 31.52 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,200 ft³/s, Aug. 1, 1975, gage height, 15.58 ft; minimum, 240 ft³/s, Oct. 17, 18, 1972; minimum gage height, 0.96 ft May 13,14, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 3	1000	6,580	8.67	Jan. 9	1400	4,810	8.05
Nov. 10	2000	7,700	9.18	Mar. 18	1400	*19,000	*13.74
Jan. 2	2300	4,570	7.95	May 15	1200	3,990	7.70

Minimum discharge, 339 ft³/s, Sept. 25, 28, gage height, 2.52 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4670	848	1790	2740	1430	1440	2860	1100	988	674	628	851
2	5720	853	1390	4160	1370	1410	2350	1000	993	711	555	718
3	6260	919	1260	4050	1340	1630	1920	956	1020	1230	551	628
4	4240	910	1180	2550	1320	1790	1720	920	1370	1450	536	530
5	2250	864	1140	2510	1290	1560	1580	948	1480	1140	540	511
6	1660	840	1120	3070	1230	1360	1490	1280	1210	e920	552	479
7	1430	1010	1100	3460	1210	1280	1530	1320	1090	e835	565	453
8	1340	2240	1390	4120	1240	1230	1610	1040	1000	e750	522	436
9	1260	4080	2730	4680	1420	1200	1440	1090	951	e685	491	429
10	1160	6520	3330	4170	1880	1180	1370	1930	994	e640	471	437
11	1100	6410	2510	2840	2760	1160	1550	2830	1200	631	455	e426
12	1060	3650	1800	2250	3260	1120	1820	2100	1050	680	445	e434
13	1040	2240	2290	1990	2500	1100	1540	2190	876	773	437	e445
14	1050	1810	2750	1820	1740	1080	1330	3630	810	1030	429	449
15	1040	1660	2340	1710	1530	1100	1500	3860	772	1430	421	549
16	1130	1920	1960	1630	1450	2660	1770	2800	746	1150	414	497
17	1400	2350	1900	1580	2070	9460	1570	1770	951	822	420	442
18	1760	2170	1680	1520	2830	17600	1310	1560	1030	741	416	407
19	2140	1680	1750	1470	2660	11900	1220	1530	987	706	460	392
20	1930	1450	2130	1430	2970	6180	1180	1330	817	696	481	386
21	1350	1350	2440	1580	3330	3820	1150	1220	756	691	476	380
22	1170	1330	2060	2180	2780	2860	1130	1310	833	707	498	372
23	1090	1450	1630	2400	2840	2510	1140	1340	1050	767	751	362
24	1030	1650	1430	1870	3050	2310	1130	1210	1070	927	803	346
25	994	1490	1340	2010	2440	2160	1170	1090	855	859	683	343
26	961	1310	1330	2320	1860	2010	1130	1030	741	666	668	348
27	933	1250	1320	2140	1630	1900	1060	1030	686	607	630	345
28	912	1240	1300	1730	1520	1800	1240	997	662	576	565	349
29	888	1580	1260	1540	---	1740	1450	1140	703	551	516	473
30	870	2010	1230	1520	---	1930	1280	1470	709	543	530	453
31	859	---	1370	1520	---	2590	---	1150	---	581	912	---
TOTAL	54697	59084	54250	74560	56950	93070	44540	48171	28400	25169	16821	13670
MEAN	1764	1969	1750	2405	2034	3002	1485	1554	947	812	543	456
MAX	6260	6520	3330	4680	3330	17600	2860	3860	1480	1450	912	851
MIN	859	840	1100	1430	1210	1080	1060	920	662	543	414	343
AC-FT	108500	117200	107600	147900	113000	184600	88350	95550	56330	49920	33360	27110
CFSM	3.72	4.15	3.69	5.07	4.29	6.33	3.13	3.28	2.00	1.71	1.14	.96
IN.	4.29	4.64	4.26	5.85	4.47	7.30	3.50	3.78	2.23	1.98	1.32	1.07

CAL YR 1989 TOTAL 601559 MEAN 1648 MAX 19800 MIN 457 AC-FT 1193000 CFSM 3.48 IN. 47.21
WTR YR 1990 TOTAL 569382 MEAN 1560 MAX 17600 MIN 343 AC-FT 1129000 CFSM 3.29 IN. 44.69

e Estimated

BLACKWATER RIVER BASIN
02370000 BLACKWATER RIVER NEAR BAKER, FL

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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 mi².

PERIOD OF RECORD.--March 1950 to current year.

REVISED RECORDS.--WSP 1704: 1950 (M), 1951-52.

GAGE.--Water-stage recorder. Datum of gage is 60.5 ft above National Geodetic Vertical Datum of 1929 (from design datum of bridge curb furnished by Florida Department of Transportation).

REMARKS.--No estimated daily discharge. Records good.

AVERAGE DISCHARGE.--40 years, 350 ft³/s, 23.19 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,200 ft³/s, June 4, 1970, gage height, 25.61 ft; minimum, 60 ft³/s, Sept. 7, 8, 1954; minimum gage height, 1.77 ft, July 18-20, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 1	1900	2,770	10.81	Feb. 11	0100	1,620	7.84
Nov. 9	0800	12,500	20.00	Feb. 20	1600	2,690	10.60
Jan. 1	0300	2,150	9.26	Mar. 17	1300	*24,400	*24.99
Jan. 8	0600	3,160	11.63	May 15	0200	2,490	10.10

Minimum discharge, 83 ft³/s, Sept. 24-28, gage height, 2.07 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2160	163	510	2010	401	483	889	258	211	145	131	111
2	1650	168	440	1370	383	483	639	237	219	147	133	122
3	822	187	396	870	373	673	556	224	209	162	136	113
4	502	186	361	745	365	553	508	213	202	145	143	111
5	368	174	344	1520	346	466	459	294	236	138	136	108
6	294	167	332	2080	329	425	420	325	206	135	145	102
7	257	307	326	2750	330	398	454	244	193	130	139	99
8	234	2020	786	3010	330	378	434	214	185	126	131	96
9	215	10400	1140	2290	388	369	389	304	225	138	125	96
10	201	4960	806	1380	847	360	368	807	504	141	122	97
11	192	2400	613	951	1340	348	501	569	562	145	118	97
12	184	1250	628	755	915	333	500	375	341	150	115	97
13	185	873	944	625	603	321	407	1130	259	177	113	95
14	187	703	754	554	495	311	354	2210	221	214	112	126
15	185	686	625	511	448	361	523	2080	201	258	112	122
16	239	1030	685	478	494	2650	677	933	185	190	109	111
17	313	973	595	446	978	18700	523	604	174	166	108	100
18	473	745	544	422	841	9390	406	472	172	166	106	94
19	604	603	631	404	1630	3910	343	389	166	161	110	92
20	432	530	780	387	2560	2210	314	337	195	185	114	92
21	323	479	636	795	1910	1310	295	308	269	187	111	90
22	267	451	546	1260	1410	995	279	338	229	163	113	89
23	238	634	482	864	1610	824	285	340	282	158	138	86
24	219	607	436	615	1190	710	314	306	282	155	159	84
25	204	494	414	556	829	627	304	273	224	156	130	84
26	193	439	407	580	650	568	278	253	190	146	118	84
27	183	410	395	525	568	520	257	239	171	142	113	86
28	176	496	376	469	519	482	312	235	159	138	110	86
29	169	1080	359	438	---	461	335	249	153	136	107	93
30	165	644	345	438	---	747	296	239	148	134	105	125
31	163	---	945	427	---	1130	---	222	---	131	109	---
TOTAL	11997	34259	17581	30525	23082	51496	12619	15221	6973	4865	3771	2988
MEAN	387	1142	567	985	824	1661	421	491	232	157	122	99.6
MAX	2160	10400	1140	3010	2560	18700	889	2210	562	258	159	126
MIN	163	163	326	387	329	311	257	213	148	126	105	84
AC-FT	23800	67950	34870	60550	45780	102100	25030	30190	13830	9650	7480	5930
CFSM	1.89	5.57	2.77	4.80	4.02	8.10	2.05	2.40	1.13	.77	.59	.49
IN.	2.18	6.22	3.19	5.54	4.19	9.34	2.29	2.76	1.27	.88	.68	.54

CAL YR 1989	TOTAL 175669	MEAN 481	MAX 10400	MIN 98	AC-FT 348400	CFSM 2.35	IN. 31.88
WTR YR 1990	TOTAL 215377	MEAN 590	MAX 18700	MIN 84	AC-FT 427200	CFSM 2.88	IN. 39.08

BLACKWATER RIVER BASIN
02370500 BIG COLDWATER CREEK NEAR MILTON, FL

LOCATION.--Lat 30°42'30", long 86°58'20", in SW 1/4 sec.5, T.2 N., R.27 W., Santa Rosa County, Hydrologic Unit 03140104, near 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 mi².

PERIOD OF RECORD.--October 1938 to June 1979, October 1979 to September 1980 (gage heights and discharge measurements only), October 1980 to current year. Monthly discharge only for some periods, published in WSP 1304. Prior to October 1956, published as Coldwater Creek near Milton. October 1956 to September 1957, published as Big Coldwater River near Milton.

REVISED RECORDS.--WSP 892: 1939. WSP 1384: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 9.10 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 2, 1938, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--50 years (water years 1938-78, 1981-90), 553 ft³/s, 31.69 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,900 ft³/s, Mar. 17, 1990, gage height, 22.98 ft; minimum, 156 ft³/s, June 10, 11, 1956; minimum gage height, 0.94 ft, Dec. 11, 1938.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base of 2,700 ft³/s, and maximum (*);

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 9	1900	10,300	12.52	Mar. 17	1000	*36,900	*22.98
Jan. 7	1100	3,840	8.92	May 14	1700	3,310	8.51
Feb. 20	1000	5,110	9.77				

Minimum daily discharge, 326 ft³/s, Sept. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1940	328	574	1900	630	717	1320	565	445	430	392	425
2	2430	347	524	1820	615	721	926	534	763	441	389	443
3	1090	388	496	914	605	755	853	512	768	817	391	465
4	684	376	472	887	591	697	802	495	694	641	389	404
5	564	356	462	1450	556	645	747	589	629	522	387	386
6	502	351	461	1510	531	617	709	693	585	480	478	372
7	471	635	473	3090	556	599	711	555	544	456	473	364
8	450	1640	759	2630	569	583	735	503	516	569	410	358
9	419	7320	1130	1780	673	578	675	631	516	683	386	355
10	398	4920	868	1090	1000	572	664	1210	671	607	375	356
11	391	1390	661	925	1900	557	860	1190	667	598	368	360
12	379	901	648	834	1510	545	803	693	551	551	363	359
13	377	769	962	769	865	536	667	1180	488	608	361	363
14	413	703	839	720	745	527	618	2830	462	787	358	386
15	452	769	676	694	722	611	856	2130	448	643	356	469
16	464	1230	736	672	844	4170	965	937	441	536	354	433
17	452	1260	673	652	1390	29700	751	748	485	487	349	378
18	630	847	603	641	1290	11300	651	667	505	464	351	357
19	715	712	662	701	1810	2610	612	608	483	546	394	348
20	515	643	815	695	4230	1560	589	577	464	537	418	346
21	447	607	709	1040	1930	1220	576	558	587	555	406	341
22	415	591	601	1500	1310	1090	585	607	525	515	403	340
23	395	654	537	1030	1540	1020	1020	600	612	500	762	340
24	382	637	496	803	1180	957	890	535	615	478	618	331
25	370	569	486	799	915	903	703	505	519	448	495	326
26	363	549	500	983	816	866	629	493	471	424	479	330
27	354	536	504	855	772	828	584	486	449	410	483	329
28	348	560	495	727	744	797	732	481	437	403	444	328
29	341	816	483	681	---	787	799	481	450	397	403	339
30	335	701	477	703	---	942	618	466	443	395	388	380
31	332	---	856	673	---	1440	---	450	---	393	409	---
TOTAL	17818	32105	19638	34168	30839	69450	22650	23509	16233	16321	13032	11111
MEAN	575	1070	633	1102	1101	2240	755	758	541	526	420	370
MAX	2430	7320	1130	3090	4230	29700	1320	2830	768	817	762	469
MIN	332	328	461	641	531	527	576	450	437	393	349	326
AC-FT	35340	63680	38950	67770	61170	137800	44930	46630	32200	32370	25850	22040
CFSM	2.43	4.52	2.67	4.65	4.65	9.45	3.19	3.20	2.28	2.22	1.77	1.56
IN.	2.80	5.04	3.08	5.36	4.84	10.90	3.56	3.69	2.55	2.56	2.05	1.74

CAL YR 1989	TOTAL 283717	MEAN 777	MAX 16800	MIN 317	AC-FT 562800	CFSM 3.28	IN. 44.53
WTR YR 1990	TOTAL 306874	MEAN 841	MAX 29700	MIN 326	AC-FT 608700	CFSM 3.55	IN. 48.17

ESCAMBIA RIVER BASIN
02375500 ESCAMBIA RIVER NEAR CENTURY, FL
(National stream-quality accounting network station)

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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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1934 to current year.

REVISED RECORDS.-- WSP 1384: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 28.34 ft above National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark). Prior to Jan. 13, 1940, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharge. Records fair. Some gage-height fluctuation during periods of low flow are attributed to regulation by power plants at Point-A Dam, 85.4 mi and Gnat Dam, 90.1 mi upstream from the gaging station.

AVERAGE DISCHARGE.--56 years, 6,276 ft³/s, 22.33 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103,000 ft³/s, Mar. 18, 1990, gage height, 24.35 ft; minimum, 578 ft³/s, Oct. 23, 1968; minimum gage height, 1.30 ft Sept. 15, Oct. 20, 21, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1850, 37.8 ft, March 1929, present datum, discharge not determined, from information by U.S. Army Corps of Engineers, Mobile District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 103,000 ft³/s, Mar. 18, gage height, 24.35 ft; minimum daily, 1,020 ft³/s, Sept. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5240	1610	4230	24900	14400	17700	14100	5140	3980	2050	1940	1380
2	6970	1580	3810	30700	12400	13800	13500	5040	4880	1730	1900	1460
3	6370	1530	3570	30000	10600	12000	13900	5060	7300	1820	1890	1430
4	4440	1650	3480	27400	9290	11200	14200	4910	7710	2090	1940	1370
5	3920	1690	3210	26500	8640	10000	13200	4550	6460	2160	1920	1340
6	3410	1660	3010	26400	8410	9180	12300	4380	5070	2210	1890	1250
7	2910	1700	3160	27600	8280	8340	11900	4280	4070	2040	1680	1190
8	2700	7350	4290	27800	8260	7960	11700	4400	3840	2000	1700	1150
9	2630	23100	8070	27400	8310	7430	10700	4420	3730	2510	1720	1130
10	2500	19700	9540	26300	9930	7070	9580	7400	3780	2700	1800	1100
11	2370	13700	9710	24500	14100	6780	9060	9430	3820	2610	1750	1060
12	2120	9960	9040	21900	15400	6390	9230	8830	3680	2560	1670	1140
13	2080	8110	9430	18500	15000	6200	9030	11700	3560	2640	1600	1150
14	2190	6900	10200	15900	13500	5980	8490	27500	3240	3370	1530	1130
15	2520	7190	10100	13800	12300	5900	8760	24300	2920	3800	1490	1320
16	2680	8130	9470	11800	12700	15700	10800	17000	2850	3670	1480	1300
17	2490	8570	8520	9720	16500	69500	10800	11200	2680	3150	1450	1310
18	2460	7440	7700	8570	18700	97000	9340	8570	2740	2820	1430	1270
19	2960	6010	7410	11200	22500	77800	7940	7780	2890	2690	1420	1130
20	2670	5190	8200	14000	27600	80800	7790	6400	2880	2900	1410	1030
21	2380	4680	9600	15100	29100	89800	7580	5580	2760	3330	1420	1020
22	2360	4310	10600	16800	28700	88900	7170	6060	2650	3270	1470	1060
23	2180	4720	10600	17800	29400	71500	8010	7430	2770	3360	1600	1070
24	2030	5310	9070	17900	29700	50900	8250	7140	3200	3200	1840	1080
25	1990	4840	7440	17700	29200	38300	7280	5920	3140	3030	1960	1070
26	1880	4540	6490	20200	27700	31000	6140	5330	2840	2890	1660	1110
27	1740	4550	6110	21500	25200	24100	5490	4940	2300	2770	1480	1120
28	1670	4500	5770	21300	22100	16900	5610	4630	2200	2590	1440	1050
29	1660	4940	5280	20000	---	12800	5830	4640	2130	2330	1410	1150
30	1600	4650	5120	18700	---	12500	5490	5410	2190	2130	1360	1210
31	1590	---	9400	16700	---	13800	---	4770	---	2020	1380	---
TOTAL	86710	189810	221630	628590	487920	927230	283170	244140	108260	82440	50630	35580
MEAN	2797	6327	7149	20280	17430	29910	9439	7875	3609	2659	1633	1186
MAX	6970	23100	10600	30700	29700	97000	14200	27500	7710	3800	1960	1460
MIN	1590	1530	3010	8570	8260	5900	5490	4280	2130	1730	1360	1020
AC-FT	172000	376500	439600	1247000	967800	1839000	561700	484300	214700	163500	100400	70570
CFSM	.73	1.66	1.87	5.31	4.57	7.84	2.47	2.06	.95	.70	.43	.31
IN.	.85	1.85	2.16	6.13	4.76	9.04	2.76	2.38	1.06	.80	.49	.35

CAL YR 1989	TOTAL 2287980	MEAN 6268	MAX 36400	MIN 1380	AC-FT 4538000	CFSM 1.64	IN. 22.30
WTR YR 1990	TOTAL 3346110	MEAN 9167	MAX 97000	MIN 1020	AC-FT 6637000	CFSM 2.40	IN. 32.61

ESCAMBIA RIVER BASIN
02375500 ESCAMBIA RIVER NEAR CENTURY, FL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1952 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNIT)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
NOV 21...	1500	4630	84	7.7	15.0	15	8.2	81	400	44	26
MAR 27...	1020	24800	--	7.1	16.5	25	8.2	83	130	130	17
JUN 20...	1400	2860	109	7.1	29.0	10	6.5	84	K18	46	35
AUG 21...	1515	1430	146	7.8	29.0	5.9	7.0	90	110	82	33
DATE	HARD- NESS, NONCARB F.W.H.W. (MG/L CACO3)	HARD- NESS NONCARB- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA- LITY LAB (MG/L AS CACO3)	ALKA- LITY WAT.DIS FIELD INC.T. (MG/L CACO3)
NOV 21...	4	4	8.6	.99	5.5	30	.5	1.4	24	22	20
MAR 27...	2	2	5.5	.85	2.2	21	.2	.90	15	15	12
JUN 20...	2	2	12	1.3	7.3	30	.6	.90	37	33	30
AUG 21...	0	0	11	1.3	16	50	1	1.4	39	32	32
DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
NOV 21...	.8	7.0	7.2	<.10	8.7	58	53	.08	725	<.010	.13
MAR 27...	2.3	3.2	--	.10	5.7	42	--	.06	2810	.010	.20
JUN 20...	5.1	6.2	9.4	<.10	7.5	59	65	.08	456	<.010	.20
AUG 21...	1.0	14	15	<.10	7.0	96	85	.13	371	<.010	.20
DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
NOV 21...	.030	.030	.04	--	.27	.30	.030	<.010	<.010	--	40
MAR 27...	.060	.040	.05	.03	.24	.30	.050	.010	.010	.03	100
JUN 20...	.030	.010	.01	--	.27	.30	.020	<.010	<.010	--	40
AUG 21...	.040	.040	.05	--	.36	.40	.030	<.010	<.010	--	50

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 21...	<1	23	<.5	<1	<1	<3	1	270	<1	<4	41
MAR 27...	<1	17	<.5	<1	<5	<3	<10	320	<10	<4	24
JUN 20...	<1	24	<.5	2	1	<3	2	340	<1	<4	32
AUG 21...	<1	26	<.5	<1	<1	<3	1	190	<1	<4	52
DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 21...	<.1	<10	<1	<1	<1	31	<6	5	30	375	50
MAR 27...	<.1	<10	<10	<1	<1	20	<6	5	32	2140	97
JUN 20...	<.1	<10	7	<1	<1	41	<6	<3	24	185	--
AUG 21...	<.1	<10	<1	<1	<1	44	<6	<3	15	58	80

ESCAMBIA RIVER BASIN
02376000 PINE BARREN CREEK NEAR BARTH, FL

LOCATION.--Lat 30°47'55", long 87°22'05", in SW1/4 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.--October 1952 to current year.

REVISED RECORDS.--WSP 1384: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 29.86 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--38 years, 159 ft³/s, 28.67 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,800 ft³/s, Apr. 14, 1955, from rating extended above 2,100 ft³/s, on basis of a slope-area measurement of peak flow; gage height, 18.0 ft from floodmark; minimum, 51 ft³/s, June 8, 9, 1956; minimum gage height, 3.13 ft, Sept. 3, 4, 1956; Oct. 20, 21, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and maximum(*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 9	0400	4,630	13.95	Jan. 19	2200	759	8.77
Nov. 16	0400	1,690	11.80	Feb. 19	2000	2,720	12.96
Dec. 31	2100	5,440	14.28	Mar. 16	2200	*19,100	*17.25
Jan. 6	2300	2,060	12.39	May 14	0300	1,890	12.16

Minimum daily discharge, 77 ft³/s, Sept. 8-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	331	83	119	1960	152	191	214	138	107	96	109	93
2	140	99	113	485	151	214	196	134	238	95	118	89
3	106	100	109	211	149	326	195	130	209	170	95	86
4	97	91	104	191	148	219	178	127	227	115	113	83
5	91	88	104	395	140	183	172	162	248	104	94	83
6	89	88	104	1280	137	173	169	149	186	97	96	81
7	89	202	107	1290	162	170	167	131	138	94	90	79
8	107	1210	269	589	149	166	161	127	122	96	87	77
9	93	2440	363	364	194	166	160	186	122	128	85	77
10	87	615	159	211	601	164	168	196	119	118	83	77
11	85	191	126	176	1260	160	219	138	117	103	82	78
12	85	137	176	164	380	157	171	127	108	103	81	86
13	89	121	271	154	184	155	158	829	104	141	81	90
14	154	117	157	150	160	153	159	1290	103	374	80	90
15	116	788	148	149	339	184	383	333	101	212	80	110
16	101	1270	180	147	797	6430	250	173	99	113	79	95
17	124	590	135	145	1330	5910	170	148	112	104	78	85
18	150	196	138	178	465	959	157	138	122	101	83	81
19	115	149	161	543	1770	479	153	131	105	115	88	80
20	100	132	153	390	1150	346	151	130	99	111	123	80
21	96	126	128	435	431	290	149	130	103	114	126	79
22	93	126	117	533	913	267	151	175	170	101	95	79
23	91	144	110	210	1090	249	240	139	285	109	89	91
24	89	123	106	170	393	233	157	125	158	100	97	83
25	87	116	109	242	250	216	148	120	114	94	87	80
26	86	116	112	514	215	207	142	118	104	90	84	80
27	85	114	111	270	203	199	144	117	99	88	83	79
28	84	154	108	170	197	195	301	115	97	87	84	79
29	83	264	106	170	---	197	171	113	104	86	82	85
30	83	135	105	183	---	278	146	108	100	93	80	96
31	83	---	1390	163	---	264	---	107	---	92	83	---
TOTAL	3309	10125	5698	12232	13510	19500	5500	6284	4120	3644	2815	2531
MEAN	107	337	184	395	482	629	183	203	137	118	90.8	84.4
MAX	331	2440	1390	1960	1770	6430	383	1290	285	374	126	110
MIN	83	83	104	145	137	153	142	107	97	86	78	77
AC-FT	6560	20080	11300	24260	26800	38680	10910	12460	8170	7230	5580	5020
CFSM	1.42	4.48	2.44	5.24	6.41	8.35	2.43	2.69	1.82	1.56	1.21	1.12
IN.	1.63	5.00	2.81	6.04	6.67	9.63	2.72	3.10	2.04	1.80	1.39	1.25

CAL YR 1989	TOTAL 62872	MEAN 172	MAX 3900	MIN 64	AC-FT 124700	CFSM 2.29	IN. 31.06
WTR YR 1990	TOTAL 89268	MEAN 245	MAX 6430	MIN 77	AC-FT 177100	CFSM 3.25	IN. 44.10

ESCAMBIA RIVER BASIN
02376033 ESCAMBIA RIVER NEAR MOLINO, FL

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LOCATION.--Lat 30°40'12", long 87°16'00", in SE¼ sec.20, T.2 N., R.20 W., Escambia County, Hydrologic Unit 03140305, near right bank on downstream side of bridge on State Highway 184, 4.1 mi northeast of Cottage Hill, and 5.5 mi southeast of Molino.

DRAINAGE AREA.--4,147 mi².

PERIOD OF RECORD.--April 1960 to September 1981 (gage heights and discharge measurements only), October 1983 to September 1987 (Daily discharges not computed for days with instantaneous gage heights below 11.5 ft), October 1987 to current year.

GAGE.--Water-stage recorder. Elevation of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges, Jan. 29 to Mar. 18, and June 4 to July 19, which are poor. Flow generally affected by tide when discharge is less than 5,000 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 113,000 ft³/s, Mar. 23, 1990, gage height, 15.72 ft; minimum 1,040 ft³/s, Aug. 30, 1990; minimum gage height -0.26 ft, Sept. 24, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 110,000 ft³/s, Mar. 23, gage height, 15.72 ft; minimum discharge, 1,040 ft³/s, Aug. 30; minimum daily gage height, -0.26 ft, Sept. 24.

DISCHARGE IN CUBIC FEET PER SECOND FOR PERIOD OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4090	2080	5260	7910	e19000	e24500	16200	6310	5320	e2500	2130	1940
2	4750	2160	5190	13300	e18000	e21000	16000	6120	5070	e2450	2050	1920
3	5540	2160	4630	24900	e17000	e18000	15900	5780	4850	e2500	1980	1990
4	6500	2120	4090	31700	e15000	e16000	15300	5560	e5530	e2500	2020	1930
5	6780	2260	3960	32000	e13000	e14000	15500	5610	e6850	e2500	2160	1870
6	5940	2370	3900	31500	e11000	e12000	15900	5570	e7700	e2500	2160	1860
7	5050	2910	3720	31800	e10000	e11000	15400	5240	e7000	e2450	2150	1810
8	4400	4410	4070	31300	e9000	e10000	14200	4860	e6000	e2400	2060	1750
9	3530	5870	4190	30200	e9000	e9000	13600	5050	e5100	e2300	2040	1750
10	3300	11600	5210	29300	e9000	e8800	13500	5850	e4700	e2700	2020	1760
11	3130	21400	7220	28100	e9000	e8000	13100	5980	e4400	e2800	2000	1790
12	2910	22200	9930	26600	e11000	e7800	11800	7060	e4300	e2900	1980	1920
13	2760	19100	11600	24700	e13000	e7300	10700	10200	e4150	e3100	2020	1980
14	2750	15300	11800	22700	e16000	e7000	10300	12300	e3950	e3500	2020	2060
15	2910	12900	11800	20700	e16000	e7500	10600	18100	e3800	e3750	2050	2020
16	3110	12500	12400	18600	e15500	e8000	10300	26500	e3600	e4050	2080	2030
17	3380	11800	12500	16500	e15000	e20000	10500	25100	e3300	e4150	2070	1900
18	3360	11200	12100	14500	e14000	e50000	11700	20900	e3100	e3900	1980	1800
19	2890	10700	11400	12600	e16000	108000	12100	15800	e3150	e3570	1950	1810
20	2750	9720	10300	11600	e19000	104000	10900	11800	e3200	3390	1910	1760
21	2900	8040	9370	14100	e21000	103000	9500	9310	e3200	3490	1940	1750
22	2810	6760	9230	17100	e23000	111000	8770	7640	e3250	3460	1940	1720
23	2700	6080	10100	18400	e26000	111000	8520	6660	e3300	3380	1970	1610
24	2660	5360	11400	19400	e27500	97700	8400	6440	e3450	3300	1930	1480
25	2490	5370	12100	20400	e29000	76000	8650	6890	e3500	3010	2020	1540
26	2430	5750	11500	20700	e30000	55000	8940	6970	e3400	2770	2120	1640
27	2300	5720	9880	21200	e30500	40100	8130	6430	e3200	2710	2080	1630
28	2260	5550	8270	22500	e28000	30600	7380	6010	e2900	2560	1980	1700
29	2150	5330	7380	e21500	---	24400	6790	5680	e2700	2390	1910	1750
30	2140	5170	6830	e21000	---	20800	6490	5220	e2600	2250	1850	1860
31	2100	---	6870	e20000	---	18200	---	5200	---	2160	1860	---
TOTAL	106770	243890	258200	676810	489500	1159700	345070	282140	126570	91390	62430	54330
MEAN	3444	8130	8329	21830	17480	37410	11500	9101	4219	2948	2014	1811
MAX	6780	22200	12500	32000	30500	111000	16200	26500	7700	4150	2160	2060
MIN	2100	2080	3720	7910	9000	7000	6490	4860	2600	2160	1850	1480
AC-FT	211800	483800	512100	1342000	970900	2300000	684400	559600	251100	181300	123800	107800
CFSM	.83	1.96	2.01	5.26	4.22	9.02	2.77	2.19	1.02	.71	.49	.44
IN.	.96	2.19	2.32	6.07	4.39	10.40	3.10	2.53	1.14	.82	.56	.49

CAL YR 1989 TOTAL 2733280 MEAN 7488 MAX 44300 MIN 1780 AC-FT 5421000 CFSM 1.81 IN. 24.52
WTR YR 1990 TOTAL 3896800 MEAN 10680 MAX 111000 MIN 1480 AC-FT 7729000 CFSM 2.57 IN. 34.96

e Estimated

ESCAMBIA RIVER BASIN
02376033 ESCAMBIA RIVER NEAR MOLINO, FL.--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.76	.80	3.14	4.51	---	---	6.40	3.83	3.32	---	1.23	1.19
2	3.02	.87	3.10	5.80	---	---	6.36	3.70	3.17	---	1.10	1.14
3	3.38	.87	2.71	7.85	---	---	6.34	3.52	3.04	---	1.02	1.25
4	3.90	.86	2.34	8.90	---	---	6.23	3.47	---	---	1.06	1.15
5	4.08	1.09	2.25	8.94	---	---	6.27	3.53	---	---	1.36	1.09
6	3.71	1.25	2.24	8.88	---	---	6.35	3.37	---	---	1.27	1.11
7	3.24	1.71	2.17	8.91	---	---	6.25	3.19	---	---	1.26	1.05
8	2.73	2.92	2.45	8.84	---	---	6.02	3.05	---	---	1.17	.91
9	2.05	3.60	2.43	8.69	---	---	5.92	3.48	---	---	1.21	.87
10	2.00	5.42	3.11	8.56	---	---	5.89	3.72	---	---	1.26	.92
11	1.89	7.26	4.22	8.38	---	---	5.80	3.67	---	---	1.26	1.01
12	1.70	7.40	5.09	8.15	---	---	5.52	4.25	---	---	1.26	1.24
13	1.59	6.87	5.50	7.84	---	---	5.28	5.19	---	---	1.35	1.30
14	1.55	6.24	5.53	7.50	---	---	5.20	5.65	---	---	1.37	1.43
15	1.74	5.80	5.52	7.14	---	---	5.26	6.71	---	---	1.43	1.36
16	1.93	5.70	5.66	6.79	---	---	5.18	8.13	---	---	1.51	1.33
17	2.12	5.54	5.69	6.44	---	---	5.23	7.91	---	---	1.50	1.15
18	1.99	5.39	5.60	6.09	---	---	5.52	7.18	---	---	1.32	.97
19	1.45	5.28	5.45	5.70	---	15.45	5.60	6.31	---	---	1.23	1.09
20	1.25	5.04	5.19	5.50	---	15.19	5.32	5.54	---	2.14	1.20	1.01
21	1.40	4.57	4.95	6.01	---	15.15	4.98	4.98	---	2.24	1.25	1.04
22	1.35	4.10	4.91	6.55	---	15.58	4.79	4.49	---	2.36	1.22	.87
23	1.26	3.62	5.14	6.75	---	15.59	4.73	4.05	---	2.30	1.15	.53
24	1.26	3.21	5.45	6.90	---	14.80	4.70	3.97	---	2.15	.96	.31
25	1.09	3.26	5.60	7.08	---	13.31	4.79	4.24	---	1.89	1.09	.53
26	1.06	3.54	5.47	7.13	---	11.55	4.88	4.31	---	1.72	1.25	.71
27	.92	3.52	5.08	7.23	---	9.98	4.74	4.11	---	1.79	1.25	.72
28	.95	3.38	4.65	7.46	---	8.75	4.54	3.85	---	1.58	1.18	.87
29	.84	3.17	4.34	---	---	7.79	4.19	3.53	---	1.48	1.08	1.10
30	.84	3.07	4.10	---	---	7.15	3.96	3.26	---	1.38	1.00	1.24
31	.80	---	4.20	---	---	6.74	---	3.22	---	1.28	1.05	---
TOTAL	59.85	115.35	133.28	---	---	---	162.24	139.41	---	---	37.85	30.49
MEAN	1.93	3.84	4.30	---	---	---	5.41	4.50	---	---	1.22	1.02
MAX	4.08	7.40	5.69	---	---	---	6.40	8.13	---	---	1.51	1.43
MIN	.80	.80	2.17	---	---	---	3.96	3.05	---	---	.96	.31

CAL YR 1989 TOTAL 1221.66 MEAN 3.35 MAX 9.81 MIN .22

BAYOU MARCUS CREEK BASIN
02376100 BAYOU MARCUS CREEK NEAR PENSACOLA, FL

119

LOCATION.--Lat 30°26'53", long 87°17'26", in SE¼ sec.13, T.2 S., R.30 W., Escambia County, Hydrologic Unit 03140107, near mid channel on downstream side of eastbound bridge on U.S. Highway 90, 0.3 mi upstream from Turner's Creek, 4.5 mi upstream and 5.3 mi northwest of City Hall in Pensacola.

