81-76 QUALITY OF SURFACE WATER AT SELECTED SITES IN THE SUWANNEE RIVER BASIN, FLORIDA, APRIL 1978 TO DECEMBER 1979

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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OPEN-FILE REPORT 81-76

Prepared in cooperation with the
SUWANNEE RIVER AUTHORITY
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Tallahassee, Florida

1981

UNITED STATES DEPARTMENT OF THE INTERIOR

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GEOLOGICAL SURVEY

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GLOSSARY

Biochemical Oxygen Demand (BOD)--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.

Class III Waters--categorization, in State of Florida Rules, of water used for recreation, propagation, and management of fish and wildlife.

Cubic feet per second (ft^3/s or cfs)--the rate of discharge representing a volume of water measured in cubic feet passing a given point in 1 second. A discharge rate of 1 ft^3/s is equivalent to 7.48 gallons per second or 448.8 gallons per minute.

Discharge--the volume of water (or more broadly, total fluids) that passes a given point within a given period of time.

Micrograms per liter (µg/L)--a unit expressing the concentration of chemical constituents in solution; a weight (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)--a unit expressing the concentration of chemical constituents in solution. Milligrams per liter represents the weight of solute (in milligrams) per unit volume (one liter) of water.

Specific Conductance--a measure of the ability of a water to conduct an electrical current, expressed in micromhos 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 concentration of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may vary at the same point with a change in the composition of the water.

Total Organic Carbon (TOC)--a measure of the organically related carbonaceous content of water. It includes all natural and manmade organic compounds which are combustable at a temperature of 950°C.

CONVERSION FACTORS

For use of those readers who may prefer to use metric (SI) units rather than inch-pound units, the conversion factors for the terms used in this report are listed below:

Multiply	By	To obtain
cubic feet (ft^3)	0.02832	cubic meters (m^3)
gallons (gal)	3.785	liters (L)
miles (mi)	1.609	kilometers (km)
square miles (mi^2)	2.590	square kilometers (km^2)
cubic feet per second (ft^3/s)	0.02832	cubic meters per second (m^3/s)
gallons per minute (gal/min)	0.06309	liters per second (L/s)

To assist those readers not familiar with scientific notations used in some of the graphs, the conversion factors are listed below:

A scientific notation of	Is equal to	A scientific notation of	Is equal to
10^5	100,000	10^1	10
10^4	10,000	10^0	1.0
10^3	1,000	10^{-1}	0.10
10^2	100	10^{-2}	0.01
		10^{-3}	0.001

QUALITY OF SURFACE WATER AT SELECTED SITES IN THE SUWANNEE RIVER BASIN, FLORIDA, APRIL 1978 TO DECEMBER 1979

By John E. Coffin

ABSTRACT

This report presents the results of analyses of water-quality samples collected from 13 surface-water sites in the Suwannee River basin in Florida from April 1978 to December 1979. The U.S. Geological Survey, in a cooperative investigative program with the Suwannee River Authority, has sampled a network of nine water-quality monitoring stations since 1968 to detect short- and long-term changes in surface-water quality in the Suwannee River. Two additional stations, Camp Branch near Genoa and Rocky Creek near Houston, were established in October 1978. In addition to this 11-station network, Deep Creek and Robinson Creek near Suwannee Valley, which originate in the Osceola National Forest and have been supported since April 1976 through a cooperative agreement with the U.S. Bureau of Land Management, have been included in this report.

The analyses of samples collected routinely included: nutrients, total organic carbon, and 5-day biological oxygen demand, bimonthly; trace metals, annually. The array of constituents sampled was expanded in October 1978 at three of the original nine stations to provide quality-of-water information for streams draining an industrial area: Rocky Creek near Belmont, Hunter Creek near Belmont, and Swift Creek at Facil. Data collected at these three sites now include: major chemical constituents, six times per year; radium-226, two times per year; and trace metals, one time per year. These constituents are determined in addition to nutrients, total organic carbon, and biological oxygen demand which continue to be collected six times per year.

All results of analyses of the water-quality samples collected from April 1978 to December 1979 remained within, or near, previously measured ranges and water-quality fluctuations were similar to those noted from data collected since 1970.

INTRODUCTION

Since 1968, a network of nine water-quality monitoring stations has been sampled by the U.S. Geological Survey for the detection of short- and long-term changes in water quality in the Suwannee River basin in a cooperative investigative program with the Suwannee River Authority (fig. 1). Two additional stations, Rocky Creek near Houston and Camp Branch near Genoa, were established in October 1978 to provide quality-of-water information from streams draining an industrial area. More intensive sampling than previously done at Swift Creek at Facil, at Rocky Creek near Belmont, and at Hunter Creek near Belmont was also implemented in October 1978.

In addition to the earlier work plan, data were collected at two gaging stations established in April 1976, Deep Creek near Suwannee Valley and Robinson Creek near Suwannee Valley, and are included in this report to provide additional water-quality data. These two stations, which originate in the Osceola National Forest, have been supported since April 1976 through a cooperative agreement with the U.S. Bureau of Land Management. Both creeks are generally representative of natural streamflow and water quality from a forested area of the Suwannee River basin.

The purpose and scope of this report is to present the chemical and physical data collected between April 1978 and December 1979 at 13 water-quality monitoring stations in the Suwannee River basin and to illustrate water-quality changes with time since 1970. This time period was chosen because of limitations in computer plotting. Also, it was not until 1970 that samples were being collected uniformly at all of the original sampling locations.

AREA DESCRIPTION

The Suwannee River drains approximately 9,950 square miles at its mouth and is 202 miles in length in Florida. Six gaging stations, five of which are water-quality stations, record the flow of the river from the Florida-Georgia State line south to the Gulf of Mexico, a straight line distance of about 100 miles. Twelve gaging stations are currently located on streams tributary to the Suwannee River. Four of these stations, one on the Alapaha River and three on the Santa Fe River, are not included in this report due to a lack of water-quality data.

Numerous springs located within the basin contribute to the total flow of the river. Six of these springs are considered first magnitude springs (average flow at least 100 ft^3/s) and together they contribute 1,053 ft^3/s to the total flow (Rosenau and others, 1977).

The economy of the area is primarily agricultural, including dairy and truck farming. A large portion of the work force, however, is involved in other industries including: construction, mining, manufacturing, and agribusiness.

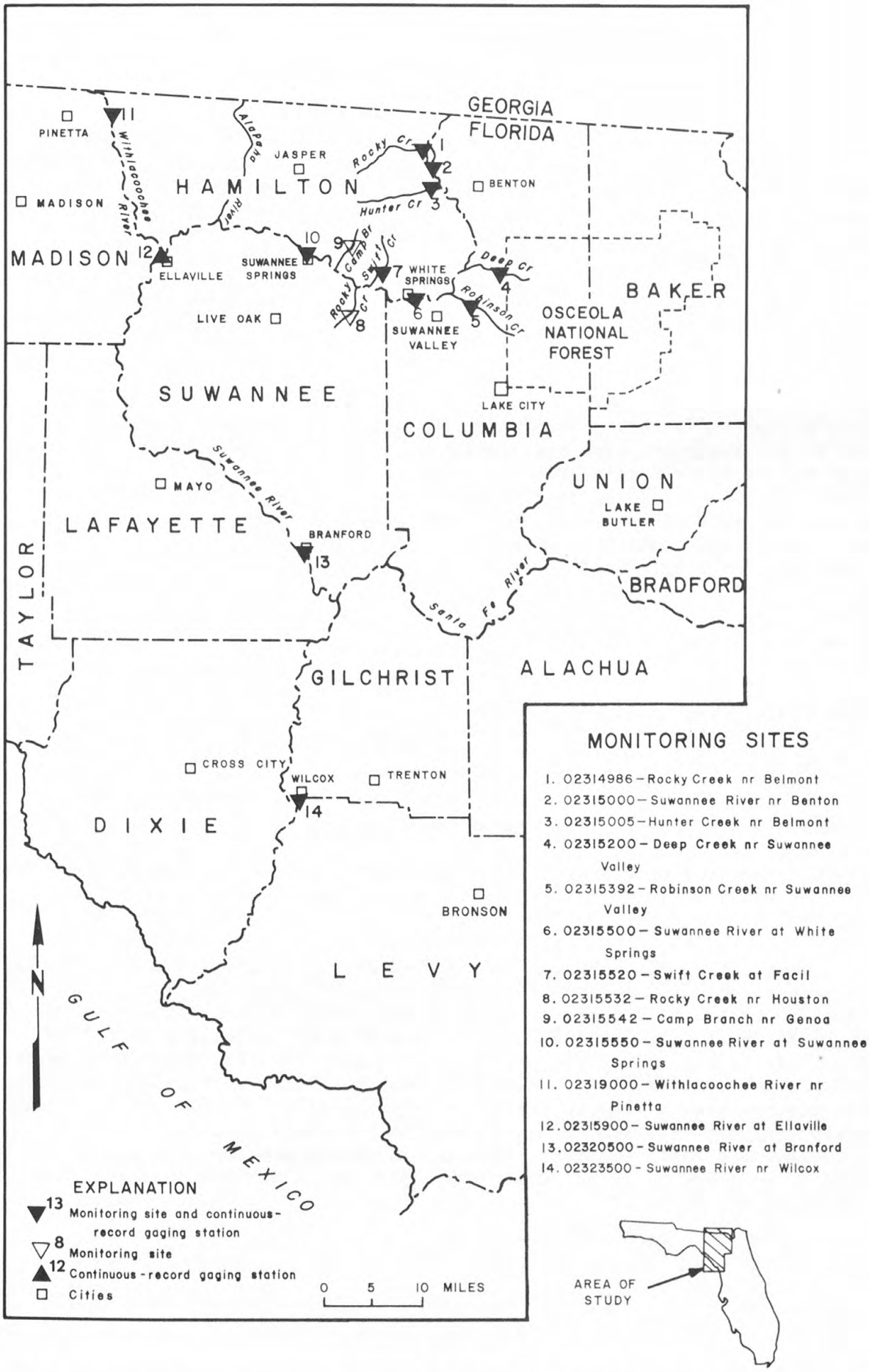

Figure 1.--Location of sampling stations in the Suwannee River basin, Florida.

STATION DESCRIPTION

The northernmost gaging station on a stream tributary to the Suwannee River in Florida is the Rocky Creek near Belmont station. The drainage area at this station is 50.0 square miles. Established in August 1970, water-quality samples collected at this station have generally been analyzed for: nutrients, biochemical oxygen demand (BOD), and total organic carbon (TOC), bimonthly; and trace metals, annually. In October 1978, the sampling program was expanded to include major constituents six times per year and radiochemical analyses two times per year. Discharge extremes are a maximum measured flow of 2,410 ft^3/s on April 6, 1973, and a minimum of no flow recorded many days during 1976-77. Located 1.4 miles upstream from the confluence of Rocky Creek with the Suwannee River, this site may be affected by backwater from the Suwannee River.

The northernmost gaging station on the main stem of the Suwannee River in Florida is the Suwannee River near Benton station. Located 6.4 river miles south of the Florida-Georgia State line and 196 miles upstream from the mouth of the river, it has a drainage area of 2,090 square miles in Georgia and Florida, which includes part of the watershed of the Okefenokee Swamp. Established in October 1975, water-quality samples collected at this station have generally been analyzed for: nutrients, BOD, and TOC, bimonthly; and trace metals, annually. Prior to October 1975, this station was an alternate site for making discharge measurements when the stage at White Springs was extremely high. Discharge extremes are a maximum measured flow of 27,000 ft^3/s on April 6, 1973, and a minimum recorded flow of 5.0 ft^3/s on August 9, 1977.

The Hunter Creek near Belmont station is located 0.8 miles upstream from the confluence of Hunter Creek with the Suwannee River, and has a drainage area of 25.4 square miles. Established in August 1971, water-quality samples collected at this station have generally been analyzed for: nutrients, BOD, and TOC, bimonthly; and trace metals, annually. In October 1978, the sampling program at this station was expanded to include major constituents six times per year and radiochemical analyses two times per year. This station was converted to a daily discharge site in January 1979. Discharge extremes are a maximum measured flow of 425 ft^3/s on June 26, 1972, and a minimum measured flow of 1.03 ft^3/s on June 6, 1977.

The Deep Creek near Suwannee Valley station is located 4.0 miles upstream from the confluence of Deep Creek with the Suwannee River, and has a drainage area of 88.6 square miles. Established in April 1976 as part of a study to determine the impact of potential phosphate mining in the Osceola National Forest, it is generally representative of natural streamflow and water quality from a forested area of the Suwannee River basin. Water-quality samples collected at this station have varied in frequency of collection. Sample analyses have generally included filtered and unfiltered nutrients, TOC, major constituents, trace metals, and radiochemical analyses. Discharge extremes are a maximum recorded flow of 680 ft^3/s on January 20, 1978, and a minimum recorded flow of 0.19 ft^3/s on May 25, 1977.

The Robinson Creek near Suwannee Valley station is located 3.4 miles upstream from the confluence of Robinson Creek with the Suwannee River and has a drainage area of 27.4 square miles. Also established in April 1976 as part of a study to determine the impact of potential phosphate mining in the Osceola National Forest, it is generally representative of natural streamflow and water quality from a forested area in the Suwannee River basin. Water-quality samples collected here have been for the same type of analysis and frequency of collection as those of Deep Creek. Discharge extremes are a maximum recorded discharge of 407 ft^3/s on May 4, 1978, and a minimum of no flow recorded many days in 1977.

The Suwannee River station at White Springs is 171 river miles upstream from the mouth of the river, and has a drainage area of 2,430 square miles. Water-quality samples have generally been collected for nutrient analysis on a bimonthly basis and for trace metals, annually. Discharge extremes are a maximum recorded flow of 38,100 ft^3/s on April 10, 1973, and a minimum recorded flow of 4.8 ft^3/s on November 15, 1931.

The Swift Creek at Facil station is located 2.8 miles upstream from the confluence of Swift Creek with the Suwannee River and has a drainage area of 65.3 square miles. Since about 1965, flow has been partly regulated by control structures on the main channel, Altmann Bay canal, and an unnamed tributary. There is a possible interchange of water between Swift Creek, Hunter Creek, and Roaring Creek basins due to releases from the diked phosphate area encompassing parts of the three basins. Flow may contain some ground water pumped from the Floridan aquifer and used for phosphate industry processing. Established in August 1969, water-quality sampling has generally included analyses for: nutrients, BOD, and TOC, bimonthly; and trace metals, annually. In October 1978, the sampling program was expanded to include analyses of major constituents six times per year and radiochemical analyses two times per year. Discharge extremes are a maximum measured flow of 1,180 ft^3/s on June 27, 1972, and a minimum recorded flow of 1.6 ft^3/s on November 12, 1977.