DRAINAGE AREA.--10.8 mi².

PERIOD OF RECORD.--February 1958 to March 1960. October 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is 11.21 ft above National Geodetic Vertical Datum of 1929. Feb. 12, 1958 to Mar. 17, 1960, water-stage recorder 100 ft upstream at present datum.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 701 ft³/s, Mar. 16, 1990, gage height, 5.51 ft; minimum, 13 ft³/s, Sept. 24, 1990, gage height, 0.85 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 701 ft³/s, Mar. 16, gage height 5.51 ft; minimum, 13 ft³/s, Sept. 24, gage height, .85 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	20	22	28	23	23	31	26	22	18	20	19
2	42	26	22	23	23	27	29	25	25	23	19	18
3	30	25	22	22	24	25	27	25	23	40	21	17
4	27	22	21	42	23	22	27	25	21	29	23	16
5	25	22	21	51	21	22	27	27	22	23	18	15
6	24	22	22	49	23	22	27	26	32	21	18	15
7	25	44	25	60	24	22	28	24	25	20	19	15
8	24	112	62	42	31	21	27	24	21	18	18	14
9	23	62	37	31	42	22	26	55	22	17	17	14
10	23	32	27	27	34	22	31	43	20	17	17	14
11	23	25	24	25	27	21	35	29	20	18	17	14
12	23	23	32	25	23	21	28	26	19	22	16	15
13	24	22	29	24	22	21	26	71	18	43	16	14
14	26	23	25	24	22	21	26	51	18	33	15	17
15	26	27	24	24	23	38	45	32	17	23	16	21
16	24	33	24	24	25	283	32	28	17	20	15	21
17	31	25	22	24	23	293	27	26	18	19	15	17
18	38	23	24	25	22	66	26	25	20	38	17	15
19	26	22	27	24	71	43	26	25	20	37	18	15
20	23	22	25	25	35	36	26	25	19	30	18	15
21	23	22	23	29	29	33	26	26	18	26	17	14
22	23	25	22	25	54	32	38	27	19	22	16	15
23	22	26	21	24	34	30	41	25	49	21	20	17
24	22	22	20	24	28	29	30	24	31	21	24	14
25	22	22	20	27	25	29	27	23	22	19	18	14
26	22	22	21	25	22	28	26	23	19	17	16	14
27	21	22	22	25	23	28	31	23	18	17	16	14
28	21	31	21	24	23	28	40	23	18	17	16	19
29	21	31	21	24	---	28	30	22	17	48	16	19
30	21	23	22	24	---	46	27	21	18	32	18	18
31	20	---	28	23	---	40	---	21	---	22	17	---
TOTAL	841	878	778	893	799	1422	893	896	648	771	547	479
MEAN	27.1	29.3	25.1	28.8	28.5	45.9	29.8	28.9	21.6	24.9	17.6	16.0
MAX	96	112	62	60	71	293	45	71	49	48	24	21
MIN	20	20	20	22	21	21	26	21	17	17	15	14
AC-FT	1670	1740	1540	1770	1580	2820	1770	1780	1290	1530	1080	950
CFSM	2.42	2.61	2.24	2.57	2.55	4.10	2.66	2.58	1.93	2.22	1.58	1.43
IN.	2.79	2.92	2.58	2.97	2.65	4.72	2.97	2.98	2.15	2.56	1.82	1.59

CAL YR 1989	TOTAL	11066	MEAN	30.3	MAX	218	MIN	19	AC-FT	21950	CFSM	2.71	IN.	36.75
WTR YR 1990	TOTAL	9845	MEAN	27.0	MAX	293	MIN	14	AC-FT	19530	CFSM	2.41	IN.	32.70

ELEVENMILE CREEK BASIN
02376115 ELEVENMILE CREEK NEAR PENSACOLA, FL

LOCATION.--Lat 30°29'53", long 87°20'09", in SE¼ sec.22, T.1 S., R.31 W., Escambia County, Hydrologic Unit 03140107, near left bank on downstream side of bridge on U.S. Highway 90, 1.8 mi upstream from Eightmile Creek, 4.0 mi upstream from mouth and 5.6 mi northwest of Pensacola High School in West Pensacola.

DRAINAGE AREA.--27.8 mi².

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is 10.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,310 ft³/s, June 8, 1989, gage height, 14.57 ft; minimum discharge, 29 ft³/s, Aug. 25, 1989, gage height, 3.39 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,120 ft³/s, Mar. 16, gage height, 14.45 ft; minimum discharge, 41 ft³/s, Sept. 25, gage height, 3.51 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	262	59	77	130	73	83	81	56	e60	61	55	60
2	111	67	79	94	74	86	69	52	e90	61	54	57
3	86	67	74	85	73	85	65	53	e85	68	60	56
4	72	63	74	194	73	80	60	57	e80	73	72	53
5	68	60	74	373	70	73	57	79	e72	67	59	56
6	66	60	74	362	71	71	55	92	68	62	59	53
7	67	146	78	299	74	71	66	62	65	61	58	52
8	67	718	146	222	80	72	54	61	62	61	57	56
9	62	339	119	136	147	72	52	351	75	56	57	53
10	61	139	92	116	122	73	56	166	92	57	53	52
11	60	116	85	108	105	72	82	97	68	68	53	54
12	60	104	101	100	83	70	57	87	62	71	54	52
13	61	99	107	94	75	70	49	363	59	98	51	53
14	63	96	89	90	72	70	48	160	58	104	51	55
15	60	97	84	89	73	104	120	e90	58	72	52	60
16	60	112	82	86	85	2580	68	e80	60	63	50	59
17	76	95	79	82	88	1310	56	e70	70	62	49	54
18	116	88	80	84	74	218	51	e68	130	64	51	52
19	75	83	101	86	553	144	51	e67	76	71	51	50
20	68	80	105	84	163	114	50	e62	67	70	56	52
21	66	79	88	98	119	103	52	e60	65	91	80	52
22	62	80	81	88	215	96	74	e100	76	82	63	53
23	61	92	79	79	135	90	137	e90	179	67	73	52
24	60	83	77	78	105	85	67	e78	104	65	89	48
25	59	81	79	100	94	80	56	e70	78	60	62	47
26	59	81	73	98	85	75	50	e69	71	58	59	48
27	56	79	76	82	87	71	49	e68	66	57	60	48
28	58	91	78	77	85	68	90	e67	62	57	61	51
29	57	99	76	76	---	71	66	e65	61	54	58	53
30	58	83	77	74	---	149	59	e62	62	54	59	52
31	58	---	124	74	---	113	---	e60	---	52	56	---
TOTAL	2275	3536	2708	3838	3153	6519	1947	2962	2281	2067	1822	1593
MEAN	73.4	118	87.4	124	113	210	64.9	95.5	76.0	66.7	58.8	53.1
MAX	262	718	146	373	553	2580	137	363	179	104	89	60
MIN	56	59	73	74	70	68	48	52	58	52	49	47
CFSM	2.64	4.24	3.14	4.45	4.05	7.56	2.33	3.44	2.74	2.40	2.11	1.91
IN.	3.04	4.73	3.62	5.14	4.22	8.72	2.61	3.96	3.05	2.77	2.44	2.13

CAL YR 1989 TOTAL 38769 MEAN 106 MAX 2390 MIN 33 CFSM 3.82 IN. 51.88
WTR YR 1990 TOTAL 34701 MEAN 95.1 MAX 2580 MIN 47 CFSM 3.42 IN. 46.43

e Estimated

ELEVENMILE CREEK BASIN
02376140 EIGHTMILE CREEK NEAR WEST PENSACOLA, FL

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LOCATION.--Lat 30°28'26", long 87°19'59", in SE¼ sec.28, T.1 S., R.31 W., Escambia County, Hydrologic Unit 03140107, (West Pensacola quadrangle), near left bank on downstream side of bridge at Klondike Road, 4.4 mi northwest of Escambia High School in West Pensacola, and 5.9 mi upstream from mouth.

DRAINAGE AREA.--11.2 mi².

PERIOD OF RECORD.--October 1988 to current year.

GAGE. --Water-stage recorder. Altitude of gage is 20 ft, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Reservoirs upstream not regulated.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1850 ft³/s, June 8, 1989, gage height 8.22 ft; minimum discharge, .84 ft³/s, Sept. 27, 28, 1990; minimum gage height 1.75 ft, May 18, 19, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 951 ft³/s, Mar. 16, gage height, 7.13 ft; minimum discharge, .84 ft³/s, Sept. 27, 28, gage height, 1.76 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	103	1.8	5.5	28	5.4	6.1	13	5.6	2.0	1.5	1.2	2.1		
2	20	3.3	4.5	9.1	5.4	6.7	10	4.8	3.9	2.8	1.1	2.4		
3	7.8	4.5	4.0	6.8	5.4	6.8	9.4	4.3	2.9	16	1.2	1.9		
4	5.4	3.2	3.7	54	5.4	5.9	7.9	3.8	2.5	9.0	2.4	1.7		
5	4.1	2.7	3.6	107	4.7	5.3	7.1	4.8	2.4	5.7	1.5	1.3		
6	3.4	2.5	3.6	83	4.4	5.0	6.9	5.7	3.9	3.2	1.5	.96		
7	3.3	20	3.9	86	6.0	4.7	11	4.1	4.3	2.2	2.0	.93		
8	3.1	154	61	58	8.0	4.4	7.9	3.5	2.7	1.7	1.9	.91		
9	2.6	83	31	14	46	4.4	6.8	99	3.9	1.6	1.6	.89		
10	2.3	14	10	11	17	4.3	7.8	48	8.9	1.5	1.4	.89		
11	2.3	8.2	7.5	9.1	12	4.3	25	9.9	3.9	1.4	1.3	.89		
12	2.3	6.4	14	7.8	7.6	4.0	9.9	6.8	2.5	1.5	1.3	.92		
13	2.5	5.6	20	6.9	6.2	3.9	7.1	93	2.0	42	1.3	.92		
14	3.1	5.5	9.2	6.5	5.8	3.7	6.5	56	1.8	29	1.2	1.0		
15	3.0	6.2	7.2	6.4	5.9	18	58	12	1.6	7.7	1.1	1.6		
16	2.9	21	6.6	6.2	6.3	536	15	8.0	1.4	4.3	1.1	2.6		
17	5.6	9.8	5.8	6.1	7.2	271	8.8	6.9	1.6	3.0	1.1	1.4		
18	21	6.7	6.0	6.3	5.9	48	7.1	6.0	2.0	2.6	1.1	1.1		
19	8.5	5.6	8.8	6.2	118	16	6.4	5.1	1.8	4.8	1.2	1.0		
20	5.4	5.0	12	6.0	28	12	6.2	4.8	1.5	13	1.3	.99		
21	4.1	4.6	7.6	8.7	11	10	5.9	4.6	1.4	16	2.4	.94		
22	3.6	4.8	5.9	8.1	73	10	8.5	7.7	5.7	6.3	1.7	.93		
23	3.2	6.2	4.9	6.4	30	10	30	5.5	85	4.1	1.9	1.1		
24	2.9	5.6	4.2	5.8	11	9.6	9.7	4.2	20	3.1	6.5	.99		
25	2.6	4.5	4.5	11	8.6	8.4	7.0	3.6	6.5	2.4	3.0	.93		
26	2.4	4.5	4.9	12	7.2	7.2	5.9	3.5	4.0	1.8	2.1	.92		
27	2.2	4.3	5.0	7.6	6.7	6.7	6.0	3.2	2.7	1.5	2.5	.88		
28	2.1	7.6	4.7	6.4	6.4	6.5	21	2.9	2.2	1.4	1.9	.88		
29	2.1	14	4.5	6.0	---	6.8	9.5	2.5	1.8	1.3	1.6	1.0		
30	2.0	7.4	4.5	5.9	---	128	6.8	2.2	1.7	1.4	1.6	1.0		
31	2.0	---	16	5.8	---	46	---	2.0	---	1.3	1.6	---		
TOTAL	240.8	432.5	294.6	608.1	464.5	1219.7	348.1	434.0	188.5	195.1	54.6	35.97		
MEAN	7.77	14.4	9.50	19.6	16.6	39.3	11.6	14.0	6.28	6.29	1.76	1.20		
MAX	103	154	61	107	118	536	58	99	85	42	6.5	2.6		
MIN	2.0	1.8	3.6	5.8	4.4	3.7	5.9	2.0	1.4	1.3	1.1	.88		
AC-FT	478	858	584	1210	921	2420	690	861	374	387	108	71		
CFSM	.69	1.29	.85	1.75	1.48	3.51	1.04	1.25	.56	.56	.16	.11		
IN.	.80	1.44	.98	2.02	1.54	4.05	1.16	1.44	.63	.65	.18	.12		
CAL YR 1989	TOTAL	3592.6	MEAN	9.84	MAX	469	MIN	1.0	AC-FT	7130	CFSM	.88	IN.	11.93
WTR YR 1990	TOTAL	4516.47	MEAN	12.4	MAX	536	MIN	.88	AC-FT	8960	CFSM	1.10	IN.	15.00

PERDIDO RIVER BASIN
02376300 BRUSHY CREEK NEAR WALNUT HILL, FL

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 mi², approximately.

PERIOD OF RECORD.--January 1958 to current year.

REVISED RECORDS.--WSP 1906: 1958-60. WRD FL-80-4: 1958-59, 1961, 1963-65, 1967-68, 1970, 1973, 1975-79 (M).

GAGE.--Water stage recorder. Datum of gage is 118.32 ft above National Geodetic Vertical Datum of 1929. From Aug. 2, 1978, to May 14, 1985, nonrecording gage at same site and datum. From January 1958 to August 1978, water-stage recorder at present site and datum.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--32 years, 106 ft³/s, 29.38 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,680 ft³/s, Mar. 31, 1962, gage height, 14.96 ft from rating curve extended above 2,500 ft³/s; minimum discharge, 36 ft³/s, Sept. 9-16, 1968; minimum gage height, 2.35 ft, Aug. 27, 30, 1988, and May 18, 19, 1989.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	2000	2,810	11.32	Feb. 19	1600	1,250	9.42
Dec. 31	1700	2,440	10.97	Mar. 16	1800	*5,580	*13.20
Jan. 6	1600	1,420	9.73	May 13	1900	1,840	10.30
Feb. 10	2200	1,260	9.48				

Minimum discharge, 49 ft³/s Sept. 8-10, 21, 22, 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	159	51	76	843	110	123	139	86	75	62	80	57
2	86	54	72	320	107	171	128	84	178	60	76	56
3	66	59	70	162	106	233	130	82	108	67	80	55
4	60	55	68	158	108	140	119	81	90	64	63	53
5	56	54	69	284	101	122	114	91	82	62	64	53
6	55	53	69	919	99	116	113	84	77	61	62	52
7	55	80	73	576	116	113	111	80	75	59	58	51
8	54	1160	275	423	106	110	107	79	73	78	56	51
9	52	1070	425	243	135	110	106	129	79	127	55	50
10	51	345	148	157	592	109	111	149	85	91	54	54
11	52	133	104	134	694	106	137	91	76	70	53	54
12	51	101	133	121	236	104	111	83	71	68	52	54
13	55	88	214	111	144	103	104	871	68	111	52	55
14	79	86	125	105	130	102	104	684	67	178	52	57
15	71	552	106	103	351	168	227	225	66	86	52	115
16	60	450	114	101	483	2710	131	124	65	70	51	66
17	67	223	92	100	485	1510	107	104	65	68	51	56
18	71	117	92	227	239	497	101	94	66	70	53	52
19	63	97	97	458	848	287	99	89	65	98	79	51
20	58	88	90	235	523	204	98	88	64	79	88	51
21	56	83	83	341	255	176	98	94	66	73	82	51
22	55	85	79	373	388	163	96	145	71	66	69	50
23	54	105	74	159	508	153	97	98	133	64	77	57
24	53	90	71	132	212	146	93	86	88	66	71	52
25	53	80	74	249	156	139	92	82	71	63	61	51
26	52	78	76	446	138	135	90	80	66	61	57	51
27	51	76	77	181	132	130	91	79	64	59	56	50
28	51	84	75	129	126	128	126	77	62	57	55	50
29	51	106	73	131	---	128	97	76	63	56	54	52
30	50	86	81	141	---	232	89	74	64	56	54	71
31	51	---	1480	119	---	218	---	73	---	56	60	---
TOTAL	1898	5789	4755	8181	7628	8886	3366	4362	2343	2306	1927	1678
MEAN	61.2	193	153	264	272	287	112	141	78.1	74.4	62.2	55.9
MAX	159	1160	1480	919	848	2710	227	871	178	178	88	115
MIN	50	51	68	100	99	102	89	73	62	56	51	50
AC-FT	3760	11480	9430	16230	15130	17630	6680	8650	4650	4570	3820	3330
CFSM	1.25	3.94	3.13	5.39	5.56	5.85	2.29	2.87	1.59	1.52	1.27	1.14
IN.	1.44	4.39	3.61	6.21	5.79	6.75	2.56	3.31	1.78	1.75	1.46	1.27

CAL YR 1989 TOTAL 38199 MEAN 105 MAX 1480 MIN 41 AC-FT 75770 CFSM 2.14 IN. 29.00
WTR YR 1990 TOTAL 53119 MEAN 146 MAX 2710 MIN 50 AC-FT 105400 CFSM 2.97 IN. 40.33

PERDIDO RIVER BASIN

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02376500 PERDIDO RIVER AT BARRINEAU PARK, FL
(National stream-quality accounting network station)

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 bridge on county road, 1,000 ft downstream from Alligator Creek, 0.5 mi southwest of Barrineau Park, and 27 mi upstream from mouth.

DRAINAGE AREA.--394 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1941 to current year.

REVISED RECORDS.--WSP 1384: Drainage area. WRD FL-76-4: 1973-75 (M).

GAGE.--Water-stage recorder. Datum of gage is 25.77 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 22, 1949, nonrecording gage at same site and datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--49 years, 768 ft³/s 26.47 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft³/s Apr. 15, 1955, gage height, 23.94 ft, from rating curve extended above 11,400 ft³/s, based on slope-area study made in 1955; minimum, 188 ft³/s, Oct. 12-18, 1973; minimum gage height, 1.24 ft Oct. 1-6, 15-17, 20-25, 28-31, Nov. 1-3, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 15, 1929, reached a stage of 25.7 ft present datum, from information by local resident (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 10	1300	9,000	15.37	Feb. 19	1900	6,720	13.76
Nov. 16	0700	7,220	14.14	Mar. 17	2300	*26,300	*21.37
Jan. 2	1400	6,800	13.82	May 15	1500	6,200	13.32
Jan. 8	0300	5,490	12.61				

Minimum discharge, 279 ft³/s, Sept. 28, gage height, 1.82 ft.

PERDIDO RIVER BASIN
02376500 PERDIDO RIVER AT BARRINEAU PARK, FL--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1090	323	711	4240	1010	1090	1300	617	446	447	437	340
2	966	329	673	6450	946	1090	1170	579	670	412	469	340
3	720	351	614	4540	895	1360	1080	550	1250	430	428	340
4	542	354	554	2390	855	1290	978	528	1770	429	445	332
5	451	346	524	2120	825	1100	901	636	1680	407	407	337
6	400	341	512	3790	799	1010	842	664	1040	390	385	323
7	378	785	514	4820	849	940	823	570	720	381	371	307
8	368	2630	894	5160	866	884	791	524	594	381	361	e298
9	372	5860	1590	3830	997	853	762	621	559	434	350	e291
10	366	8430	1890	2610	1740	836	750	947	560	665	341	e290
11	352	5220	2300	1800	3260	817	907	937	558	579	334	e327
12	342	2320	1490	1330	3750	792	896	999	518	528	329	317
13	340	1110	1420	1100	3130	772	824	1720	468	639	324	321
14	424	832	1250	972	1670	759	772	3470	444	1240	320	342
15	479	3200	1230	894	1590	790	1210	5630	428	1100	318	347
16	476	6420	1370	847	2200	5750	1270	4010	415	685	316	378
17	498	3990	1040	815	3820	21400	1060	1800	418	580	313	334
18	643	2780	866	831	3340	20200	960	973	439	525	311	319
19	627	1810	845	1690	5430	7170	835	747	426	690	401	308
20	567	1150	887	1870	5300	3430	737	664	428	808	494	300
21	484	876	789	2430	4540	2100	693	639	531	714	503	292
22	428	751	708	2790	4210	1610	693	743	526	596	416	287
23	398	742	640	2130	3940	1400	708	790	1280	549	368	313
24	380	734	581	1940	3230	1270	656	714	1050	544	403	306
25	366	684	544	1520	2710	1180	635	655	667	543	412	296
26	355	646	539	1790	1770	1110	634	589	515	478	356	289
27	347	618	547	1910	1350	1060	620	545	451	429	334	284
28	339	632	549	2080	1180	978	752	522	420	401	321	280
29	333	913	541	1510	---	934	759	494	458	383	314	285
30	328	786	534	1190	---	1150	679	474	502	379	309	306
31	325	---	1460	1080	---	1390	---	456	---	383	314	---
TOTAL	14484	55963	28606	72469	66202	86515	25697	33807	20231	17149	11504	9429
MEAN	467	1865	923	2338	2364	2791	857	1091	674	553	371	314
MAX	1090	8430	2300	6450	5430	21400	1300	5630	1770	1240	503	378
MIN	325	323	512	815	799	759	620	456	415	379	309	280
AC-FT	28730	111000	56740	143700	131300	171600	50970	67060	40130	34020	22820	18700
CFSM	1.19	4.73	2.34	5.93	6.00	7.08	2.17	2.77	1.71	1.40	.94	.80
IN.	1.37	5.28	2.70	6.84	6.25	8.17	2.43	3.19	1.91	1.62	1.09	.89

CAL YR 1989 TOTAL 298786 MEAN 819 MAX 14700 MIN 247 AC-FT 592600 CFSM 2.08 IN. 28.21
WTR YR 1990 TOTAL 442056 MEAN 1211 MAX 21400 MIN 280 AC-FT 876800 CFSM 3.07 IN. 41.74

e Estimated

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1957 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUC- TANCE (US/CM)	PH (STAND- ARD UNIT)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
NOV 21...	1000	882	24	5.3	14.0	2.9	8.6	83	>400	36	4
MAR 28...	0930	959	21	5.7	15.0	4.5	8.9	87	48	58	4
JUN 05...	1610	1700	22	5.4	23.0	5.5	6.8	79	220	180	4
AUG 22...	1050	415	26	6.0	24.5	2.5	7.4	88	83	K15	5
DATE	HARD- NESS, NONCARB F.WH.W. ,FET, (MG/L CACO3)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE, WAT.DIS FIELD, INC.T., (MG/L HCO3)	ALKA- LINITY LAB (MG/L AS CACO3)	ALKA- LINITY WAT.DIS FIELD (MG/L CACO3)
NOV 21...	3	3	.81	.50	1.9	48	.4	.30	<1	1.0	<1
MAR 28...	2	2	.75	.51	1.7	46	.4	.30	1	2.0	<1
JUN 05...	2	2	1.0	.46	1.5	40	.3	.40	<1	2.0	<1
AUG 22...	2	2	1.0	.68	2.1	44	.4	.50	1	2.9	1
DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
NOV 21...	9.7	3.0	3.4	<.10	7.5	21	18	.03	50	<.010	.13
MAR 28...	7.7	1.5	4.0	.10	5.5	21	16	.03	54	<.010	.20
JUN 05...	15	1.3	2.7	.10	6.0	32	15	.04	147	<.010	<.10
AUG 22...	5.6	2.1	3.9	<.10	7.4	35	20	.05	39	<.010	.20
DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, NH4, WATER, DIS., (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)
NOV 21...	<.010	<.010	--	--	<.20	.020	<.010	<.010	--	100	<1
MAR 28...	.010	<.010	--	--	<.20	.020	<.010	.010	.03	90	<1
JUN 05...	.010	.020	.03	.39	.40	.020	<.010	<.010	--	160	<1
AUG 22...	<.010	.010	.01	--	.20	.020	.010	<.010	--	50	<1

PERDIDO RIVER BASIN
02376500 PERDIDO RIVER AT BARRINEAU PARK, FL--Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV 21...	21	<.5	<1	<1	<3	1	140	<1	<4	49	<.1
MAR 28...	21	<.5	3	<5	<3	<10	130	<10	<4	26	<.1
JUN 05...	21	<.5	<1	2	<3	<1	190	<1	<4	45	<.1
AUG 22...	25	<.5	<1	<1	<3	1	59	<1	<4	30	<.1
	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
NOV 21...	<10	1	<1	<1	7	<6	6	10	24	70	
MAR 28...	<10	<10	<1	<1	7	<6	7	11	28	73	
JUN 05...	<10	3	<1	<1	7	<6	6	20	92	--	
AUG 22...	<10	1	<1	<1	7	<6	9	15	17	47	

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage and flood-hydrograph partial-record stations are presented in a table of annual maximum stage and discharge. Discharge measurements made at miscellaneous sites for both low flows and high flows are given in a second table.

Crest-stage and flood-hydrograph partial-record stations

The following table contains annual maximum discharges for crest-stage and flood hydrograph stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A flood hydrograph station is a continual-record station that records the river stage of storm events above a base stage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage and flood-hydrograph partial-record stations during water year 1990

Station No.	Station Name	Location	Drainage area (mi ²)	Period of Record	Annual Maximum		
					Date	Gage height (feet)	Dis- charge (ft ³ /s)
Alapaha River Basin							
02317630	Alapaha River near Jasper, Fla.	Lat 30°31'42", long 83°02'17", in SE¼ sec.32, T.2 N., R.13 E., Hamilton County, Hydrologic Unit 03110202, at bridge on U.S. Highway 41, 5.4 mi upstream from mouth. Datum of gage is National Geodetic Vertical Datum of 1929.	^{ab} 1720	1948 1966-77 1979-82 1985-90	02-01-90	58.86 ^c	1,990
Ochlockonee River Basin							
02329490	Willacoochee Cr. near Quincy Fla.	Lat 30°38'13", long 84°30'02", in NE¼ sec.26, T.3 N., R.3 W., Gadsden County, Hydrologic Unit 03120003, at bridge on State Highway 161, 1.6 mi southwest of Branchville, and 5.6 mi northeast of Quincy. Datum of gage 106.42 ft above National Geodetic Vertical Datum of 1929. Discontinued 9-30-90.	64.9	1974-77 1979-90	02-24-90	6.23	668
02329877	Ocklawaha Creek near Wetumpka, Fla.	Lat 30°27'01", long 84°38'36", in SW¼ sec.28, T.1 N., R.4 W., Gadsden County, Hydrologic Unit 0312003, at bridge on State Highway 267, 2.5 mi south of Wetumpka. Elevation of gage is 75 ft above National Geodetic Vertical Datum of 1929, from topographic map. Discontinued 9-30-90.	28.8	1975-77 1979-90	02-24-90	3.60	185
Apalachicola River Basin							
02359035	Fourmile Creek at Clarksville, Fla.	Lat 30°26'41", long 85°10'59", in NW¼ sec.31, T.1 N., R.9 W., Calhoun County, Hydrologic Unit 03130012, near right bank on downstream side of bridge on State Highway 73, 0.6 mi north of Clarksville and 1.5 mi above the mouth. Datum of gage is 36.88 ft above National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark). Discontinued 9-30-90.	36.0	1980-90		<8.38	<815

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS
AND MISCELLANEOUS SITESAnnual maximum discharge at crest-stage and flood-hydrograph partial-record stations
during water year 1990--Continued

Station No.	Station Name	Location	Drainage area (mi ²)	Period of Record	Date	Annual Maximum	
						Gage height (feet)	Dis- charge (ft ³ /s)
Choctawhatchee River Basin							
02365435	Wrights Creek near Bonifay, Fla.	Lat 30°51'56", long 85°41'41", in SW¼ sec.1, T.5 N., R.15 W., Holmes County, Hydrologic Unit 03140203, at left bank on downstream side of bridge on State Highway 177, 2.5 mi upstream from Tenmile Creek, 4.9 mi north of Bonifay, and 14.5 mi upstream from mouth. Discontinued 9-30-90.	72.4	1981-90		<8.49	<771
02365700	Sandy Creek at Ponce de Leon, Fla.	Lat 30°43'28", long 85°56'12", in SE¼ sec.28, T.4 N., R.17 W., Holmes County, Hydrologic Unit 03140203, at abandoned bridge downstream from bridge on State Highway 81 at Ponce de Leon and 10 mi upstream from mouth. Datum of gage is 42.94 ft above National Geodetic Vertical Datum of 1929. Discontinued 9-30-90.	116	1961-90	11-09-89	10.56	2,910
02366000	Holmes Creek near Vernon, Fla.	Lat 30°37'35", long 85°42'45", in NE¼ sec.35, T.3 N., R.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. Datum of gage is 10.70 ft above National Geodetic Vertical Datum of 1929. Discontinued 9-30-90.	386	1950-81 ^d 1982-85 ^e 1986-90	03-22-90	16.34	2,850

a Approximately

b Does not include Little Alapaha River

c Highest gage-height observed during year

d Operated as continual record-gaging station

e Miscellaneous discharge measurements only

DISCHARGE AT PARTIAL-RECORD STATIONS
AND MISCELLANEOUS SITES

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Miscellaneous sites

Discharge measurements in the following table were made at miscellaneous sites throughout the Suwannee River Water Management District.

Discharge measurements made at special study and miscellaneous sites during water year 1990

Station No.	Station Name	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
WACCASASSA RIVER BASIN						
02313614	Wekiva River near Gulf Hammock, Fla.	Lat 29°16'41", long 82°41'15", in SW¼ sec.11, T.14 S., R.16 E., Levy County, Hydrologic Unit 03110101, at culvert on State Highway 343, 1.8 mi north-east of Gulf Hammock.	30.1	1932 1980-81 1989	06-01-90	48.5
SUWANNEE RIVER BASIN						
302430082 384500	Little Creek near Benton, Fla.	Lat 30°24'30", long 82°38'45", in NE¼ sec.18, T.1 S., R.17 E., Columbia County, Hydrologic Unit 03110201, at left bank, 5.4 mi south of Benton and 8.5 mi northeast of White Springs.	Not Determined	1977-78 1989	08-22-90	0.10
02314986	Rocky Creek near Belmont, Fla.	Lat 30°32'40", long 82°44'02", in SE¼ sec. 29, T.2 N., R.16 E., Hamilton County, Hydrologic Unit 03110201, at bridge on county road, 1.4 mi upstream from mouth, 3.0 mi north of Belmont, and 12 mi east of Bakers Mill.	50.0	1977-82 1989	08-22-90	.062
02315005	Hunter Creek near Belmont, Fla.	Lat 30°29'08", long 82°42'44", in SE¼ sec.16, T.1 N., R.16 E., Hamilton County, Hydrologic Unit 03110201, on left bank 30 ft downstream from bridge on State Highway 135, 0.8 mi upstream from mouth, and 1.6 mi southeast of Belmont.	Not Determined	1983-89	08-22-90	.17
302848082	Suwannee River below Hunter Creek near Benton, Fla.	Lat 30°28'48", long 82°42'01", in NE¼ sec.22, T.1 N., R.16 E., Hamilton County, Hydrologic Unit 03110201, (Benton quadrangle), at limestone outcrop shoal, 0.25 mi downstream from confluence of Hunter Creek, 0.6 mi east of State Road 135, and 2.4 mi west of Benton.	Not Determined		08-22-90	11.2
02315200	Deep Creek near Suwannee Valley, Fla.	Lat 30°21'55", long 82°37'13", in NW¼ sec.33, T.1 S., R.17 E., Columbia County, Hydrologic Unit 03110201, near left bank on upstream side of bridge on US Highway 441, 4.0 mi upstream from mouth, 7.2 mi north-east of Suwannee Valley, 12.2 mi north of Lake City.	88.6	1965 1967 1976-81 1989	08-22-90 09-26-90	.102 0.18
02315392	Robinson Creek near Suwannee Valley, Fla.	Lat 30°18'56", long 82°38'41", in NE¼ sec.18, T.2 S., R.17 E., Colombia County, Hydrologic Unit 03110201, near center of span on downstream side of bridge on State Highway 246, 3.4 mi upstream from mouth, 4.0 mi northeast of Suwannee Valley and 8.7 mi north of Lake City.	27.4	1976-82 1989	08-22-90 09-26-90	.073 .042

DISCHARGE AT PARTIAL-RECORD STATIONS
AND MISCELLANEOUS SITES

Discharge measurements made at special study and miscellaneous sites during water year 1990--Continued

Station No.	Station Name	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
SUWANNEE RIVER BASIN--Continued						
02315470	Falling Creek near Winfield, Fla.	Lat 30°15'40", long 82°40'06", in NE¼ sec.1, T.3 S., R.16 E., Columbia County, Hydrologic Unit 03110201, near center of span on downstream side of bridge on State Highway 131, 1.1 mi north of intersection of State Highway 131 and U.S. 41, 1.2 mi east of Winfield, and 5.1 mi north of City Hall in Lake City.	52.9	1977-82 1989	08-22-90 09-26-90	.003 0
02315520	Swift Creek at Facil, Fla.	Lat 30°22'14", long 82°48'00", in SE¼ sec.27, T.1 S., R.15 E., Hamilton County, Hydrologic Unit 03110201, near right bank on downstream side of bridge on U.S. Highway 41, 0.5 mi northwest of Facil, 2.8 mi upstream from mouth, and 3.0 mi southeast of Genoa.	Not Determined	1984-89	08-22-90	19.9
02315532	Rocky Creek near Houston, Fla.	Lat 30°18'56", long 82°50'42", in NW¼ sec.17, T.2 S., R.15 E., Suwannee County, Hydrologic Unit 03110201, at bridge on State Highway 136, 2.5 mi upstream from mouth, 5.3 mi northeast of Houston.	25.3	1965 1967 1979 1989	09-26-90	0
302025082 484400	Suwannee River below Blue Sink near White Springs, Fla.	Lat 30°20'25", long 82°48'44", in SE¼ sec.4, T.2 S., R.15 E., Hamilton-Suwannee Counties, Hydrologic Unit 03110201, 3.3 mi west of White Springs and 4.4 mi southeast of Genoa.	Not Determined	1977-79	08-22-90	20.6
302626083 030000	Suwannee River above Alapaha Rise near Jasper, Fla.	Lat 30°26'26", long 83°05'00", in SE¼ sec.35, T.1 N., R.12 E., Hamilton-Suwannee Counties, Hydrologic Unit 03110201, 1800 ft north of Base Line, 0.6 mi upstream from Alapaha Rise outlet, and 9.8 mi southwest of Jasper.	Not Determined	1977	08-22-90	197
302547083 043700	Suwannee River near Ellaville, Fla.	Lat 30°25'47", long 83°04'37", in NW¼ sec.1, T.1 S., R.12 E., Hamilton-Suwannee Counties, Hydrologic Unit 03110201, 6.4 mi northeast of Ellaville, and 8.6 mi northwest of Suwannee Springs.	Not Determined	1977-79	08-22-90	576
302132083 113800	Suwannee River at I-10 near Ellaville, Fla.	Lat 30°21'32", long 83°11'38", in NW¼ sec.35, T.1 S., R.11 E., Suwannee County, Hydrologic Unit 03110205, on upstream side of westbound bridge at Interstate Highway I-10, 1.1 mi north of Shady Grove Church, 1.8 mi southwest of Ellaville, and 3.7 mi west of Falmouth.	Not Determined		08-29-90	1,210
02319800	Suwannee River at Dowling Park, Fla.	Lat 30°14'41", long 83°14'59", in NW¼ sec.8, T.3 S., R.11 E., Lafayette County, Hydrologic Unit 03110205, at bridge on State Highway 250, at Dowling Park, and 112 mi upstream from mouth.	7,190	1954 1967 1977	08-22-90	1,240
02320000	Suwannee River at Luraville, Fla.	Lat 30°05'59", long 83°10'18", in NE¼ sec.36, T.4 S., R.11 E., Suwannee County, Hydrologic Unit 03110205, at bridge on State Highway 51, 1.6 mi south of Luraville, and 97 mi upstream from mouth.	7,330	1927-32 1950-72 1956 1976-82	08-23-90	1,350

DISCHARGE AT PARTIAL-RECORD STATIONS
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Discharge measurements made at special study and miscellaneous sites during water year 1990--Continued

Station No.	Station Name	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
SUWANNEE RIVER BASIN--Continued						
02323000	Suwannee River near Bell, Fla.	Lat 29°48', long 82°55', in sec.16 or 17, T.8 S., R.14 E., on left bank at Rock Bluff Ferry, 4½ mi north-west of Bell, and 10 mi downstream from mouth of Santa Fe River.	9,260	1955-56	08-22-90	3,760
ALAPAHA RIVER BASIN						
02317620	Alapaha River near Jennings, Fla.	Lat 30°35'53", long 83°04'24", in SW¼ sec.1, T.2 N., R.12 E., Hamilton County, Hydrologic Unit 03110202, near left bank on downstream side of bridge on State Highway 150, 150 ft upstream from Southern Railroad bridge, 1,400 ft downstream from Apalahoochee River, 1.5 mi south of Florida-Georgia State Line, and 1.6 mi southeast of Jennings.	1,680	1923 1928 1976-80	08-22-90	45.6
WITHLACOOCHEE RIVER BASIN						
02318960	Withlacoochee River near Clyattville, Ga.	Lat 30°38'07", long 83°18'41", Lowndes County, Hydrologic Unit 03110203, at bridge on State Highway 31, 4.3 mi south of Clyattville.	2,030	1974-89	08-22-90	92.9
02319300	Withlacoochee River at State Highway 6 near Madison, Fla.	Lat 30°28'56", long 83°14'35", in SW¼ sec.17, T.1 N., R.11 E., Hamilton County, Hydrologic Unit 03110203, on left bank at downstream side of bridge on State Highway 6, 10.2 mi east of Madison, and 12 mi upstream from mouth.	2,240	1960 1977 1984	08-22-90	92.9
SANTA FE RIVER BASIN						
02320732	Alligator Creek at Starke, Fla.	Lat 29°56'10", long 82°06'43", in NW¼ sec.33, T.6 S., R.22 E., Bradford County, Hydrologic Unit 03110206, at bridge on State Highway 301 at Starke, 0.5 mi south of intersection of U.S. Highway 301 and State Highway 100, and 1.3 mi upstream from mouth.	19.4	1956 1963 1965 1967 1976-77 1981 1989	08-23-90 09-27-90	4.71 1.01
295609082 071700	Alligator Creek at Starke, Fla.	Lat 29°56'09", long 82°07'17", in NW¼ sec.32, T.6 S., R.22 E., Bradford County, Hydrologic Unit 03110206, about 0.5 mi downstream from bridge on State Highway 301 at Starke and about 12.5 mi upstream from mouth.	Not Determined	1982	08-23-90	6.60
02320800	Sampson River at Sampson City, Fla.	Lat 29°55'07", long 82°12'39", in NW¼ sec.4, T.7 S., R.21 E., Hydrologic Unit 03110206, on downstream side of culvert on State Highway 225, 0.4 mi downstream from Lake Sampson 5.9 mi upstream from mouth and 6.3 mi southwest of Starke.	59.7	1957-60 1965 1967 1975-77 1989	08-23-90	0.73

DISCHARGE AT PARTIAL-RECORD STATIONS
AND MISCELLANEOUS SITES

Discharge measurements made at special study and miscellaneous sites during water year 1990--Continued

Station No.	Station Name	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
SANTA FE RIVER BASIN--Continued						
02320815	Sampson River at Graham, Fla	Lat 29°51'36", long 82°13'47", in NW1/4 sec.29, T.7 S., R.21 E., Bradford County, Hydrologic Unit 03110206 at bridge on State Highway 18, 0.7 mi west of Graham and 1.0 mi upstream from mouth.	74.3	1958 1975-77	08-23-90	1.46
02320849	Santa Fe River at Brooker, Fla.	Lat 29°52'43", Long 82°20'12", in SW1/4 sec.17, T.7 S., R.20 E., at bridge on State Highway 235, 0.7 mi south of Brooker, Bradford County, Fla.	245	1956	08-23-90	8.16
300612082 094000	New River at Highway 125 near Raiford, Fla.	Lat 30°06'12", long 82°09'40", in SW1/4 sec.36, T.4 S., R.21 E., Union County, Hydrologic Unit 03110206, at bridge on State Highway 125, 0.6 mi south of junction at State Highways 125 and 199, and 4.5 mi northeast of Raiford.	Not Determined	1976-77 1980	08-23-90 09-27-90	No Flow No Flow
02320900	New River near Raiford, Fla.	Lat 30°04'00", long 82°11'03", in NE1/4 sec.15, T.5 S., R.21 E., Union County, Hydrologic Unit 03110206, on downstream side of concrete bridge on State Highway 16, 0.5 mi southeast of Florida State Prison, 3.3 mi east of Raiford, 9.5 mi northwest of Starke and 22 mi upstream from mouth.	88.1	1958 1960 1965 1967 1975-76	09-27-90	.06
02320950	Water Oak Creek near Starke, Fla.	Lat 30°01'40", long 82°09'20", in NE1/4 sec.36, T.5 S., R.21 E., Bradford County, Hydrologic Unit 03110206, at bridge on State Highway 16, 0.1 mi north of Hillburn Spring, 4.5 mi upstream from mouth and 7.6 mi northwest of Starke.	20.6	1958-60 1965 1967 1977 1989	09-27-90	Dry
02320960	Water Oak Creek near Lawtey, Fla.	Lat 30°01'51", Long 82°11'26", in SE1/4 sec.27, T.5 S., R.21 E., Bradford County, Hydrologic Unit 03110206, at bridge on State Highway 22S, 2.0 mi upstream from mouth, 3.4 mi southeast of Raiford, and 7.1 mi west of Lawtey.	39.0	1957 1976-77 1979 1989	08-23-90 09-27-90	12.9 .023
300212082 131900	New River at State Road 229 near Raiford, Fla.	Lat 30°02'12", long 82°13'19", in NE1/4 sec.29, T.5 S., R.21 E., at bridge on State Road 229, Bradford County, Hydrologic Unit 03110206, (Raiford quadrangle), 0.3 mi below confluence of Turkey and Water Oak Creeks, and 2.2 mi southeast of Raiford.	Not Determined		08-23-90 09-27-90	13.3 1.15
02321000	New River near Lake Butler, Fla.	Lat 29°59'53", Long 82°16'27", in SE1/4 sec.2, T.6 S., R.20 E., Union County, Hydrologic Unit 03110206, at bridge on State Highway 100, 4.5 mi southeast of Lake Butler and 14 mi upstream from mouth.	193	1973-75 1977 1989	08-23-90 09-27-90	2.72 0.76
295700082 204300	New River near Brooker, Fla.	Lat 29°57'00", Long 82°20'43", in SW1/4 sec.19, T.6 S., R.20 E., Union County, Hydrologic Unit 03110206, at bridge on State Highway 231, 3.0 mi south of State Division of Corrections Medical Center, and 4.2 mi north of Brooker.	Not Determined	1976-77	09-27-90	1.70

DISCHARGE AT PARTIAL-RECORD STATIONS
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Discharge measurements made at special study and miscellaneous sites during water year 1990--Continued

Station No.	Station Name	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
SANTA FE RIVER BASIN--Continued						
295535082 244000	New River near Worthington Springs, Fla.	Lat 29°55'35", long 82°24'40", in NE¼ sec.33, T.6 S., R.19 E., Union County, Hydrologic Unit 03110206, at bridge on State Highway 18, 0.8 mi southeast of Worthington Springs.	Not Determined	1976-77	08-23-90 09-27-90	6.12 1.29
02321200	Richard Creek near Lake Butler, Fla.	Lat 30°01'10", long 82°18'59", in NE¼ sec.32, T.5 S., R.20 E., Union County, Hydrologic Unit 03110206, at culvert on State Highway 100, 1.7 mi east of Lake Butler, and 4.9 mi upstream from mouth.	13.9	1957-60 1965 1967 1976 1989	09-27-90	No Flow
02321800	Olustee Creek near Providence, Fla.	Lat 30°00'14", long 82°34'20", in NW¼ sec.1, T.6 S., R.17 E., (Ellisville Quadrangle Advance), Union County, Hydrologic Unit 03110206, at downstream side of bridge on State Highway 238, 1.5 mi west of Providence, 13.8 mi west of Lake Butler and 7 mi upstream from mouth.	163	1956-60 1965 1967-76 1989	08-23-90	No Flow
02321898	Santa Fe River at O'Leno State Park, Fla.	Lat 29°54'51", long 82°34'48", in NE¼ sec.2, T.7 S., R.17 E., Alachua County, Hydrologic Unit 03110206, near left bank on downstream side of footbridge at Oleno State Park, 0.5 mi upstream from submergence, 4.8 mi west of Blau, and 36 mi upstream from mouth.	820	1961 1977-82 1989	06-01-89 08-23-90	16.9* 17.5
02322000	Santa Fe River near High Springs, Fla.	Lat 29°51'10", long 82°36'31", in NE¼ sec. 27, T.7 S., R.17 E., Columbia County, Hydrologic Unit 03110206, at bridge on U.S. Highway 441, 1.85 mi northwest from junction of U.S. Highways 41 and 441 at High Springs.	Not Determined	1977 1989	08-23-90	119
02322540	Santa Fe River at State Hwy. 47 near Ft. White, Fla.	Lat 29°51'54", long 82°44'25", in NW¼ sec.20, T.7 S., R.16 E., Columbia County, Hydrologic Unit 03110206, at bridge on State Highway 47, 4.3 mi south of Ft. White and 16 mi upstream from mouth.	1,027	1932 1977	08-23-90	992
02322590	Cow Creek near Fort White, Fla.	Lat 29°51'21", long 82°45'24", in SW¼ sec.19, T.7 S., R.16 E., Gilchrist County, Hydrologic Unit 03110206, on downstream side of culvert on State Highway 138, 1.0 mi west of State Highway 47, 4.3 mi upstream from mouth and 5.2 mi south of Fort White.	89	1975-77 1989	08-23-90	1.62
02322800	Santa Fe River near Hildreth, Fla.	Lat 29°54'41", long 82°51'38", in NE¼ sec.1, T.7 S., R.14 E., Gilchrist County, Hydrologic Unit 03110206, at bridge on U.S. Highway 129, 2.4 mi upstream from mouth, and 4.4 mi southeast of Hildreth, Fla.	1,374	1956 1977	08-22-90	1,290

* Corrected.

DISCHARGE AT PARTIAL-RECORD STATIONS
AND MISCELLANEOUS SITES

Discharge measurements made at special study and miscellaneous sites during water year 1990--Continued

Station No.	Station Name	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
STEINHATCHEE RIVER BASIN						
02323870	Steinhatchee River near Mayo, Fla.	Lat 29°50'32", long 83°18'30", in SE¼ sec.27, T.7 S., R.10 E., Lafayette County, Hydrologic Unit 03110102 at bridge on graded road, 16.6 mi southwest of Mayo, Lafayette County.	Not Determined	1956 1965-67 1989	09-11-90	10.7
ECONFINA RIVER BASIN						
02325950	Econfina River near Eridu, Fla.	Lat 30°15'03", long 83°42'04", in SW¼ sec.2, T.3 S., R.6 E., Hydrologic Unit 03110102, at bridge on U.S. Highway 27, 4.4 miles southeast of Eridu, Taylor County.	158	1965-67 1989	09-11-90	1.02
AUCILLA RIVER BASIN						
02326250	Aucilla River near Aucilla, Fla.	Lat 30°29'31", long 83°43'53", in NW¼ sec.16, T.1 N., R.6 E., Jefferson County, Hydrologic Unit 03110103, at bridge on U.S. Highway 90, 1.3 mi northeast of Aucilla, and 48 mi upstream from mouth. Datum of gage is National Geodetic Vertical Datum of 1929.	345	1965-80	08-23-90	No Flow
02326300	Little Aucilla River near Greenville, Fla.	Lat 30°31'10", long 83°35'14", in NE¼ sec.2, T.1 N., R.7 E., Madison County, Hydrologic Unit 03110103, at bridge on State Highway 150, 4.5 mi northeast of Greenville, and 10 mi upstream from mouth. Datum of gage is 86.30 ft National Geodetic Vertical Datum of 1929.	90.7	1963-80	08-23-90	No Flow
02326500	Aucilla River near Lamont, Fla.	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.	747	1950-79 1983-89	08-23-90	4.05
WACISSA RIVER BASIN						
02326526	Wacissa River near Wacissa, Fla.	Lat 30°18'04", long 83°58'47", in NE¼ sec.24, T.2 S., R.3 E., Jefferson County, on left bank 200 ft upstream from midstream island, 2.1 mi upstream from Welaunee Creek, 2.4 miles downstream from confluence of Little River and Horsehead Run and 4.0 mi south of Wacissa.	30	1971-76	09-05-90	579
02326529	Welaunee Creek near Capps, Fla.	Lat 30°20'25", long 83°54'50", in NE¼ sec.3, T.2 S., R.4 E., at bridge on County road, 5.0 mi south of Capps, Jefferson County, Fla.	Not Determined	1956 1965-67	08-23-90	No Flow

ELEVATION OF LAKES

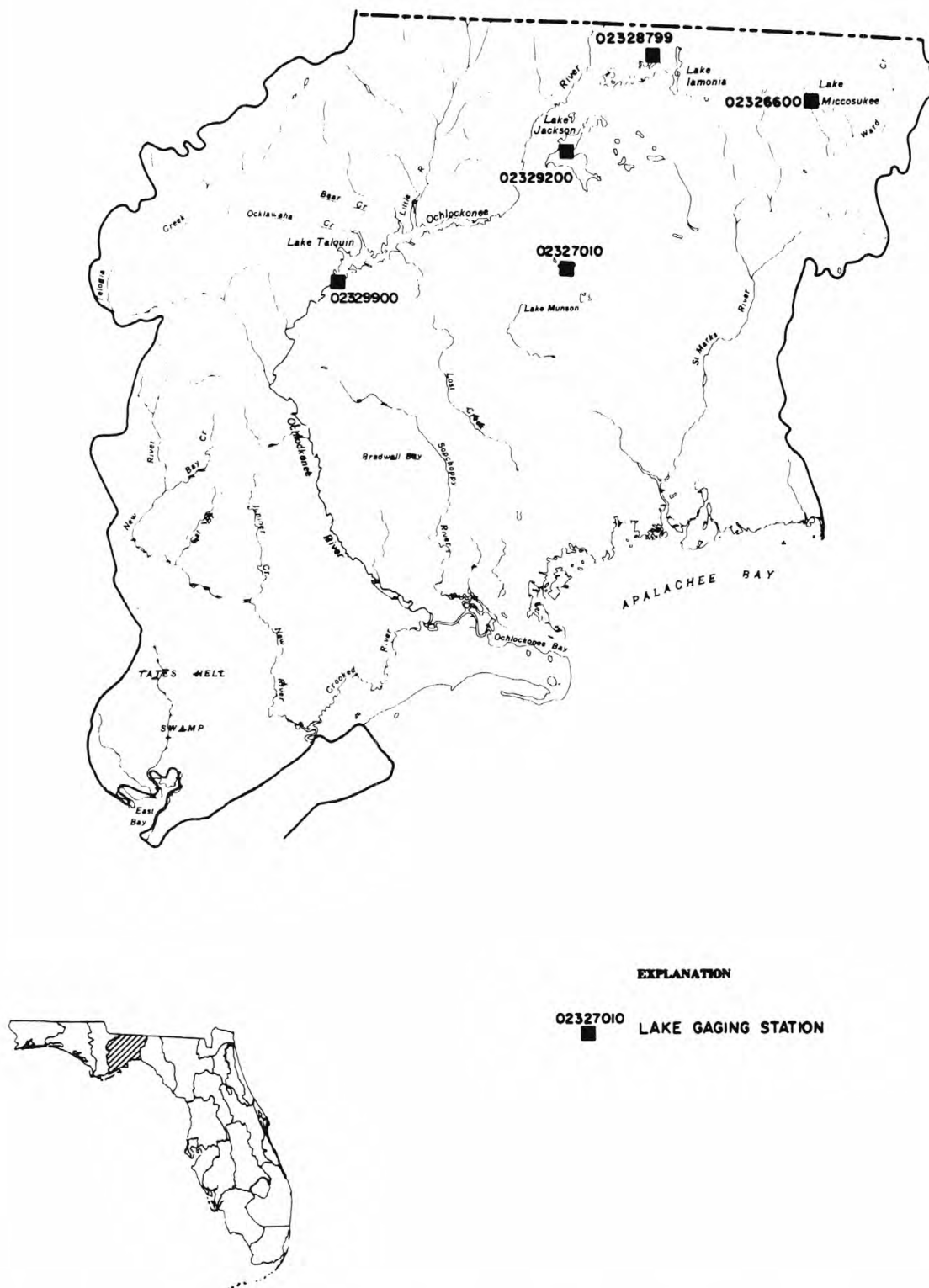


Figure 20.--Location of lake gaging stations in the St. Marks, and Ochlockonee River basins.

EXTREMES FOR CURRENT YEAR.--Maximum elevation observed, 78.86 ft, Feb. 24; minimum observed 70.86 ft, several days during August and September.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	77.46	76.76	76.56	77.26	77.76	78.86	78.26	77.36	76.36	74.76	70.86	71.26
10	77.46	76.96	76.66	77.56	77.86	78.66	78.06	77.26	76.16	74.66	71.06	70.96
15	77.36	76.86	76.76	77.56	78.26	78.56	77.96	77.06	75.86	74.06	70.86	---
20	77.26	76.76	76.96	77.56	78.56	78.56	77.76	76.86	75.66	73.46	70.96	---
25	77.16	76.76	77.06	77.66	78.86	78.46	77.56	76.76	75.46	72.76	71.36	---
EOM	76.96	76.66	77.16	77.66	78.86	---	77.56	76.56	75.06	71.56	71.96	---
TOTAL	2396.36	2303.38	2381.76	2402.96	2190.78	---	2337.10	2387.86	2276.00	2285.16	2205.96	---
MEAN	77.30	76.78	76.83	77.51	78.24	---	77.90	77.03	75.87	73.71	71.16	---
MAX	77.56	76.96	77.16	77.66	78.86	---	78.36	77.56	76.56	74.96	72.16	---
MIN	76.96	76.66	76.46	77.16	77.76	---	77.56	76.56	75.06	71.56	70.86	---
MED	77.36	76.76	76.76	77.56	78.26	---	77.91	76.96	75.81	74.06	70.96	---
CAL YR 1989	TOTAL 27388.93		MEAN 75.04	MAX 78.41		MIN 71.00	MED 76.66					

ST. MARKS RIVER BASIN
02327010 LAKE BRADFORD NEAR TALLAHASSEE, FL

LOCATION.--Lat 30°24'10", long 84°20'05", in NE¼ sec.16, T.1 S., R.1 W., Leon County, Hydrologic Unit 03120001, on east shore of lake at Florida State University dock, 4.0 mi southwest of State Capitol Building, Tallahassee. Auxillary staff gage 0.8 mi north.

SURFACE AREA.--182 acres, (0.28 mi²) at elevation 31 ft NGVD.

DRAINAGE AREA.--20.6 mi².

PERIOD OF RECORD.--February to December 1954, (weekly, incomplete); January 1955 to June 1960, (bimonthly, incomplete); July 1960 to November 1961 (monthly); January 1962 to October 1979 (bimonthly); January 1980 to current year (fragmentary). Published since October 1960.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929. Apr. 8, 1955 to Mar. 2, 1956, nonrecording gage at site 600 ft northwest at datum 19.53 ft higher. Since January, 1980, an auxillary nonrecording gage 0.8 mi northeast at present datum.

REMARKS.--Lake is a chain of lakes connected by Bradford Brook. When the lake level is high it is connected with two smaller lakes to the northwest - Lake Hiawatha and Lake Minnehaha. Surface outflow to the northeast is through Bradford Brook into Grassy Lake, thence into Munson Slough, and is controlled by three culverts, elevation 31.7 ft. Loss to ground water through sinkholes on the east shore was reduced by plugging in March 1954.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 37.08 ft, April 5, 1973; minimum observed, 21.00 ft, June 26, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum elevation observed, 33.56 ft Feb. 27; minimum observed, 29.15 ft Sept. 23.

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	32.54	32.56	---	33.04	32.79	---	---	---	---	30.78	30.35	29.86
10	32.81	32.76	---	33.14	32.73	33.10	32.67	---	31.17	30.63	30.23	29.80
15	32.87	---	32.88	33.10	---	32.88	32.58	31.95	31.00	---	---	---
20	32.93	32.80	33.07	32.99	33.22	---	32.42	31.76	31.14	30.59	30.01	---
25	32.88	---	33.10	32.93	33.55	32.89	32.24	31.69	31.02	---	---	---
EOM	32.71	32.80	33.02	---	---	32.87	32.41	31.49	---	30.30	29.98	29.74

OCHLOCKONEE RIVER BASIN
02328799 LAKE IAMONIA NEAR BRADFORDVILLE, FL

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LOCATION.--Lat 30°38'37", long 84°11'45", in SE¼ sec.23, T.3 N., R.1 E., Leon County, Hydrologic Unit 03120003, at south side of drawdown control structure, 2100 ft east of county public landing road, 1.2 mi southeast of Tall Timbers Research Center, and 5.7 mi north of Bradfordville.

SURFACE AREA.--5,680 acres (8.9 mi²) at elevation, 98 ft NGVD.

DRAINAGE AREA.--101 mi².

PERIOD OF RECORD.--April 1919 to June 1937, 1957, 1963 (fragmentary); December 1974 to October 1975 (weekly); November 1975 to September 1977; February 1979 to September 1981 (weekly), October 1981 to September 1982 (monthly), November 1982 to May 1983 (fragmentary), November 1983 to current year. Records published since February 1979.

GAGE.--Water-stage recorder. Datum of gage is 82.00 ft above National Geodetic Vertical Datum of 1929. April 1919 to June 1937, at various sites and datums. December 1974 to October 1975, at site 0.9 mi northwest at datum 13.44 ft higher. November 1975 to September 1977, water-stage recorder at site 0.9 mi northwest at present datum. February 1979 to May 1983, nonrecording gage at site 0.9 mi northwest at same datum. November 1983 to May 1985, water-stage recorder at site 0.9 mi northwest at same datum. Gage heights have been reduced to elevations NGVD.

REMARKS.--Ochlockonee River overflows into lake at high stages.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 106.22 ft, Feb. 13, 1986, from floodmarks; minimum, 94.60 ft, June 5, 1989.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 4, 1948, reached at stage of 106.97 ft from floodmarks from information by local resident. Lake dry, May 7, 1910, and in 1917 (month unknown), and Nov. 8, 1934, furnished by Dr. Komarek, Tall Timbers Research Center.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 98.46 ft, Mar. 17, 18; minimum, 95.50 ft, Dec. 7, 8.

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	e96.14	95.68	95.53	95.78	97.08	98.40	98.37	97.88	97.37	96.95	96.50	---
10	e96.23	95.82	95.69	96.05	97.10	98.35	98.28	97.86	97.26	96.83	96.38	---
15	e96.11	95.76	95.69	96.69	97.14	98.29	98.24	97.75	97.13	96.83	96.25	---
20	e96.13	95.70	95.72	96.92	97.40	98.43	98.11	97.69	97.12	96.75	96.20	---
25	95.86	95.66	95.71	97.03	97.92	98.38	98.02	97.64	97.09	96.65	96.25	---
EOM	95.75	95.62	95.69	97.06	98.24	98.40	97.98	97.41	96.98	96.54	96.21	---
TOTAL	2977.67	2871.44	2965.46	2992.08	2725.71	3049.38	2946.09	3029.77	2915.68	3000.24	2985.49	---
MEAN	96.05	95.71	95.66	96.52	97.35	98.37	98.20	97.73	97.19	96.78	96.31	---
MAX	96.27	95.83	95.73	97.07	98.24	98.45	98.43	97.96	97.39	96.98	96.51	---
MIN	95.75	95.62	95.51	95.76	97.05	98.28	97.98	97.41	96.98	96.54	96.16	---
MED	96.13	95.71	95.69	96.79	97.14	98.36	98.23	97.74	97.15	96.79	96.26	---

CAL YR 1989 TOTAL 34965.65 MEAN 95.80 MAX 96.58 MIN 94.63 MED 95.83

e Estimated

OCHLOCKONEE RIVER BASIN
02329200 LAKE JACKSON NEAR TALLAHASSEE, FL

LOCATION.--Lat 30°31'43", long 84°21'30", in SW1/4 sec.32, T.2 N., R.1 W., Leon County, Hydrologic Unit 03120003, on southwest side of lake, east of U.S. Highway 27, and 6.0 mi northwest of Tallahassee.

SURFACE AREA.--4,001 acres (6.25 mi²), at elevation 87 ft NGVD.

DRAINAGE AREA.--43.2 mi².

PERIOD OF RECORD.--March 1950 to January 1953, March 1954 to August 1956, September 1956 to August 1958 (fragmentary), September 1958 to May 1990. June to September 1990 (fragmentary). Records of elevation prior to October 1960 are available in file of the Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Lake has no surface outlet. Some outflow from lake through sinkhole to ground water.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily elevation, 96.16 ft, June 18, 1966 (from recorded range in stage); minimum observed, 75.68 ft, Jan. 4, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 84.80 ft, Feb. 22; minimum observed 81.76 ft, Sept. 27.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	84.34	84.03	84.02	84.29	84.37	84.67	84.50	83.93	83.25	---	---	---
10	84.44	84.24	84.17	84.44	84.40	84.64	84.39	83.85	---	---	---	---
15	84.34	84.18	84.18	84.38	84.47	84.57	84.33	83.75	---	---	---	---
20	84.39	84.09	84.30	84.34	84.65	84.66	84.23	e83.64	---	82.91	---	---
25	84.31	84.08	84.25	84.36	84.73	84.60	84.11	e83.53	---	---	---	---
EOY	e84.15	84.11	84.24	84.41	84.71	84.60	84.05	83.33	---	82.82	---	---
TOTAL	2614.62	2523.44	2609.45	2615.51	2366.78	2623.50	2529.15	2594.99	---	---	---	---
MEAN	84.34	84.11	84.18	84.37	84.53	84.63	84.30	83.71	---	---	---	---
MAX	84.48	84.24	84.30	84.45	84.74	84.71	84.59	84.03	---	---	---	---
MIN	84.15	84.02	84.01	84.29	84.33	84.52	84.05	83.33	---	---	---	---
MED	84.35	84.10	84.18	84.38	84.49	84.64	84.32	83.72	---	---	---	---
CAL YR 1989	TOTAL 30631.54 MEAN 83.92 MAX 84.55 MIN 82.68 MED 84.09											

e Estimated

LOCATION.--Lat 30°23'15", long 84°38'45", in SW 1/4 sec. 16, T.1 S., R.4 W., Leon County, Hydrologic Unit 03120003, at left upstream end of C.H. Corn Hydroelectric Dam on Ochlockonee River, 1.0 mi northwest of Bloxham, and 3.5 mi downstream from Oklawaha Creek.

SURFACE AREA.--6,850 acres (10.7 mi²), at elevation 60.0 ft NGVD, from data provided by Florida Power Corporation.

DRAINAGE AREA.--1,700 mi².

PERIOD OF RECORD.--January 1930 to September 1950 (month-end contents only, published only in WSP 1304); October 1951 to September 1960 (month-end elevations and contents); October 1960 to September 1982, March 1985 to current year (month-end elevations, contents and daily elevations).

REVISED RECORDS.--WSP 1905, WRD FL-76-4: Drainage area.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Florida Power Corp.).

REMARKS.--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway is equipped with seven taintor gates, each 16 ft high by 25 ft wide. Storage began in June 1929; water in lake first reached minimum operating level January 1930. Usable capacity, 69,800 acre-ft between elevations, 60.0 ft, minimum operating level, and 68.5 ft, top of closed taintor gates. Contents given herein are above minimum operating level. Dead storage is unknown.

COOPERATION.--Records provided by City of Tallahassee, Electric Department.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 99,400 acre-ft, Sept. 22, 1969, elevation, 71.16 ft; maximum instantaneous elevation, 71.60 ft, Sept. 22, 1969; minimum daily elevation after January 1930, 48.70 ft, Oct. 22, 23, 1957 (earth embankment breached).