The Rocky Creek near Houston station is located 2.5 miles upstream from the confluence of Rocky Creek with the Suwannee River and has a drainage area of 25.3 square miles. Established in October 1978 to expand data-collection activities in the area of Occidental Chemical Company, water-quality samples collected have generally been analyzed for: nutrients, BOD, TOC, and major constituents six times per year; radiochemical analyses two times per year; and trace metals one time per year. Discharge extremes are a maximum measured flow of 56 ft^3/s on April 5, 1979, and a minimum of no flow observed on October 2 and December 4, 1978.

The Camp Branch near Genoa station is located 3.5 miles upstream from the confluence of Camp Branch with the Suwannee River and has a drainage area of 6.1 square miles. Established in October 1978 to expand data-collection activities in the area of Occidental Chemical Company, water-quality samples have generally been analyzed for: nutrients, BOD, TOC, and major constituents six times per year; radiochemical analyses two times per year; and trace metals one time per year. Discharge extremes are a maximum measured flow of 10 ft^3/s on October 1, 1979, and minimum of no flow observed on October 2 and December 4, 1978.

The Suwannee River station at Suwannee Springs is 150 river miles upstream from the mouth of the river and has a drainage area of 2,630 square miles. Water-quality analyses generally include: nutrients, BOD, and TOC, bimonthly; and trace metals, annually. Discharge extremes are a maximum flow of 30,100 ft^3/s, determined indirectly from floodmarks, on April 12, 1973. A minimum discharge of 101 ft^3/s was recorded August 7-9, 1977.

The Withlacoochee River near Pinetta station is located 22 miles upstream from the confluence of the Withlacoochee River with the Suwannee River, and has a drainage area of approximately 2,120 square miles. Water-quality samples collected at this site generally are analyzed for: nutrients, BOD, and TOC, bimonthly; and trace metals, annually. Discharge extremes are a maximum flow of 79,400 ft^3/s, determined indirectly from floodmarks, on April 5, 1948. A minimum flow of 70 ft^3/s was recorded August 23, 1955.

The fourth downstream main-stem gaging station on the Suwannee River in Florida is located near Ellaville. It is 200 feet downstream of the Withlacoochee-Suwannee River confluence and 127 river miles upstream from the mouth of the Suwannee River. It measures a drainage area of 6,970 square miles. The maximum discharge, determined indirectly from floodmarks, was 95,300 ft^3/s on April 7-8, 1948. The minimum discharge of 882 ft^3/s was measured on July 17, 1955. Water-quality samples are not collected at this site because of incomplete mixing of the two rivers.

The Suwannee River at Branford station is located 75 river miles upstream from the mouth of the river and has a drainage area of 7,880 square miles. Discharge extremes are a recorded maximum flow of 83,900 ft^3/s on April 11, 1948, and a minimum recorded flow of 1,530 ft^3/s on July 1-2, 1955. This station has also been designated as a National Stream Quality Accounting Network (NASQAN) station. It is one of the 27 stations in Florida designed to meet water-quality information demands of agencies or groups involved in planning on a national or regional scale. Both accounting and broad-scale monitoring objectives are incorporated in the sampling parameters measured at this station.

The southernmost main-stem gaging station is the Suwannee River station near Wilcox. Located 33 miles upstream from the mouth of the river, it has a drainage area of 9,640 square miles. Water-quality samples collected generally are analyzed for: nutrients, BOD, TOC, bimonthly; and trace metals, annually. Discharge extremes are a maximum recorded flow of 84,700 ft^3/s on April 14, 1948, and a minimum recorded flow of 3,270 ft^3/s on February 24, 1951. Discharge at this station is generally affected by Gulf of Mexico tides when the discharge is less than 17,500 ft^3/s.

SUMMARY OF DATA

Locations of the stations at which samples were collected are shown in figure 1. The data are presented in graphs and tables. Chemical and physical water-quality data from the 1978-79 samplings are listed in tables 1 through 13. Tables 14 through 16 list maximum, minimum, and mean values for data available since October 1968. Table 17 is an inventory of the number of water-quality samples collected for each station for 21 categories. The number shown under each category represents the number of samples collected in a given year. Table 18 lists the limits for selected parameters. Selected parameter time graphs for each of the sampling stations are shown on figures 2 through 53. The time graphs show the general trend of the water-quality parameters since January 1970, or since the station was activated.

All results of the analyses of the water-quality samples collected from April 1978 to December 1979 remained within, or near, previously measured ranges and water-quality fluctuations were similar to those noted from data collected since 1970.

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Table 1.--Chemical and physical parameters, April 1978 to December 1979, for Rocky Creek near Belmont

02314986 - ROCKY CREEK NR BELMONT,FLA.

WATER QUALITY DATA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SILICA, DIS-SOLVED (MG/L AS SIO2)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
APR , 1978											
10...	1510	23	--	--	--	--	--	--	--	--	--
JUN											
06...	1500	21	--	--	--	--	--	--	--	--	--
AUG											
09...	1045	11	--	--	--	--	--	--	--	--	--
OCT											
03...	1050	.00	--	--	--	--	--	--	--	--	--
DEC											
04...	1635	.00	--	--	--	--	--	--	--	--	--
FEB , 1979											
06...	1300	3.2	--	--	--	--	--	--	--	--	--
APR											
03...	1130	.48	11	--	--	--	--	--	--	6.1	2.9
JUN											
05...	1030	19	--	--	--	--	--	--	--	--	--
AUG											
07...	1730	50	4.4	--	--	--	--	--	--	1.9	1.0
OCT											
02...	1630	97	--	20	880	880	30	0	30	--	--
DEC											
12...	1030	8.4	5.8	--	--	--	--	--	--	2.3	1.3

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
APR , 1978											
10...	--	--	--	--	--	--	.4	.00	.04	.04	.14
JUN											
06...	--	--	--	--	--	--	.4	.00	.04	.04	.16
AUG											
09...	--	--	--	--	--	--	.4	.00	.04	.04	.11
OCT											
03...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
FEB , 1979											
06...	--	--	--	--	--	--	.4	.00	.01	.01	.02
APR											
03...	5.4	--	.3	11	11	9.9	.6	.00	.02	.02	.01
JUN											
05...	--	--	--	--	--	--	.5	.00	.03	.03	.01
AUG											
07...	3.1	3.3	.2	--	17	8.7	.6	.00	.04	.04	.05
OCT											
02...	--	--	--	--	--	--	.4	.02	.03	.05	.00
DEC											
12...	4.2	4.4	.2	0	11	9.3	.1	.00	.02	.02	.03

Table 1.--Chemical and physical parameters, April 1978 to December 1979, for Rocky Creek near Belmont--Continued

02314986 - ROCKY CREEK NR BELMONT,FLA.

WATER QUALITY DATA

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	HARDNESS (MG/L AS CACO3)
APR , 1978											
10...	1.6	1.7	1.7	7.9	.090	.08	--	--	--	--	--
JUN											
06...	1.4	1.5	1.6	7.1	.110	.11	--	--	--	--	--
AUG											
09...	.95	1.0	1.1	4.9	.130	.12	--	--	--	--	--
OCT											
03...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
FEB , 1979											
06...	.80	.82	.83	3.7	.130	.13	--	--	--	--	--
APR											
03...	1.0	1.0	1.0	4.6	.160	.16	140	53	.19	.18	27
JUN											
05...	4.9	4.9	4.9	22	.080	.06	--	--	--	--	--
AUG											
07...	1.9	1.9	1.9	8.6	--	.10	124	36	.17	16.7	9
OCT											
02...	1.8	1.8	1.8	8.2	.040	.04	--	--	--	--	--
DEC											
12...	1.6	1.6	1.6	7.3	.050	.05	150	35	.20	3.40	11

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, INORGANIC TOTAL (MG/L AS C)	ARSENIC TOTAL (UG/L AS AS)
APR , 1978											
10...	--	--	--	90	3.5	--	--	1.1	87	3.0	--
JUN											
06...	--	--	--	85	3.4	5.3	61	.8	93	2.0	--
AUG											
09...	--	--	--	79	3.9	4.9	56	1.0	64	1.0	--
OCT											
03...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
FEB , 1979											
06...	--	--	--	65	4.8	10.0	82	1.2	38	--	--
APR											
03...	16	30	.5	83	5.6	5.5	59	1.7	45	--	--
JUN											
05...	--	--	--	115	3.7	5.2	62	.5	89	--	--
AUG											
07...	9	43	.5	100	3.6	5.2	62	1.2	100	--	--
OCT											
02...	--	--	--	95	3.4	5.7	65	.8	86	--	2
DEC											
12...	11	60	.5	80	3.8	7.9	77	.8	75	--	--

Table 1.--Chemical and physical parameters, April 1978 to December 1979, for Rocky Creek near Belmont--Continued

02314986 - ROCKY CREEK NR BELMONT,FLA.

WATER QUALITY DATA

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, DIS-SOLVED (UG/L AS ZN)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)
APR , 1978										
10...	--	--	--	--	--	--	--	--	--	--
JUN										
06...	--	--	--	--	--	--	--	--	--	--
AUG										
09...	--	--	--	--	--	--	--	--	--	--
OCT										
03...	--	--	--	--	--	--	--	--	--	--
DEC										
04...	--	--	--	--	--	--	--	--	--	--
FEB , 1979										
06...	--	--	--	--	--	--	--	--	--	--
APR										
03...	--	--	--	--	--	--	--	20	--	<.1
JUN										
05...	--	--	--	--	--	--	--	--	--	--
AUG										
07...	--	--	--	--	--	--	--	--	--	--
OCT										
02...	0	1	5	2	3	<.5	0	--	10	--
DEC										
12...	--	--	--	--	--	--	--	10	--	--

Table 2.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River near Benton

02315000 - SUWANNEE R NR BENTON FLA

WATER QUALITY DATA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SILICA, DIS-SOLVED (MG/L AS SIO2)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
APR , 1978											
10...	1545	1260	--	--	--	--	--	--	--	--	--
12...	0830	1080	2.4	--	--	--	--	--	--	1.0	.5
JUN											
06...	1630	1100	--	--	--	--	--	--	--	--	--
AUG											
08...	1545	214	--	--	--	--	--	--	--	--	--
OCT											
03...	1130	11	--	130	440	370	20	0	20	--	--
DEC											
04...	1715	10	--	--	--	--	--	--	--	--	--
FEB , 1979											
06...	1220	106	--	--	--	--	--	--	--	--	--
APR											
02...	1830	410	--	--	--	--	--	--	--	--	--
JUN											
05...	1000	1280	--	--	--	--	--	--	--	--	--
AUG											
06...	1600	3140	--	--	--	--	--	--	--	--	--
OCT											
02...	1820	3930	--	120	790	750	20	10	10	--	--
DEC											
04...	1320	425	--	--	--	--	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)
APR , 1978											
10...	--	--	--	--	--	.2	.00	.02	.02	.08	.87
12...	2.8	.2	0	11	6.4	.0	--	--	--	--	--
JUN											
06...	--	--	--	--	--	.2	.00	.02	.02	.08	.85
AUG											
08...	--	--	--	--	--	.2	.01	.01	.02	.08	.87
OCT											
03...	--	--	--	--	--	.1	.01	.01	.02	.03	.63
DEC											
04...	--	--	--	--	--	.2	.03	.01	.04	.03	.63
FEB , 1979											
06...	--	--	--	--	--	.2	.00	.01	.01	.01	.77
APR											
02...	--	--	--	--	--	--	.00	.01	.01	.01	1.1
JUN											
05...	--	--	--	--	--	.2	.00	.02	.02	.01	.97
AUG											
06...	--	--	--	--	--	.3	.01	.03	.04	.02	1.0
OCT											
02...	--	--	--	--	--	.2	.01	.02	.03	.00	1.3
DEC											
04...	--	--	--	--	--	--	.00	.01	.01	.02	.85

Table 2.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River near Benton--Continued

02315000 - SUWANNEE R NR BENTON FLA

WATER QUALITY DATA

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	HARDNESS (MG/L AS CACO3)
APR , 1978										
10...	.95	.97	4.3	.090	.05	--	--	--	--	--
12...	--	--	--	--	--	96	25	.13	280	5
JUN										
06...	.93	.95	4.2	.050	.05	--	--	--	--	--
AUG										
08...	.95	.97	4.3	.100	.08	--	--	--	--	--
OCT										
03...	.66	.68	3.0	.130	.13	--	--	--	--	--
DEC										
04...	.66	.70	3.1	.140	.09	--	--	--	--	--
FEB , 1979										
06...	.78	.79	3.5	.090	.06	--	--	--	--	--
APR										
02...	1.1	1.1	5.0	.080	.06	--	--	--	--	--
JUN										
05...	.98	1.0	4.4	.060	.06	--	--	--	--	--
AUG										
06...	1.0	1.0	4.7	.040	.02	--	--	--	--	--
OCT										
02...	1.3	1.3	5.9	.030	.03	--	--	--	--	--
DEC										
04...	.87	.88	3.9	.040	.04	--	--	--	--	--

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, INORGANIC TOTAL (MG/L AS C)
APR , 1978										
10...	--	--	--	52	3.8	--	--	1.2	47	3.0
12...	5	56	.6	40	3.8	6.5	--	--	--	--
JUN										
06...	--	--	--	54	3.6	6.5	77	.7	43	1.0
AUG										
08...	--	--	--	46	4.1	6.5	76	.6	41	.0
OCT										
03...	--	--	--	41	5.1	7.1	82	1.0	31	--
DEC										
04...	--	--	--	90	6.9	7.8	84	.6	16	--
FEB , 1979										
06...	--	--	--	44	5.7	10.8	92	1.7	31	--
APR										
02...	--	--	--	59	3.9	7.4	85	.7	40	--
JUN										
05...	--	--	--	65	3.9	5.8	70	.5	43	--
AUG										
06...	--	--	--	75	3.5	5.1	63	.7	45	--
OCT										
02...	--	--	--	55	3.6	5.3	62	.8	48	--
DEC										
04...	--	--	--	60	3.1	10.5	93	1.5	42	--

Table 2.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River near Benton--Continued

02315000 - SUWANNEE R NR BENTON FLA

WATER QUALITY DATA

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR , 1978										
10...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	30	--
JUN										
06...	--	--	--	--	--	--	--	--	--	--
AUG										
08...	--	--	--	--	--	--	--	--	--	--
OCT										
03...	1	1	1	3	0	4	<.5	4	--	10
DEC										
04...	--	--	--	--	--	--	--	--	--	--
FEB , 1979										
06...	--	--	--	--	--	--	--	--	--	--
APR										
02...	--	--	--	--	--	--	--	--	--	--
JUN										
05...	--	--	--	--	--	--	--	--	--	--
AUG										
06...	--	--	--	--	--	--	--	--	--	--
OCT										
02...	0	1	3	13	8	5	<.5	3	--	20
DEC										
04...	--	--	--	--	--	--	--	--	--	--