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 74,200 acre-ft, Aug. 31, elevation, 68.94 ft; minimum daily contents, 62,600 acre-ft, Feb. 26; elevation, 67.77 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

	Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.	30.....	68.46	79,400	--
Oct.	31.....	68.56	70,400	+ 1,000
Nov.	30.....	68.57	70,500	+ 100
Dec.	31.....	68.52	70,000	- 500
CAL YR 1989.....				- 600
Jan.	31.....	68.40	68,800	- 1,200
Feb.	28.....	68.09	65,700	- 3,100
Mar.	31.....	68.53	70,100	+ 4,400
Apr.	30.....	68.43	69,100	- 1,000
May	31.....	68.58	70,600	+ 1,500
June	30.....	68.29	67,700	- 2,900
July	31.....	68.47	69,500	+ 1,800
Aug.	31.....	68.94	74,200	+ 4,700
Sept.	30.....	68.29	67,700	- 6,500
WTR YR 1990.....				-1,700

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	68.41	68.55	68.56	68.45	68.39	68.33	68.21	68.35	68.58	68.29	68.42	68.47
10	68.60	68.65	68.89	68.60	68.59	68.46	68.56	68.45	68.40	68.29	68.49	68.34
15	68.55	68.59	68.39	68.32	68.29	68.51	68.32	68.38	68.36	68.42	68.43	68.39
20	68.42	68.59	68.46	68.51	68.18	68.38	68.39	68.35	68.44	68.60	68.50	68.37
25	68.50	68.64	68.43	68.57	67.80	68.37	68.40	68.42	68.41	68.52	68.56	68.27
EOM	68.56	68.57	68.52	68.40	68.09	68.53	68.43	68.58	68.29	68.47	68.94	68.29
TOTAL	2124.40	2057.82	2123.99	2123.51	1911.73	2120.70	2051.70	2120.87	2053.33	2121.19	2124.61	2051.43
MEAN	68.53	68.59	68.52	68.50	68.28	68.41	68.39	68.42	68.44	68.43	68.54	68.38
MAX	68.70	68.67	68.89	68.87	68.68	68.64	68.60	68.59	68.65	68.65	68.94	68.86
MIN	68.38	68.51	68.34	68.32	67.77	68.18	68.21	68.35	68.29	68.24	68.40	68.21
MED	68.53	68.59	68.49	68.47	68.33	68.40	68.40	68.40	68.43	68.47	68.49	68.37
CAL YR 1989	TOTAL 25016.83	MEAN 68.54	MAX 69.19	MIN 68.00	MED 68.55							
WTR YR 1990	TOTAL 24985.28	MEAN 68.45	MAX 68.94	MIN 67.77	MED 68.44							

e Estimated

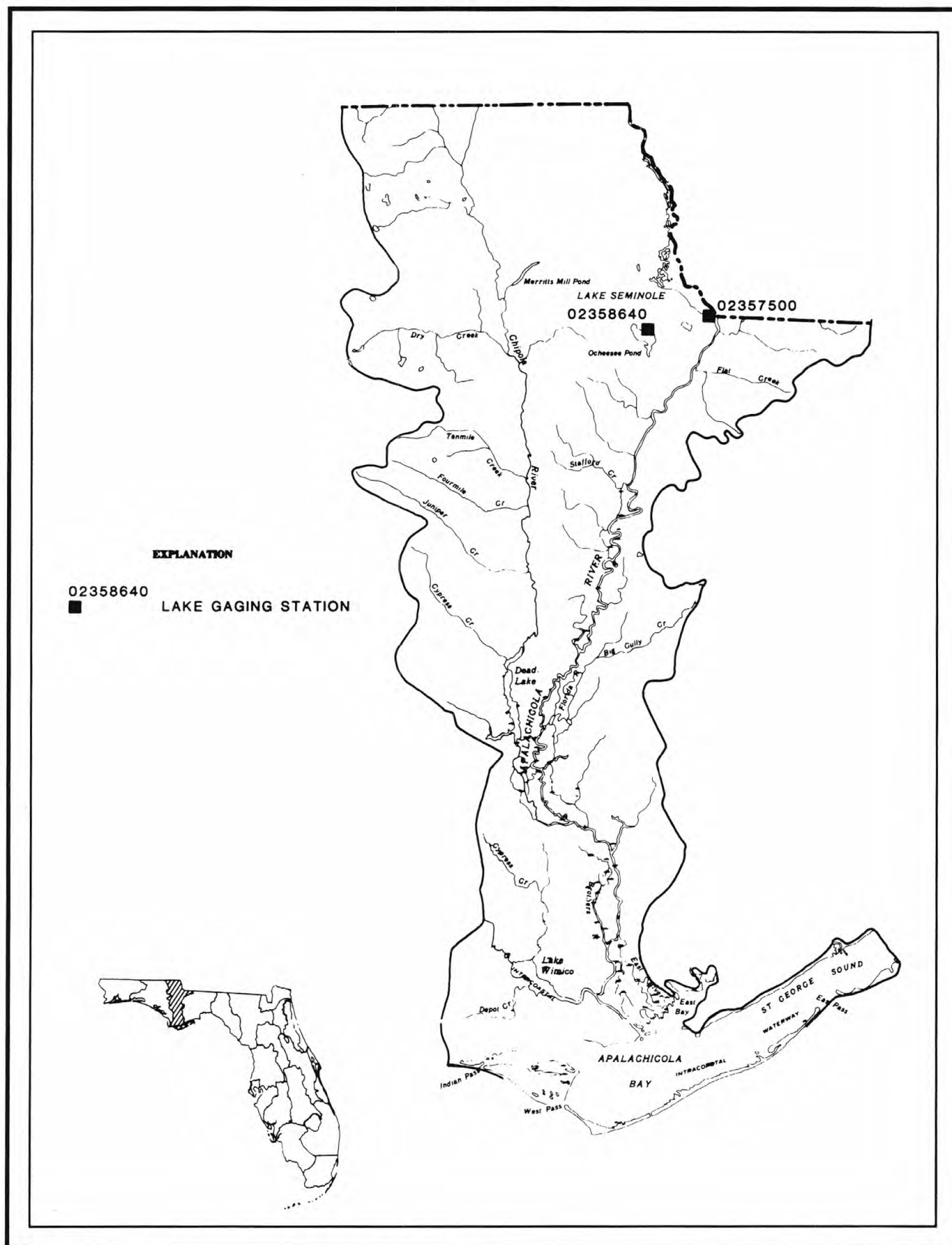


Figure 21.--Location of lake gaging stations in the Apalachicola River basin.

APALACHICOLA RIVER BASIN
02357500 LAKE SEMINOLE AT CHATTAHOOCHEE, FL

143

LOCATION.--Lat 30°42'29", long 84°51'56", in NE¼ sec. 31, T.4 N., R.6 W., Jackson County, Hydrologic Unit 03130004, near left bank in the control house of Jim Woodruff Dam on Chattahoochee River, 0.6 mi upstream from bridge on U.S. Highway 90, and 1.5 mi northwest of Chattahoochee.

SURFACE AREA.--37,500 acres (58.6 mi²), at elevation 77.0 ft NGVD, from data provided by U.S. Army Corps of Engineers.

DRAINAGE AREA.--17,100 mi², approximately.

PERIOD OF RECORD.--July 1954 to September 1960 (monthend elevations and contents); October 1960 to Sept. 1989 (daily elevations and contents), Oct. 1989 to Sept. 1990 (monthend elevations and contents). Prior to October 1959, published as Jim Woodruff Reservoir at Chattahoochee.

REVISED RECORDS.--WSP 1554: 1955-57, WRD FL-83-4: 1983.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to July 22, 1957, nonrecording gage at same site at datum 53.96 ft higher. Prior to 1981, on right upstream lock wall at same datum.

REMARKS.--Reservoir is formed by earthfill dam with concrete fixed-crest spillway, a center channel spillway with 16 vertical lift gates 40 ft long and 20.5 ft high, and a side channel navigation lock 82 ft wide. Total capacity at elevation 77.0 ft, normal pool, is 367,320 acre-ft, of which 36,170 acre-ft between elevation 77.0 ft and 76.0 ft are used for pondage. Gates closed on May 20, 1954; filling of lake accomplished in several stages between that date and Feb. 4, 1957, when the pool first reached normal operating level, elevation 77.0 ft. Figures given herein represent total contents. Lake is used for navigation and power.

COOPERATION.--Monthend elevations and contents provided by U.S. Army Corps of Engineers, Mobile District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 433,300 acre-ft, Apr. 7, 8, 1960, elevation, 78.66 ft; minimum contents after Feb. 4, 1957, 272,100 ft, Nov. 27, 1978, elevation, 74.18 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 396,500 acre-ft, May 5, elevation, 77.75 ft; minimum contents, 315,800 acre-ft, June 27, elevation, 75.54 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	76.93	364,800	-
Oct. 31.....	76.32	342,700	-22,100
Nov. 30.....	77.23	376,200	+33,500
Dec. 31.....	77.09	370,800	- 5,400
CAL YR 1989.....	-	-	+33,600
Jan. 31.....	77.62	391,400	+20,600
Feb. 28.....	77.32	379,700	-11,700
Mar. 31.....	77.49	386,400	+ 6,700
Apr. 30.....	76.97	366,200	-20,200
May 31.....	77.52	387,500	+21,300
June 30.....	76.45	347,400	-40,100
July 31.....	76.66	355,000	+ 7,600
Aug. 31.....	77.00	367,300	+12,300
Sept. 30.....	76.68	355,700	-11,600
WTR YR 1990.....	-	-	- 9,100

APALACHICOLA RIVER BASIN
02358640 OCHEESSEE POND NEAR SNEADS, FL

LOCATION.--Lat 30°41'32", long 84°58'21", in NW¼ sec.6, T.3 N., R.7 W., Jackson County, Hydrologic Unit 03130004, near north shore of lake, 1.8 mi southeast of Grand Ridge, and 4.2 mi west of Sneads.

SURFACE AREA.--2,230 acres (3.5 mi²).

DRAINAGE AREA.--24.2 mi².

PERIOD OF RECORD.--September and October 1979 (one observation each month); December 1979 to November 1980 (weekly); March 1981 to current year (fragmentary). Records of daily elevations, October 1948 to March 1950, provided by U.S. Army Corps of Engineers, are available in files of the Geological Survey.

GAGE.--Nonrecording gage. Datum of gage is 17.68 ft above National Geodetic Vertical Datum of 1929. Since December 31, 1982, auxiliary nonrecording gage at site 300 ft north at datum 2.02 ft lower. Prior to May 21, 1981, nonrecording gage at different site at datum 89.68 ft higher. October 1948 to March 1950, nonrecording gage established by U.S. Army Corps of Engineers, at site on south shore of lake at datum 86.21 ft higher.

REMARKS.--Outflow from the lake is through two ditches below SR 280 at south end of lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 114.7 ft, Mar. 6, 1984, provided by local resident; minimum observed, 105.62 ft, Oct. 13, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation observed, 117.97 ft, Oct. 22, 1948, provided by U.S. Army Corps of Engineers.

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET) (72020)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET) (72020)
NOV			JUN		
21...	1530	<107.00	14...	1115	109.30
FEB			AUG		
16...	0905	109.28	03...	1345	107.18
MAY			SEP		
04...	1230	109.93	28...	1415	<107.00

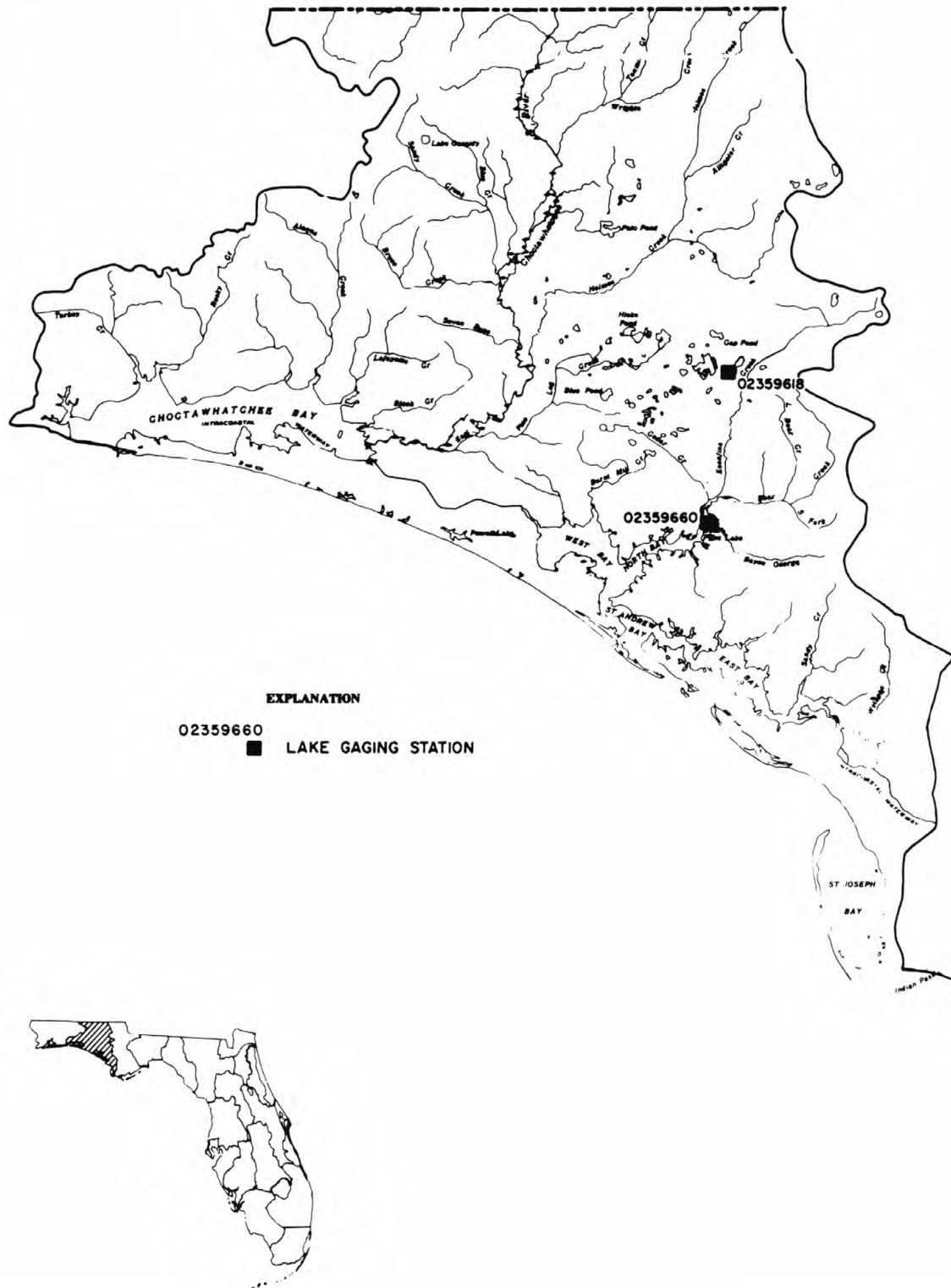


Figure 22.--Location of lake gaging stations in the Econfina Creek basin.

ECONFINA CREEK BASIN
02359618 PORTER LAKE NEAR GREENHEAD, FL

LOCATION.--Lat 30°29'50", long 85°33'05", in SW $\frac{1}{4}$ sec.9, T.1 N., R.13 W., Washington County, Hydrologic Unit 03140101, on west shore near southwest end of lake, 6.6 mi east of Greenhead.

SURFACE AREA.--929 acres (1.45 mi²) at elevation 70 ft NGVD.

DRAINAGE AREA.--7.64 mi².

PERIOD OF RECORD.--January 1961 to September 1970 (weekly), incomplete; October 1970 to current year (periodically).

GAGE.--Nonrecording gage. Datum of gage is 52.27 ft above National Geodetic Vertical Datum of 1929. Gage readings have been reduced to elevations NGVD.

REMARKS.--Lake is in a closed basin of lakes and ponds, fed by White Oak Creek, in the western part of Econfina Creek basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed elevation, 75.37 ft, Mar. 26, 1984; minimum observed, 53.22 ft, Dec. 8, 1969.

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET) (72020)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET) (72020)
OCT			MAY		
29...	0730	72.95	02...	1250	71.97
NOV			07...	1237	71.85
01...	1220	72.91	29...	0920	71.25
29...	1532	72.87	JUN		
DEC			12...	1245	70.78
20...	1421	72.83	28...	1320	70.69
26...	1058	72.67	JUL		
JAN			26...	1820	70.25
26...	1121	72.95	AUG		
FEB			01...	1335	69.96
13...	1210	72.65	22...	1327	69.21
27...	0810	72.97	SEP		
MAR			26...	1335	68.77
20...	1346	72.76			

ECONFINA CREEK BASIN
02359660 DEER POINT LAKE NEAR PANAMA CITY, FL

147

LOCATION.--Lat 30°17'57", long 85°34'50", in SE¼ sec.19, T.2 S., R.13 W., Bay County, Hydrologic Unit 03140101, on east shore of lake on private dock 0.3 mi north of public boat landing, 2.4 mi north of Deer Point Dam, and 10 mi northeast of Panama City.

SURFACE AREA.--4,698 acres, 7.34 mi², at elevation 4.3 ft NGVD.

DRAINAGE AREA.--435 mi², of which 43.9 mi² is noncontributing.

PERIOD OF RECORD.--November 1961 to September 1962 (fragmentary); October 1962 to October 1978 (once daily); November to December 1978 (weekly); January to June 1979 (once daily); July 1979 to January 1981 (weekly); February 1981 to current year (once daily).

REVISED RECORD.--WRD FL-78-4: 1962-77.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929 (Florida Department of Transportation bench mark). Prior to June 4, 1965 at site 0.3 mi south at datum then in use.

REMARKS.--Lake is formed by fixed concrete-capped sheet-pile dam with underpass tube and valve; crest of dam is at elevation 4.3 ft. Dam was completed on Nov. 17, 1961, and was filled to normal elevation of 4.6 ft Dec. 2, 1961. Minimum elevation affected by drawdown of lake level.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 7.67 ft, July 31, 1975, from high-water mark; minimum elevation, 1.2 ft estimated, Jan. 6, 1981, minimum observed, 1.40 ft, Mar. 3, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum daily elevation, 5.50 ft, Jan. 1; minimum daily 4.82 ft, Nov. 25.

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.97	5.01	5.03	5.01	4.97	4.99	4.95	4.97	4.99	5.03	4.98	4.96
10	4.98	5.10	5.18	4.88	5.06	5.07	5.01	5.04	4.97	4.95	5.01	4.96
15	4.99	5.01	5.09	5.05	4.94	4.92	5.02	5.03	4.94	5.12	4.92	4.99
20	---	5.06	5.06	5.09	5.17	4.83	4.86	4.98	4.98	---	4.94	4.87
25	4.96	4.82	5.15	5.06	5.12	4.99	4.97	5.03	5.01	5.01	5.02	4.93
EOY	5.14	5.06	5.19	5.07	5.05	4.95	4.97	4.87	4.95	4.92	4.93	4.86
TOTAL	---	150.92	158.31	156.73	141.13	153.96	148.95	154.75	149.33	---	153.89	147.77
MEAN	---	5.03	5.11	5.06	5.04	4.97	4.96	4.99	4.98	---	4.96	4.93
MAX	---	5.21	5.27	5.50	5.21	5.11	5.07	5.04	5.08	---	5.03	5.03
MIN	---	4.82	4.97	4.88	4.92	4.83	4.86	4.87	4.90	---	4.87	4.85
MED	---	5.05	5.10	5.05	5.02	4.96	4.97	5.00	4.97	---	4.97	4.93

WELL DESCRIPTIONS AND GROUND-WATER DATA

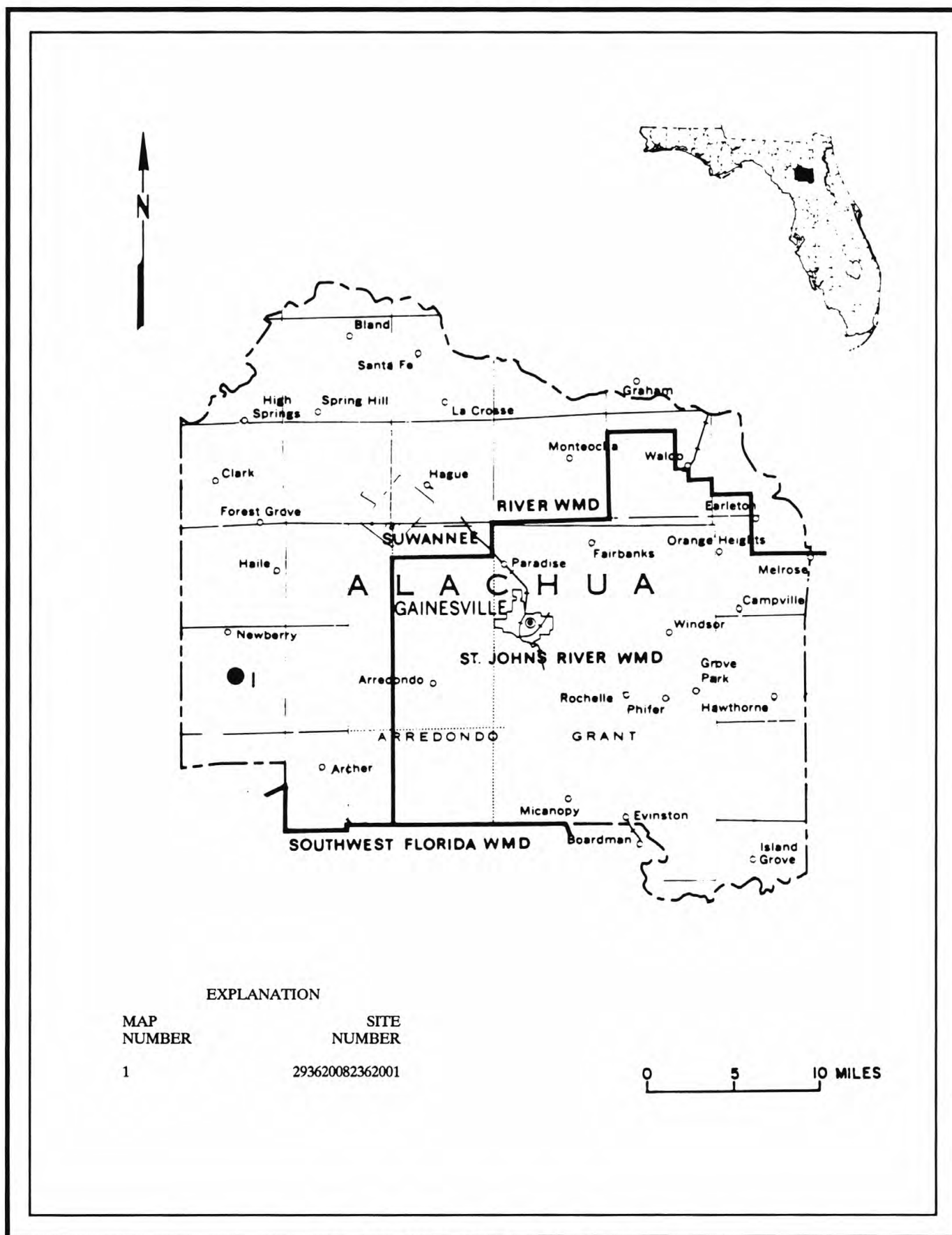


Figure 23.--Location of wells in Alachua County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
ALACHUA COUNTY

151

WELL NUMBER.--293620082362001. USGS Observation Well near Newberry, FL.

LOCATION.--Lat 29°36'20", long 82°36'20", in NW¼SW¼NW¼ sec.22, T.10 S., R.17 E., Hydrologic Unit 03110101, 3.0 mi south of Newberry and 6.5 mi north of Archer.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, test, artesian well, diameter 8 in., depth 252 ft, cased to 136 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of recorder shelf, 4.00 ft above land-surface datum.

DATUM.--Land-surface datum is 72.27 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--July 1958 to September 1984 (continuous water level recorder); October 1985 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 54.63 ft NGVD, Oct. 7, 1965; lowest, 38.00 ft NGVD, Jan. 15, 1982.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
OCT			APR		
18...	1250	41.19	20...	1030	40.14
NOV			MAY		
28...	1320	41.62	15...	1300	40.05
DEC			JUN		
26...	0900	40.79	21...	1310	39.75
JAN			JUL		
24...	0900	40.54	18...	1215	39.86
FEB			AUG		
22...	1230	40.30	22...	1230	40.55
MAR			SEP		
13...	1345	40.14	18...	0900	40.02

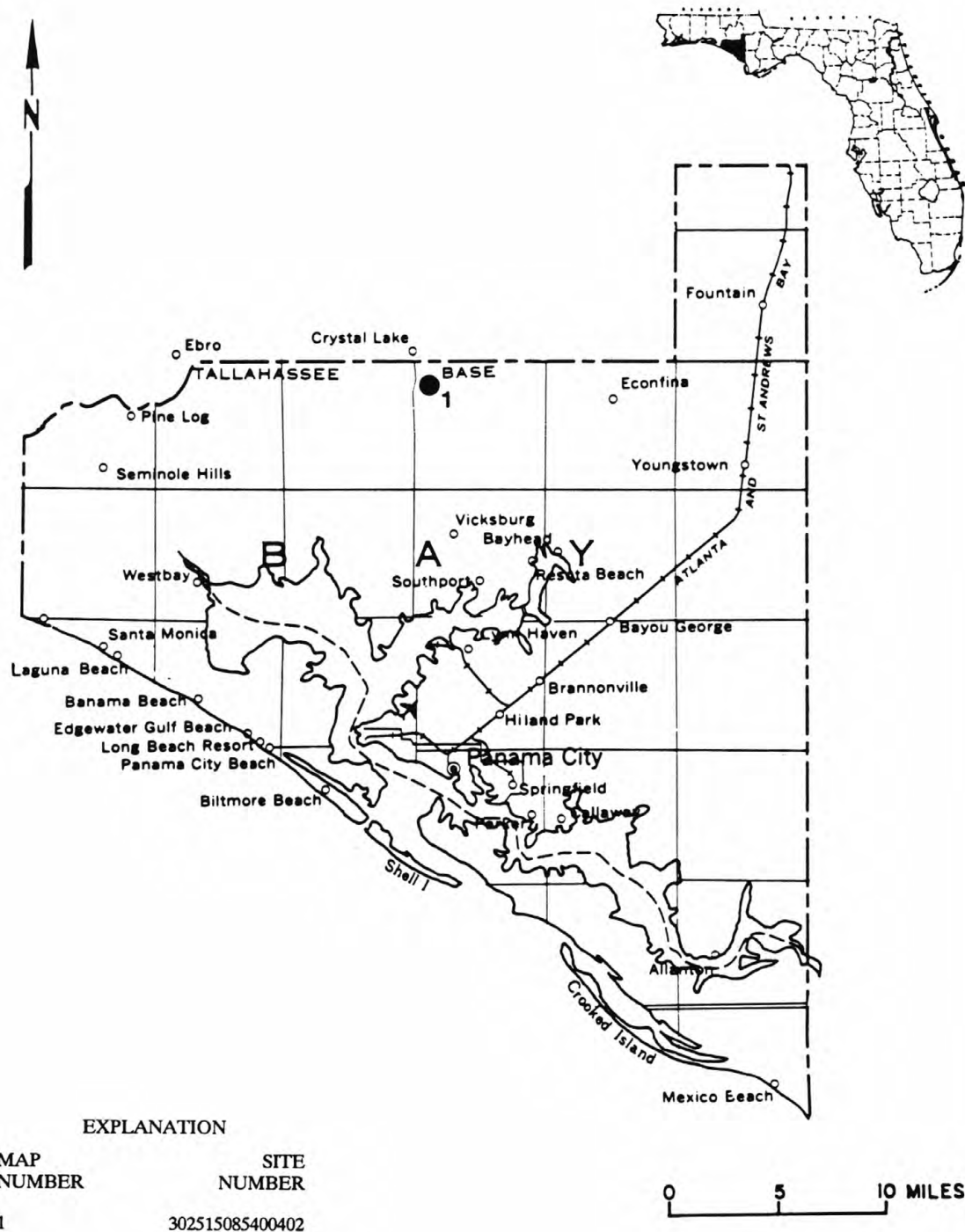


Figure 24.—Location of wells in Bay County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
BAY COUNTY

153

WELL NUMBER.--302515085400402. Well number 6.2. USGS Observation Well at Lake Five-0, Bay County, Florida.

LOCATION.--Lat 30°25'15", long 85°40'04", in SW1/4 sec.8, T.1 S., R.14 W., Hydrologic Unit 03140101, west of Lake Five-0.

AQUIFER.--Nonartesian sand aquifer of the Tertiary System, Geologic Unit 120 NRSD.

WELL CHARACTERISTICS.--Drilled, observation, nonartesian well, diameter 2 in., depth 37 ft., cased to 32 ft.

INSTRUMENTATION.--Water-level recorder. Measuring point: Top of 2 in. casing.

DATUM.--Measuring point is 75.69 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--November 1988 to May 1989 (monthly); July 25, 1989 to current year (discontinued). Records of water levels prior to July 1989 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 52.68 ft NGVD, Nov. 15, 1989; lowest measured, 46.89 ft NGVD, May 9, 1989.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5										---	51.87	52.20
10										---	52.00	52.21
15										---	52.10	52.21
20										---	52.16	52.27
25										51.60	52.13	52.33
EOM										51.74	52.10	52.35
TOTAL										413.31	1613.08	1567.42
MEAN										51.66	52.03	52.25
MAX										51.74	52.16	52.35
MIN										51.58	51.77	52.13
WTR YR 1989	TOTAL	3593.81		MEAN	52.08	MAX	52.35	SEP 26 AND OTHERS	MIN	51.58	JUL 24	
NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR												

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	52.39	52.53	52.40	52.38	---	51.93	51.35	50.87	50.30	49.96	51.39	50.55
10	52.33	52.66	52.33	52.47	52.31	51.79	51.24	50.83	50.24	49.97	51.32	50.38
15	52.30	52.68	52.30	52.50	52.19	51.69	51.17	50.75	50.15	50.49	51.13	50.18
20	52.46	52.59	52.22	---	52.14	51.61	51.05	50.67	50.04	50.99	51.00	50.00
25	52.49	52.51	52.12	---	52.08	51.49	50.98	50.57	50.09	51.27	50.93	49.80
EOM	52.52	52.46	52.14	---	52.04	51.39	50.95	50.42	49.98	51.39	50.75	49.60
TOTAL	1624.70	1577.31	1620.12	891.32	1095.58	1602.19	1534.65	1572.07	1504.82	1568.87	1584.84	1504.85
MEAN	52.41	52.58	52.26	52.43	52.17	51.68	51.16	50.71	50.16	50.61	51.12	50.16
MAX	52.52	52.68	52.45	52.53	52.31	52.04	51.37	50.93	50.40	51.39	51.39	50.71
MIN	52.30	52.46	52.02	52.22	52.04	51.39	50.95	50.42	49.98	49.96	50.75	49.60
WTR YR 1990	TOTAL	17681.32		MEAN	51.40	MAX	52.68	NOV 15	MIN	49.60	SEP 30	

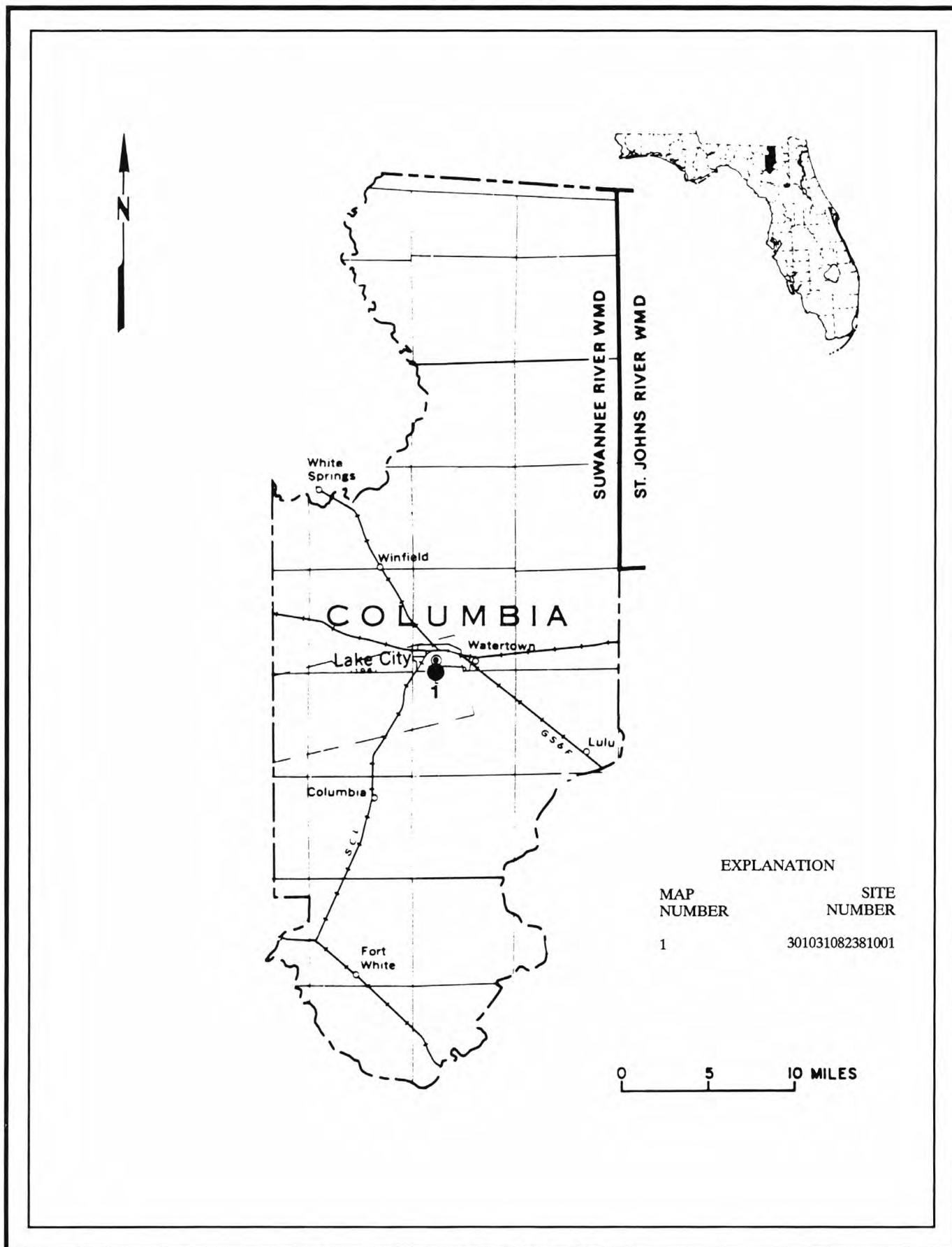


Figure 25.--Location of wells in Columbia County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
COLUMBIA COUNTY

155

WELL NUMBER.--301031082381001. Local Number Columbia 9. City of Lake City Well at Lake City, FL.

LOCATION.--Lat 30°10'31", long 82°38'10", in SE¼NE¼NW¼ sec.5, T.4 S., R.17 E., Hydrologic Unit 03110206, 0.1 mi east of U.S. Highway 441 and 1.0 mi south of intersection of U.S. Highway 441 and U.S. Highway 90 at Lake City.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 12 in., depth 836 ft, cased to 680 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top edge shelter floor, 1.05 ft above land-surface datum.

DATUM.--Land-surface datum is 143.64 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--July 1942 (annually); June 1948 to September 1987 (continuous water level recorder); October 1987 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 64.11 ft NGVD, June 4, 1948; lowest measured, 43.99 ft NGVD, Sept. 26, 1990.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
OCT			APR		
26...	1020	45.44	24...	0905	45.82
NOV			MAY		
27...	1205	45.29	22...	0905	45.73
DEC			JUN		
18...	1110	45.09	25...	1315	45.28
JAN			JUL		
25...	1035	45.12	25...	0905	44.89
FEB			AUG		
26...	0840	44.87	27...	1330	44.42
MAR			SEP		
26...	1135	45.40	26...	0845	43.99

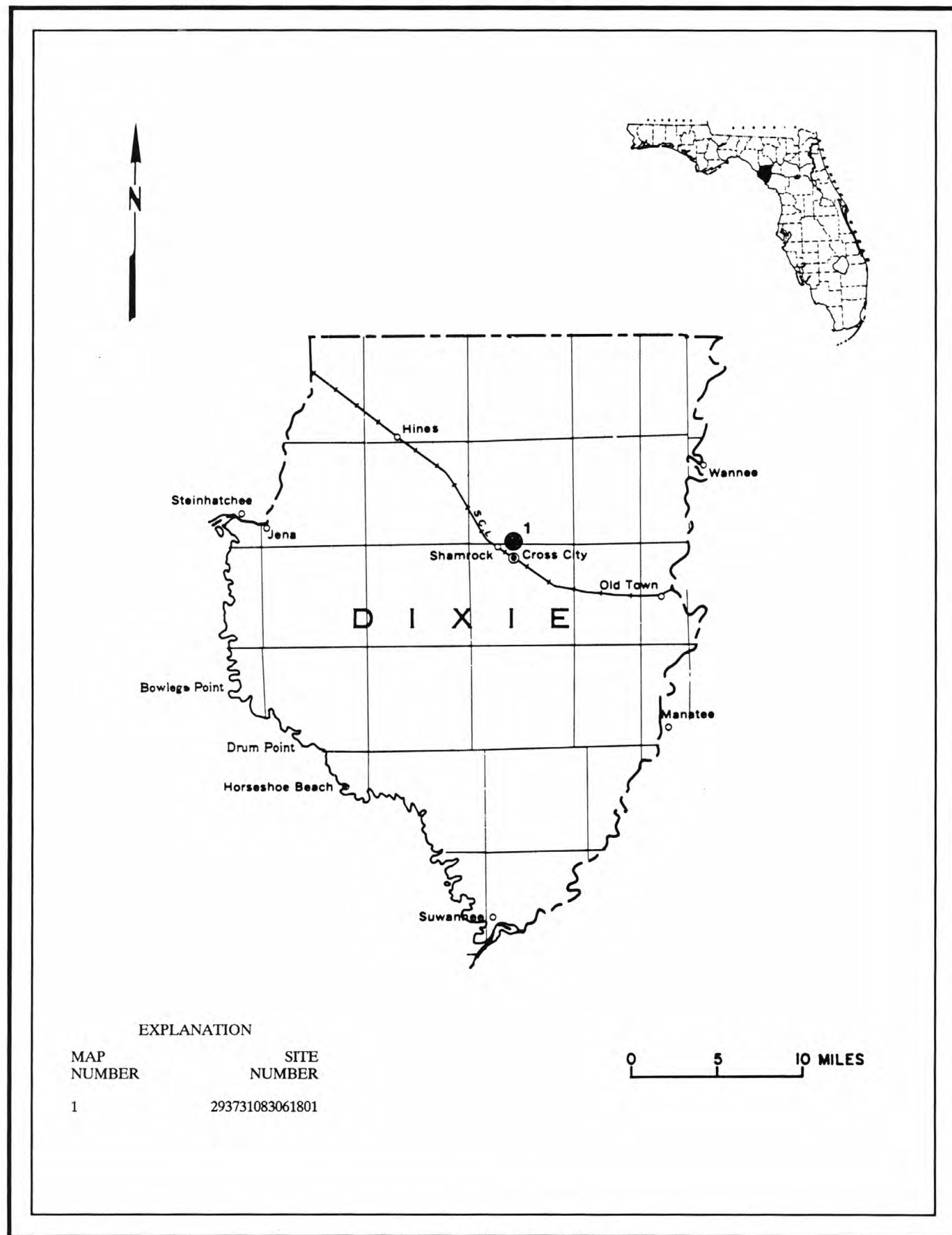


Figure 26.—Location of wells in Dixie County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
DIXIE COUNTY

157

WELL NUMBER.--293731083061801. Local Number Dixie 15. City of Cross City Well near Cross City, FL.

LOCATION.--Lat 29°37'31", long 83°06'18", in SW¼NE¼SE¼ sec.10, T.10 S., R.12 E., Hydrologic Unit 03110102, 0.1 mi north of U.S. Highway 19 and 1.0 mi east of Cross City.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 8 in., depth 215 ft, cased to 105 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top edge shelter floor, 3.75 ft above land-surface datum.

DATUM.--Land-surface datum is 40.17 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--June 1957 to April 1963; April 1963 to July 1964 (bimonthly); January 1964 to July 1974 (semiannually), January 1975 to December 1985 (bimonthly); January 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 39.33 ft NGVD, Sept. 19, 1959; lowest, 30.00 ft NGVD, Aug. 18, 19, 1977.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
OCT			APR		
04...	0910	36.28	06...	1310	34.81
NOV			MAY		
08...	1245	34.77	02...	0925	33.72
DEC			JUN		
07...	1025	34.10	06...	0820	32.45
JAN			JUL		
08...	0915	34.16	03...	1030	32.04
FEB			AUG		
05...	0900	33.84	06...	1010	33.20
MAR			29...	1130	32.93
06...	0930	34.60			

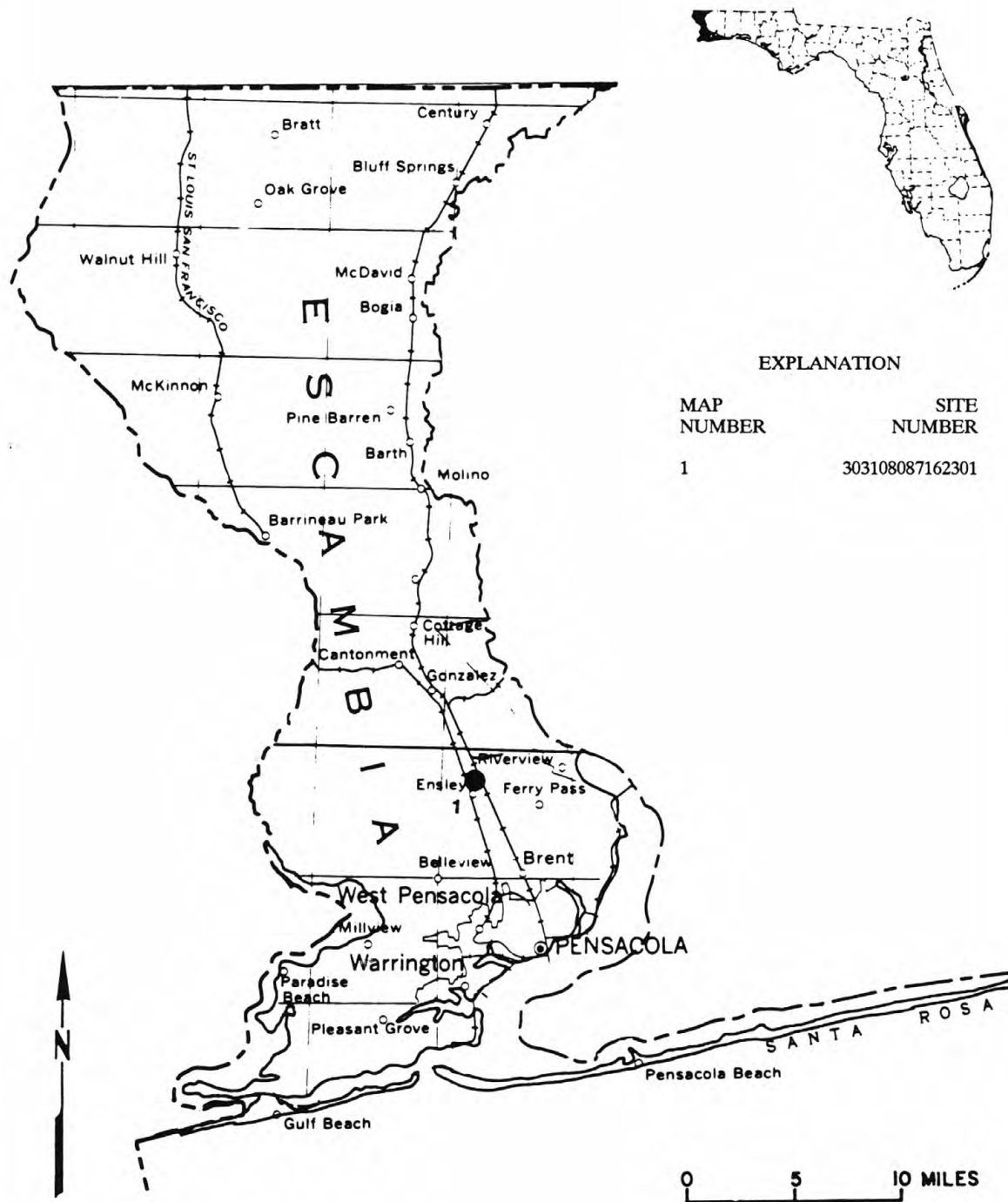


Figure 27.—Location of wells in Escambia County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
 ESCAMBIA COUNTY

159

WELL NUMBER.--303108087162301. Local number 46. USGS Observation Well at Ensley, FL.

LOCATION.--Lat 30°31'08", long 87°16'23", in SE¼SE¼SW¼ sec.11, T.1 S., R.30 W., Hydrologic Unit 03140107, 24 ft west of Pensacola Boulevard, (U.S. Highway 29), 175 ft north of Detroit Boulevard and 0.4 mi west of State Highway 95A, (Old Palafox Highway), in Ensley.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System, Geologic Unit 120 NPSG.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 239 ft, cased to 229 ft, screened from 229 to 239 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of flange cover, 1.10 ft above land-surface datum.

DATUM.--Land-surface datum is 131.52 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--December 1939 to June 1940 (weekly); June 1940 to May 1955; January 1955 to January 1987 (weekly); February 1987 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 75.07 ft NGVD, Sept. 23, 1948; lowest measured, 48.27 ft NGVD, Nov. 27, 1972.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
OCT			APR		
23...	0835	55.50	26...	0830	56.80
NOV			MAY		
26...	1100	55.89	29...	1320	55.60
28...	1630	55.95	JUN		
DEC			01...	1030	55.14
28...	0840	54.90	25...	1145	54.91
JAN			28...	1100	54.79
18...	0815	55.64	JUL		
27...	1015	55.55	25...	1745	54.21
MAR			AUG		
02...	1430	56.10	22...	0800	53.70
25...	1345	54.78	26...	1845	54.64
28...	1715	55.35	SEP		
APR			27...	1720	53.97
20...	0820	56.53			

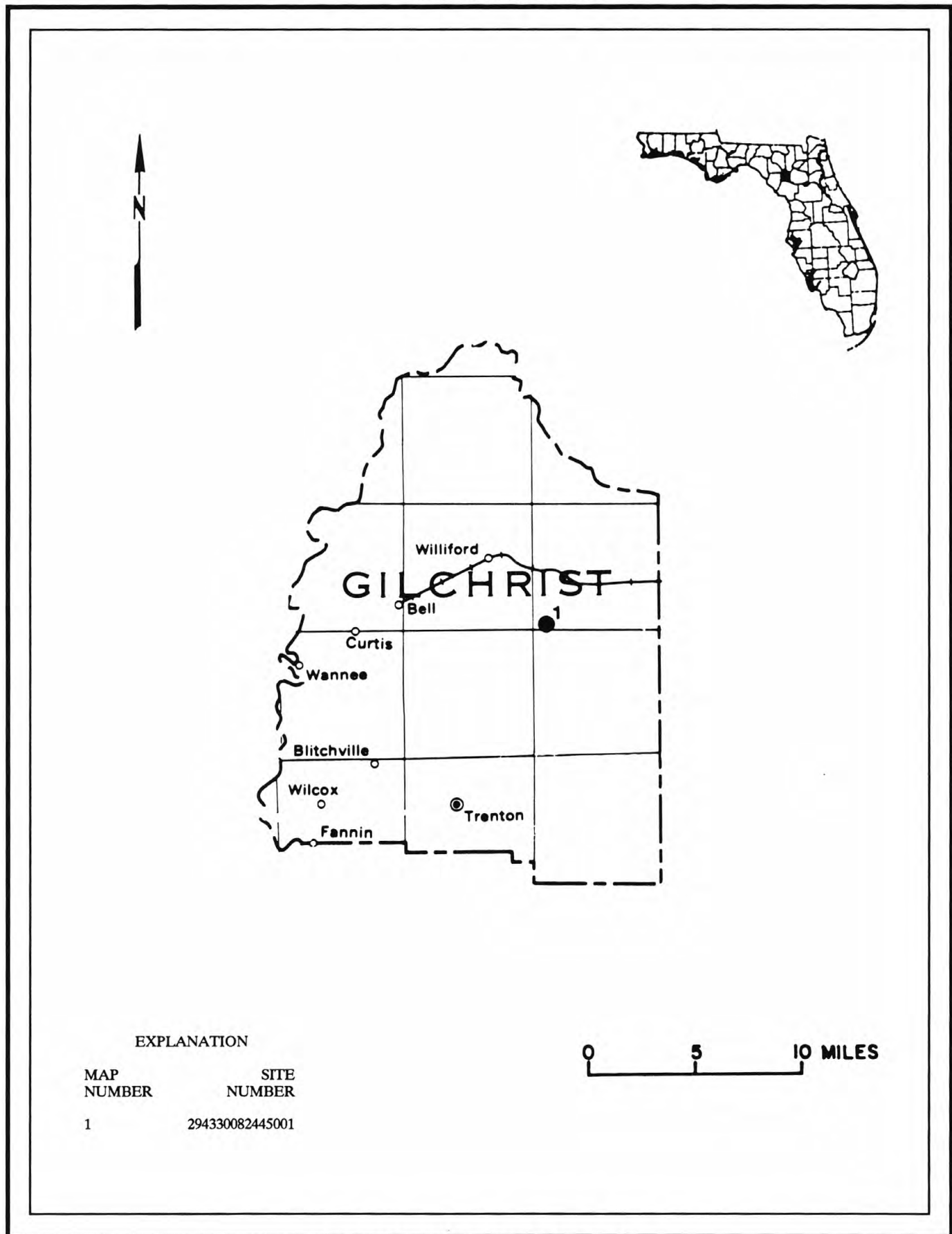


Figure 28.--Location of wells in Gilchrist County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
GILCHRIST COUNTY

161

WELL NUMBER.--294330082445001. USGS Observation Well near Trenton, FL.

LOCATION.--Lat 29°43'30", long 82°44'50", in NW¼NW¼NE¼ sec.7, T.9 S., R.16 E., Hydrologic Unit 03110206, on southwest corner of intersection of State Highways 47 and 232, 8.5 mi north of Trenton.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 in., depth 101 ft, cased to 55 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of recorder shelf, 2.75 ft above land-surface datum.

DATUM.--Land-surface datum is 84.56 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--July 1964 to May 1965 (bimonthly), June 1965 to September 1987 (continuous water level recorder); October 1987 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 74.68 ft NGVD, Oct. 10, 1965; lowest, 44.26 ft NGVD, Jan. 20, 21, 1978.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
OCT			APR		
17...	1130	56.40	20...	1130	49.21
NOV			MAY		
07...	0910	54.50	11...	1000	48.63
DEC			JUN		
06...	1030	52.53	07...	1100	47.99
JAN			JUL		
19...	1045	50.78	19...	1230	47.23
FEB			AUG		
15...	1000	49.79	20...	1130	46.53
MAR			SEP		
16...	1145	49.05	06...	0930	46.33

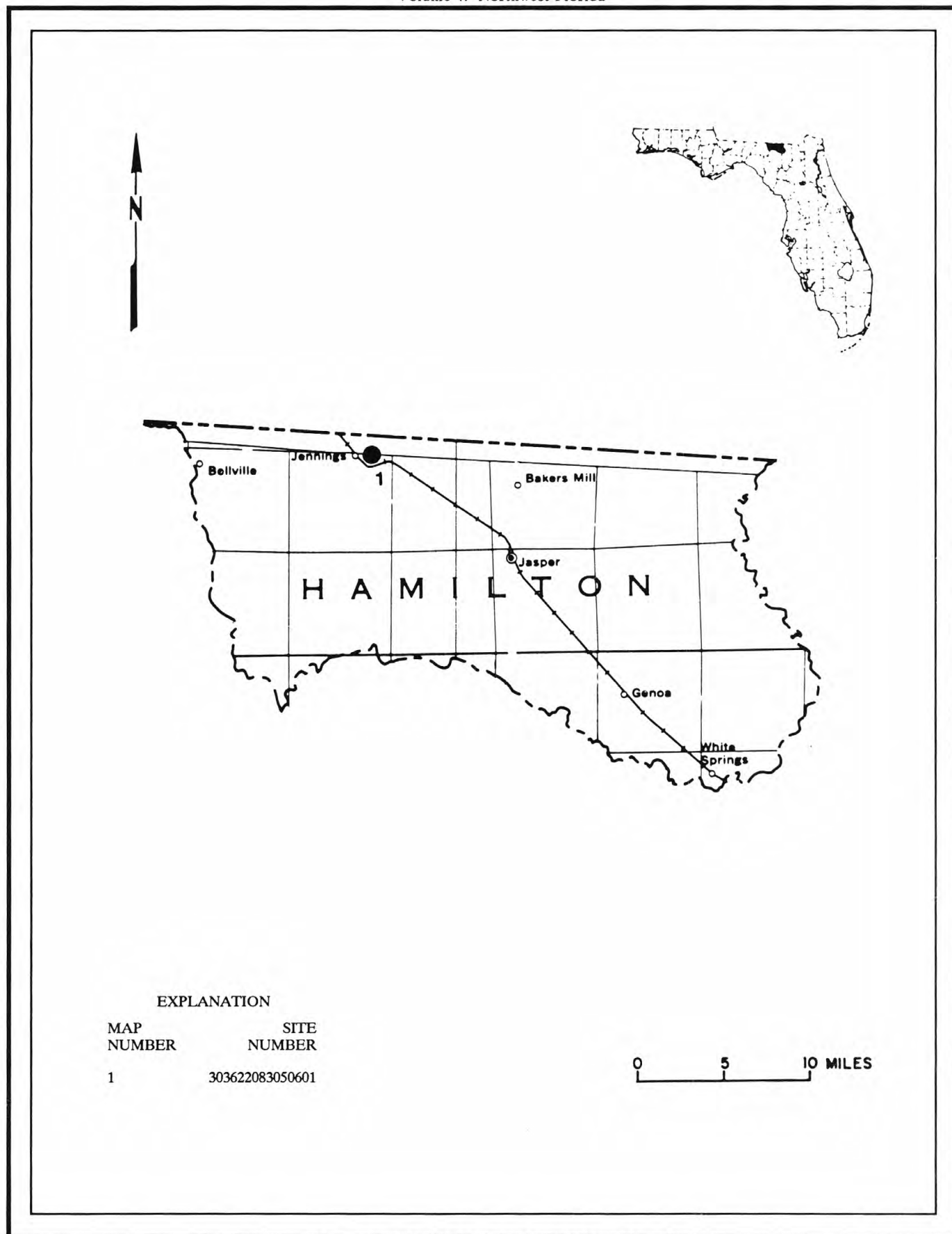


Figure 29.--Location of wells in Hamilton County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
HAMILTON COUNTY

163

WELL NUMBER.--303622083050601. Ben Bates well at Jennings, FL.

LOCATION.--Lat 30°36'22", long 83°05'06", in NW¼SE¼NE¼ sec.2, T.2 N., R.12 E., Hydrologic Unit 03110202, 0.7 mi northeast of Jennings and 1.3 mi south of Florida - Georgia state line.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, irrigation, artesian well, diameter 10 in., depth 273 ft, cased to 60 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Bottom of discharge pipe, 2.0 ft above land-surface datum.

DATUM.--Land-surface datum is 147.93 ft above National Geodetic Vertical Datum of 1929. Prior to September 26, 1984, land-surface datum was reported as 148.70 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--January to July 1961 (semiannually); March 1962 to October 1978 (bimonthly); February 1979 to July 1981 (semiannually); April 1982 to December 1985 (bimonthly); January 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 69.81 ft NGVD, Feb. 19, 1986; lowest 34.91 ft NGVD, October 31, 1978. Water level was lower on Nov. 4, 1968, when water was below pump column.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
OCT			MAR		
13...	1000	40.00	08...	1300	53.58
DEC			APR		
13...	1030	36.18	13...	0930	46.74
JAN			MAY		
16...	0930	48.60	10...	0900	41.78
FEB			JUN		
14...	1100	51.10	13...	0900	38.30

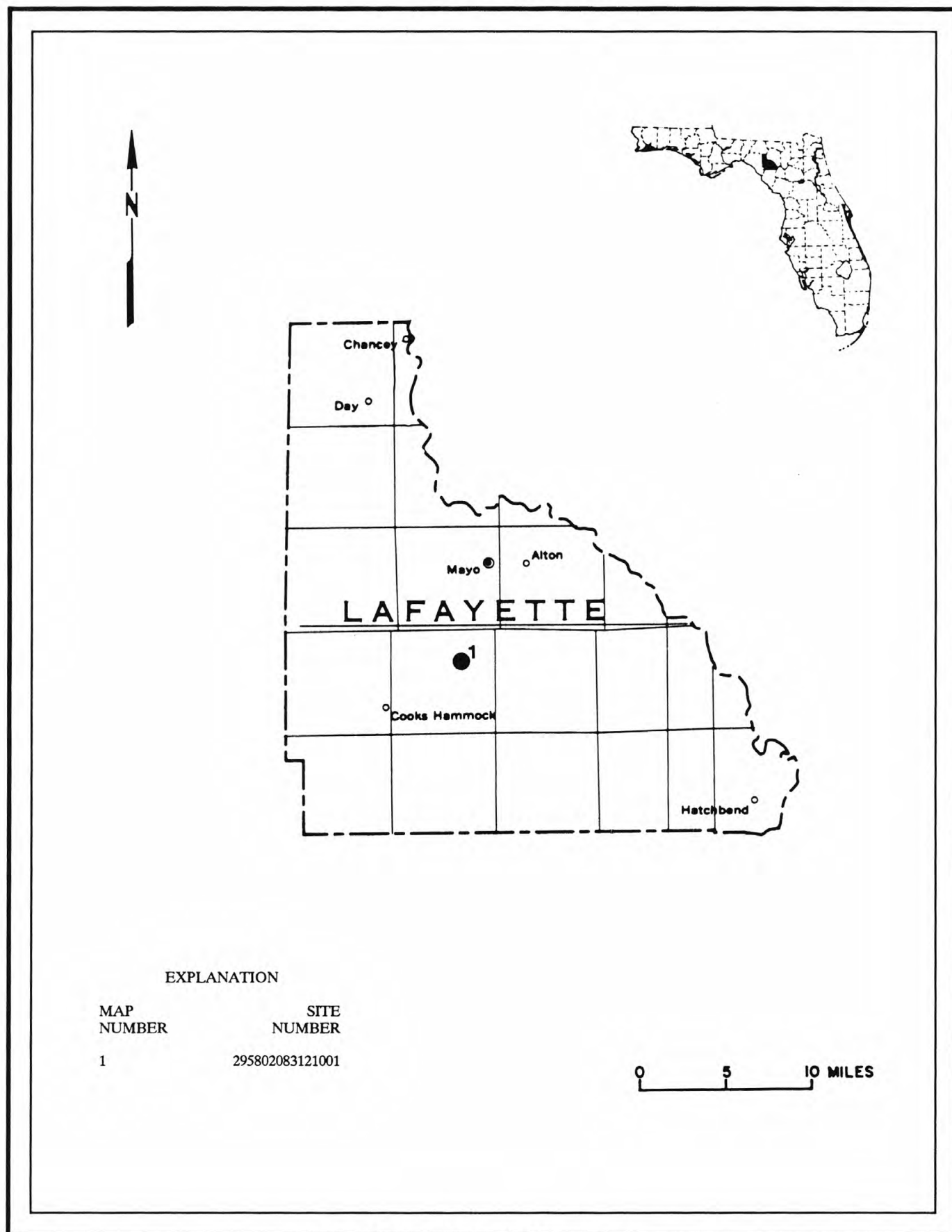


Figure 30.--Location of wells in Lafayette County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
LAFAYETTE COUNTY

165

WELL NUMBER.--295802083121001. Lester McCray Well near Mayo, FL.

LOCATION.--Lat 29°58'02", long 83°12'10", in NW¼NW¼NW¼ sec.14, T.6 S., R.11 E., Hydrologic Unit 03110102, 0.6 mi southeast of State Highway 51, 5.0 mi northeast of Cooks Hammock and 5.8 mi south of Mayo.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, irrigation, artesian well, diameter 6 in., depth 146 ft, cased to 112 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top edge of recorder shelf, 3.63 ft above land-surface datum.

DATUM.--Land-surface datum is 73.85 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--February 1961 to March 1976 (bimonthly); May 1976 to September 1984; October 1984 to December 1985 (bimonthly); January 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 70.71 ft NGVD, Apr. 9, 1983; lowest measured, 62.13 ft NGVD, Nov. 4, 1968.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
OCT			APR		
20...	1345	67.29	06...	0900	68.83
NOV			MAY		
08...	0830	65.95	02...	1230	66.65
DEC			JUN		
27...	1030	67.98	06...	1230	64.00
JAN			JUL		
25...	1015	67.44	03...	0800	63.92
FEB			AUG		
13...	1230	68.02	06...	1300	66.62
MAR			31...	1000	66.18
06...	1300	68.74			

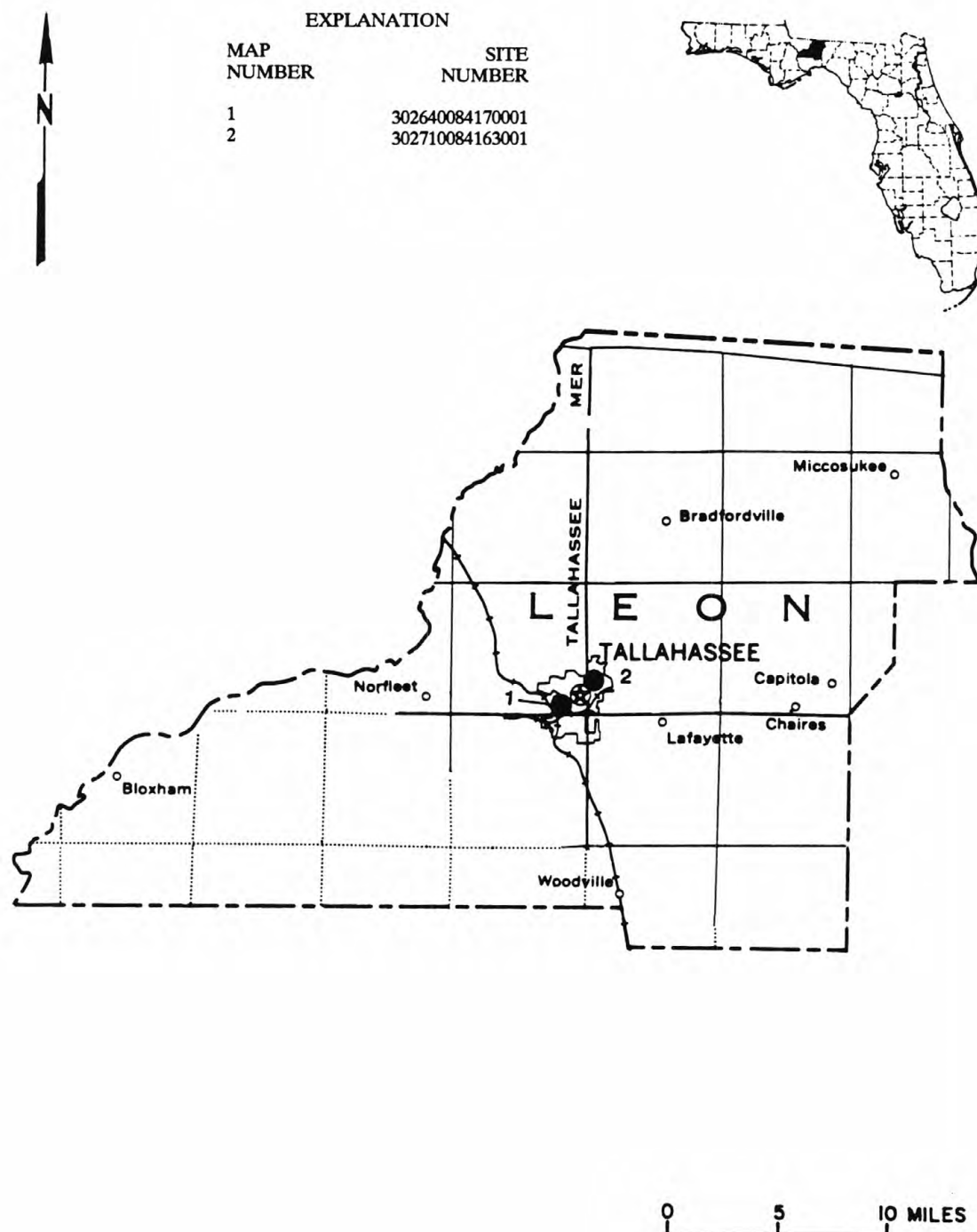


Figure 31.—Location of wells in Leon County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
LEON COUNTY

167

WELL NUMBER.--302640084170001. Leon 152. State of Florida Observation Well at Tallahassee, FL.

LOCATION.--Lat 30°26'40", long 84°17'00", in NW¼SW¼NE¼ sec.35, T.1 N., R.1 W., Hydrologic Unit 03120001, behind Herman Gunter Building, at corner of West Tennessee Street and Woodward Street, 2.7 mi west of State Capitol at Tallahassee.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 to 4 to 3 in., depth 310 ft, cased to 146 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of 6 in casing, 0.86 ft above land-surface datum. Since October 15, 1960 water-level recorder, used for display purposes only at Herman Gunter Building.

DATUM.--Land-surface datum is 100.52 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--August 1960 (annually); October 1960 to December 1961; January 1962 to current year (bimonthly). Records of water levels prior to January 1974 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 32.76 ft NGVD, July 1, 1965; lowest measured, 18.00 ft NGVD, Nov. 18, 1981.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
OCT 18...	1225	23.11	MAR 26...	1115	24.93
NOV 16...	1300	22.48	APR 30...	1050	23.58
JAN 29...	1055	22.99	MAY 16...	1125	22.98

WELL NUMBER.--302710084163001. Local number 7, City of Tallahassee Test Well at Tallahassee, FL.

LOCATION.--Lat 30°27'10", long 84°16'30", in NE¼SW¼SW¼ sec.30, T.1 N., R.1 E., Hydrologic Unit 03120001, in pump house at Lafayette Park, 1.3 mi northeast of State Capitol at Tallahassee.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 6 in., depth 314 ft, cased to 165 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 1.20 ft above land-surface datum.