Table 3.--Chemical and physical parameters, April 1978 to December 1979, for Hunter Creek near Belmont

02315005 - HUNTER CREEK NEAR BELMONT FLA

WATER QUALITY DATA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SILICA, DIS-SOLVED (MG/L AS SIO2)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
APR , 1978											
10...	1350	5.8	--	--	--	--	--	--	--	--	--
12...	0905	5.0	3.7	--	--	--	--	--	--	24	9.4
JUN											
06...	1345	3.2	--	--	--	--	--	--	--	--	--
AUG											
09...	0930	8.8	--	--	--	--	--	--	--	--	--
OCT											
03...	1015	.34	9.7	70	240	120	10	0	10	12	5.1
DEC											
04...	1515	.34	11	--	--	--	--	--	--	12	5.8
FEB , 1979											
05...	1745	1.2	8.2	--	--	--	--	--	--	19	7.7
APR											
03...	1010	29	10	--	--	--	--	--	--	46	15
JUN											
05...	1230	13	11	--	--	--	--	--	--	37	11
AUG											
07...	1435	23	9.3	--	--	--	--	--	--	32	8.6
OCT											
03...	1330	17	10	150	940	780	40	0	40	20	5.9
DEC											
12...	1400	4.9	10	--	--	--	--	--	--	36	11

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
APR , 1978											
10...	--	--	--	--	--	--	1.1	.06	.02	.08	.62
12...	11	--	1.3	44	65	11	1.0	--	--	--	--
JUN											
06...	--	--	--	--	--	--	.9	.49	.04	.53	.22
AUG											
09...	--	--	--	--	--	--	.9	.09	.04	.13	.14
OCT											
03...	4.0	--	.6	43	6.1	5.6	.5	.32	.01	.33	.02
DEC											
04...	4.5	--	.8	42	7.5	6.6	.5	.25	.01	.26	.02
FEB , 1979											
05...	6.8	--	1.4	34	35	10	.6	.38	.02	.40	.02
APR											
03...	17	--	1.9	44	150	11	5.0	.53	.13	.66	.81
JUN											
05...	14	15	1.2	26	120	11	2.1	.44	.08	.52	.33
AUG											
07...	12	13	1.1	24	92	12	1.8	.47	.04	.51	.46
OCT											
03...	9.9	11	.8	12	53	10	1.1	.27	.02	.29	.12
DEC											
12...	15	16	1.4	31	100	10	1.7	.80	.06	.86	2.7

Table 3.--Chemical and physical parameters, April 1978 to December 1979, for Hunter Creek near Belmont--Continued

02315005 - HUNTER CREEK NEAR BELMONT FLA

WATER QUALITY DATA

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	HARDNESS (MG/L AS CACO3)
APR , 1978											
10...	1.6	2.2	2.3	10	1.00	.72	--	--	--	--	--
12...	--	--	--	--	--	--	182	153	.25	2.46	99
JUN											
06...	.89	1.1	1.6	7.3	.670	.67	--	--	--	--	--
AUG											
09...	1.2	1.3	1.4	6.5	1.20	1.0	--	--	--	--	--
OCT											
03...	.22	.24	.57	2.5	.630	.63	83	69	.11	.08	51
DEC											
04...	.32	.34	.60	2.7	.810	.73	83	74	.11	.08	54
FEB , 1979											
05...	.39	.41	.81	3.6	.920	.92	144	109	.20	.48	79
APR											
03...	.79	1.6	2.2	10	3.30	3.8	309	280	.42	24.2	180
JUN											
05...	2.2	2.5	3.0	14	2.10	1.9	256	223	.35	9.33	140
AUG											
07...	1.2	1.6	2.1	9.6	2.70	2.6	251	183	.34	15.6	120
OCT											
03...	1.5	1.6	1.9	8.5	1.90	1.8	187	119	.25	8.69	74
DEC											
12...	1.2	3.9	4.7	21	2.90	2.6	238	204	.32	3.15	140

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, INORGANIC, TOTAL (MG/L AS C)
APR , 1978										
10...	--	--	--	250	6.8	--	--	5.6	28	15
12...	54	19	.5	255	6.5	--	--	--	--	--
JUN										
06...	--	--	--	117	6.1	5.0	57	2.0	32	8.0
AUG										
09...	--	--	--	133	6.0	6.4	73	1.8	46	3.0
OCT										
03...	8	14	.2	130	6.9	6.4	67	.8	10	--
DEC										
04...	12	15	.3	130	7.0	5.1	55	.8	6.0	--
FEB , 1979										
05...	45	15	.3	185	6.3	8.7	75	E1.1	15	--
APR										
03...	130	17	.6	460	7.0	5.5	59	5.8	17	--
JUN										
05...	110	18	.5	370	6.7	4.2	51	4.2	24	--
AUG										
07...	91	18	.5	335	6.4	4.4	55	2.7	26	--
OCT										
03...	62	22	.5	195	5.7	6.0	68	1.8	52	--
DEC										
12...	100	26	.6	365	6.8	6.4	64	4.2	27	--

Table 3.--Chemical and physical parameters, April 1978 to December 1979, for Hunter Creek near Belmont--Continued

02315005 - HUNTER CREEK NEAR BELMONT FLA

WATER QUALITY DATA

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR , 1978										
10...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	40	--
JUN										
06...	--	--	--	--	--	--	--	--	--	--
AUG										
09...	--	--	--	--	--	--	--	--	--	--
OCT										
03...	1	2	0	12	3	9	<.5	7	50	0
DEC										
04...	--	--	--	--	--	--	--	--	60	--
FEB , 1979										
05...	--	--	--	--	--	--	--	--	90	--
APR										
03...	--	--	--	--	--	--	--	--	70	--
JUN										
05...	--	--	--	--	--	--	--	--	60	--
AUG										
07...	--	--	--	--	--	--	--	--	50	--
OCT										
03...	1	0	3	6	1	5	<.5	4	40	0
DEC										
12...	--	--	--	--	--	--	--	--	50	--

Table 4.--Chemical and physical parameters, April 1978 to December 1979, for Deep Creek near Suwannee Valley

02315200 - DEEP CREEK NR SUWANNEE VALLEY FL

WATER QUALITY DATA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SILICA, DIS-SOLVED (MG/L AS SIO2)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
APR , 1978											
12...	1420	13	3.0	--	--	960	--	--	10	3.3	1.7
JUN											
07...	1315	14	4.0	--	--	1000	--	--	20	3.3	1.7
AUG											
09...	1230	84	3.9	--	--	1100	--	--	10	2.0	1.0
DEC											
06...	1430	.35	8.5	90	440	210	10	0	10	7.9	4.9
APR , 1979											
03...	1510	3.0	8.9	120	710	660	30	0	30	7.7	3.4
AUG											
08...	1330	6.3	5.1	440	1200	1100	20	0	20	5.5	2.8
DEC											
12...	1645	58	6.5	340	600	590	20	0	20	2.3	1.3

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
APR , 1978											
12...	3.8	--	.2	0	14	8.7	.1	--	--	--	--
JUN											
07...	4.3	--	.1	5	14	7.9	.1	--	--	--	--
AUG											
09...	2.5	--	.2	0	12	5.8	.0	--	--	--	--
DEC											
06...	4.5	--	1.0	39	1.7	6.2	.0	.24	.07	.31	4.8
APR , 1979											
03...	5.2	--	.2	19	7.3	11	.1	.11	.02	.13	.05
AUG											
08...	3.2	3.3	.1	8	12	8.6	.1	.04	.03	.07	.05
DEC											
12...	3.3	3.4	.1	0	7.2	8.0	.1	.00	.02	.00	.02

Table 4.--Chemical and physical parameters, April 1978 to December 1979, for Deep Creek near Suwannee Valley--Continued

02315200 - DEEP CREEK NR SUWANNEE VALLEY FL

WATER QUALITY DATA

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	HARDNESS (MG/L AS CACO3)
APR , 1978											
12...	--	--	--	--	--	--	137	36	.19	4.99	15
JUN											
07...	--	--	--	--	--	--	122	40	.17	4.81	15
AUG											
09...	--	--	--	--	--	--	114	29	.16	26.1	9
DEC											
06...	.50	5.3	5.6	25	.890	.74	71	58	.10	.07	40
APR , 1979											
03...	1.1	1.1	1.2	5.7	.130	.13	125	56	.17	1.04	33
AUG											
08...	1.5	1.5	1.6	7.2	.160	.16	94	44	.13	1.60	25
DEC											
12...	.87	.89	.89	3.9	.070	.07	107	30	.15	16.8	11

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC TOTAL (UG/L AS AS)
APR , 1978										
12...	15	35	.4	40	4.5	8.8	--	--	--	--
JUN										
07...	10	38	.5	50	4.9	6.3	75	--	--	--
AUG										
09...	9	37	.4	55	4.1	6.1	71	--	--	--
DEC										
06...	1	19	.3	92	7.2	4.3	41	3.1	10	0
APR , 1979										
03...	14	25	.4	92	6.2	4.9	55	1.8	44	1
AUG										
08...	17	22	.3	70	5.8	5.2	64	1.0	54	3
DEC										
12...	11	55	.4	50	4.2	8.2	80	1.0	54	0

Table 4.--Chemical and physical parameters, April 1978 to December 1979, for Deep Creek near Suwannee Valley--Continued

02315200 - DEEP CREEK NR SUWANNEE VALLEY FL

WATER QUALITY DATA

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, DIS-SOLVED (UG/L AS ZN)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)
APR . 1978										
12...	--	2	--	--	0	--	--	30	0	--
JUN										
07...	--	0	--	--	--	--	--	40	0	--
AUG										
09...	--	0	--	--	2	--	--	60	10	--
DEC										
06...	1	0	6	0	6	<.5	6	20	10	.1
APR . 1979										
03...	0	0	8	6	2	.5	0	20	10	.1
AUG										
08...	1	0	5	5	0	<.5	6	10	6	--
DEC										
12...	0	2	0	0	0	.2	1	7	20	--

Table 5.--Chemical and physical parameters, April 1978 to December 1979, for Robinson Creek near Suwannee Valley

02315392 - ROBINSON CR NR SUWANNEE VALLEY FL

WATER QUALITY DATA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SILICA, DIS-SOLVED (MG/L AS SIO2)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
APR , 1978											
12...	1300	4.0	2.5	--	--	720	--	--	10	4.6	2.3
JUN											
07...	1445	3.7	3.9	--	--	960	--	--	20	4.7	2.3
AUG											
09...	1430	8.1	5.4	--	--	910	--	--	20	5.4	2.6
DEC											
05...	1630	.24	11	50	100	60	10	0	10	23	11
APR , 1979											
03...	1630	1.5	5.7	140	590	580	30	10	20	8.9	3.7
AUG											
09...	1200	.64	9.4	60	190	130	10	5	5	19	8.7
DEC											
11...	1730	16	6.7	500	600	600	20	0	30	3.1	1.7

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
APR , 1978											
12...	4.0	--	.3	6	12	8.1	.1	--	--	--	--
JUN											
07...	3.1	--	.1	8	13	7.6	.1	--	--	--	--
AUG											
09...	3.3	--	.2	10	14	6.9	.1	--	--	--	--
DEC											
05...	2.9	--	.6	98	2.2	5.9	.2	.09	.01	.10	.04
APR , 1979											
03...	4.9	--	.2	23	7.2	11	.1	.10	.02	.12	.01
AUG											
09...	2.3	2.5	.2	75	3.6	6.3	.2	.11	.01	.12	.02
DEC											
11...	4.1	4.2	.1	0	8.5	10	.1	.01	.01	.02	.03

Table 5.--Chemical and physical parameters, April 1978 to December 1979, for Robinson Creek near Suwannee Valley--Continued

02315392 - ROBINSON CR NR SUWANNEE VALLEY FL

WATER QUALITY DATA

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	HARDNESS (MG/L AS CACO3)
APR , 1978											
12...	--	--	--	--	--	--	126	39	.17	1.36	21
JUN											
07...	--	--	--	--	--	--	123	41	.17	1.25	21
AUG											
09...	--	--	--	--	--	--	130	45	.16	2.84	24
DEC											
05...	.15	.19	.29	1.3	.270	.18	124	116	.17	.08	100
APR , 1979											
03...	1.4	1.4	1.5	6.8	.100	.10	132	56	.18	.56	37
AUG											
09...	.39	.41	.53	2.3	.300	.14	113	95	.15	.20	83
DEC											
11...	1.0	1.0	1.0	4.6	.080	.08	118	36	.16	5.23	15

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC TOTAL (UG/L AS AS)
APR , 1978										
12...	15	29	.4	30	5.4	6.4	--	--	--	--
JUN										
07...	13	24	.3	54	4.5	4.2	47	--	--	--
AUG										
09...	14	23	.3	58	5.3	5.9	70	--	--	--
DEC										
05...	4	6	.1	200	7.4	4.6	46	.9	2.7	1
APR , 1979										
03...	14	22	.3	90	6.2	5.7	60	1.5	48	1
AUG										
09...	8	6	.1	195	7.0	5.4	64	.6	8.4	4
DEC										
11...	15	53	.5	65	4.2	7.8	75	.2	54	0

Table 5.--Chemical and physical parameters, April 1978 to December 1979, for Robinson Creek near Suwannee Valley--Continued

02315392 - ROBINSON CR NR SUWANNEE VALLEY FL

WATER QUALITY DATA

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, DIS-SOLVED (UG/L AS ZN)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)
APR . 1978										
12...	--	1	--	--	0	--	--	30	0	--
JUN										
07...	--	0	--	--	--	--	--	30	0	--
AUG										
09...	--	0	--	--	--	--	--	60	0	--
DEC										
05...	0	0	3	0	5	<.5	7	70	0	.1
APR . 1979										
03...	0	0	9	5	4	.5	0	20	10	.1
AUG										
09...	0	0	2	1	1	<.5	0	30	3	--
DEC										
11...	1	2	3	2	1	.3	3	10	20	--

Table 6.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River at White Springs

02315500 - SUWANNEE RIVER AT WHITE SPRINGS, FLA.

WATER QUALITY DATA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SILICA, DIS-SOLVED (MG/L AS SIO2)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CALCIUM DIS-SOLVED (MG/L AS CA)
APR , 1978										
10...	1620	1750	--	--	--	--	--	--	--	--
12...	1710	1550	2.7	--	--	--	--	--	--	1.9
JUN										
06...	1715	1130	--	--	--	--	--	--	--	--
AUG										
09...	0830	477	--	--	--	--	--	--	--	--
OCT										
02...	1645	34	--	110	360	300	10	0	10	--
DEC										
05...	1000	20	--	--	--	--	--	--	--	--
FEB , 1979										
06...	1115	111	--	--	--	--	--	--	--	--
APR										
02...	1730	488	--	--	--	--	--	--	--	--
JUN										
04...	1900	1400	--	--	--	--	--	--	--	--
AUG										
07...	1830	3210	--	--	--	--	--	--	--	--
OCT										
02...	1445	2700	--	120	870	810	20	20	0	--
DEC										
04...	1530	481	--	--	--	--	--	--	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
APR , 1978										
10...	--	--	--	--	--	--	.2	.00	.02	.02
12...	.9	2.8	.2	2	11	6.3	.1	--	--	--
JUN										
06...	--	--	--	--	--	--	.2	.00	.02	.02
AUG										
09...	--	--	--	--	--	--	.3	.02	.02	.04
OCT										
02...	--	--	--	--	--	--	.3	.09	.01	.10
DEC										
05...	--	--	--	--	--	--	.4	.09	.01	.10
FEB , 1979										
06...	--	--	--	--	--	--	.5	.13	.01	.14
APR										
02...	--	--	--	--	--	--	.6	.04	.02	.06
JUN										
04...	--	--	--	--	--	--	.3	.00	.02	.02
AUG										
07...	--	--	--	--	--	--	.6	.00	.02	.02
OCT										
02...	--	--	--	--	--	--	.3	.00	.02	.02
DEC										
04...	--	--	--	--	--	--	--	.04	.01	.05

Table 6.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River at White Springs--Continued

02315500 - SUWANNEE RIVER AT WHITE SPRINGS, FLA.

WATER QUALITY DATA

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
APR , 1978										
10...	.08	.83	.91	.93	4.1	.150	.12	--	--	--
12...	--	--	--	--	--	--	--	98	27	.13
JUN										
06...	.08	.76	.84	.86	3.8	.110	.11	--	--	--
AUG										
09...	.09	.91	1.0	1.0	4.6	.230	.22	--	--	--
OCT										
02...	.04	.58	.62	.72	3.2	.230	.23	--	--	--
DEC										
05...	.06	.54	.60	.70	3.1	.380	.30	--	--	--
FEB , 1979										
06...	.02	.67	.69	.83	3.7	.380	.37	--	--	--
APR										
02...	.04	1.1	1.1	1.2	5.3	.380	.36	--	--	--
JUN										
04...	.01	1.0	1.0	1.0	4.6	.150	.15	--	--	--
AUG										
07...	.02	1.0	1.0	1.0	4.6	.110	.11	--	--	--
OCT										
02...	.00	1.1	1.1	1.1	5.0	.080	.08	--	--	--
DEC										
04...	.06	.79	.85	.90	4.0	.180	.18	--	--	--

DATE	SOLIDS, DISSOLVED (TONS PER DAY)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
APR , 1978										
10...	--	--	--	--	--	46	3.9	--	--	--
12...	410	8	7	41	.4	40	4.0	4.3	--	--
JUN										
06...	--	--	--	--	--	47	3.8	6.9	82	--
AUG										
09...	--	--	--	--	--	43	4.9	6.5	77	--
OCT										
02...	--	--	--	--	--	75	6.9	6.1	73	.6
DEC										
05...	--	--	--	--	--	135	7.4	6.3	66	--
FEB , 1979										
06...	--	--	--	--	--	120	7.0	10.4	87	--
APR										
02...	--	--	--	--	--	76	4.4	8.0	87	--
JUN										
04...	--	--	--	--	--	60	3.9	6.2	76	--
AUG										
07...	--	--	--	--	--	65	3.7	5.8	72	--
OCT										
02...	--	--	--	--	--	60	3.6	5.9	68	--
DEC										
04...	--	--	--	--	--	60	3.6	11.0	98	--

Table 6.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River at White Springs--Continued

02315500 - SUWANNEE RIVER AT WHITE SPRINGS, FLA.

WATER QUALITY DATA

DATE	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, DIS-SOLVED (UG/L AS ZN)
APR , 1978										
10...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	30	--
JUN										
06...	--	--	--	--	--	--	--	--	--	--
AUG										
09...	--	--	--	--	--	--	--	--	--	--
OCT										
02...	1	1	1	6	1	5	<.5	3	--	0
DEC										
05...	--	--	--	--	--	--	--	--	--	--
FEB , 1979										
06...	--	--	--	--	--	--	--	--	--	--
APR										
02...	--	--	--	--	--	--	--	--	--	--
JUN										
04...	--	--	--	--	--	--	--	--	--	--
AUG										
07...	--	--	--	--	--	--	--	--	--	--
OCT										
02...	2	1	1	10	6	4	<.5	1	--	10
DEC										
04...	--	--	--	--	--	--	--	--	--	--

Table 7.--Chemical and physical parameters, April 1978 to December 1979, for Swift Creek at Facil

02315520 - SWIFT CREEK AT FACIL FLA

WATER QUALITY DATA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SILICA, DIS-SOLVED (MG/L AS SIO2)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
APR , 1978											
10...	1230	44	--	--	--	--	--	--	--	--	--
JUN											
06...	1215	34	--	--	--	--	--	--	--	--	--
AUG											
08...	1730	69	--	--	--	--	--	--	--	--	--
OCT											
02...	1500	29	17	100	250	20	50	10	40	48	17
DEC											
04...	1345	40	19	--	--	--	--	--	--	51	18
FEB , 1979											
05...	1400	25	22	--	--	--	--	--	--	68	20
APR											
02...	1530	32	19	--	--	--	--	--	--	52	18
JUN											
04...	1615	49	16	--	--	--	--	--	--	49	15
AUG											
06...	1500	65	19	--	--	--	--	--	--	50	16
OCT											
03...	1700	77	25	180	890	60	80	10	70	46	15
DEC											
06...	1000	43	15	--	--	--	--	--	--	45	19

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
APR , 1978											
10...	--	--	--	--	--	--	8.8	1.7	.13	1.8	16
JUN											
06...	--	--	--	--	--	--	5.7	2.3	.12	2.4	3.2
AUG											
08...	--	--	--	--	--	--	7.0	1.4	.20	1.6	6.9
OCT											
02...	29	--	1.8	41	160	16	4.2	1.6	.08	1.6	4.5
DEC											
04...	30	--	2.6	53	160	16	4.9	3.4	.28	3.6	1.3
FEB , 1979											
05...	42	--	2.9	67	190	21	5.8	6.3	1.9	8.2	3.9
APR											
02...	35	--	2.3	59	160	20	6.0	2.9	.28	3.1	.02
JUN											
04...	28	30	2.0	32	150	19	4.3	1.8	.36	2.1	3.0
AUG											
06...	30	32	2.2	4	150	15	6.3	1.4	.07	1.4	7.6
OCT											
03...	48	53	5.1	6	180	18	5.0	2.0	.16	2.1	7.3
DEC											
06...	25	27	2.2	45	120	13	3.4	4.3	.48	4.7	3.9

Table 7.--Chemical and physical parameters, April 1978 to December 1979, for Swift Creek at Facil--Continued

02315520 - SWIFT CREEK AT FACIL FLA

WATER QUALITY DATA

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	HARDNESS (MG/L AS CACO3)
APR , 1978											
10...	.87	16	18	82	33.0	32	--	--	--	--	--
JUN											
06...	.51	3.7	6.1	27	18.0	18	--	--	--	--	--
AUG											
08...	1.1	8.0	9.5	42	23.0	22	--	--	--	--	--
OCT											
02...	.90	5.4	7.0	31	18.0	18	362	318	.49	28.3	190
DEC											
04...	.80	2.1	5.7	26	16.0	14	385	333	.52	41.6	200
FEB , 1979											
05...	.26	4.1	12	55	26.0	26	476	412	.65	32.4	250
APR											
02...	3.8	3.8	7.0	31	18.0	18	404	348	.55	35.5	200
JUN											
04...	.85	3.8	6.0	27	16.0	16	372	303	.51	49.8	180
AUG											
06...	.00	7.6	9.0	40	28.0	28	394	291	.54	69.1	190
OCT											
03...	4.4	11	13	61	23.0	23	439	346	.60	91.3	180
DEC											
06...	1.1	5.0	9.7	43	17.0	16	357	270	.49	41.4	190

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, INORGANIC, TOTAL (MG/L AS C)	ARSENIC TOTAL (UG/L AS AS)
APR , 1978											
10...	--	--	--	900	6.8	--	--	7.0	26	6.0	--
JUN											
06...	--	--	--	620	6.2	3.8	46	6.4	24	6.0	--
AUG											
08...	--	--	--	438	6.1	3.5	40	5.4	15	4.0	--
OCT											
02...	150	25	.9	530	6.9	4.7	54	6.2	15	13	2
DEC											
04...	150	24	.9	580	7.0	5.6	61	8.2	8.9	--	--
FEB , 1979											
05...	190	26	1.2	685	6.9	8.2	71	>8.7	11	--	--
APR											
02...	150	27	1.1	600	6.8	4.1	45	5.1	12	--	--
JUN											
04...	150	25	.9	545	6.8	3.6	45	5.9	14	--	--
AUG											
06...	190	25	.9	570	6.5	4.4	56	3.1	18	--	--
OCT											
03...	170	36	1.6	580	6.5	2.8	34	>9.4	26	--	4
DEC											
06...	150	32	.8	525	6.5	5.8	55	3.8	20	--	--

Table 7.--Chemical and physical parameters, April 1978 to December 1979, for Swift Creek at Facil--Continued

02315520 - SWIFT CREEK AT FACIL FLA

WATER QUALITY DATA

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, DIS-SOLVED (UG/L AS ZN)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)
APR , 1978										
10...	--	--	--	--	--	--	--	--	--	--
JUN										
06...	--	--	--	--	--	--	--	--	--	--
AUG										
08...	--	--	--	--	--	--	--	--	--	--
OCT										
02...	2	0	10	9	11	<.5	10	120	0	--
DEC										
04...	--	--	--	--	--	--	--	110	--	--
FEB , 1979										
05...	--	--	--	--	--	--	--	150	--	--
APR										
02...	--	--	--	--	--	--	--	80	--	<.1
JUN										
04...	--	--	--	--	--	--	--	70	--	--
AUG										
06...	--	--	--	--	--	--	--	80	--	--
OCT										
03...	0	2	8	8	0	<.5	8	80	2	--
DEC										
06...	--	--	--	--	--	--	--	60	--	--

Table 8.--Chemical and physical parameters, October 1978 to December 1979, for Rocky Creek near Houston

02315532 - ROCKY CREEK NR HOUSTON, FL

WATER QUALITY DATA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SILICA, DIS-SOLVED (MG/L AS SIO2)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT , 1978											
02...	1610	.00	--	--	--	--	--	--	--	--	--
DEC											
04...	1840	.00	--	--	--	--	--	--	--	--	--
FEB , 1979											
06...	1515	14	6.2	--	--	--	--	--	--	5.5	2.5
APR											
05...	1015	56	3.4	--	--	--	--	--	--	4.9	1.9
JUN											
04...	1745	.18	2.7	--	--	--	--	--	--	4.0	1.6
AUG											
07...	1245	42	5.9	--	--	--	--	--	--	4.4	1.4
OCT											
04...	1030	15	6.5	310	1500	1400	40	0	40	4.3	1.5
DEC											
05...	1500	3.2	6.5	--	--	--	--	--	--	3.7	1.6

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT , 1978											
02...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
FEB , 1979											
06...	4.5	--	.5	7	9.2	11	.1	.04	.01	.05	.00
APR											
05...	3.7	--	.8	7	6.0	8.4	.1	.08	.02	.10	.03
JUN											
04...	3.0	3.3	.3	7	7.7	9.1	.5	.00	.02	.02	.00
AUG											
07...	3.0	3.3	.3	5	9.2	8.1	.5	.00	.01	.01	.02
OCT											
04...	3.4	3.6	.2	3	14	9.7	.1	.03	.02	.05	.01
DEC											
05...	3.7	4.2	.5	2	3.8	9.9	.1	.02	.01	.03	.00

Table 8.--Chemical and physical parameters, October 1978 to December 1979, for Rocky Creek near Houston--Continued

02315532 - ROCKY CREEK NR HOUSTON, FL

WATER QUALITY DATA

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	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)	HARD-NESS (MG/L AS CACO3)
OCT , 1978											
02...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
FEB , 1979											
06...	.80	.80	.85	3.8	.190	.18	98	44	.13	3.73	24
APR											
05...	.79	.82	.92	4.1	.350	.27	92	33	.13	13.9	20
JUN											
04...	1.3	1.3	1.3	5.8	.410	.41	94	33	.13	.05	17
AUG											
07...	1.1	1.1	1.1	5.0	.220	.21	58	35	.08	6.66	17
OCT											
04...	1.2	1.2	1.2	5.6	.330	.31	84	43	.11	3.40	17
DEC											
05...	.55	.55	.58	2.6	.220	.22	82	31	.11	.71	16

DATE	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC TOTAL (UG/L AS AS)
OCT , 1978										
02...	--	--	--	--	--	--	--	--	--	--
DEC										
04...	--	--	--	--	--	--	--	--	--	--
FEB , 1979										
06...	17	28	.4	52	5.4	10.0	67	1.0	26	--
APR										
05...	13	28	.4	62	5.5	6.2	67	1.1	26	--
JUN										
04...	10	28	.3	65	5.0	6.2	75	1.2	33	--
AUG										
07...	12	28	.3	55	4.6	5.9	70	1.0	--	--
OCT										
04...	14	40	.4	55	4.5	7.0	85	.8	54	0
DEC										
05...	14	45	.4	50	4.9	11.0	96	.3	26	--

Table 8.--Chemical and physical parameters, October 1978 to December 1979, for Rocky Creek near Houston--Continued

02315532 - ROCKY CREEK NR HOUSTON, FL

WATER QUALITY DATA

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, DIS-SOLVED (UG/L AS ZN)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)
OCT , 1978										
02...	--	--	--	--	--	--	--	--	--	--
DEC										
04...	--	--	--	--	--	--	--	--	--	--
FEB , 1979										
06...	--	--	--	--	--	--	--	70	--	--
APR										
05...	--	--	--	--	--	--	--	9	--	.1
JUN										
04...	--	--	--	--	--	--	--	7	--	--
AUG										
07...	--	--	--	--	--	--	--	10	--	--
OCT										
04...	1	1	9	8	1	<.5	3	9	0	--
DEC										
05...	--	--	--	--	--	--	--	7	--	--

Table 9.--Chemical and physical parameters, October 1978 to December 1979, for Camp Branch near Genoa

02315542 - CAMP BRANCH NR GENOA, FL

WATER QUALITY DATA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SILICA, DIS-SOLVED (MG/L AS SIO2)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
OCT , 1978											
02...	1330	.00	--	--	--	--	--	--	--	--	--
DEC											
04...	1215	.00	--	--	--	--	--	--	--	--	--
FEB , 1979											
05...	1300	.52	11	--	--	--	--	--	--	17	9.3
APR											
02...	1330	.19	8.3	--	--	--	--	--	--	12	6.6
JUN											
04...	1400	.24	4.4	--	--	--	--	--	--	8.0	3.6
AUG											
06...	1200	.85	5.8	--	--	--	--	--	--	11	4.7
OCT											
01...	1600	10	9.3	260	1100	1100	80	0	80	8.0	3.4
DEC											
11...	1430	.32	15	--	--	--	--	--	--	15	8.1