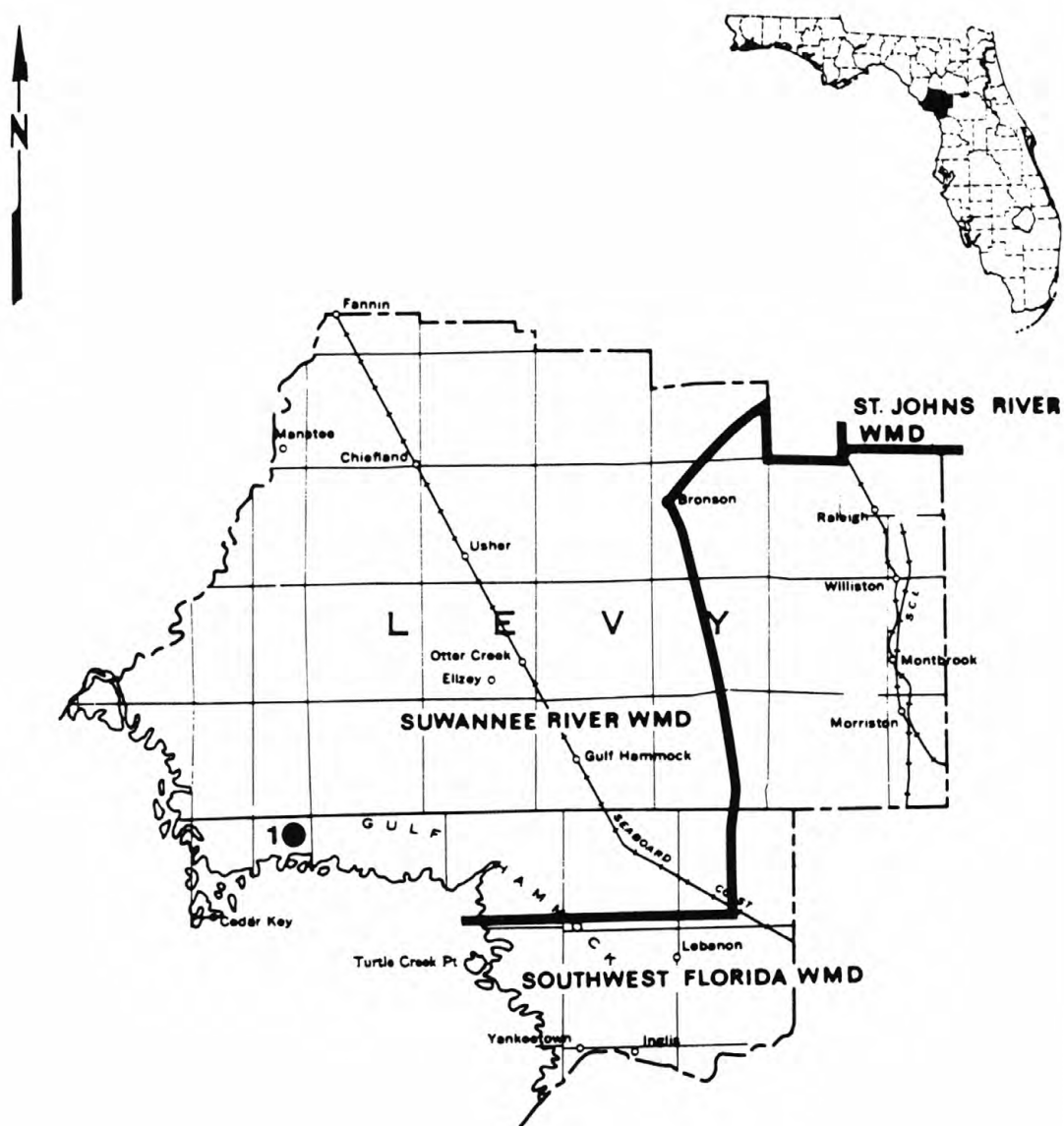
DATUM.--Land-surface datum is 186.50 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--June 1945 to January 1965; February 1965 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level 37.66 ft NGVD, Apr. 26, 1948; lowest 16.42 ft NGVD, June 14, 1955.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
OCT 30...	1240	23.32	MAY 16...	1110	23.81
DEC 01...	1055	22.85	JUL 02...	1310	21.63
JAN 02...	1245	23.23	AUG 01...	1015	21.14
29...	1025	23.82	SEP 04...	0850	21.54
MAR 01...	1520	25.59	28...	1030	19.72
26...	1050	25.71			
APR 30...	1030	24.41			



EXPLANATION

MAP NUMBER	SITE NUMBER
1	291414082560901

0 5 10 MILES

Figure 32.—Location of wells in Levy County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
LEVY COUNTY

169

WELL NUMBER.--291414082560901. Rosewood Tower Well near Cedar Key, FL.

LOCATION.--Lat 29°14'14", long 82°56'09", in SE1/4NW1/4NW1/4 sec.29, T.14 S., R.14 E., Hydrologic Unit 03110101, 50 ft north of SR 24 at Suwannee Lookout Tower, (Rosewood Tower) 9.4 mi northeast of Cedar Key and 11.6 mi southwest of Otter Creek.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 6 to 4 in., depth 442 ft, cased to 422 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of recorder shelf, 2.52 ft above land-surface datum.

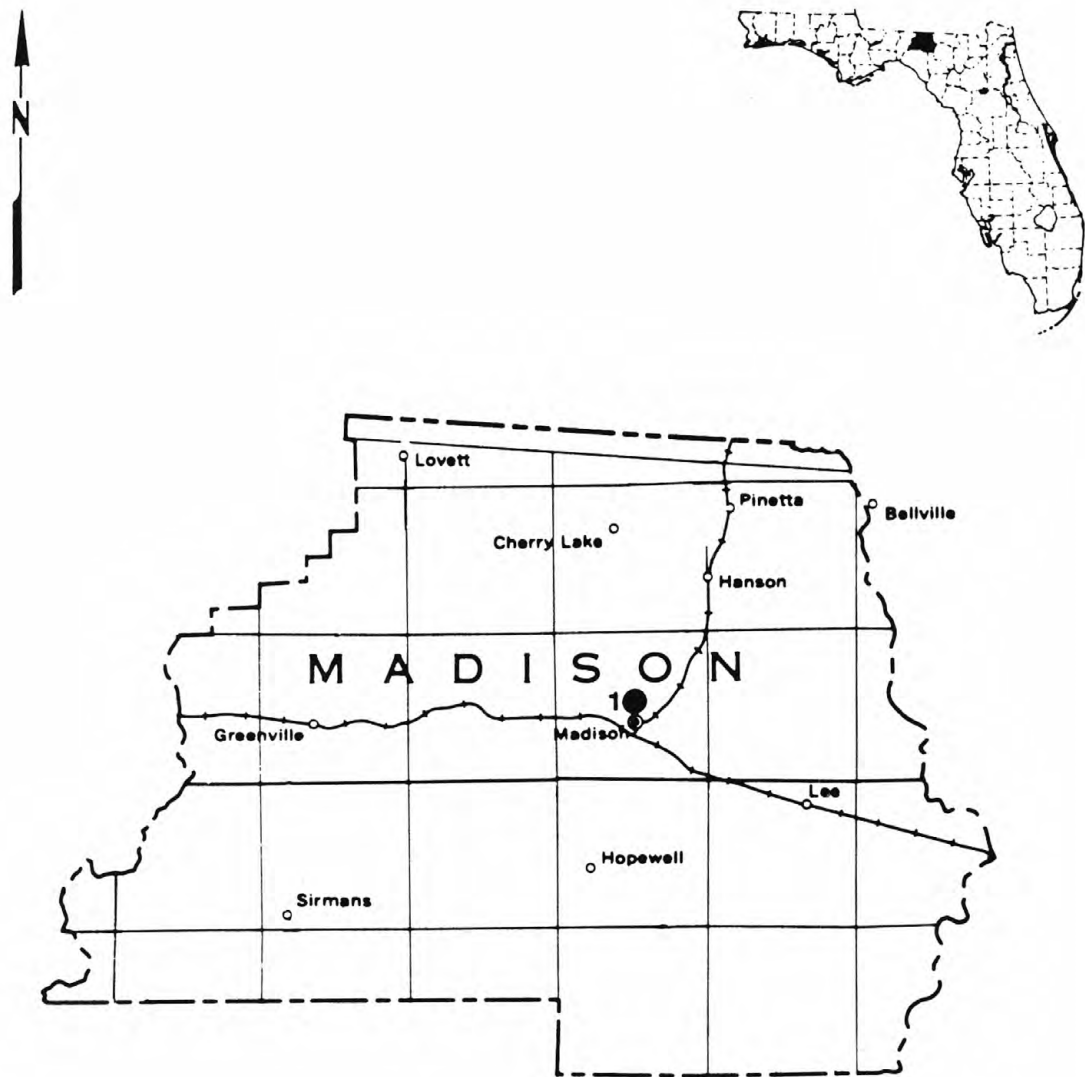
DATUM.--Land-surface datum is 16.93 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--October 1975 to September 1987 (continuous water level recorder); October 1987 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.98 ft NGVD, Mar. 30, 1987; lowest, 8.59 ft NGVD, July 19, 1981.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
OCT			APR		
17...	0950	10.93	18...	1340	10.42
NOV			MAY		
28...	0800	10.45	18...	1030	9.77
DEC			JUN		
21...	0930	10.34	21...	1015	8.90
JAN			JUL		
18...	0900	10.44	18...	0900	10.12
FEB			AUG		
22...	0900	10.66	17...	1130	10.43
MAR			SEP		
14...	0850	10.84	18...	1100	10.41



EXPLANATION	
MAP NUMBER	SITE NUMBER
1	302822083255501

0 5 10 MILES

Figure 33.--Location of wells in Madison County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
MADISON COUNTY

171

WELL NUMBER.--302822083255501. Local number Madison 18. Florida Department of Transportation well at Madison, FL.

LOCATION.--Lat 30°28'22", long 83°25'55", in SW1/4SW1/4NW1/4 sec.21, T.1 N., R.9 E., Hydrologic Unit 03110103, 0.1 mi south of U.S. Highway 90 and 0.9 mi west of intersection of State Highway 53 and U.S. Highway 90 at Madison.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, drainage, artesian well, diameter 4 in., depth 322 ft, cased to 307 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of recorder shelf, 2.5 ft above land-surface datum.

DATUM.--Land surface datum is 100.56 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--April 1952 to July 1954 (bimonthly); July 1954 to December 1964; January 1965 to November 1977 (bimonthly); January 1978 to November 1981 (semiannually); May 1982 to December 1985 year (bimonthly); January 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 94.66 ft NGVD, May 10, 1973; lowest, 64.67 ft NGVD, Mar. 27, 1957.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
OCT			APR		
24...	1325	70.01	18...	1035	74.15
NOV			MAY		
20...	1250	69.37	16...	0825	72.80
DEC			JUN		
14...	1230	68.01	19...	0840	71.29
JAN			JUL		
22...	1220	70.14	17...	1220	70.37
FEB			AUG		
21...	0920	73.33	20...	1300	69.71
MAR			SEP		
21...	1010	74.72	18...	1230	68.91

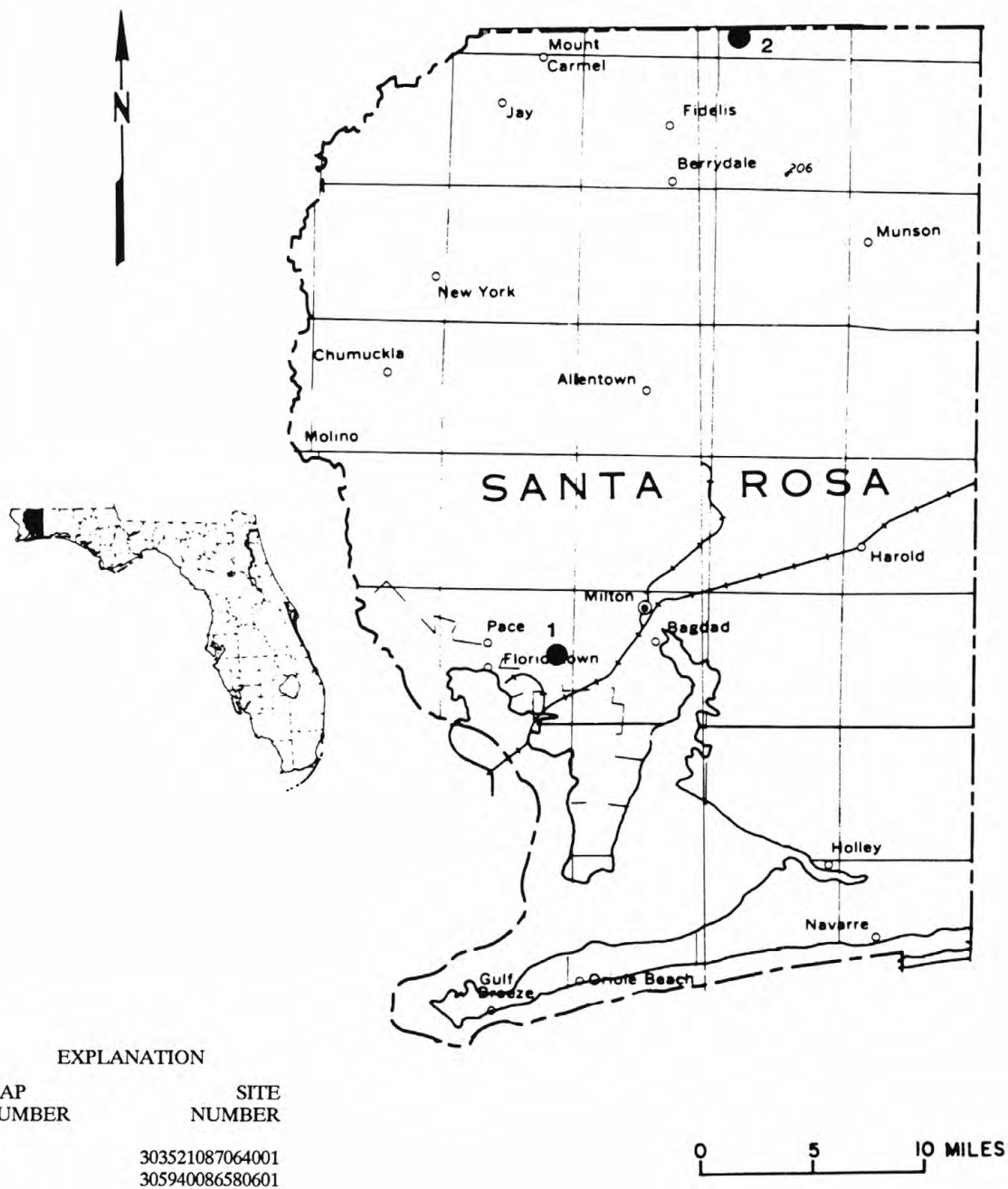


Figure 34.--Location of wells in Santa Rosa County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
SANTA ROSA COUNTY

173

WELL NUMBER.--303521087064001. Local number 035-706-1. USGS Observation Well near Milton, FL.

LOCATION.--Lat 30°35'21", long 87°06'40", in SW¼SE¼SW¼ sec.13, T.1 N., R.29 W., Hydrologic Unit 03140104, 0.9 mi south of U.S. Highway 90, 2.25 mi west of intersection of U.S. Highway 90 and State Highway 191A, and 4.9 mi southwest of Milton.

AQUIFER.--Northwestern Florida sand-and-gravel aquifer of the Tertiary System, Geologic Unit 120 NFSG.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, diameter 4 in., depth 211 ft, cased to 206 ft, screened from 206 to 211 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of casing, 3.00 ft above land-surface datum.

DATUM.--Land-surface datum is 127.28 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--July 1959 to October 1962; November 1962 to February 1967 (monthly); July 1967 to May 1968 (bimonthly); January 1969 to May 1971 (semiannually); January 1972 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 45.31 ft NGVD, Aug. 26, 27, 1961; lowest measured, 28.44 ft NGVD, July 9, 1969.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
NOV 27...	1550	39.75	JUN 27...	0810	39.99
JAN 16...	1625	39.17	AUG 23...	0825	39.56
MAR 28...	1040	39.14			

WELL NUMBER.--305940086580601. Florida Forest Service Observation Well near Jay, FL.

LOCATION.--Lat 30°59'40", long 86°58'06", in NW¼SW¼SW¼ sec.29, T.6 N., R.27 W., Hydrologic Unit 03140104, at Camp Henderson Fire Tower, on clay road 5.4 mi east of State Highway 87, and 11 mi northeast of Jay.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 4 to 3 in., depth 815 ft, cased to 510 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of cap, 0.80 ft above land-surface datum.

DATUM.--Elevation of land surface datum is 280 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--July 1961 (annually); July 1966 to November 1967 (bimonthly); January 1968 to May 1969 (semiannually); January 1974 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 128.00 ft NGVD, July 14, 1961; lowest measured, 108.86 ft NGVD, August 23, 1990.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
DEC 05...	0915	109.18	JUN 29...	1000	109.07
JAN 18...	1035	109.21	AUG 23...	1150	108.86
MAR 28...	1540	109.46			

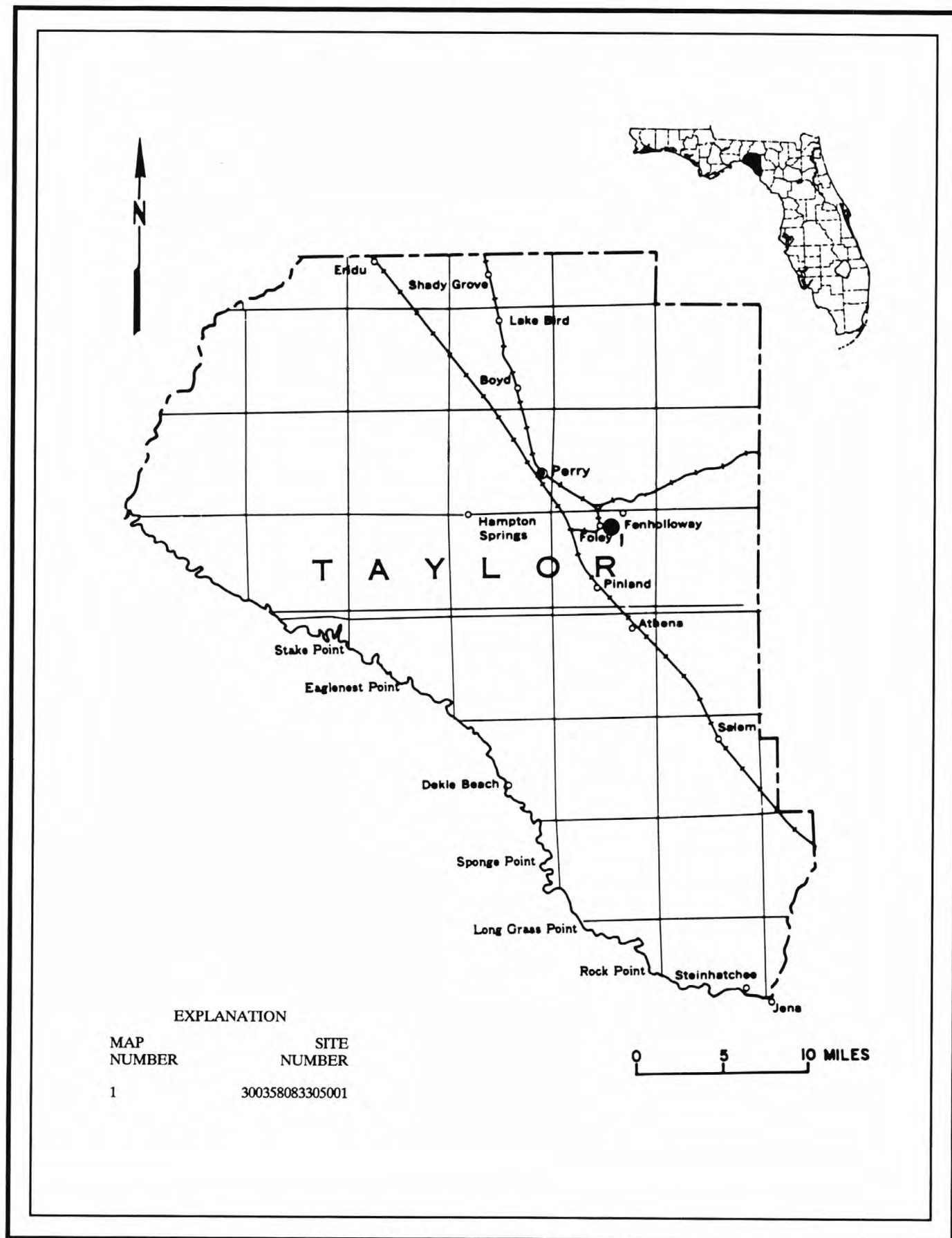


Figure 35.--Location of wells in Taylor County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
TAYLOR COUNTY

175

WELL NUMBER.--300358083305001. Local Number Taylor 35. Buckeye Cellulose Corporation Well near Fenholloway, FL.

LOCATION.--Lat 30°03'58", long 83°30'50", in NE¼SE¼NW¼ sec.10, T.5 S., R.8 E., Hydrologic Unit 03110102, 1.5 mi southwest of Fenholloway and 5.3 mi southeast of Perry.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 17 to 12 in., depth 230 ft, cased to 189 ft.

INSTRUMENTATION.--Tape measured. Reference point: Top of recorder shelf, 2.40 ft above land-surface datum.

DATUM.--Land-surface datum is 54.69 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--June 1946 to September 1987 (continuous water-level recorder); October 1987 to current year (bimonthly).

REMARKS.--Water levels affected by pumping of nearby wells.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 55.38 ft NGVD, Apr. 2, 1948; lowest, 12.19 ft NGVD, May 15, 1974.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
OCT			MAY		
19...	1425	16.49	15...	1335	20.28
DEC			24...	1120	19.40
13...	1400	15.15	JUL		
FEB			27...	1420	22.14
08...	1350	20.69	SEP		
APR			25...	1325	17.71
03...	1530	29.00			

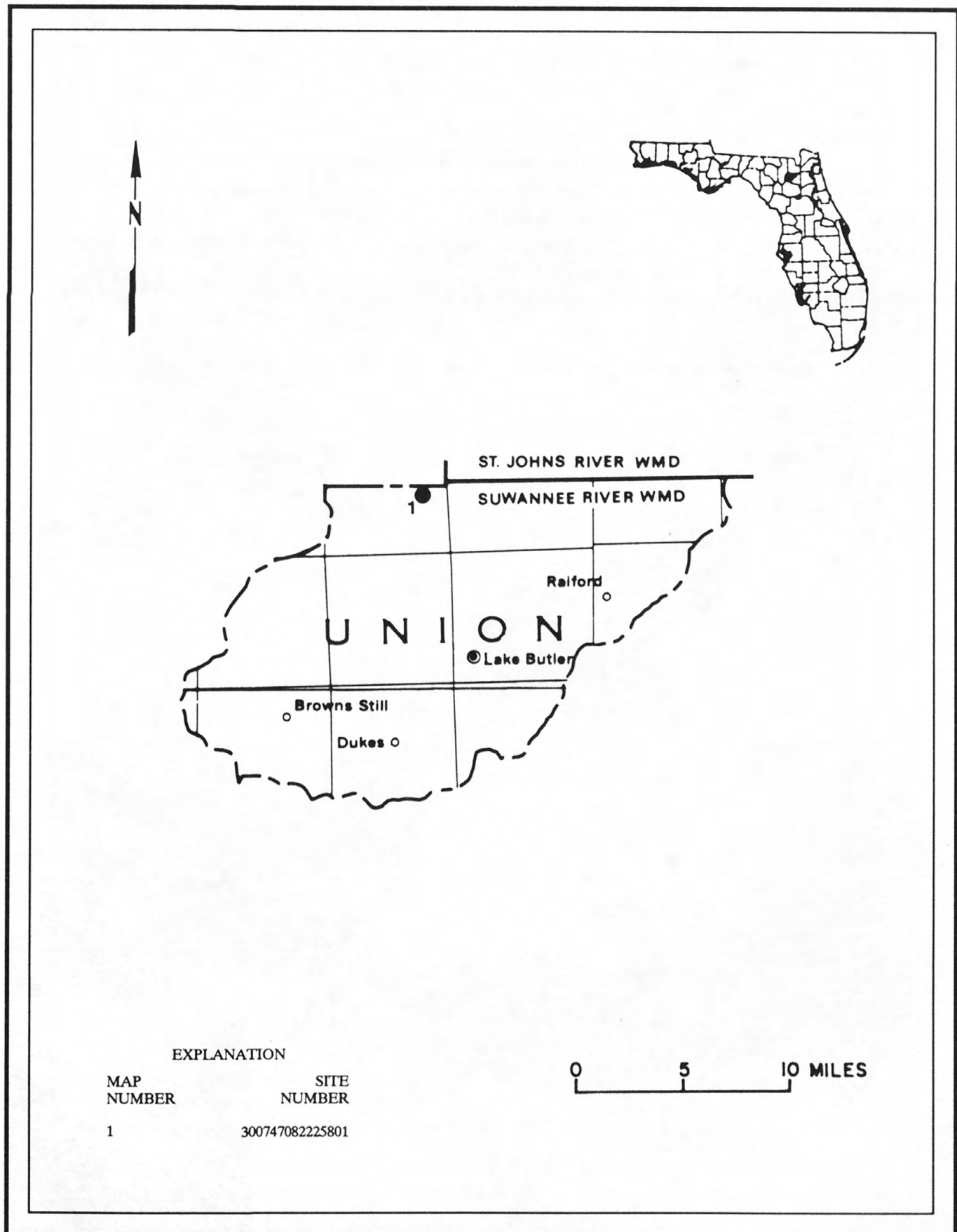


Figure 36.—Location of wells in Union County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
UNION COUNTY

177

WELL NUMBER.--300747082225801. USGS Observation Well near Lake Butler, FL.

LOCATION.--Lat 30°07'47", long 82°22'58", in SE¼NW¼SE¼ sec.23, T.4 S., R.19 E., Hydrologic Unit 03110206, about 40 ft east of State Highway 231, 0.8 mi south of Union-Baker county line, and 7.6 mi north of Lake Butler.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, test, artesian well, diameter 8 in., depth 724 ft, cased to 694 ft.

INSTRUMENTATION.--Tape measured. Measuring point: Top of recorder shelf, 3.07 ft above land-surface datum.

DATUM.--Land-surface datum is 152.75 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--November 1958 to September 1984; October 1984 to December 1985 (bimonthly); January 1986 to current year (monthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 66.76 ft NGVD, Mar. 29, 30, 1965; lowest measured, 50.98 ft NGVD, August 30, 1990.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
OCT			APR		
02...	1130	52.89	05...	0950	54.09
NOV			MAY		
03...	0930	52.75	01...	0950	53.41
DEC			JUN		
04...	1130	52.58	05...	1000	52.19
JAN			JUL		
03...	1110	52.44	02...	1015	51.63
FEB			AUG		
06...	0945	52.93	07...	1015	51.05
MAR			30...	1000	50.98
05...	0845	53.80			

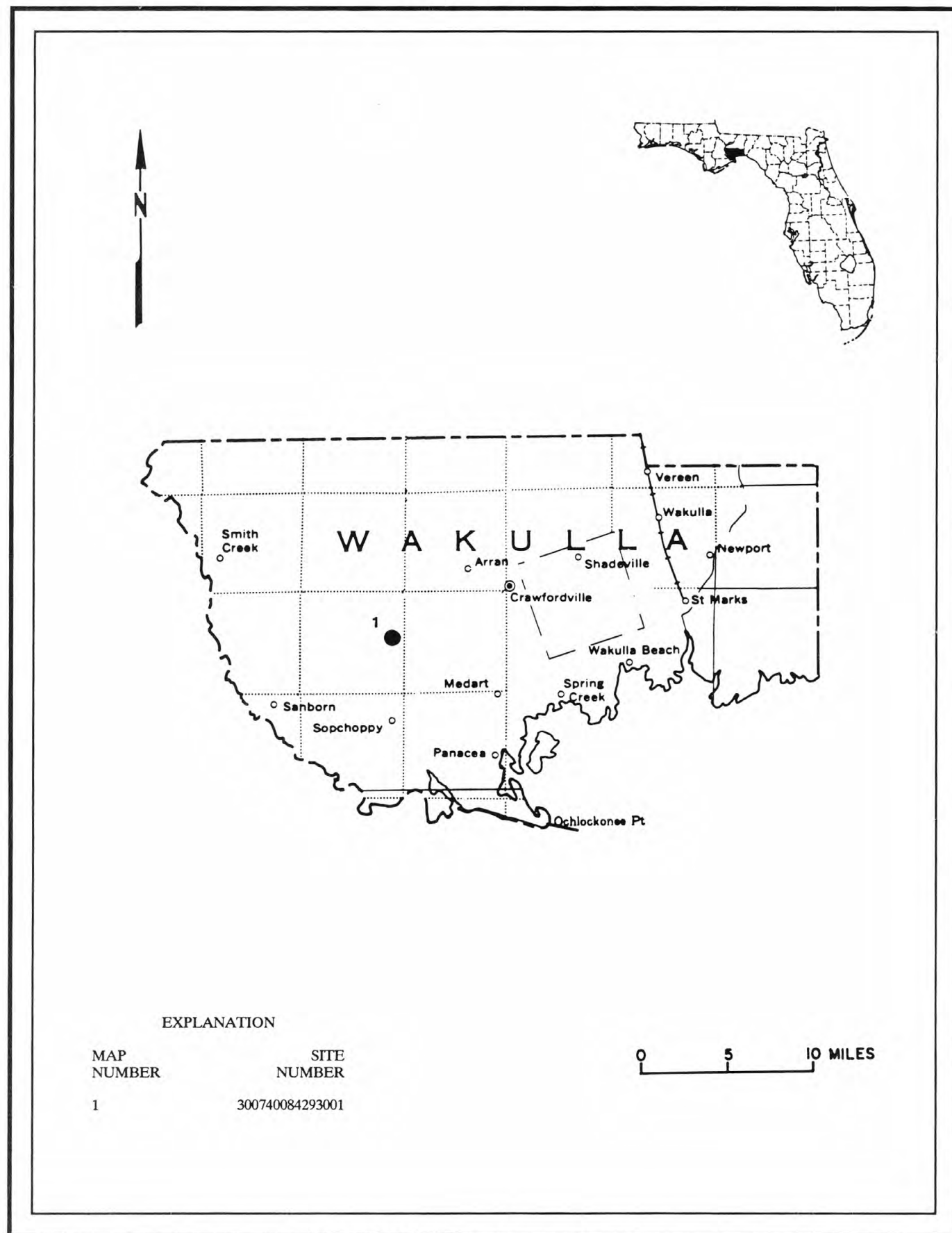


Figure 37.—Location of wells in Wakulla County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
WAKULLA COUNTY

179

WELL NUMBER.--300740084293001. USGS Observation Well near Crawfordville, FL.

LOCATION.--Lat 30°07'40", long 84°29'30", in NW1/4NE1/4NW1/4 sec.24, T.4 S., R.3 W., Hydrologic Unit 03120003, 400 ft east of Sopchoppy River, 6.6 mi southwest of intersection of Forest Road 365 and State Highway 315, and 7.8 mi west of Crawfordville.

AQUIFER.--Hawthorn Limestone aquifer of the Miocene System, Geologic Unit 122 HTRNN.

WELL CHARACTERISTICS.--Drilled, bench mark, artesian well, diameter 6 in., depth 127 ft, cased to 121 ft.

INSTRUMENTATION.--Water-level recorder. Measuring point: Top of recorder shelf, 2.90 ft above land-surface datum.

DATUM.--Land-surface datum is 46.91 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--January 1967 to current year. Records of water levels prior to January 1974 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 36.91 ft NGVD, July 31, 1975; lowest, 24.42 ft NGVD, Sept. 14, 1966.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	33.59	32.00	32.30	33.18	32.74	33.34	33.12	31.90	30.88	30.66	31.90	31.58
10	33.04	32.59	32.62	33.47	32.72	32.91	32.79	31.77	30.84	30.75	32.24	31.34
15	32.57	32.72	32.90	33.11	32.82	32.63	32.72	31.57	30.64	31.14	32.15	31.16
20	32.81	32.43	33.03	32.84	33.90	32.97	32.30	31.32	30.56	32.20	32.05	30.93
25	32.63	32.57	33.10	32.76	34.19	32.77	32.22	31.12	30.41	32.52	31.94	30.69
DOM	32.24	32.45	32.95	32.78	33.83	32.80	32.08	30.99	30.22	32.23	31.73	31.25
MEAN	32.88	32.43	32.76	33.03	33.23	32.94	32.61	31.50	30.63	31.46	32.01	31.16
MAX	33.71	32.72	33.10	33.47	34.31	33.73	33.15	32.07	30.93	32.55	32.26	31.69
MIN	32.24	31.98	32.23	32.71	32.59	32.53	32.08	30.99	30.21	30.24	31.73	30.62
WTR YR 1990	MEAN	32.22	MAX	34.31	FEB 23	MIN	30.21	JUN 29				

WATER RESOURCES DATA FOR FLORIDA, 1990
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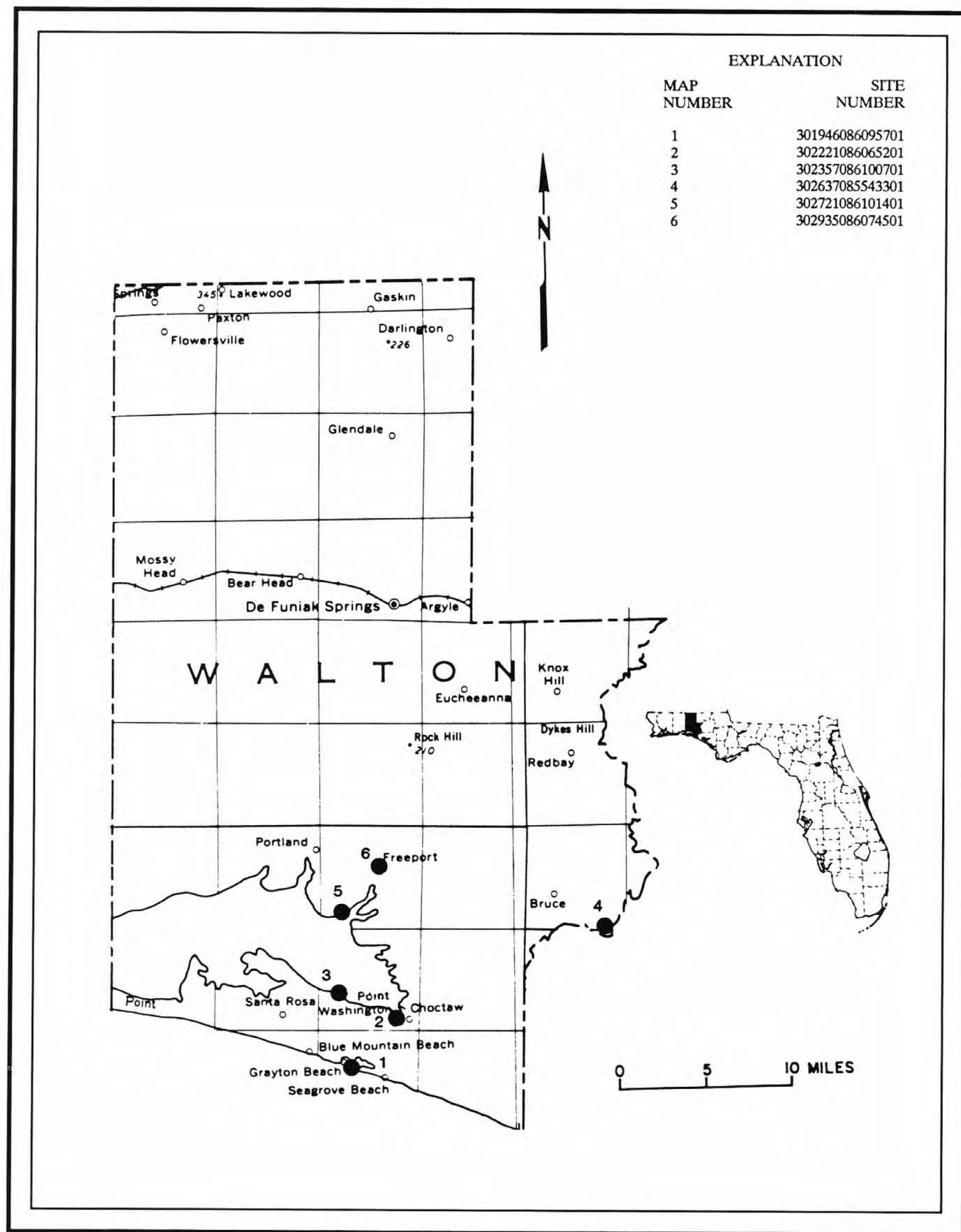


Figure 38.--Location of wells in Walton County.