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM+ POTAS-SIUM DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT , 1978											
02...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
FEB , 1979											
05...	6.1	--	1.2	46	20	12	.2	.00	.01	.01	.02
APR											
02...	6.4	--	.4	39	7.6	11	.2	.00	.02	.02	.01
JUN											
04...	4.2	4.6	.4	16	5.7	8.9	.2	.00	.02	.02	.01
AUG											
06...	4.0	4.6	.6	36	5.1	7.3	.3	.03	.01	.04	.02
OCT											
01...	4.3	4.5	.2	7	17	10	.2	.00	.03	.03	.02
DEC											
11...	6.4	7.2	.8	55	7.9	14	.3	.00	.01	.01	.02

Table 9.--Chemical and physical parameters, October 1978 to December 1979, for Camp Branch near Genoa--Continued

02315542 - CAMP BRANCH NR GENOA, FL

WATER QUALITY DATA

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	HARDNESS (MG/L AS CACO3)
OCT , 1978											
02...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
FEB , 1979											
05...	.40	.42	.43	1.9	.220	.19	145	105	.20	.20	81
APR											
02...	1.2	1.2	1.2	5.4	.260	.24	154	76	.21	.08	57
JUN											
04...	.95	.96	.98	4.3	.300	.25	100	45	.14	.07	35
AUG											
06...	.60	.62	.66	2.9	.580	.45	--	60	.03	.05	47
OCT											
01...	1.9	1.9	1.9	8.6	.160	.12	149	58	.20	4.02	34
DEC											
11...	.95	.97	.98	4.3	.360	.32	156	101	.21	.13	71

DATE	HARDNESS, NONCARBONATE (MG/L CACO3)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	CARBON, ORGANIC TOTAL (MG/L AS C)	ARSENIC TOTAL (UG/L AS AS)
OCT , 1978										
02...	--	--	--	--	--	--	--	--	--	--
DEC										
04...	--	--	--	--	--	--	--	--	--	--
FEB , 1979										
05...	35	14	.3	180	6.6	9.4	80	E1.3	18	--
APR										
02...	18	19	.4	130	6.6	4.3	46	1.7	--	--
JUN										
04...	19	21	.3	98	6.3	4.9	59	1.0	26	--
AUG										
06...	11	15	.3	120	6.5	5.0	60	.6	--	--
OCT										
01...	27	21	.3	76	5.2	5.9	68	1.6	84	1
DEC										
11...	16	27	.3	165	6.8	6.5	64	1.0	36	--

Table 9.--Chemical and physical parameters, October 1978 to December 1979, for Camp Branch near Genoa--Continued

02315542 - CAMP BRANCH NR GENOA, FL

WATER QUALITY DATA

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, SUS-PENDED RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, DIS-SOLVED (UG/L AS ZN)	RA-226, DIS-SOLVED, PLAN-CHET COUNT (PCI/L)
OCT , 1978										
02...	--	--	--	--	--	--	--	--	--	--
DEC										
04...	--	--	--	--	--	--	--	--	--	--
FEB , 1979										
05...	--	--	--	--	--	--	--	60	--	--
APR										
02...	--	--	--	--	--	--	--	30	--	.1
JUN										
04...	--	--	--	--	--	--	--	20	--	--
AUG										
06...	--	--	--	--	--	--	--	40	--	--
OCT										
01...	0	1	5	4	1	<.5	3	20	4	--
DEC										
11...	--	--	--	--	--	--	--	20	--	--

Table 10.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River at Suwannee Springs

02315550 - SUWANNEE RIVER AT SUWANNEE SPRINGS FLA

WATER QUALITY DATA

DATE	TIME	TEMPERATURE (DEG C)	AGENCY ANALYZING SAMPLE (CODE NUMBER)	STREAMFLOW, INSTANTANEOUS (CFS)	STREAM STAGE (FT ABOVE DATUM)	TURBIDITY (NTU)	SPECIFIC CONDUCTANCE (MICROMHOS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	PH (UNITS)
APR 1978											
10...	1145	22.0	--	2050	45.42	2.0	75	--	--	.8	6.0
JUN											
06...	1130	25.0	--	1280	43.02	2.0	70	5.4	64	1.0	5.2
AUG											
08...	1100	25.5	--	760	41.03	2.0	140	5.4	65	1.0	6.3
OCT											
02...	1300	23.5	80010	145	37.95	2.0	250	6.0	69	.9	7.4
DEC											
04...	1145	19.5	--	97	37.34	2.0	390	8.9	96	1.0	7.5
FEB 1979											
05...	1115	11.5	--	91	37.93	2.0	290	8.5	77	E3.4	7.2
APR											
02...	1150	20.0	--	540	40.52	2.0	120	7.1	77	1.4	6.7
JUN											
04...	1240	26.5	--	1420	43.50	3.0	63	6.1	75	.9	5.0
AUG											
06...	1100	27.0	--	2770	47.00	1.0	60	6.2	77	.6	4.0
OCT											
01...	1445	24.0	80010	3860	50.60	1.0	65	6.7	78	1.0	4.0
DEC											
04...	1730	12.0	--	550	40.01	1.0	100	10.0	93	1.8	5.9

DATE	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, INORGANIC, TOTAL (MG/L AS C)
APR 1978										
10...	1.1	.71	.29	.02	.08	1.0	.10	.730	38	4.0
JUN										
06...	1.1	.83	.14	.02	.13	.97	.15	.510	41	3.0
AUG										
08...	1.9	.86	.84	.04	.22	1.7	.26	4.00	37	5.0
OCT										
02...	1.2	.40	.16	.03	.64	.56	.67	2.70	24	18
DEC										
04...	2.0	.54	.06	.05	1.4	.60	1.4	6.10	6.8	--
FEB 1979										
05...	2.8	.75	.74	--	--	1.4	1.4	5.00	14	--
APR										
02...	1.3	.90	.10	.02	.29	1.0	.31	1.20	33	--
JUN										
04...	1.2	1.1	.04	.02	.08	1.1	.10	.540	49	--
AUG										
06...	1.1	.99	.08	.03	.06	1.0	.09	.680	50	--
OCT										
01...	2.0	1.8	.15	.02	.04	1.9	.06	.580	46	--
DEC										
04...	1.3	.85	.22	.02	.27	1.0	.29	1.30	37	--

Table 10.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River at Suwannee Springs--Continued

02315550 - SUWANNEE RIVER AT SUWANNEE SPRINGS FLA

WATER QUALITY DATA

DATE	CARBON, TOTAL (MG/L AS C)	FLUORIDE, DISSOLVED (MG/L AS F)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	COPPER, DISSOLVED (UG/L AS CU)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)
APR , 1978										
10...	42	.4	--	--	--	--	--	--	--	--
JUN										
06...	44	.4	--	--	--	--	--	--	--	--
AUG										
08...	42	1.6	--	--	--	--	--	--	--	--
OCT										
02...	42	1.0	1	0	2	40	170	130	3	5
DEC										
04...	--	1.7	--	--	--	--	--	--	--	--
FEB , 1979										
05...	--	1.6	--	--	--	--	--	--	--	--
APR										
02...	--	.9	--	--	--	--	--	--	--	--
JUN										
04...	--	.4	--	--	--	--	--	--	--	--
AUG										
06...	--	.4	--	--	--	--	--	--	--	--
OCT										
01...	--	.4	0	1	1	--	830	810	3	4
DEC										
04...	--	--	--	--	--	--	--	--	--	--

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, SUSPENDED RECOV. (UG/L AS MN)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	ZINC, DISSOLVED (UG/L AS ZN)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	NITROGEN, TOTAL (MG/L AS NO3)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)
APR , 1978										
10...	--	--	--	--	--	--	--	.73	4.9	--
JUN										
06...	--	--	--	--	--	--	--	.51	5.0	--
AUG										
08...	--	--	--	--	--	--	--	3.6	8.7	--
OCT										
02...	8	10	20	10	4	10	60	2.7	5.4	<.5
DEC										
04...	--	--	--	--	--	--	--	5.4	9.1	--
FEB , 1979										
05...	--	--	--	--	--	--	--	4.0	13	--
APR										
02...	--	--	--	--	--	--	--	1.1	5.8	--
JUN										
04...	--	--	--	--	--	--	--	.54	5.5	--
AUG										
06...	--	--	--	--	--	--	--	.68	5.1	--
OCT										
01...	7	10	20	10	2	10	40	.53	8.9	<.5
DEC										
04...	--	--	--	--	--	--	--	1.3	6.0	--

Table 11.--Chemical and physical parameters, April 1978 to December 1979, for Withlacoochee River near Pinetta

02319000 - WITHLACOOCHEE RIVER NEAR PINETTA, FLA.

WATER QUALITY DATA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
APR , 1978												
10...	1100	942	--	--	--	--	--	--	.2	.27	.01	.28
JUN												
06...	1015	1220	--	--	--	--	--	--	.3	.31	.02	.33
AUG												
08...	1230	465	--	--	--	--	--	--	.3	.29	.02	.31
OCT												
02...	1045	175	70	140	70	40	10	30	.4	.22	.02	.24
DEC												
04...	1015	208	--	--	--	--	--	--	.8	.54	.02	.56
FEB , 1979												
05...	0945	3430	--	--	--	--	--	--	.2	.27	.01	.28
APR												
02...	1000	1160	--	--	--	--	--	--	.4	.29	.02	.31
JUN												
04...	1100	538	--	--	--	--	--	--	.3	.36	.02	.38
AUG												
06...	0930	1940	--	--	--	--	--	--	.3	.13	.02	.15
OCT												
01...	1000	465	60	830	280	20	10	10	.2	.64	.05	.69
DEC												
04...	1000	378	--	--	--	--	--	--	--	.28	.01	.29

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
APR , 1978												
10...	.08	.28	.36	.64	2.8	.280	.13	155	7.4	--	--	1.3
JUN												
06...	.07	.66	.73	1.0	4.7	.170	.14	100	6.1	4.9	56	1.1
AUG												
08...	.08	.60	.68	.99	4.4	.220	.19	210	7.1	4.4	53	.6
OCT												
02...	.12	.35	.47	.71	3.1	.150	.14	390	7.7	3.6	40	1.5
DEC												
04...	.08	.67	.75	1.3	5.8	.740	.67	360	7.5	4.8	50	1.4
FEB , 1979												
05...	.06	.44	.50	.78	3.5	.070	.05	58	6.3	10.8	87	E1.5
APR												
02...	.04	.80	.84	1.1	5.1	.130	.12	145	6.8	6.3	66	1.4
JUN												
04...	.04	.81	.85	1.2	5.4	.140	.13	200	7.1	4.2	50	1.8
AUG												
06...	.03	.84	.87	1.0	4.5	.170	.12	70	6.2	5.4	66	1.1
OCT												
01...	.10	.55	.65	1.3	5.9	.300	.27	190	7.0	5.1	58	.8
DEC												
04...	.03	.62	.65	.94	4.2	.230	.18	270	4.7	7.3	67	1.8

Table 11.--Chemical and physical parameters, April 1978 to December 1979, for Withlacoochee River near Pinetta--Continued

02319000 - WITHLACOOCHEE RIVER NEAR PINETTA, FLA.

WATER QUALITY DATA

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, INORGANIC, TOTAL (MG/L AS C)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	ZINC, DISSOLVED (UG/L AS ZN)
APR , 1978											
10...	16	14	--	--	--	--	--	--	--	--	--
JUN											
06...	16	6.0	--	--	--	--	--	--	--	--	--
AUG											
08...	15	18	--	--	--	--	--	--	--	--	--
OCT											
02...	13	42	1	1	1	4	2	2	<.5	10	10
DEC											
04...	10	--	--	--	--	--	--	--	--	--	--
FEB , 1979											
05...	12	--	--	--	--	--	--	--	--	--	--
APR											
02...	12	--	--	--	--	--	--	--	--	--	--
JUN											
04...	12	--	--	--	--	--	--	--	--	--	--
AUG											
06...	21	--	--	--	--	--	--	--	--	--	--
OCT											
01...	13	--	1	0	2	8	5	3	<.5	2	10
DEC											
04...	19	--	--	--	--	--	--	--	--	--	--

Table 12.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River at Branford

02320500 - SUWANNEE RIVER AT BRANFORD, FLA.

WATER QUALITY DATA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SILICA, DIS-SOLVED (MG/L AS SIO2)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)
APR , 1978											
03...	1115	14780	4.6	--	500	340	20	10	10	23	3.3
MAY											
08...	1300	9600	5.8	--	--	--	--	--	--	23	3.9
JUN											
01...	0950	7210	6.4	--	--	--	--	--	--	33	5.3
JUL											
19...	1025	4480	7.0	--	290	190	10	0	10	39	7.0
AUG											
07...	1330	5730	--	--	--	--	--	--	--	--	--
OCT											
04...	1045	3230	--	50	80	50	20	10	10	--	--
NOV											
01...	1400	2670	7.6	--	80	60	20	0	20	50	10
DEC											
05...	1330	2480	--	--	--	--	--	--	--	--	--
12...	1215	2400	8.6	--	--	--	--	--	--	47	10
JAN , 1979											
16...	1445	3800	9.2	--	--	--	--	--	--	21	5.1
FEB											
08...	1520	6450	7.6	--	360	160	20	10	10	11	2.9
28...	0815	10530	5.7	--	--	--	--	--	--	6.4	1.6
MAR											
28...	1620	8700	6.6	--	--	--	--	--	--	30	4.7
MAY											
10...	1545	7390	6.6	--	720	370	20	10	10	19	3.5
30...	1525	7080	6.6	--	--	--	--	--	--	29	4.9
JUN											
26...	1700	5050	6.5	--	--	--	--	--	--	28	5.2
JUL											
26...	1130	6720	6.1	--	1000	510	60	40	20	15	3.3
AUG											
31...	1300	5130	7.4	--	--	--	--	--	--	32	5.8
OCT											
06...	0930	7760	6.4	--	--	--	--	--	--	15	2.9
NOV											
12...	1525	3960	7.4	140	300	140	20	10	7	40	7.1
DEC											
09...	1120	6200	8.5	--	--	--	--	--	--	33	6.3

Table 12.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River at Branford--Continued

02320500 - SUWANNEE RIVER AT BRANFORD, FLA.

WATER QUALITY DATA

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM+POTASSIUM DIS-SOLVED (MG/L AS NA)	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)
APR , 1978											
03...	3.8	--	.7	55	10	6.7	.1	--	--	.29	.02
MAY											
08...	4.1	--	.8	53	13	6.0	.1	--	--	.49	.05
JUN											
01...	4.2	--	.8	110	15	5.7	.1	--	--	.58	.01
JUL											
19...	5.0	--	.8	120	17	4.9	.1	--	--	.64	.00
AUG											
07...	--	--	--	--	--	--	.4	.55	.02	.57	.07
OCT											
04...	--	--	--	--	--	--	.2	.72	.01	.73	.01
NOV											
01...	5.4	--	.7	140	21	5.3	.2	--	--	.78	.00
DEC											
05...	--	--	--	--	--	--	--	.68	.01	.69	.04
12...	9.0	--	1.0	140	26	6.7	.2	--	--	.75	.01
JAN , 1979											
16...	8.0	--	1.5	61	16	9.1	.2	--	--	.44	.03
FEB											
08...	6.4	--	1.5	28	9.9	9.5	.1	--	--	.30	.03
28...	4.7	--	1.1	20	6.1	6.4	.1	--	--	.16	.04
MAR											
28...	5.1	--	1.0	77	11	6.8	.1	--	--	.42	.01
MAY											
10...	5.7	--	.9	47	10	7.7	.1	.36	.01	.37	.07
30...	5.1	--	.6	83	11	6.8	.1	--	--	.39	.01
JUN											
26...	5.4	--	.5	71	11	6.1	.2	.43	.00	.43	.00
JUL											
26...	4.7	5.4	.7	32	9.1	6.2	.1	--	--	.25	.00
AUG											
31...	5.2	5.7	.5	85	14	5.9	.2	.48	.01	.49	.00
OCT											
06...	3.9	4.4	.5	34	9.5	6.5	.2	--	--	.29	.80
NOV											
12...	4.8	5.3	.5	110	15	5.6	.2	.70	.01	.71	.01
DEC											
09...	8.4	9.3	.9	96	18	7.1	.1	--	--	.58	.00

Table 12.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River at Branford--Continued

02320500 - SUWANNEE RIVER AT BRANFORD, FLA.

WATER QUALITY DATA

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	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)
APR , 1978										
03...	.64	.66	.95	4.2	.190	--	118	86	.16	4710
MAY										
08...	.50	.55	1.0	4.6	.260	--	118	89	.16	3060
JUN										
01...	--	--	--	--	.160	--	164	--	.22	3190
JUL										
19...	.29	.29	.93	4.1	.170	--	172	153	.23	2080
AUG										
07...	.50	.57	1.1	5.0	.630	.58	--	--	--	--
OCT										
04...	.07	.08	.81	3.6	.230	.28	--	--	--	--
NOV										
01...	.09	.09	.87	3.9	.190	--	186	184	.25	1340
DEC										
05...	.09	.13	.82	3.6	.330	.28	--	--	--	--
12...	.10	.11	.86	3.8	.400	--	204	193	.28	1320
JAN , 1979										
16...	.50	.46	.90	4.0	.330	--	137	107	.19	1410
FEB										
08...	.57	.60	.90	4.0	.240	--	93	66	.13	1620
28...	.66	.70	.86	3.8	.340	--	72	44	.10	2050
MAR										
28...	.38	.39	.81	3.6	.210	--	144	112	.20	3380
MAY										
10...	.78	.85	1.2	5.4	.390	.28	125	82	.17	2490
30...	.51	.52	.91	4.0	.190	--	151	114	.21	2890
JUN										
26...	.53	.53	.96	4.3	.270	.23	153	106	.21	2090
JUL										
26...	.88	.88	1.1	5.0	.230	--	116	65	.16	2100
AUG										
31...	.52	.52	1.0	4.5	.270	.21	156	122	.21	2160
OCT										
06...	.20	1.0	1.3	5.7	.370	--	129	67	.18	2700
NOV										
12...	.27	.28	.99	4.4	.250	.18	170	150	.23	1820
DEC										
09...	.39	.39	.97	4.3	.310	--	162	142	.22	2710

Table 12.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River at Branford--Continued

02320500 - SUWANNEE RIVER AT BRANFORD, FLA.

WATER QUALITY DATA

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	CARBON, ORGANIC TOTAL (MG/L AS C)
APR . 1978										
03...	71	16	10	.2	160	7.0	5.6	59	--	--
MAY										
08...	74	20	11	.2	140	7.0	5.6	65	1.2	9.7
JUN										
01...	100	--	8	.2	220	7.2	5.5	65	--	9.3
JUL										
19...	130	6	8	.2	268	7.6	5.3	64	.5	--
AUG										
07...	--	--	--	--	220	7.2	5.2	61	.9	17
OCT										
04...	--	--	--	--	320	7.8	6.6	74	1.0	5.0
NOV										
01...	170	26	7	.2	380	7.9	7.0	79	--	--
DEC										
05...	--	--	--	--	350	7.9	7.4	81	.6	5.1
12...	160	19	11	.3	325	7.9	8.0	--	--	4.9
JAN . 1979										
16...	73	12	19	.4	195	7.3	9.2	--	--	9.3
FEB										
08...	39	11	25	.4	140	6.9	8.8	--	--	--
28...	23	3	30	.4	67	6.6	--	--	--	16
MAR										
28...	94	17	10	.2	190	7.6	--	--	--	11
MAY										
10...	62	15	16	.3	152	7.2	6.3	--	.4	19
30...	93	10	11	.2	205	7.6	4.6	--	--	21
JUN										
26...	91	20	11	.2	204	7.4	5.3	--	.8	22
JUL										
26...	51	19	16	.3	115	6.5	5.2	--	--	--
AUG										
31...	100	19	10	.2	235	7.2	5.5	--	--	16
OCT										
06...	49	15	15	.2	118	6.9	6.3	--	--	33
NOV										
12...	130	19	9	.2	275	7.4	6.4	--	.5	9.2
DEC										
09...	110	12	18	.4	255	7.2	--	--	--	16

Table 12.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River at Branford--Continued

02320500 - SUWANNEE RIVER AT BRANFORD, FLA.

WATER QUALITY DATA

DATE	CARBON, INORGANIC, TOTAL (MG/L AS C)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	ZINC, DISSOLVED (UG/L AS ZN)
APR , 1978										
03...	--	1	0	1	23	5	18	<.5	--	10
MAY										
08...	--	--	--	--	--	--	--	--	--	--
JUN										
01...	--	--	--	--	--	--	--	--	--	--
JUL										
19...	--	0	--	1	--	--	--	.5	--	0
AUG										
07...	20	--	--	--	--	--	--	--	--	--
OCT										
04...	--	0	1	1	4	2	2	<.5	5	0
NOV										
01...	--	1	1	1	12	5	7	<.5	--	10
DEC										
05...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
JAN , 1979										
16...	--	--	--	--	--	--	--	--	--	--
FEB										
08...	--	1	0	4	14	14	0	<.5	--	0
28...	--	--	--	--	--	--	--	--	--	--
MAR										
28...	--	--	--	--	--	--	--	--	--	--
MAY										
10...	--	1	0	3	5	5	0	.5	--	20
30...	--	--	--	--	--	--	--	--	--	--
JUN										
26...	--	--	--	--	--	--	--	--	--	--
JUL										
26...	--	3	1	1	1	1	0	<.5	--	7
AUG										
31...	--	--	--	--	--	--	--	--	--	--
OCT										
06...	--	--	--	--	--	--	--	--	--	--
NOV										
12...	--	3	0	0	0	0	1	.4	1	9
DEC										
09...	--	--	--	--	--	--	--	--	--	--

Table 13.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River near Wilcox

02323500 - SUWANNEE RIVER NEAR WILCOX, FLA.

WATER QUALITY DATA

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
APR , 1978												
11...	1000	15600	--	--	--	--	--	--	.2	.42	.01	.43
JUN												
08...	1045	11400	--	--	--	--	--	--	.2	.56	.01	.57
AUG												
07...	1130	10200	--	--	--	--	--	--	1.0	.37	.01	.38
OCT												
04...	1230	7470	40	100	50	10	0	10	--	.64	.01	.65
DEC												
05...	1230	4820	--	--	--	--	--	--	.2	.67	.01	.68
FEB , 1979												
06...	1750	8280	--	--	--	--	--	--	.3	.27	.01	.28
APR												
05...	1430	11100	--	--	--	--	--	--	.4	.50	.01	.51
JUN												
05...	1545	9590	--	--	--	--	--	--	.2	.54	.01	.55
AUG												
08...	1100	9150	--	--	--	--	--	--	.3	.29	.01	.30
OCT												
04...	1345	11600	200	660	480	20	0	30	.3	.25	.02	.27
DEC												
05...	1030	8000	--	--	--	--	--	--	--	.61	.01	.62

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
APR , 1978												
11...	.06	.34	.40	.83	3.7	.220	.12	230	7.3	--	--	1.4
JUN												
08...	.03	.23	.26	.83	3.7	.140	.14	270	7.2	5.9	69	.6
AUG												
07...	.04	.62	.66	1.0	4.6	.230	.20	220	7.3	4.2	50	--
OCT												
04...	.00	.14	.14	.79	3.5	.180	.18	320	7.8	7.0	80	.7
DEC												
05...	.06	.09	.15	.83	3.7	.240	.17	310	7.9	7.9	87	.4
FEB , 1979												
06...	.03	.43	.46	.74	3.3	.190	.16	160	7.2	9.0	81	1.2
APR												
05...	.02	.17	.19	.70	3.1	.150	.15	230	7.3	6.7	72	--
JUN												
05...	.02	.40	.42	.97	4.3	.240	.24	275	7.6	5.5	66	.6
AUG												
08...	.02	.58	.60	.90	4.0	.200	.18	185	7.0	5.7	70	.8
OCT												
04...	.02	.92	.94	1.2	5.4	.270	.24	140	6.6	5.4	64	1.1
DEC												
05...	.01	.19	.20	.82	3.6	.220	.21	315	5.0	8.0	82	1.2

Table 13.--Chemical and physical parameters, April 1978 to December 1979, for Suwannee River near Wilcox--Continued

02323500 - SUWANNEE RIVER NEAR WILCOX, FLA.

WATER QUALITY DATA

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, INORGANIC, TOTAL (MG/L AS C)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	COPPER, DISSOLVED (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	ZINC, DISSOLVED (UG/L AS ZN)
APR , 1978											
11...	10	26	--	--	--	--	--	--	--	--	--
JUN											
08...	10	25	--	--	--	--	--	--	--	--	--
AUG											
07...	15	20	--	--	--	--	--	--	--	--	--
OCT											
04...	4.0	--	1	1	0	10	0	13	<.5	5	0
DEC											
05...	2.5	--	--	--	--	--	--	--	--	--	--
FEB , 1979											
06...	12	--	--	--	--	--	--	--	--	--	--
APR											
05...	--	--	--	--	--	--	--	--	--	--	--
JUN											
05...	28	--	--	--	--	--	--	--	--	--	--
AUG											
08...	18	--	--	--	--	--	--	--	--	--	--
OCT											
04...	36	--	1	0	2	6	3	3	<.5	1	10
DEC											
05...	5.9	--	--	--	--	--	--	--	--	--	--

Table 14.--Maximum values for chemical, biological, and physical parameters for all sampling locations from November 1968 to December 1979

STATION NUMBER	STREAM-FLOW, INSTAN-TANEOUS (CFS)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CARBON, ORGANIC TOTAL (MG/L AS C)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
02314986	2340	7.4	160	28.0	10.6	2.3	90	100	4.9	.03
02315000	6330	6.9	90	30.5	12.0	1.7	95	48	1.3	.04
02315005	425	8.1	630	28.0	11.4	8.1	94	52	2.5	3.6
02315200	466	7.2	225	27.0	12.3	3.1	101	54	1.5	.24
02315392	221	7.8	210	25.0	11.0	1.5	99	54	1.4	.11
02315500	11500	7.4	135	29.5	11.4	5.2	113	63	1.4	.27
02315520	1140	7.1	900	29.0	10.8	10	100	52	7.9	6.3
02315532	56	5.5	65	26.0	11.0	1.2	96	54	1.3	.08
02315542	10	6.8	180	26.0	9.4	1.7	80	84	1.9	.03
02315550	11300	7.5	390	29.0	11.5	5.5	96	50	1.8	1.5
02319000	21500	8.3	510	29.0	11.5	4.2	100	26	2.2	.64
02320500	43300	8.2	380	28.0	9.8	3.1	88	33	1.4	.75
02323500	25700	8.4	360	28.0	10.4	2.1	98	36	.93	.67

STATION NUMBER	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS P)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	TUR-BID-ITY (JTU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
02314986	.06	.27	.30	.16	.6	5200	15	930	12	1200	.5	43
02315000	.03	.22	.25	.19	.4	1400	8	750	16	790	.5	40
02315005	.18	6.0	6.2	15	5.0	24000	190	780	10	1200	.5	70
02315200	.07	.74	.89	4.8	.4	1300	5	1100	12	1200	.5	30
02315392	.02	.26	.33	.10	.4	--	7	960	16	600	.5	30
02315500	.03	.37	.38	.23	.6	3900	110	810	17	950	.7	300
02315520	1.9	42	42	23	29	166000	62	440	20	1000	.5	120
02315532	.02	.41	.41	.03	.5	--	--	1400	1	1500	.5	40
02315542	.03	.45	.58	.02	.3	--	--	1100	1	1100	.5	80
02315550	.48	6.9	6.9	1.4	2.0	9200	95	810	6	940	.5	30
02319000	.05	.78	1.1	.44	1.9	69000	49	770	20	1500	.5	50
02320500	.09	.84	.84	.80	.7	3800	20	570	27	1000	1.7	60
02323500	.03	.33	.45	.09	1.0	4800	29	480	13	810	.5	40

STATION NUMBER	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)
02314986	1	1	0	11	10	0
02315000	3	--	--	13	--	--
02315005	2	1	0	17	30	0
02315200	1	--	--	8	--	0
02315392	1	--	--	9	--	0
02315500	2	0	0	16	170	0
02315520	2	2	0	14	20	1
02315532	1	--	--	9	--	--
02315542	0	--	--	5	--	--
02315550	2	0	0	9	10	0
02319000	2	0	0	16	10	0
02320500	11	1	12	36	100	1
02323500	10	0	0	11	70	1

Table 15.--Minimum values for chemical, biological, and physical parameters for all sampling locations from November 1968 to December 1979