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
WALTON COUNTY

181

WELL NUMBER.--301946086095701. Van R. Butler Well at Grayton Beach, FL.

LOCATION.--Lat 30°19'46", long 86°09'57", in NW¼NE¼NE¼ sec.17, T.3 S., R.19 W., Hydrologic Unit 03140102, about 300 ft north of Gulf of Mexico, 2.2 mi south of U.S. Highway 98, at Grayton Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, public-supply, artesian well, diameter 4 in., depth 466 ft, cased to 424 ft.

INSTRUMENTATION.--Pressure gage or tape measured. Measuring point: Top of tee, 1.2 ft above land-surface datum.

DATUM.--Land-surface datum is 7.46 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--April 1961 to September 1989 (bimonthly); October 1989 to September 1990 (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.16 ft NGVD, May 8, 1964; lowest measured, 3.92 ft NGVD, Oct. 13, 1972.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
MAY 17...	1055	11.68	SEP 19...	1245	9.65

WELL NUMBER.--302221086065201. C. H. McGee, Jr. Well at Point Washington, FL.

LOCATION.--Lat 30°22'21", long 86°06'52", in SW¼NE¼SE¼ sec.26, T.2 S., R.19 W., Hydrologic Unit 03140102, 1.4 mi northeast of intersection of State Highway 395 and U.S. Highway 98 at Point Washington.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 3 in., depth 365 ft, cased to 65 ft.

INSTRUMENTATION.--Pressure gage or tape measured. Measuring point: Top of reducer, 1.5 ft above land-surface datum.

DATUM.--Land-surface datum is 2.30 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--March 1970 to March 1984 (bimonthly); September 1986 to September 1989 (bimonthly); October 1989 to September 1990 (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 17.9 ft NGVD, Nov. 21, 1975 and Jan. 27, 1976; lowest measured, 5.24 ft NGVD, Sept. 12, 1972.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
MAY 17...	1030	13.36	SEP 19...	1300	11.16

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
WALTON COUNTY

WELL NUMBER.--302357086100701. Florida Department of Transportation Well near Santa Rosa Beach, FL.

LOCATION.--Lat 30°23'57", long 86°10'07", in SW¼NW¼NE¼ sec.20, T.2 S., R.19 W., Hydrologic Unit 03140102, near south end of U.S. Highway 331 bridge over Choctawhatchee Bay, 2.4 mi north of U.S. Highway 98, and 3.8 mi northeast of Santa Rosa Beach.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 3 in., depth 337 ft, casing length unknown.

INSTRUMENTATION.--Pressure gage or tape measured. Measuring point: Top of coupling 1.10 ft above land-surface datum.

DATUM.--Land-surface datum is 5.00 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--April 1961 to July 1962, May 1968 to May 1969, April 1970 to September 1989 (bimonthly); October 1989 to September 1990 (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.80 ft NGVD, Feb. 28, 1962; lowest measured, 0.86 ft NGVD, Oct. 11, 1972.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
MAY 17...	1010	9.09	SEP 19...	1220	6.89

WELL NUMBER.--302637085543301. William Wilson Well near Bruce, FL.

LOCATION.--Lat 30°26'37", long 85°54'33", in NE¼SE¼SE¼ sec.35, T.1 N., R.17 W., Hydrologic Unit 03140203, at Cowford Fish Camp, 0.7 mi south of State Highway 20, and 3.8 mi southeast of Bruce.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, diameter 3 in., depth 196 ft, cased to 60 ft.

INSTRUMENTATION.--Pressure gage. Measuring point: Top of reducer, 0.80 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 16 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--June 1968 to September 1989 (bimonthly); October 1989 to September 1990 (semiannually).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.20 ft NGVD, Nov. 21, 1975; lowest measured, 16.75 ft NGVD, Oct. 12, 1972.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
MAY 15...	1540	23.60	SEP 19...	1340	20.03

WELL DESCRIPTIONS AND WATER LEVEL MEASUREMENTS
WALTON COUNTY

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WELL NUMBER.--302721086101401. Selma Madara Well near Freeport, FL.

LOCATION.--Lat 30°27'21", long 86°10'14", in SW¼NE¼NW¼ sec.32, T.1 S., R.19 W., Hydrologic Unit 03140102, near the west bank at mouth of Bear Creek, and 3.5 mi southwest of Freeport.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, industrial, artesian well, diameter 12 in., depth 250 ft, cased to 100 ft.

INSTRUMENTATION.--Pressure gage or tape measured. Measuring point: Top of tee, 2.0 ft above land-surface datum.

DATUM.--Elevation of land-surface datum is 4 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--July 1968 to current year (bimonthly). Records of water levels prior to January 1974 are available in files of the Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.0 ft NGVD, Mar. 22, 1976; lowest measured, -7.73 ft NGVD, Oct. 11, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--A water level of 27 ft NGVD, was reported by Frank Westendick in 1931, month unknown.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
NOV			JUN		
21...	1120	11.00	13...	1155	10.70
DEC			AUG		
21...	1230	11.40	02...	1155	10.30
FEB			SEP		
14...	0915	11.20	26...	0825	9.90
MAY					
03...	0920	11.00			
17...	0855	12.00			

WELL NUMBER.--302935086074501. Local Number 17. City of Freeport Well at Freeport, FL.

LOCATION.--Lat 30°29'13", long 86°08'12", in SW¼SE¼SW¼ sec.15, T.1 S., R.19 W., Hydrologic Unit 03140102, 81 ft east-northeast of Fourmile Creek and 381 ft north-northwest of confluence of Fourmile and Lafayette Creek, and 0.4 mi southeast of City Hall at Freeport.

AQUIFER.--Floridan aquifer of the Tertiary System, Geologic Unit 120 FLRD.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, diameter 8 in., depth 187 ft, casing length unknown.

INSTRUMENTATION.--Pressure gage or tape measured. Measuring point: Top of tee, 3.50 ft above land-surface datum.

DATUM.--Land-surface datum is 2.70 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--September 1947 to October 1963 (bimonthly); June 1969 (annually); September 1974 to current year (bimonthly).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.7 ft NGVD, Sept. 3, 1947; lowest measured, -1.60 ft NGVD, June 18, 1969.

ELEVATION, IN FEET, NGVD, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990

DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)	DATE	TIME	ELEV- ATION ABOVE NGVD (FEET)
NOV			MAY		
02...	0825	16.40	17...	0915	16.20
DEC			JUN		
21...	1105	15.50	13...	1135	16.20
FEB			AUG		
14...	0850	15.70	02...	1135	14.70
MAY					
03...	0900	15.50			

MISCELLANEOUS WATER LEVEL MEASUREMENTS

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

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STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAKER						
302251082194901	B-25 ONF #6 FLORIDAN WELL NEAR TAYLOR, FL.	05-22-90	48.78	--	128.00	120FLRD
BAY						
300347085345501	LOCAL NO. 003534113	05-18-90	0.68	27.17	28.00	120FLRD
301210085505901	WEST PANAMA CITY BEACH	05-17-90	1.72	26.80	28.50	120FLRD
301250085412801	FANIN AIRPORT WELL AT PANAMA CITY, FLA.	05-17-90	-5.18	9.21	4.00	120FLRD
301550085355801	LOCAL NO. 015-535-113	05-17-90	7.59	0.19	7.80	120FLRD
302458085394601	USGS WELL 1.2	11-04-88	63.25	--	--	--
		12-09-88	61.89	--	--	--
		12-12-88	61.77	--	--	--
		01-13-89	60.50	--	--	--
		02-09-89	59.57	--	--	--
		03-10-89	58.59	--	--	--
		04-13-89	59.20	--	--	--
		05-09-89	58.90	--	--	--
		06-13-89	59.04	--	--	--
		07-13-89	63.70	--	--	--
		08-09-89	64.44	--	--	--
		09-07-89	63.89	--	--	--
		10-04-89	64.09	--	--	--
		11-08-89	64.28	--	--	--
		12-13-89	63.68	--	--	--
		01-17-90	63.85	--	--	--
		02-07-90	63.55	--	--	--
		03-07-90	62.70	--	--	--
		04-04-90	62.09	--	--	--
		05-02-90	62.07	--	--	--
		05-16-90	61.71	--	--	--
		06-06-90	61.22	--	--	--
		07-03-90	61.07	--	--	--
		08-06-90	62.95	--	--	--
		09-06-90	62.06	--	--	--
		09-26-90	61.29	--	--	--
302458085394701	USGS WELL 1.1	11-04-88	63.29	--	--	--
		12-09-88	61.91	--	--	--
		12-12-88	61.81	--	--	--
		01-13-89	60.52	--	--	--
		02-09-89	59.60	--	--	--
		03-10-89	58.63	--	--	--
		04-13-89	59.22	--	--	--
		05-09-89	58.93	--	--	--
		06-13-89	59.07	--	--	--
		07-13-89	63.75	--	--	--
		08-09-89	64.59	--	--	--
		09-07-89	63.94	--	--	--
		10-04-89	64.14	--	--	--
		11-08-89	64.35	--	--	--
		12-13-89	63.72	--	--	--
		01-17-90	63.88	--	--	--
		02-07-90	63.58	--	--	--
		03-07-90	62.72	--	--	--
		04-04-90	62.14	--	--	--
		05-02-90	62.12	--	--	--
		05-16-90	61.74	--	--	--
		06-06-90	61.26	--	--	--
		07-03-90	60.98	--	--	--
		08-06-90	62.97	--	--	--
		09-06-90	62.10	--	--	--
		09-26-90	61.33	--	--	--

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued							
302458085394702		USGS WELL 1.4	11-04-88	61.72	--	--	--
			12-12-88	60.25	--	--	
			01-13-89	59.01	--	--	
			02-09-89	58.10	--	--	
			03-10-89	57.13	--	--	
			04-13-89	57.69	--	--	
			05-09-89	57.39	--	--	
			06-13-89	57.49	--	--	
			07-13-89	61.20	--	--	
			08-09-89	62.92	--	--	
			09-07-89	62.40	--	--	
			10-04-89	62.65	--	--	
			11-08-89	62.83	--	--	
			12-13-89	62.22	--	--	
			01-17-90	62.43	--	--	
			02-07-90	62.11	--	--	
			03-07-90	61.29	--	--	
			04-04-90	60.71	--	--	
			05-02-90	60.54	--	--	
			06-06-90	59.82	--	--	
			07-03-90	59.51	--	--	
			08-06-90	61.50	--	--	
			09-06-90	60.59	--	--	
			09-26-90	59.83	--	--	
302459085394701		USGS WELL 1.3	11-04-88	61.75	--	--	--
			12-12-88	60.27	--	--	
			01-13-89	59.04	--	--	
			02-09-89	58.18	--	--	
			03-10-89	57.18	--	--	
			04-13-89	57.73	--	--	
			05-09-89	57.46	--	--	
			06-13-89	57.62	--	--	
			07-13-89	62.30	--	--	
			08-09-89	63.01	--	--	
			09-07-89	62.52	--	--	
			11-08-89	62.96	--	--	
			12-13-89	62.30	--	--	
			01-17-90	62.43	--	--	
			02-07-90	62.11	--	--	
			03-07-90	61.29	--	--	
			04-04-90	60.70	--	--	
			05-02-90	60.54	--	--	
			06-06-90	59.82	--	--	
			07-03-90	59.51	--	--	
			08-06-90	61.52	--	--	
			09-06-90	60.58	--	--	
			09-26-90	59.84	--	--	
302459085394702		USGS WELL 1.5	12-12-88	42.49	--	--	--
			01-13-89	41.71	--	--	
			02-09-89	40.91	--	--	
			03-10-89	40.22	--	--	
			04-13-89	40.22	--	--	
			05-09-89	39.73	--	--	
			06-13-89	40.54	--	--	
			07-13-89	43.59	--	--	
			08-09-89	44.75	--	--	
			09-07-89	44.94	--	--	

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

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STATION	NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued							
302459085394702		USGS WELL 1.5	10-04-89	44.92	--	--	--
			11-08-89	45.00	--	--	
			12-13-89	44.86	--	--	
			01-17-90	44.81	--	--	
			02-07-90	44.54	--	--	
			03-07-90	44.30	--	--	
			04-04-90	44.04	--	--	
			05-02-90	43.38	--	--	
			05-16-90	43.14	--	--	
			06-06-90	42.56	--	--	
			07-03-90	42.10	--	--	
			08-06-90	42.21	--	--	
			09-06-90	41.58	--	--	
			09-26-90	41.02	--	--	
302502085394801		USGS WELL 2.1	11-04-88	61.04	--	--	--
			12-12-88	59.64	--	--	
			01-13-89	58.38	--	--	
			07-13-89	61.62	--	--	
			08-09-89	62.28	--	--	
			09-07-89	61.70	--	--	
			10-04-89	62.06	--	--	
			11-08-89	62.26	--	--	
			01-17-90	61.79	--	--	
			02-07-90	61.53	--	--	
			03-07-90	60.74	--	--	
			04-04-90	60.10	--	--	
			05-02-90	59.93	--	--	
			06-06-90	59.26	--	--	
			07-03-90	58.89	--	--	
			08-06-90	61.10	--	--	
			09-06-90	60.16	--	--	
			09-26-90	59.36	--	--	
302502085394802		USGS WELL 2.2	11-04-88	60.94	--	--	--
			12-12-88	59.48	--	--	
			01-13-89	58.23	--	--	
			02-09-89	57.26	--	--	
			03-10-89	56.26	--	--	
			04-13-89	56.74	--	--	
			05-09-89	56.51	--	--	
			06-13-89	56.28	--	--	
			07-13-89	61.47	--	--	
			08-09-89	62.13	--	--	
			09-07-89	61.58	--	--	
			10-04-89	61.94	--	--	
			11-08-89	62.18	--	--	
			12-13-89	62.01	--	--	
			01-17-90	61.71	--	--	
			02-07-90	61.44	--	--	
			03-07-90	60.65	--	--	
			04-04-90	59.99	--	--	
			05-02-90	59.84	--	--	
			05-16-90	59.60	--	--	
			06-06-90	59.16	--	--	
			07-03-90	58.79	--	--	
			08-06-90	60.99	--	--	
			09-06-90	60.02	--	--	
			09-26-90	59.24	--	--	

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued							
302503085393001		USGS WELL 16	11-04-88	57.28	--	--	--
			12-12-88	56.23	--	--	
			01-05-89	55.44	--	--	
			01-13-89	55.27	--	--	
			07-13-89	57.95	--	--	
			08-09-89	58.51	--	--	
			09-06-89	58.17	--	--	
			10-04-89	58.82	--	--	
			11-08-89	57.10	--	--	
			12-13-89	58.75	--	--	
			01-17-90	59.11	--	--	
			02-07-90	58.79	--	--	
			03-07-90	58.28	--	--	
			04-04-90	57.76	--	--	
			05-02-90	57.70	--	--	
			05-16-90	57.50	--	--	
			06-06-90	57.04	--	--	
			07-03-90	56.88	--	--	
			08-06-90	58.87	--	--	
			09-06-90	57.73	--	--	
302506085395301		USGS WELL 28	03-10-89	53.94	--	--	--
			05-09-89	55.45	--	--	
			06-13-89	55.11	--	--	
			07-13-89	59.95	--	--	
			08-09-89	61.87	--	--	
			09-07-89	61.41	--	--	
			10-04-89	61.20	--	--	
			11-08-89	61.06	--	--	
			12-13-89	60.28	--	--	
			01-17-90	60.36	--	--	
			02-07-90	60.18	--	--	
			03-07-90	59.50	--	--	
			04-04-90	58.83	--	--	
			05-02-90	58.58	--	--	
			06-06-90	57.91	--	--	
			07-03-90	57.54	--	--	
			08-06-90	59.46	--	--	
			09-06-90	58.73	--	--	
			09-26-90	58.21	--	--	
302507085394901		USGS WELL 3.1	11-04-88	55.80	--	--	--
			12-09-88	54.74	--	--	
			12-12-88	54.64	--	--	
			01-10-89	53.61	--	--	
			01-13-89	53.53	--	--	
			07-13-89	56.35	--	--	
			08-09-89	57.10	--	--	
			09-07-89	56.74	--	--	
			10-04-89	57.27	--	--	
			11-08-89	57.55	--	--	
			12-13-89	57.04	--	--	
			01-17-90	57.32	--	--	
			02-07-90	56.94	--	--	
			03-07-90	56.29	--	--	
			04-04-90	55.68	--	--	
			05-02-90	55.42	--	--	
			06-06-90	54.79	--	--	
			07-03-90	54.43	--	--	
			08-06-90	56.45	--	--	
			09-06-90	55.43	--	--	
			09-26-90	54.66	--	--	

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

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STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued						
302507085394902	USGS WELL 3.2	11-04-88	55.54	--	--	--
		12-09-88	54.57	--	--	
		12-12-88	54.47	--	--	
		01-13-89	53.38	--	--	
		02-09-89	52.56	--	--	
		03-10-89	51.67	--	--	
		04-13-89	52.10	--	--	
		05-09-89	51.65	--	--	
		06-13-89	51.61	--	--	
		07-13-89	56.15	--	--	
		08-09-89	56.91	--	--	
		09-07-89	56.58	--	--	
		10-04-89	57.07	--	--	
		11-08-89	57.35	--	--	
		12-13-89	56.25	--	--	
		01-17-90	57.13	--	--	
		02-07-90	56.76	--	--	
		03-07-90	56.12	--	--	
		04-04-90	55.53	--	--	
		05-02-90	55.26	--	--	
		05-16-90	55.10	--	--	
		06-06-90	54.62	--	--	
		07-03-90	54.40	--	--	
		08-06-90	56.27	--	--	
		09-06-90	55.26	--	--	
		09-26-90	54.47	--	--	
302508085393501	USGS WELL 27	03-10-89	52.57	--	--	--
		05-09-89	52.90	--	--	
		06-13-89	52.88	--	--	
		07-13-89	57.41	--	--	
		08-09-89	57.95	--	--	
		09-06-89	57.40	--	--	
		10-04-89	58.09	--	--	
		11-08-89	58.41	--	--	
		12-13-89	57.93	--	--	
		01-17-90	58.12	--	--	
		02-07-90	57.91	--	--	
		03-07-90	57.30	--	--	
		04-04-90	56.66	--	--	
		05-02-90	56.64	--	--	
		06-06-90	56.03	--	--	
		07-03-90	55.79	--	--	
		08-06-90	58.26	--	--	
		09-06-90	56.92	--	--	
		09-26-90	56.05	--	--	
302508085400001	USGS WELL 4	11-04-88	58.13	--	--	--
		12-12-88	56.77	--	--	
		01-10-89	55.76	--	--	
		01-13-89	55.70	--	--	
		02-09-89	54.85	--	--	
		03-10-89	53.93	--	--	
		04-13-89	54.45	--	--	
		05-09-89	54.05	--	--	
		06-13-89	54.24	--	--	
		07-13-89	58.58	--	--	
		08-09-89	59.25	--	--	
		09-07-89	58.87	--	--	
		10-04-89	58.99	--	--	
		11-08-89	59.30	--	--	
		12-13-89	58.69	--	--	

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued						
302508085400001	USGS WELL 4	01-17-90	58.92	--	--	--
		02-07-90	58.58	--	--	
		03-07-90	57.89	--	--	
		04-04-90	57.30	--	--	
		05-02-90	57.09	--	--	
		05-16-90	56.89	--	--	
		06-06-90	56.45	--	--	
		07-03-90	56.19	--	--	
		08-06-90	58.02	--	--	
		09-06-90	57.09	--	--	
		09-26-90	56.39	--	--	
		12-12-88	49.42	--	--	
		01-10-89	48.62	--	--	
		01-13-89	48.56	--	--	
		02-09-89	47.83	--	--	
		03-10-89	47.25	--	--	
		04-13-89	47.14	--	--	
		05-09-89	46.77	--	--	
		06-13-89	46.91	--	--	
302510085395001	USGS WELL 17	07-13-89	50.35	--	--	--
		08-09-89	51.31	--	--	
		09-07-89	51.60	--	--	
		10-04-89	51.94	--	--	
		11-08-89	52.04	--	--	
		12-13-89	51.84	--	--	
		01-17-90	51.99	--	--	
		02-07-90	51.76	--	--	
		03-07-90	51.42	--	--	
		04-04-90	50.99	--	--	
		05-02-90	50.54	--	--	
		06-06-90	50.39	--	--	
		07-03-90	50.06	--	--	
		08-06-90	51.25	--	--	
		09-06-90	50.56	--	--	
		09-26-90	49.83	--	--	
		11-04-88	53.33	--	--	
		12-12-88	52.40	--	--	
		01-10-89	51.46	--	--	
302511085395601	USGS WELL 5	01-13-89	51.39	--	--	--
		02-09-89	50.58	--	--	
		03-10-89	49.73	--	--	
		04-13-89	50.10	--	--	
		05-09-89	49.56	--	--	
		06-13-89	49.61	--	--	
		07-13-89	53.80	--	--	
		08-09-89	54.66	--	--	
		09-07-89	54.62	--	--	
		10-04-89	55.02	--	--	
		11-08-89	55.32	--	--	
		12-13-89	54.88	--	--	
		01-17-90	55.18	--	--	
		02-07-90	54.81	--	--	
		03-07-90	53.75	--	--	
		04-04-90	53.67	--	--	
		05-02-90	53.37	--	--	
		05-16-90	53.18	--	--	
		06-06-90	52.68	--	--	
		07-03-90	52.35	--	--	
		08-06-90	54.02	--	--	
		09-06-90	53.13	--	--	
		09-26-90	52.40	--	--	

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

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STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued						
302512085394901	USGS PZ 4.1	04-13-89	45.94	--	--	--
		05-09-89	45.66	--	--	--
		06-13-89	45.76	--	--	--
		08-09-89	49.65	--	--	--
		09-06-89	50.33	--	--	--
		10-04-89	50.67	--	--	--
		11-08-89	50.71	--	--	--
		12-13-89	50.68	--	--	--
		01-17-90	50.73	--	--	--
		02-07-90	50.66	--	--	--
		03-07-90	50.42	--	--	--
		04-04-90	50.07	--	--	--
		05-02-90	49.57	--	--	--
		05-22-90	49.29	--	--	--
		06-06-90	48.90	--	--	--
		07-03-90	48.67	--	--	--
		08-06-90	49.45	--	--	--
		09-07-90	48.98	--	--	--
		09-26-90	48.29	--	--	--
302512085394902	USGS PZ 4.2	04-13-89	45.85	--	--	--
		05-09-89	45.75	--	--	--
		06-13-89	45.51	--	--	--
		08-09-89	49.07	--	--	--
		09-06-89	49.99	--	--	--
		10-04-89	50.42	--	--	--
		11-08-89	50.79	--	--	--
		12-13-89	50.86	--	--	--
		01-17-90	50.85	--	--	--
		02-07-90	50.97	--	--	--
		03-07-90	50.55	--	--	--
		04-04-90	50.11	--	--	--
		05-02-90	49.64	--	--	--
		05-22-90	49.37	--	--	--
		06-06-90	48.93	--	--	--
		07-03-90	48.62	--	--	--
		08-06-90	49.50	--	--	--
		09-07-90	48.98	--	--	--
		09-26-90	48.35	--	--	--
302515085393501	USGS WELL 29	03-10-89	50.99	--	--	--
		05-09-89	51.14	--	--	--
		06-13-89	51.00	--	--	--
		07-13-89	55.87	--	--	--
		08-09-89	56.46	--	--	--
		09-06-89	55.78	--	--	--
		10-04-89	56.60	--	--	--
		11-08-89	56.90	--	--	--
		12-13-89	56.35	--	--	--
		01-17-90	56.51	--	--	--
		02-07-90	56.27	--	--	--
		03-07-90	55.59	--	--	--
		04-04-90	54.96	--	--	--
		05-02-90	54.92	--	--	--
		06-06-90	54.29	--	--	--
		07-03-90	54.05	--	--	--
		08-06-90	56.99	--	--	--
		09-06-90	55.35	--	--	--
		09-26-90	54.42	--	--	--

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued							
302515085394001		USGS WELL 15	07-13-89	52.12	--	--	--
			08-09-89	52.95	--	--	
			09-06-89	52.92	--	--	
			10-04-89	53.52	--	--	
			11-08-89	53.71	--	--	
			12-13-89	53.41	--	--	
			01-17-90	53.56	--	--	
			02-07-90	53.34	--	--	
			03-07-90	52.92	--	--	
			04-04-90	52.36	--	--	
			05-02-90	52.08	--	--	
			06-06-90	51.47	--	--	
			08-06-90	53.11	--	--	
			09-06-90	52.05	--	--	
			09-26-90	51.25	--	--	
302515085400101		USGS WELL 7	11-04-88	50.53	--	--	--
			12-12-88	49.69	--	--	
			01-10-89	48.89	--	--	
			01-13-89	48.82	--	--	
			02-09-89	48.09	--	--	
			07-13-89	51.12	--	--	
			08-09-89	51.83	--	--	
			09-06-89	51.98	--	--	
			10-04-89	52.35	--	--	
			11-08-89	52.66	--	--	
			12-13-89	52.24	--	--	
			01-17-90	52.60	--	--	
			02-07-90	52.33	--	--	
			03-07-90	51.86	--	--	
			04-04-90	51.32	--	--	
			05-02-90	50.95	--	--	
			05-16-90	50.81	--	--	
			06-06-90	50.33	--	--	
			07-03-90	49.99	--	--	
			08-06-90	51.62	--	--	
			09-06-90	50.63	--	--	
			09-26-90	49.92	--	--	
302515085400401		USGS WELL 6.1	11-04-88	50.57	--	--	--
			12-12-88	49.65	--	--	
			01-10-89	48.74	--	--	
			01-13-89	48.67	--	--	
			02-09-89	47.85	--	--	
			03-10-89	47.06	--	--	
			04-13-89	47.33	--	--	
			05-09-89	46.88	--	--	
			06-13-89	47.40	--	--	
			07-13-89	51.17	--	--	
			08-09-89	52.02	--	--	
			09-06-89	52.21	--	--	
			10-04-89	52.41	--	--	
			11-08-89	52.60	--	--	
			12-13-89	52.29	--	--	
			01-17-90	52.56	--	--	
			02-07-90	52.31	--	--	
			03-07-90	51.86	--	--	
			04-04-90	51.32	--	--	
			05-02-90	50.87	--	--	

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

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STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued						
302515085400401	USGS WELL 6.1	05-16-90	50.71	--	--	--
		06-06-90	50.23	--	--	
		07-03-90	49.90	--	--	
		08-06-90	51.41	--	--	
		09-06-90	50.51	--	--	
		09-26-90	49.74	--	--	
302515085400402	USGS WELL 6.2	11-04-88	50.56	--	--	--
		12-12-88	49.62	--	--	
		01-10-89	48.74	--	--	
		01-13-89	48.66	--	--	
		02-09-89	47.86	--	--	
		03-10-89	47.05	--	--	
		04-13-89	47.33	--	--	
		05-09-89	46.89	--	--	
		06-12-89	47.40	--	--	
		08-09-89	51.17	--	--	
		09-06-89	52.02	--	--	
		12-13-89	51.29	--	--	
302516085395701	USGS PZ 2.1	11-04-88	48.51	--	--	--
		12-12-88	47.97	--	--	
		01-10-89	47.34	--	--	
		01-13-89	47.27	--	--	
		02-09-89	46.62	--	--	
		03-10-89	45.87	--	--	
		04-13-89	45.68	--	--	
		05-09-89	45.42	--	--	
		06-13-89	45.50	--	--	
		08-09-89	49.49	--	--	
		09-06-89	50.21	--	--	
		10-04-89	50.54	--	--	
		11-08-89	50.64	--	--	
		12-13-89	50.55	--	--	
		01-17-90	50.78	--	--	
		02-07-90	50.54	--	--	
		03-07-90	50.33	--	--	
		04-04-90	49.95	--	--	
		05-02-90	49.45	--	--	
		05-22-90	49.17	--	--	
		06-06-90	48.97	--	--	
		07-03-90	48.54	--	--	
		08-06-90	49.37	--	--	
		09-07-90	48.83	--	--	
		09-26-90	48.15	--	--	
302516085395702	USGS PZ 2.2	11-04-88	48.49	--	--	--
		12-12-88	48.00	--	--	
		01-10-89	47.39	--	--	
		01-13-89	47.27	--	--	
		02-09-89	46.67	--	--	
		03-10-89	45.96	--	--	
		04-13-89	45.76	--	--	
		05-09-89	45.54	--	--	
		06-13-89	45.46	--	--	
		08-09-89	49.46	--	--	
		09-06-89	50.21	--	--	
		10-04-89	50.56	--	--	
		11-08-89	50.72	--	--	
		12-13-89	50.58	--	--	
		01-17-90	50.66	--	--	

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued							
302516085395702		USGS PZ 2.2	02-07-90	50.75	--	--	--
			03-07-90	50.38	--	--	
			04-04-90	49.97	--	--	
			05-02-90	49.49	--	--	
			05-22-90	49.22	--	--	
			06-06-90	48.79	--	--	
			07-03-90	48.60	--	--	
			08-06-90	49.40	--	--	
			09-07-90	48.84	--	--	
			09-26-90	48.22	--	--	
302516085395703		USGS PZ 2.3	11-04-88	48.25	--	--	--
			12-12-88	47.97	--	--	
			01-10-89	47.38	--	--	
			01-13-89	47.27	--	--	
			02-09-89	46.89	--	--	
			03-10-89	46.37	--	--	
			04-13-89	45.96	--	--	
			05-09-89	45.74	--	--	
			06-13-89	45.34	--	--	
			08-09-89	49.46	--	--	
			09-06-89	50.21	--	--	
			10-04-89	50.35	--	--	
			11-08-89	50.73	--	--	
			12-13-89	50.57	--	--	
			01-17-90	50.57	--	--	
			02-07-90	50.88	--	--	
			03-07-90	50.40	--	--	
			04-04-90	49.98	--	--	
			05-02-90	49.48	--	--	
			05-22-90	49.26	--	--	
			06-06-90	48.80	--	--	
			07-03-90	48.62	--	--	
			08-06-90	49.43	--	--	
			09-07-90	48.85	--	--	
			09-26-90	48.26	--	--	
302516085400001		USGS WELL 8	11-04-88	50.00	--	--	--
			12-12-88	49.29	--	--	
			01-10-89	48.53	--	--	
			01-13-89	48.48	--	--	
			02-09-89	47.76	--	--	
			07-13-89	50.38	--	--	
			08-09-89	51.16	--	--	
			09-06-89	51.51	--	--	
			10-04-89	51.90	--	--	
			11-08-89	52.13	--	--	
			12-13-89	51.83	--	--	
			01-17-90	52.13	--	--	
			02-07-90	51.87	--	--	
			03-07-90	51.49	--	--	
			04-04-90	50.98	--	--	
			05-02-90	50.58	--	--	
			05-16-90	50.47	--	--	
			06-06-90	49.98	--	--	
			07-03-90	49.64	--	--	
			08-06-90	51.07	--	--	
			09-06-90	50.23	--	--	
			09-26-90	49.52	--	--	