STATION NUMBER	STREAM-FLOW, INSTAN-TANEOUS (CFS)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CARBON, ORGANIC TOTAL (MG/L AS C)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
02314986	.00	3.1	24	4.0	3.7	.0	35	4.0	.26	.00
02315000	10	3.1	35	5.5	5.1	.1	60	16	.37	.00
02315005	.34	3.5	34	7.0	2.6	.0	32	6.0	.22	.00
02315200	.35	3.6	40	5.0	4.3	1.0	41	10	.50	.00
02315392	.16	3.7	30	4.5	4.2	.2	46	2.7	.15	.00
02315500	23	3.5	25	6.5	4.3	.1	64	14	.16	.00
02315520	7.5	3.7	133	7.0	2.8	.4	34	.0	.00	.01
02315532	.00	4.5	50	8.0	5.9	.3	67	26	.55	.00
02315542	.00	5.2	76	8.5	4.3	.6	46	18	.40	.00
02315550	88	3.6	39	7.5	4.4	.2	47	6.8	.11	.00
02319000	93	4.5	25	6.5	2.7	.3	32	6.5	.10	.00
02320500	1600	5.1	37	7.5	3.5	.0	40	.0	.00	.00
02323500	4650	5.0	56	8.0	3.9	.0	42	.0	.01	.00

STATION NUMBER	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS P)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	TUR-BID-ITY (JTU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
02314986	.00	.02	.02	.00	.0	24	1	210	0	300	.0	10
02315000	.01	.02	.02	.00	.0	50	1	280	4	420	.0	10
02315005	.01	.01	.30	.01	.2	25	3	10	0	130	.0	10
02315200	.01	.05	.05	.02	.0	1300	1	210	0	440	.2	10
02315392	.01	.05	.05	.01	.0	--	1	60	0	100	.3	10
02315500	.00	.05	.05	.00	.0	100	1	230	1	360	.0	10
02315520	.00	1.3	1.5	.02	2.0	100	3	10	0	190	.0	40
02315532	.01	.18	.19	.00	.1	--	--	1400	1	1500	.5	40
02315542	.01	.12	.16	.01	.2	--	--	1100	1	1100	.5	80
02315550	.01	.12	.12	.01	.0	28	1	110	0	170	.0	10
02319000	.00	.04	.06	.01	.0	0	1	30	0	120	.0	20
02320500	.00	.05	.09	.00	.0	25	1	0	0	80	.0	10
02323500	.00	.02	.09	.00	.0	70	1	0	0	100	.0	10

STATION NUMBER	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)
02314986	0	1	0	0	10	0
02315000	0	--	--	1	--	--
02315005	0	0	0	0	10	0
02315200	0	--	--	0	--	0
02315392	0	--	--	2	--	0
02315500	0	0	0	0	0	0
02315520	0	0	0	0	10	0
02315532	1	--	--	9	--	--
02315542	0	--	--	5	--	--
02315550	0	0	0	0	0	0
02319000	0	0	0	0	10	0
02320500	0	0	0	0	0	0
02323500	0	0	0	0	10	0

Table 16.--Mean values for chemical, biological, and physical parameters for all sampling locations from November 1968 to December 1979

STATION NUMBER	STREAM-FLOW, INSTAN-TANEOUS (CFS)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	CARBON, ORGANIC TOTAL (MG/L AS C)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
02314986	89	4.4	79	18.3	6.6	.8	67	55	1.2	.00
02315000	1592	4.3	51	19.8	7.7	.8	80	35	.76	.00
02315005	25	6.5	218	19.2	6.4	2.4	68	19	.95	.60
02315200	64	5.3	85	18.5	7.6	1.7	74	38	.78	.04
02315392	28	5.6	95	18.3	6.9	.7	68	35	.77	.04
02315500	1809	4.8	52	20.6	7.5	.9	81	33	.76	.02
02315520	88	6.1	497	20.2	5.5	4.8	58	19	1.1	1.8
02315532	16	4.9	56	18.9	7.7	.9	76	33	.95	.02
02315542	1.5	6.3	128	19.7	6.0	1.2	63	41	1.0	.00
02315550	2283	5.8	107	20.4	7.1	1.1	76	28	.72	.20
02319000	2143	6.7	166	19.4	6.0	1.5	63	14	.63	.20
02320500	7321	7.1	192	20.2	6.5	.8	70	14	.44	.34
02323500	10657	7.2	220	20.8	6.7	.8	72	11	.36	.34

STATION NUMBER	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS P)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	TUR-BID-ITY (JTU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
02314986	.02	.09	.10	.05	.3	804	3	614	5	787	.1	28
02315000	.01	.05	.06	.04	.1	322	3	487	8	570	.2	21
02315005	.04	1.2	1.3	1.7	1.3	2272	16	230	3	505	.1	25
02315200	.02	.13	.15	.34	.1	1300	2	722	3	738	.4	20
02315392	.01	.11	.14	.04	.2	--	2	591	6	370	.4	17
02315500	.01	.14	.14	.05	.2	1402	11	470	5	578	.1	43
02315520	.14	18	18	5.7	6.7	7303	15	165	4	595	.1	72
02315532	.01	.26	.28	.01	.2	--	--	1400	1	1500	.5	40
02315542	.01	.26	.31	.01	.2	--	--	1100	1	1100	.5	80
02315550	.03	1.0	1.2	.19	.5	827	9	422	1	569	.1	21
02319000	.01	.18	.19	.06	.3	3300	11	292	6	937	.1	34
02320500	.01	.20	.24	.04	.2	478	5	218	5	478	.3	22
02323500	.01	.16	.18	.03	.2	509	6	187	3	480	.2	24

STATION NUMBER	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CHRO-MIUM, HEXA-VALENT, DIS. (UG/L AS CR)
02314986	0	1	0	5	10	0
02315000	0	--	--	7	--	--
02315005	0	0	0	6	20	0
02315200	0	--	--	4	--	0
02315392	0	--	--	4	--	0
02315500	0	0	0	6	85	0
02315520	0	1	0	6	15	0
02315532	1	--	--	9	--	--
02315542	0	--	--	5	--	--
02315550	0	0	0	3	5	0
02319000	0	0	0	6	10	0
02320500	0	0	3	13	21	0
02323500	1	0	0	6	40	0

Table 17.--Inventory of the number of water-quality samples collected

WATER YEAR	NO. SAMPL	D.S.	HARD-NESS	MAJ-OR CAT-IONS	SIL-ICA	ALU-MI-NUM	IRON	MAN-GA-NESE	MAJ_OR AN-IONS	FLU-O-RIDE	CAR-BON	NI_TRO-GEN	PHOS_PHO-ROUS	D.O.	BOD	COD	PH	PES-TI-CIDES	RAD_IO-CHEM-ICAL	BIO-LOG-IC	SEDMT SUS	SEDMT BED
	02314986 ROCKY CREEK NR BELMONT,FLA.									LAT=30 32 40 LONG=082 44 02					STREAM		STATE=12 COUNTY=047 DIST.=12					
1971	6	2	2	2	6	0	3	3	2	5	3	6	6	6	3	0	6	0	0	5	0	0
1972	6	0	0	0	6	0	1	1	0	6	5	6	6	6	6	0	6	0	0	6	0	0
1973	6	0	0	0	6	0	0	0	0	6	6	6	6	6	6	0	6	0	0	6	0	0
1974	5	2	2	2	2	2	2	2	2	5	5	5	5	4	5	0	5	0	0	5	0	0
1975	7	0	0	0	0	2	2	2	0	7	7	7	7	7	7	0	6	0	0	7	0	0
1976	8	6	6	6	6	2	2	2	6	8	8	8	8	8	5	0	8	0	3	4	4	0
1977	7	6	6	6	6	3	3	3	6	7	7	7	7	7	3	0	7	0	3	2	5	0
1978	6	0	0	0	0	1	1	1	0	6	5	6	6	5	6	0	6	0	0	0	0	0
1979	6	2	2	2	2	0	0	0	2	4	4	4	4	4	4	0	4	0	1	0	0	0
	02315000 SUWANNEE R NR BENTON FLA									LAT=30 30 30 LONG=082 41 50					STREAM		STATE=12 COUNTY=047 DIST.=12					
1965	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	1	1	1	1	1	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0
1968	1	1	1	1	1	0	1	1	1	1	0	1	1	0	0	0	1	0	0	0	0	0
1969	2	2	2	2	2	0	1	0	2	2	0	2	1	0	0	0	2	0	0	0	0	0
1970	2	2	2	2	2	0	0	0	2	2	0	2	1	2	0	0	2	0	0	0	0	0
1975	2	1	1	1	1	1	1	1	1	2	2	2	2	2	2	0	2	0	0	1	1	0
1976	5	0	0	0	0	0	0	0	0	4	5	5	5	5	5	0	5	0	0	5	0	0
1977	6	2	2	2	2	2	2	2	2	6	5	6	6	4	6	0	6	0	0	4	0	0
1978	8	2	2	2	2	1	1	1	2	8	6	6	6	7	6	0	8	0	0	0	0	0
1979	6	0	0	0	0	1	1	1	0	5	6	6	6	6	6	0	6	0	0	0	0	0
	02315005 HUNTER CREEK NEAR BELMONT FLA									LAT=30 29 20 LONG=082 41 40					STREAM		STATE=12 COUNTY=047 DIST.=12					
1968	2	2	2	2	2	0	2	1	2	2	0	2	1	0	0	0	2	0	0	0	0	0
1969	2	2	2	2	2	0	1	0	2	2	0	2	1	0	0	0	2	0	0	0	0	0
1970	2	2	2	2	2	1	1	1	2	2	1	2	1	1	1	0	2	0	0	0	0	0
1971	1	0	0	0	1	0	0	0	0	1	0	1	1	1	1	0	1	0	0	1	0	0
1972	6	0	0	0	6	0	1	1	0	6	5	6	6	6	6	0	6	0	0	6	0	0
1973	7	0	0	0	6	0	1	1	0	6	6	6	6	6	6	0	6	0	0	6	0	0
1974	6	2	2	2	2	2	2	2	2	6	6	6	6	5	5	0	5	0	0	6	0	0
1975	7	1	1	1	0	2	3	2	1	7	7	7	7	7	7	0	7	0	0	7	0	0
1976	9	7	7	7	7	3	3	3	7	9	9	9	9	9	5	0	9	0	4	5	3	0
1977	10	7	7	7	7	4	4	4	7	10	10	10	10	7	5	0	10	0	4	4	7	0
1978	8	2	2	2	2	1	1	1	2	8	5	6	6	6	6	0	8	0	0	0	0	0
1979	6	6	6	6	6	1	1	1	6	6	6	6	6	6	6	0	6	0	1	0	0	0
	02315200 DEEP CREEK NR SUWANNEE VALLEY FL									LAT=30 21 55 LONG=082 37 13					STREAM		STATE=12 COUNTY=023 DIST.=12					
1976	7	6	6	6	6	3	3	3	6	6	6	6	6	6	0	0	6	0	3	1	5	0
1977	9	9	9	9	9	3	3	3	9	9	6	6	6	6	0	0	9	0	3	0	6	0
1978	6	6	6	6	6	5	5	5	6	6	0	0	0	6	0	0	6	0	4	0	0	0
1979	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	3	0	3	0	0	0
	02315392 ROBINSON CR NR SUWANNEE VALLEY FL									LAT=30 18 56 LONG=082 38 41					STREAM		STATE=12 COUNTY=023 DIST.=12					
1976	7	7	7	7	7	3	3	3	7	7	7	7	7	6	0	0	7	0	3	0	5	0
1977	9	9	9	9	9	3	3	3	9	9	6	6	6	6	1	0	9	0	3	0	6	0
1978	6	6	6	6	6	5	5	5	6	6	0	0	0	5	0	0	6	0	4	0	0	0
1979	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	0	3	0	3	0	0	0
	02315500 SUWANNEE RIVER AT WHITE SPRINGS, FLA.									LAT=30 19 32 LONG=082 44 18					STREAM		STATE=12 COUNTY=023 DIST.=12					
1966	1	1	1	1	1	0	1	0	1	1	0	1	1	0	0	0	1	0	0	0	0	0
1967	2	2	2	2	2	0	2	1	2	2	0	2	1	1	0	0	2	0	0	0	0	0
1968	2	2	2	2	2	0	2	2	2	2	0	2	2	1	0	0	2	0	0	0	0	0
1969	6	3	3	3	3	0	2	0	3	4	0	4	4	2	1	0	4	0	0	1	0	0
1970	8	2	3	3	4	1	1	1	2	7	2	7	6	7	6	0	7	1	0	6	0	0
1971	6	2	2	2	6	0	2	2	2	6	2	6	6	6	4	0	6	0	0	4	0	0
1972	3	2	2	2	2	0	2	2	2	2	2	2	2	1	2	0	2	0	0	0	0	0
1973	3	3	3	3	3	2	3	3	2	3	3	3	3	3	2	0	3	0	0	0	0	0
1974	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	0	2	0	0	0	0	0
1975	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0
1976	6	2	2	2	2	2	2	2	2	6	2	6	6	6	2	0	6	0	0	0	0	0
1977	6	2	2	2	2	2	2	2	2	6	2	6	6	3	2	0	6	0	0	0	0	0
1978	8	2	2	2	2	1	1	1	2	8	0	6	6	7	0	0	8	0	0	0	0	0
1979	6	0	0	0	0	1	1	1	0	6	0	6	6	6	1	0	6	0	0	0	0	0
	02315520 SWIFT CREEK AT FACIL FLA									LAT=30 22 14 LONG=082 48 00					STREAM		STATE=12 COUNTY=047 DIST.=12					
1967	1	1	1	1	1	0	1	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0
1968	2	1	1	1	1	0	1	1	1	1	0	1	1	0	0	0	1	0	0	0	0	0
1969	4	2	2	2	2	0	1	0	2	3	0	3	2	1	1	0	3	0	0	1	0	0
1970	7	2	3	3	3	1	1	1	2	7	2	7	6	7	6	0	7	0	0	3	0	0
1971	6	2	2	2	6	0	2	2	2	6	6	6	6	6	6	0	6	0	0	4	0	0
1972	6	2	2	2	6	0	2	2	2	6	6	6	6	6	6	0	6	0	0	6	0	0
1973	6	2	2	2	6	1	2	2	2	6	6	6	6	6	6	0	6	0	0	6	0	0
1974	6	2	2	2	2	2	2	2	2	6	6	6	6	6	6	0	6	0	0	6	0	0
1975	7	4	4	4	3	3	4	3	4	7	7	7	7	7	7	0	7	0	0	7	0	0
1976	10	7	7	7	7	4	4	4	7	10	10	10	10	10	4	0	10	0	4	5	5	0
1977	9	7	7	7	7	4	4	4	7	9	9	9	9	7	5	0	9	0	3	3	6	0