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

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STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued						
302520085392901	USGS WELL 14	11-04-88	56.38	--	--	--
		07-13-89	56.93	--	--	
		08-09-89	57.59	--	--	
		09-06-89	56.89	--	--	
		10-04-89	57.59	--	--	
		11-08-89	57.90	--	--	
		12-13-89	57.23	--	--	
		01-17-90	57.29	--	--	
		02-07-90	57.10	--	--	
		03-07-90	56.39	--	--	
		04-04-90	56.06	--	--	
		08-06-90	58.16	--	--	
		09-06-90	56.61	--	--	
		09-26-90	55.68	--	--	
		04-13-89	45.10	--	--	
		05-09-89	44.82	--	--	
302520085394601	USGS LP 2	06-13-89	44.98	--	--	--
		07-03-90	48.16	--	--	
		09-26-90	47.66	--	--	
		01-05-89	47.10	--	--	
302521085394601	USGS LP 1	01-13-89	46.87	--	--	--
		02-09-89	46.22	--	--	
		03-10-89	45.38	--	--	
		04-13-89	45.14	--	--	
		05-09-89	44.85	--	--	
		06-13-89	45.31	--	--	
		08-08-89	49.00	--	--	
		08-09-89	49.00	--	--	
		07-03-90	48.12	--	--	
		11-04-88	47.97	--	--	
		12-12-88	47.93	--	--	
		01-05-89	47.59	--	--	
302521085394701	USGS PZ 1.1	01-13-89	47.51	--	--	--
		02-09-89	46.45	--	--	
		03-10-89	45.71	--	--	
		04-13-89	45.39	--	--	
		05-09-89	45.13	--	--	
		06-13-89	45.19	--	--	
		07-13-89	47.87	--	--	
		08-09-89	49.10	--	--	
		09-06-89	49.93	--	--	
		10-04-89	50.26	--	--	
		11-08-89	50.25	--	--	
		12-13-89	50.61	--	--	
		01-17-90	50.52	--	--	
		02-07-90	50.28	--	--	
		03-07-90	50.27	--	--	
		04-04-90	49.78	--	--	
		05-02-90	49.27	--	--	
		05-22-90	49.21	--	--	
		07-03-90	48.44	--	--	
		08-06-90	49.11	--	--	
		09-07-90	48.54	--	--	
		09-26-90	48.00	--	--	
302521085394702	USGS PZ 1.2	11-04-88	48.00	--	--	--
		12-12-88	47.63	--	--	
		02-09-89	46.26	--	--	
		03-10-89	45.51	--	--	
		04-13-89	45.81	--	--	

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued						
302521085394703	WELL PZ 1-2A.	01-17-90	50.36	--	--	--
		02-07-90	50.21	--	--	--
		03-07-90	50.04	--	--	--
		04-04-90	49.71	--	--	--
		05-02-90	49.19	--	--	--
		06-06-90	48.46	--	--	--
		07-03-90	48.24	--	--	--
		08-06-90	49.00	--	--	--
		09-07-90	48.52	--	--	--
		09-26-90	47.80	--	--	--
		01-17-90	50.03	--	--	--
		02-07-90	49.97	--	--	--
		03-07-90	50.14	--	--	--
		04-04-90	49.93	--	--	--
		05-02-90	49.86	--	--	--
302521085394704	WELL PZ 1-3	07-03-90	49.48	--	--	--
		09-07-90	49.22	--	--	--
		09-26-90	49.08	--	--	--
		04-13-89	50.12	--	--	--
		05-09-89	49.96	--	--	--
		06-13-89	50.01	--	--	--
		07-13-89	54.74	--	--	--
		08-09-89	55.32	--	--	--
		09-06-89	54.76	--	--	--
		10-04-89	55.51	--	--	--
		11-08-89	55.85	--	--	--
		12-13-89	55.34	--	--	--
		01-17-90	55.31	--	--	--
		02-07-90	55.19	--	--	--
		03-07-90	54.60	--	--	--
302522085393401	USGS WELL 26	04-04-90	53.93	--	--	--
		05-02-90	53.64	--	--	--
		06-06-90	53.22	--	--	--
		07-03-90	52.93	--	--	--
		08-06-90	56.01	--	--	--
		09-06-90	54.48	--	--	--
		09-26-90	53.62	--	--	--
		11-04-88	48.86	--	--	--
		12-12-88	48.26	--	--	--
		01-05-89	47.75	--	--	--
		01-13-89	47.54	--	--	--
		02-09-89	46.89	--	--	--
		03-10-89	46.13	--	--	--
		04-13-89	45.97	--	--	--
		05-09-89	45.66	--	--	--
302522085394501	USGS WELL 20	06-13-89	45.99	--	--	--
		07-13-89	48.83	--	--	--
		08-09-89	49.90	--	--	--
		09-06-89	50.51	--	--	--
		10-04-89	50.90	--	--	--
		11-08-89	50.99	--	--	--
		12-13-89	50.86	--	--	--
		01-17-90	50.95	--	--	--
		02-07-90	50.89	--	--	--
		03-07-90	50.59	--	--	--
		04-04-90	50.14	--	--	--
		05-02-90	49.58	--	--	--

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

199

STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued						
302522085394501	USGS WELL 20	05-16-90	49.64	--	--	--
		06-06-90	49.01	--	--	--
		07-03-90	48.88	--	--	--
		08-06-90	50.02	--	--	--
		09-06-90	49.35	--	--	--
302523085394401	USGS WELL 13.3	09-26-90	48.61	--	--	--
		12-12-88	41.76	--	--	--
		01-05-89	41.21	--	--	--
		01-13-89	41.01	--	--	--
		02-09-89	40.31	--	--	--
		03-10-89	39.69	--	--	--
		04-13-89	39.79	--	--	--
		05-09-89	39.36	--	--	--
		06-13-89	40.24	--	--	--
		07-13-89	43.40	--	--	--
		08-09-89	44.54	--	--	--
		09-06-89	44.82	--	--	--
		10-04-89	44.79	--	--	--
		11-08-89	44.69	--	--	--
		12-13-89	44.54	--	--	--
		01-17-90	44.67	--	--	--
		02-07-90	44.44	--	--	--
		03-07-90	44.24	--	--	--
		04-04-90	43.95	--	--	--
		05-02-90	43.32	--	--	--
302523085395401	USGS LP 3	05-16-90	43.06	--	--	--
		06-06-90	42.45	--	--	--
		07-03-90	42.05	--	--	--
		08-06-90	42.16	--	--	--
		09-06-90	41.55	--	--	--
		09-26-90	41.02	--	--	--
		04-13-89	45.08	--	--	--
		05-09-89	44.73	--	--	--
		06-13-89	45.30	--	--	--
		07-03-90	48.10	--	--	--
302524085394401	USGS WELL 13.1	09-26-90	47.65	--	--	--
		12-12-88	49.17	--	--	--
		08-09-89	51.02	--	--	--
		09-06-89	51.30	--	--	--
		10-04-89	51.83	--	--	--
		11-08-89	52.01	--	--	--
		12-13-89	51.72	--	--	--
		01-17-90	51.77	--	--	--
		02-07-90	51.73	--	--	--
		03-07-90	51.34	--	--	--
		04-04-90	51.32	--	--	--
		05-02-90	50.46	--	--	--
		06-06-90	50.03	--	--	--
		07-03-90	49.63	--	--	--
		08-06-90	51.49	--	--	--
		09-06-90	50.54	--	--	--
		09-26-90	49.75	--	--	--
302524085394402	USGS 13.2	11-04-88	49.92	--	--	--
		12-12-88	49.11	--	--	--
		01-05-89	48.55	--	--	--
		01-13-89	48.35	--	--	--
		02-09-89	47.70	--	--	--

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued						
302524085394402	USGS 13.2	03-10-89	46.94	--	--	--
		04-13-89	46.78	--	--	
		05-09-89	46.46	--	--	
		06-13-89	46.60	--	--	
		07-13-89	50.11	--	--	
		08-09-89	51.60	--	--	
		09-06-89	52.07	--	--	
		10-04-89	51.76	--	--	
		11-08-89	51.98	--	--	
		12-13-89	51.66	--	--	
		01-17-90	51.70	--	--	
		02-07-90	51.69	--	--	
		03-07-90	51.30	--	--	
		04-04-90	50.82	--	--	
		05-02-90	50.40	--	--	
		06-06-90	49.81	--	--	
		07-03-90	49.56	--	--	
		08-06-90	51.41	--	--	
		09-06-90	50.44	--	--	
		09-26-90	49.71	--	--	
302524085395401	USGS PZ 3.1	04-13-89	45.04	--	--	--
		05-09-89	44.72	--	--	
		06-13-89	44.89	--	--	
		07-13-89	47.71	--	--	
		08-09-89	49.01	--	--	
		09-06-89	49.80	--	--	
		10-04-89	50.16	--	--	
		11-08-89	50.13	--	--	
		12-13-89	50.18	--	--	
		01-17-90	50.21	--	--	
		03-07-90	49.81	--	--	
		04-04-90	49.69	--	--	
		05-02-90	49.08	--	--	
		05-24-90	48.26	--	--	
		06-06-90	48.32	--	--	
		07-03-90	48.12	--	--	
		08-06-90	48.83	--	--	
		09-07-90	48.36	--	--	
		09-26-90	47.64	--	--	
302524085395402	USGS PZ 3.2	04-13-89	45.06	--	--	--
		05-09-89	44.82	--	--	
		06-13-89	44.86	--	--	
		07-13-89	47.65	--	--	
		08-09-89	48.97	--	--	
		09-06-89	50.10	--	--	
		10-04-89	50.07	--	--	
		11-08-89	50.05	--	--	
		12-13-89	50.10	--	--	
		01-17-90	50.11	--	--	
		03-07-90	49.97	--	--	
		04-04-90	49.72	--	--	
		05-02-90	48.99	--	--	
		05-24-90	48.57	--	--	
		06-06-90	48.22	--	--	
		07-03-90	48.03	--	--	
		08-06-90	48.72	--	--	
		09-07-90	48.26	--	--	
		09-26-90	47.52	--	--	

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

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STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued						
302524085395701	USGS WELL 18	01-05-89	47.16	--	--	--
		01-13-89	46.94	--	--	
		02-09-89	46.29	--	--	
		03-10-89	45.54	--	--	
		04-13-89	45.47	--	--	
		05-09-89	45.11	--	--	
		06-13-89	45.28	--	--	
		07-13-89	48.33	--	--	
		08-09-89	49.31	--	--	
		09-06-89	49.93	--	--	
		10-04-89	50.25	--	--	
		11-08-89	50.45	--	--	
		12-13-89	50.33	--	--	
		01-17-90	50.39	--	--	
		02-07-90	50.33	--	--	
		03-07-90	50.08	--	--	
		04-04-90	49.68	--	--	
		05-02-90	49.19	--	--	
		05-16-90	49.04	--	--	
		06-06-90	48.49	--	--	
		07-03-90	48.30	--	--	
		08-06-90	49.37	--	--	
		09-06-90	48.67	--	--	
		09-26-90	47.91	--	--	
302524085400501	USGS WELL 31	03-10-89	46.13	--	--	--
		04-13-89	46.48	--	--	
		05-09-89	46.11	--	--	
		06-13-89	45.71	--	--	
		08-09-89	50.02	--	--	
		09-06-89	50.08	--	--	
		10-04-89	50.49	--	--	
		11-08-89	51.00	--	--	
		12-13-89	50.73	--	--	
		01-17-90	50.88	--	--	
		02-07-90	50.98	--	--	
		03-07-90	50.53	--	--	
		04-04-90	50.06	--	--	
		05-02-90	49.65	--	--	
		06-06-90	49.43	--	--	
		07-03-90	48.99	--	--	
		08-06-90	50.81	--	--	
		09-06-90	49.50	--	--	
		09-26-90	48.80	--	--	
302525085393601	USGS WELL 30	03-10-89	49.31	--	--	--
		05-09-89	49.00	--	--	
		06-13-89	48.82	--	--	
		07-13-89	53.54	--	--	
		08-09-89	54.11	--	--	
		09-06-89	53.79	--	--	
		10-04-89	54.46	--	--	
		11-08-89	54.79	--	--	
		12-13-89	54.25	--	--	
		01-17-90	54.09	--	--	
		02-07-90	54.26	--	--	
		03-07-90	53.70	--	--	
		04-04-90	53.06	--	--	
		05-02-90	52.67	--	--	
		06-06-90	52.26	--	--	

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued						
302525085393601	USGS WELL 30	07-03-90	51.97	--	--	--
		08-06-90	54.96	--	--	
		09-06-90	53.75	--	--	
		09-26-90	52.89	--	--	
302525085395401	USGS WELL 19	01-05-89	47.19	--	--	--
		01-13-89	47.00	--	--	
		02-09-89	46.37	--	--	
		03-10-89	45.62	--	--	
		04-13-89	45.50	--	--	
		05-09-89	45.15	--	--	
		06-13-89	45.26	--	--	
		08-09-89	49.41	--	--	
		09-06-89	49.99	--	--	
		10-04-89	50.37	--	--	
		11-08-89	50.54	--	--	
		12-13-89	50.40	--	--	
		01-17-90	50.46	--	--	
		02-07-90	50.39	--	--	
		03-07-90	50.16	--	--	
		04-04-90	49.75	--	--	
		05-02-90	49.35	--	--	
		06-06-90	48.58	--	--	
		07-03-90	48.37	--	--	
		08-06-90	49.44	--	--	
		09-06-90	48.77	--	--	
		09-26-90	48.04	--	--	
302526085394101	USGS WELL 12	11-04-88	51.62	--	--	--
		12-12-88	50.59	--	--	
		01-05-89	49.91	--	--	
		01-13-89	49.71	--	--	
		09-06-89	52.53	--	--	
		10-04-89	53.15	--	--	
		11-08-89	53.41	--	--	
		12-13-89	52.97	--	--	
		01-17-90	52.90	--	--	
		02-07-90	52.93	--	--	
		03-07-90	52.45	--	--	
		04-04-90	52.01	--	--	
		05-02-90	51.51	--	--	
		06-06-90	51.04	--	--	
		07-03-90	50.77	--	--	
		08-06-90	53.37	--	--	
		09-06-90	52.18	--	--	
		09-26-90	51.42	--	--	
302526085395801	USGS WELL 21	01-13-89	47.18	--	--	--
		02-09-89	46.57	--	--	
		03-10-89	45.86	--	--	
		04-13-89	46.11	--	--	
		05-09-89	45.56	--	--	
		06-13-89	45.41	--	--	
		08-09-89	49.81	--	--	
		09-06-89	50.07	--	--	
		10-04-89	50.54	--	--	
		11-08-89	50.84	--	--	
		12-13-89	50.59	--	--	
		01-17-90	50.61	--	--	
		02-07-90	50.68	--	--	
		03-07-90	50.33	--	--	
		04-04-90	49.81	--	--	

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

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STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued						
302526085395801	USGS WELL 21	05-02-90	49.42	--	--	--
		06-06-90	49.40	--	--	
		07-03-90	48.60	--	--	
		08-06-90	50.26	--	--	
		09-06-90	49.16	--	--	
302528085395001	USGS WELL 11	09-26-90	48.43	--	--	--
		11-04-88	49.86	--	--	
		12-12-88	49.05	--	--	
		09-06-89	51.01	--	--	
		10-04-89	51.53	--	--	
		11-08-89	51.82	--	--	
		12-13-89	51.47	--	--	
		01-17-90	51.47	--	--	
		02-07-90	51.46	--	--	
		03-07-90	51.06	--	--	
		04-04-90	50.61	--	--	
		05-02-90	50.47	--	--	
		07-03-90	50.03	--	--	
		08-06-90	51.44	--	--	
		09-06-90	50.40	--	--	
		09-26-90	49.84	--	--	
302528085395901	USGS WELL 22	01-13-89	46.99	--	--	--
		02-09-89	46.63	--	--	
		03-10-89	45.92	--	--	
		04-13-89	46.11	--	--	
		05-09-89	45.66	--	--	
		06-13-89	45.23	--	--	
		07-13-89	49.68	--	--	
		08-09-89	49.97	--	--	
		09-06-89	49.97	--	--	
		10-04-89	50.46	--	--	
		11-08-89	50.91	--	--	
		12-13-89	50.62	--	--	
		01-17-90	50.54	--	--	
		02-07-90	50.66	--	--	
		03-07-90	50.24	--	--	
		04-04-90	49.76	--	--	
		05-02-90	49.36	--	--	
		06-06-90	48.85	--	--	
		07-03-90	48.56	--	--	
		08-06-90	50.54	--	--	
		09-06-90	49.19	--	--	
		09-26-90	48.51	--	--	
302530085395401	USGS WELL 25	03-10-89	47.45	--	--	--
		04-13-89	47.36	--	--	
		05-09-89	46.93	--	--	
		06-13-89	46.76	--	--	
		08-09-89	51.63	--	--	
		09-06-89	51.65	--	--	
		10-04-89	52.08	--	--	
		11-08-89	52.47	--	--	
		12-13-89	52.07	--	--	
		01-17-90	52.09	--	--	
		02-07-90	52.08	--	--	
		03-07-90	51.64	--	--	
		04-04-90	51.24	--	--	
		05-02-90	50.84	--	--	
		06-06-90	50.30	--	--	

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

STATION	NUMBER	STATION	NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
BAY--Continued								
302530085395401		USGS WELL 25		07-03-90	50.00	--	--	--
				08-06-90	52.19	--	--	
				09-06-90	51.07	--	--	
				09-26-90	50.33	--	--	
302530085400201		USGS WELL 23		03-10-89	45.25	--	--	--
				04-13-89	45.54	--	--	
				05-09-89	45.02	--	--	
				06-13-89	44.77	--	--	
				08-09-89	49.29	--	--	
				09-06-89	49.29	--	--	
				10-04-89	49.68	--	--	
				11-08-89	50.13	--	--	
				12-13-89	49.84	--	--	
				01-17-90	49.95	--	--	
				02-07-90	49.97	--	--	
				03-07-90	49.59	--	--	
				04-04-90	49.13	--	--	
				05-02-90	48.79	--	--	
				06-06-90	48.29	--	--	
				07-03-90	47.93	--	--	
				08-06-90	49.74	--	--	
				09-06-90	48.49	--	--	
				09-26-90	47.78	--	--	
302531085400001		USGS WELL 9		08-09-89	49.37	--	--	--
				09-06-89	49.31	--	--	
				10-04-89	49.67	--	--	
				11-08-89	50.32	--	--	
				12-13-89	49.74	--	--	
				01-17-90	49.82	--	--	
				02-07-90	49.80	--	--	
				03-07-90	49.44	--	--	
				04-04-90	49.81	--	--	
				08-06-90	49.58	--	--	
302531085400401		USGS WELL 24		03-10-89	44.61	--	--	--
				04-13-89	44.68	--	--	
				05-09-89	44.29	--	--	
				06-13-89	44.34	--	--	
				08-09-89	48.38	--	--	
				09-06-89	48.61	--	--	
				10-04-89	48.89	--	--	
				11-08-89	49.25	--	--	
				12-13-89	49.02	--	--	
				01-17-90	49.25	--	--	
				02-07-90	49.18	--	--	
				03-07-90	48.87	--	--	
				04-04-90	48.53	--	--	
				05-02-90	48.08	--	--	
				05-16-90	47.96	--	--	
				06-06-90	47.48	--	--	
				07-03-90	47.24	--	--	
				08-06-90	48.57	--	--	
				09-06-90	47.56	--	--	
				09-26-90	46.85	--	--	
CALHOUN								
301437085114901		LOCAL NO.014-511-1		05-18-90	38.86	-7.16	31.70	120FLRD
302525085175701		ROBERT MAYO/MAYO OKALOOSA ASPHALT		05-14-90	107.10	15.90	123.00	120FLRD
302636085024701		CITY OF BLOUNSTOWN WELL AT BLOUNSTOWN,FLA.		05-14-90	49.00	9.94	58.90	120FLRD
303024085024701		STAFFORD CR WELL N OF BLOUNTSTOWN,FL		05-14-90	59.90	30.10	90.00	120FLRD

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

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STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEVATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO-LOGIC UNIT
FRANKLIN						
294327084585501	LOCAL NO.31	05-18-90	7.45	-1.65	5.80	120FLRD
294337084532401	McCullogh Properties, Inc. well at Eastpoint, Fl	05-18-90	8.68	-2.68	6.00	120FLRD
295046084394301	FRANKLIN NO 10	05-15-90	3.26	1.80	5.10	120FLRD
295507084311901	ST. JAMES WELL NR LANARK, FLORIDA	05-15-90	9.50	22.59	32.10	120FLRD
295732084430701	FRANKLIN 41	05-15-90	13.56	-3.55	10.00	120FLRD
GADSDEN						
303243084430301	FRANKLIN FLETCHER	05-16-90	73.39	177.02	250.00	120FLRD
303550084345001	CITY OF QUINCY NO.3	05-16-90	59.02	92.44	151.00	120FLRD
304056084502501	CITY OF CHATTAHOOCHEE ABAND WELL NR CHATTAHOOCHE	05-16-90	60.18	57.82	118.00	120FLRD
GULF						
293958085211801	USAF D3-A	05-18-90	6.90	0.34	7.20	120FLRD
294934085173301	PAPER CO WELL AT PORT ST JOE, FL	05-18-90	-4.54	22.54	18.00	120FLRD
300338085204201	FICO FARMS OBS. WELL(600) NR. OVERSTREET FL.	05-18-90	14.50	10.50	--	120FLRD
300703085160401	EXXON SUPPLY WELL NR WEWAHITCHKA, FL	10-30-89	26.22	14.78	41.00	120FLRD
		05-18-90	26.80	14.20	41.00	
HOLMES						
304322085561401	LOCAL NO.4 PONCE DE LEON	05-17-90	64.65	-2.47	62.20	120FLRD
304626085410301	KINGDOM HALL AT BONIFAY FL	05-17-90	106.43	22.57	129.00	120FLRD
305119085561901	LOCAL NO.051-556-1	05-17-90	77.37	208.31	286.00	120FLRD
305828085350901	HOLMES 7 BUSH	05-17-90	159.48	14.80	174.00	120FLRD
JACKSON						
303701085231301	COMPASS LK TOWER WELL NR COMPASS LAKE, FL	05-14-90	102.16	202.84	305.00	120FLRD
304142085214101	BRADY FORAN WELL NR ALFORD, FL	05-14-90	69.95	37.05	107.00	120FLRD
304230084535901	HOMER HIRT NR. SNEADS	05-16-90	73.64	24.36	98.00	120FLRD
304413085064401	INT. PAPER CO. WELL NR CYPRESS, FLA.	05-16-90	92.38	74.37	167.00	120FLRD
304746085223201	CITY OF COTTONDALE NO.3, COTTONDALE, FL	05-14-90	111.73	21.27	133.00	--
304918084565601	NORTH OF SNEADS	05-16-90	89.04	20.96	110.00	120FLRD
304918085124201	RETTIG N. OF MARIANNA	05-16-90	74.97	25.03	100.00	120FLRD
305353085273101	LOCAL NO. 053-527-1	05-16-90	105.88	88.71	195.00	120FLRD
305755085102401	HOLLINGSWORTH NR. MALONE	10-30-89	106.78	40.22	147.00	120FLRD
		05-16-90	116.72	30.28	147.00	
305837085034201	HAGLER WELL NEAR MALONE FL	05-16-90	96.12	33.88	130.00	120FLRD
305947085243001	WELCOME STAT. N OF CAMBELLTON	05-16-90	138.96	13.04	152.00	120FLRD

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEVATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO-LOGIC UNIT
JEFFERSON						
303001083553401	JOSEPH BELLAMY WELL NEAR MONTICELLO, FL.	05-15-90	35.64	139.36	175.00	120FLRD
303920083461801	MERRILY PLANTATION WELL NR DILLS, FL	10-23-89 05-15-90	64.85 66.48	60.29 58.66	-- --	--
LEON						
301801084144501	ROY WHITTINGTON WELL NR WOODVILLE, FL	05-15-90	6.78	27.22	34.00	120FLRD
302410084200001	LOCAL NO.024-420-1	05-15-90	24.62	12.89	37.50	120FLRD
302424084311301	WELL TALLAHASSEE AIRPORT NR TALLAHASSEE	12-20-89 04-05-90 05-15-90	20.36 23.40 23.84	46.82 43.78 43.34	67.20 67.20 67.20	120FLRD 120FLRD
302518084192401	LOCAL NO.025-419-441	05-15-90	19.27	70.59	89.90	120FLRD
303001084134701	TALLAHASSEE OLSON RD I-10 TH	10-30-89 05-15-90	30.73 29.87	159.27 160.13	-- --	--
303142084214601	LK JACKSON DEEP WELL NR TALLAHASSEE, FLA.	11-01-89 05-15-90	32.31 33.24	89.89 88.96	122.00 122.00	120FLRD
303447084072401	LOCAL NO.034-407-1	05-15-90	51.50	171.20	223.00	120FLRD
303924084130101	TALL TIMBERS RESEARCH	05-16-90	61.55	39.87	101.00	120FLRD
LIBERTY						
300152084592701	LOCAL NO.001-459-1	05-18-90	24.46	5.04	29.50	120FLRD
300813084555701	PLACID OIL CO SUPPLY WELL	05-18-90	46.43	5.57	52.00	120FLRD
301035084403701	PORTER LAKE REC AREA	05-14-90	32.47	-10.20	22.30	120FLRD
302321084473501	C.W. ROBERTS WELL AT HOSFORD, FLA.	05-14-90	88.17	-1.16	87.00	120FLRD
302823084560601	ST. JOE PAPER CO. WELL N. OF BRISTOL, FLA.	05-14-90	127.86	86.64	214.00	120FLRD
OKALOOSA						
302338086352601	WAYSIDE PARK	05-16-90	-92.50	104.50	12.00	120FLRD
302341086294401	DESTIN WATER USERS NO 1	05-16-90	-61.88	81.88	20.00	120FLRD
302419086362601	FT WALTON ELEM SCHOOL	10-11-89 05-16-90	-102.88 -98.23	119.32 114.67	16.40 16.40	120FLRD
302424086453401	R.V. TYE WELL, PARRISH POINT, FL	05-14-90	-63.92	68.92	5.00	120FLRD
302442086394001	MARY ESTHER WELL NO.2	05-16-90	-104.78	124.78	20.00	120FLRD
302529086380503	CEMETARY DEEP WELL AT FORT WALTON BCH, FL	10-11-89 05-16-90	-20.45 -18.59	55.31 53.45	34.90 34.90	120FLRD
302609086375401	WRIGHT ELEM. SCHOOL	05-16-90	-95.64	116.46	20.80	120FLRD
302711086251402	USAF WHITE POINT WELL NR VILLA TASSO, FL	05-17-90	-40.50	50.50	10.00	120FLRD
302747086382001	USGS WRIGHT TEST WELL	05-16-90	-84.26	141.93	57.70	120FLRD
302857086285201	POSTIL POINT WELL AT EGLIN, NR NICEVILLE, FL	05-16-90	-66.54	74.08	7.50	120FLRD
302857086310701	B-910 EGLIN HARDSTAND 1	05-16-90	-73.70	139.70	66.00	120FLRD
303021086351601	B-4204 EGLIN 27 FLD 4-2	05-16-90	-43.67	133.00	89.30	120FLRD
303021086351603	EGLIN FIELD 4 DEEP WELL NR FORT WALTON BCH, FL	05-16-90	-43.22	131.22	88.00	120FLRD
303314086453702	METTS TOWER DEEP WELL NR FORT WALTON BEACH, FL	05-16-90	7.36	187.64	195.00	120FLRD

MISCELLANEOUS WATER LEVEL MEASUREMENTS
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STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEVATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO-LOGIC UNIT
OKALOOSA--Continued						
303512086375101	EGLIN 29 FLD 5-2	10-11-89 05-16-90	-9.03 -6.55	187.06 184.58	178.00 178.00	120FLRD
303745086442101	B-6204 EGLIN 31	05-16-90	9.92	125.08	135.00	120FLRD
304518086334001	CRESTVIEW NO 4	05-15-90	58.00	172.00	230.00	120FLRD
304801086403101	BAKER NO 1	05-14-90	62.45	182.55	245.00	120FLRD
305530086322701	W.D.FLOURNOY JR. WELL	05-14-90	156.78	22.22	179.00	120FLRD
305615086284801	FLA FOR.SER. LAUREL HILL	05-14-90	175.03	114.97	290.00	120FLRD
SANTA ROSA						
302409086523501	L.WOODHAM REDIMIX,NVARRE	05-14-90	-34.79	54.79	20.00	120FLRD
WAKULLA						
300540084174001	WAKULLA 19	05-15-90	4.80	4.19	9.00	120FLRD
300631084223401	WAKULLA HIGH SCH TEST WELL	05-15-90	4.08	32.07	36.10	120FLRD
300917084121301	LOCAL NO.2 ST. MARKS	05-15-90	1.89	1.86	3.80	120FLRD
301115084241201	ARRAN WORK CENTER	05-15-90	26.34	8.66	35.00	120FLRD
301156084103501	LOCAL NO.011-410-1	05-15-90	5.35	1.61	7.00	120FLRD
WALTON						
302058086143201	ERIC ALLEN WELL AT DUNE ALLEN BEACH, FLORIDA	05-17-90	0.57	5.43	6.00	120FLRD
302228086201902	HOLIDAY CAMPGROUND WELL NR MIRIMAR BEACH,FL	05-17-90	-27.35	51.35	24.00	120FLRD
302231086153201	J A HOLLEY WELL AT SANTA ROSA BEACH,FL	05-17-90	9.23	2.77	12.00	120FLRD
302231086214301	M T FONTRAN MIRMAR BEACH	05-16-90	-35.70	58.70	23.00	120FLRD
302442086130701	S L MATTHEWS WELL	05-17-90	2.54	2.46	5.00	120FLRD
302746086232101	RAY WRIGHT WELL AT VILLA TASSO,FLA	05-17-90	-17.02	36.02	19.00	120FLRD
302840086044301	T. MILLER WELL NR FREEPORT, FLA.	05-15-90	15.80	24.20	40.00	120FLRD
302841086195201	R E LALONDE WELL	05-17-90	-4.98	6.98	2.00	120FLRD
303053086075301	J M THOMPSON WELL	05-17-90	17.72	42.07	59.80	120FLRD
303214085580401	FRM NO 72 DP FST AM FRMS	05-15-90	29.17	93.83	123.00	120FLRD
303426086061101	FRM NO 2 DP FST AM FRMS	05-15-90	39.36	114.10	153.00	120FLRD
303434086130301	B-8631 EGLIN AFB	05-15-90	33.14	107.40	141.00	120FLRD
303454085560601	WELL 43	05-15-90	27.99	148.01	176.00	120FLRD
303545086064601	BLDG 1481 ROCK HILL TOWER EGLIN AFB FL	05-15-90	48.48	162.02	211.00	120FLRD
303954086133801	USAF EGLIN C-62	05-15-90	79.28	135.60	215.00	120FLRD
304334086032401	ARGYLE TOWER FFS	05-17-90	85.15	175.85	261.00	120FLRD
304358086120801	BSA CAMP LK EUCHEE WELL	05-15-90	121.23	152.77	274.00	120FLRD
305043086083301	RAY PETER WELL	05-14-90	186.73	92.27	279.00	120FLRD
305110086164801	C GEOGHAGAN WELL	05-14-90	174.22	80.78	255.00	120FLRD
305247086030901	WELL 52	05-17-90	116.60	188.17	305.00	120FLRD

MISCELLANEOUS WATER LEVEL MEASUREMENTS
OCTOBER 1989 TO SEPTEMBER 1990

STATION NUMBER	STATION NAME	DATE OF SAMPLE	ELEV- ATION ABOVE NGVD (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	GEO- LOGIC UNIT
WALTON--Continued						
305359086122602	NWF MONITOR WELL AT JACKSON STILL TOWER, FL	05-14-90	204.30	65.70	270.00	120FLRD
305804086180901	FLA WELCOME STA PAXTON	05-14-90	218.02	105.98	324.00	120FLRD
WASHINGTON						
303025085350501	WELL 422A NR GREENHEAD , FLORIDA	10-30-89 05-14-90	64.97 62.54	1.14 3.57	66.10 66.10	120FLRD
304441085331101	I-10/SR77 S OF CHIPLEY	05-16-90	57.57	65.43	123.00	120FLRD
304632085485101	UNUSED WELL AT CARYVILLE, FL	05-17-90	52.44	10.53	63.00	120FLRD

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FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1 2.54×10^{-2}	millimeters (mm) meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3 4.047×10^{-1} 4.047×10^{-3}	square meters (m ²) square hectometers (hm ²) square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0 3.785×10^0 3.785×10^{-3}	liters (L) cubic decimeters (dm ³) cubic meters (m ³)
million gallons	3.785×10^3 3.785×10^{-3}	cubic meters (m ³) cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1 2.832×10^{-2}	cubic decimeters (dm ³) cubic meters (m ³)
cfs-days	2.447×10^3 2.447×10^{-3}	cubic meters (m ³) cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3 1.233×10^{-3} 1.233×10^{-6}	cubic meters (m ³) cubic hectometers (hm ³) cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1 2.832×10^1 2.832×10^{-2}	liters per second (L/s) cubic decimeters per second (dm ³ /s) cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2} 6.309×10^{-2} 6.309×10^{-5}	liters per second (L/s) cubic decimeters per second (dm ³ /s) cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1 4.381×10^{-2}	cubic decimeters per second (dm ³ /s) cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons



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