Table 17.--Inventory of the number of water-quality samples collected--Continued

WATER YEAR	NO. SAMPL	D.S.	HARD-NESS	MAJ-OR CAT-IONS	SIL-ICA	ALU-MI-NUM	IRON	MAN-GA-NESE	MAJ_OR AN-IONS	FLU-O-RIDE	CAR-BON	NI_TRO-GEN	PHOS_PHO-ROUS	D.O.	BOD	COD	PH	PES-TI-CIDES	RAD_IO-CHEM-ICAL	BIO-LOG-IC	SEDMT SUS	SEDMT BED
	02315520 SWIFT CREEK AT FACIL FLA									LAT=30 22 14 LONG=082 48 00					STREAM		STATE=12 COUNTY=047 DIST.=12					
1978	6	0	0	0	0	1	1	1	0	6	6	6	6	5	6	0	6	0	0	0	0	0
1979	6	6	6	6	6	1	1	1	6	6	6	6	6	6	6	0	6	0	2	0	0	0
	02315532 ROCKY CREEK NR HOUSTON, FL									LAT=30 18 56 LONG=082 50 42					STREAM		STATE=12 COUNTY=121 DIST.=12					
1979	6	4	4	4	4	0	0	0	4	4	3	4	4	4	4	0	4	0	1	0	0	0
	02315542 CAMP BRANCH NR GENOA, FL									LAT=30 24 25 LONG=082 51 54					STREAM		STATE=12 COUNTY=047 DIST.=12					
1979	6	4	4	4	4	0	0	0	4	4	2	4	4	4	4	0	4	0	1	0	0	0
	02319000 WITHLACOOCHEE RIVER NEAR PINETTA, FLA.									LAT=30 35 43 LONG=083 15 35					STREAM		STATE=12 COUNTY=079 DIST.=12					
1957	2	2	2	2	2	0	2	0	2	2	0	2	0	0	0	0	2	0	0	0	0	0
1958	7	7	7	7	7	0	0	0	7	7	0	7	0	0	0	0	7	0	0	0	0	0
1959	5	5	4	5	5	0	0	0	5	5	0	5	0	0	0	0	5	0	0	0	0	0
1960	6	6	6	6	6	0	6	0	6	6	0	6	0	0	0	0	6	0	0	0	0	0
1961	6	6	6	6	6	0	5	0	6	6	0	6	0	0	0	0	6	0	0	0	0	0
1962	7	7	7	7	7	0	7	0	7	7	0	7	0	0	0	0	7	0	0	0	0	0
1965	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	1	1	1	1	1	0	1	1	1	1	0	1	1	0	0	0	1	0	0	0	0	0
1967	4	4	4	4	4	0	4	1	4	4	0	3	1	1	0	0	4	0	0	0	0	0
1968	11	8	8	8	8	0	8	1	8	8	0	10	4	1	0	0	8	0	0	0	0	0
1969	19	7	7	7	7	0	5	0	7	8	0	19	14	2	1	0	8	0	0	1	0	0
1970	20	6	7	7	7	1	1	1	6	11	2	20	17	6	6	0	11	0	0	6	0	0
1971	12	7	7	7	12	0	2	2	7	11	3	12	11	7	4	0	11	0	0	4	0	0
1972	13	4	4	4	13	0	2	2	4	9	5	13	13	7	6	0	8	0	0	7	0	0
1973	12	2	2	2	11	1	2	2	2	5	5	11	11	6	5	0	6	0	0	5	0	0
1974	7	2	2	2	3	2	2	2	2	6	6	7	7	6	6	0	6	0	0	5	0	0
1975	7	3	3	3	3	3	3	3	3	6	7	7	7	7	7	0	7	0	0	7	0	0
1976	5	1	1	1	1	1	1	1	1	3	5	5	5	5	5	0	5	0	0	5	0	0
1977	6	2	2	2	2	2	2	2	2	6	5	6	6	3	6	0	6	0	0	4	0	0
1978	6	0	0	0	0	1	1	1	0	6	6	6	6	5	5	0	6	0	0	0	0	0
1979	6	0	0	0	0	1	1	1	0	6	6	6	6	6	6	0	6	0	0	0	0	0
	02320500 SUWANNEE RIVER AT BRANFORD, FLA.									LAT=29 57 20 LONG=082 55 40					STREAM		STATE=12 COUNTY=121 DIST.=12					
1957	36	35	35	35	35	0	34	0	35	35	0	36	0	0	0	0	35	0	0	0	0	0
1958	7	7	7	7	7	0	0	0	7	7	0	7	0	0	0	0	7	0	0	0	0	0
1959	5	5	5	5	5	0	0	0	5	5	0	5	0	0	0	0	5	0	0	0	0	0
1960	7	7	7	7	7	0	7	0	7	7	0	7	0	0	0	0	7	0	0	0	0	0
1961	6	6	6	6	6	0	6	0	6	6	0	6	0	0	0	0	6	0	0	0	0	0
1962	7	7	7	7	7	0	7	0	7	7	0	7	0	0	0	0	7	0	0	0	0	0
1965	3	1	3	3	3	2	3	2	3	3	0	3	3	0	0	0	3	0	0	0	0	0
1967	7	7	7	7	7	0	7	1	7	7	0	7	1	1	0	0	7	0	0	0	0	0
1968	18	8	8	8	8	0	8	1	8	8	0	10	3	1	0	0	8	0	0	0	0	0
1969	19	8	8	8	8	0	7	0	8	8	0	19	14	2	2	0	8	0	0	2	0	0
1970	18	6	6	6	6	1	4	1	6	6	1	17	12	5	4	0	7	0	0	4	0	0
1971	13	7	7	7	12	0	2	2	7	11	3	13	11	6	4	0	10	0	0	3	0	0
1972	11	4	4	4	11	0	2	2	4	8	6	11	11	5	6	0	8	0	0	6	0	0
1973	13	2	2	2	12	1	2	2	2	6	6	12	12	6	6	0	6	0	0	6	0	0
1974	12	7	7	7	7	1	3	3	7	9	7	11	11	10	5	0	10	0	0	9	7	0
1975	13	12	12	12	12	0	4	4	12	12	12	12	12	11	10	0	11	0	0	12	10	0
1976	12	12	12	12	12	0	4	4	12	12	11	12	12	12	9	0	12	0	0	6	10	0
1977	11	11	11	11	11	0	3	4	11	11	9	11	11	7	8	0	11	0	0	9	11	0
1978	11	10	10	10	10	0	4	4	10	11	10	11	11	11	6	0	11	0	0	9	10	0
1979	13	11	11	11	11	1	5	5	11	12	13	13	13	11	4	0	13	0	0	11	11	0
	02323500 SUWANNEE RIVER NEAR WILCOX, FLA.									LAT=29 35 22 LONG=082 56 12					STREAM		STATE=12 COUNTY=075 DIST.=12					
1961	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
1962	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
1963	2	1	1	1	1	0	0	0	1	1	0	1	0	0	0	0	1	0	1	0	0	0
1964	1	1	1	1	1	0	1	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0
1966	1	1	1	1	1	0	1	0	1	1	0	1	1	0	0	0	1	0	0	0	0	0
1967	1	1	1	1	1	0	1	1	1	1	0	1	1	1	0	0	1	0	0	0	0	0
1968	1	1	1	1	1	0	1	1	1	1	0	1	1	1	0	0	1	0	0	0	0	0
1969	3	1	1	1	1	0	1	0	1	2	0	2	2	2	1	0	2	2	0	1	0	0
1970	7	1	2	2	2	1	1	1	1	5	1	6	6	6	6	0	6	3	0	6	0	0
1971	8	2	2	2	6	0	3	3	2	6	3	6	6	6	5	0	6	4	0	4	0	0
1972	7	0	0	0	6	0	1	1	0	6	6	6	6	6	6	0	6	4	0	6	0	0
1973	7	0	0	0	6	0	1	1	0	6	6	6	6	6	6	0	6	0	0	6	0	0
1974	5	2	1	2	1	2	2	2	1	4	4	4	4	5	4	0	4	0	0	4	0	0
1975	6	0	0	0	0	1	1	1	0	6	6	6	6	6	6	0	6	0	0	6	0	0
1976	6	0	0	0	0	1	1	1	0	3	6	6	6	6	5	0	6	0	0	0	0	0
1977	6	0	0	0	0	0	0	0	0	4	6	6	6	4	6	0	6	0	0	0	0	0
1978	6	0	0	0	0	1	1	1	0	5	6	6	6	5	5	0	6	0	0	0	0	0
1979	6	0	0	0	0	1	1	1	0	5	5	6	6	6	5	0	6	0	0	0	0	0

Table 18.--State of Florida, Department of Environmental Regulation, recommended constituent limits for Class III waters

[Source: Fla. Dept. of State, Florida Department of State, 1978 (effective January 1, 1979); EPA, 1977a, U.S. Environmental Protection Agency, 1977a; EPA, 1976, U.S. Environmental Protection Agency, 1976; EPA, 1977b, U.S. Environmental Protection Agency, 1977b.]

Constituent	Limit, in mg/L, unless otherwise noted	Source	Remarks
Cadmium	0.008	Fla. Dept. of State	Predominantly freshwater
	0.010	EPA, 1977a EPA, 1976	Domestic water supply
Chromium	0.05	Fla. Dept. of State EPA, 1977a EPA, 1976	Domestic water supply
	0.10	EPA, 1976	Freshwater aquatic life
Coliform, total fecal, membrane filtered (colonies/100 mL)	2400	Fla. Dept. of State	At any time
Copper	0.03	Fla. Dept. of State	Predominantly freshwater
	1	EPA, 1976 EPA, 1977b	Domestic water supply
Dissolved oxygen	5.0	Fla. Dept. of State EPA, 1977b	Freshwater aquatic life; lower limit

Table 18.--State of Florida, Department of Environmental Regulation, recommended constituent limits for Class III waters--Continued

Constituent	Limit, in mg/L, unless otherwise noted	Source	Remarks
Fluoride[1]	1.4	EPA, 1977a	
	10.0	Fla. Dept. of State	
Iron	0.3	EPA, 1976	Domestic water supply
		EPA, 1977b	
	1.0	Fla. Dept. of State	Predominantly freshwater
	1.0	EPA, 1976	Freshwater aquatic life
Lead	0.03	Fla. Adm. Code	Predominantly freshwater
	0.05	EPA, 1975	Domestic water supply
		EPA, 1976b	
Manganese	0.05	EPA, 1976	Domestic water supply
		EPA, 1977b	
Mercury	0.00005	EPA, 1976	Freshwater aquatic life
	0.002	Fla. Dept. of State	Predominantly freshwater
	0.002	EPA, 1977a	Domestic water supply
		EPA, 1976	
Nitrogen, ammonia	0.02	Fla. Dept. of State	Un-ionized, freshwater aquatic life
		EPA, 1976	

[1]The maximum contaminant level for fluoride depends on the annual average maximum daily air temperature which is 80.2°F for Lake City, Florida.

Table 18.--State of Florida, Department of Environmental Regulation, recommended constituent limits for Class III waters--Continued

Constituent	Limit, in mg/L, unless otherwise noted	Source	Remarks
Nitrogen, nitrate	10	EPA, 1977a EPA, 1976	Domestic water supply
pH, units	6-8.5	Fla. Dept. of State	Predominantly freshwater
	5-9	EPA, 1976	Domestic water supply
	6.5-9	EPA, 1976	Freshwater aquatic life
	6.8-8.5	EPA, 1977a	
Specific conductance (micromhos/cm)	500	Fla. Dept. of State	Freshwater
Zinc	0.03	Fla. Dept. of State	Predominantly freshwater

Table 19.--General significance of dissolved mineral constituents and properties of water

[Modified from U.S. Geological Survey, 1978]

Constituent or property	Source or cause	General significance
Alkalinity	Caused primarily by bicarbonate, carbonate, and hydroxide. Other weak acid radicals like borate, phosphate, and silicate may contribute to alkalinity.	Ability of water to neutralize strong acid. High alkalinity itself not detrimental but usually associated with high pH, hardness, and dissolved solids which can be detrimental.
Aluminum (Al)	Usually present only in negligible quantities in natural waters except where the waters have been in contact with the more soluble rocks of high aluminum content. Acid waters often contain large amounts.	May be troublesome in feed waters forming scale on boiler tubes. High concentrations usually indicate the presence of acid mine drainage or industrial waste.
Arsenic (As)	Natural arsenic-bearing minerals. Found in some ground waters, in wastes from industry and mining activity, and residues from some insecticides and herbicides.	The U.S. Environmental Protection Agency, (1977a) gives a limit of 50 ug/L for potable waters. Lethal dose for animals is believed to be about 20 milligrams per animal pound. Small concentrations in drinking water can accumulate in man and other animals until lethal dosage is reached.
Bicarbonate (HCO_3) and Carbonate (CO_3)	Produced by reaction of atmospheric carbon dioxide with water. Dissolved from carbonate rocks such as limestone and dolomite.	Bicarbonate and carbonate produce alkalinity. Bicarbonates of calcium and magnesium decompose in steam boilers and hot water facilities to precipitate as scale and release corrosive carbon dioxide gas. In combination with calcium and magnesium cause carbonate hardness.

Table 19.--General significance of dissolved mineral constituents and properties of water--Continued

Constituent or property	Source or cause	General significance
Cadmium (Cd)	Found in wastes from pigment works, textile printing, lead mines, and chemical industries.	The results of animal studies suggest that very small amounts of cadmium can produce nephrotoxic and cardiovascular effects. The reproductive organs of animals are specifically affected after parenteral administration of very small amounts of cadmium salts. The U.S. Environmental Protection Agency (1977a) states that cadmium in excess of 10 ug/L is cause for rejection of the water supply. Cadmium is also toxic to fish and aquatic life in varying concentrations.
Calcium (Ca) and Magnesium (Mg)	Dissolved from practically all soils and rocks, but especially from limestone, dolomite, and gypsum. Calcium and magnesium are found in large quantities in some brines. Magnesium is present in large quantities in seawater.	Causes most of the hardness and scale-forming properties of water; consumes soap (see hardness). Waters low in calcium and magnesium are desired in electroplating, tanning, dyeing, and in textile manufacturing.
Chloride (Cl)	Dissolved from rocks and soils. Present in sewage and found in large amounts in ancient brines, seawater, and industrial brines.	About 300 mg/L in combination with sodium gives salty taste to water. Increases the corrosiveness of water. The U.S. Environmental Protection Agency (1977b) recommends that the chloride content should not exceed 250 mg/L.

Table 19.--General significance of dissolved mineral constituents and properties of water--Continued

Constituent or property	Source or cause	General significance
Chromium (Cr)	Few if any waters contain chromium from natural sources. Natural waters probably contain only traces of chromium as a cation unless the pH is very low. When chromium is present in water, it is usually the result of pollution by industrial wastes such as metal pickling, plating, manufacturing of paints, dyes, explosives, ceramics, paper, glass, and photography processing.	The U.S. Environmental Protection Agency (1977a) limits the maximum concentration of hexavalent chromium to 50 ug/L. Toxicity to aquatic life varies widely with the species, temperature, pH, and other factors.
Cobalt (Co)	Cobalt occurs in nature in the mineral smaltite $(Co,Ni)As_2$, and cobaltite, CoAsS. Alluvial deposits and soils derived from shales often contain cobalt in the form of phosphate or sulfate, but other soil types may be markedly deficient in cobalt in any form. Biological activity may aid in the solution of small amounts of cobalt. May also be present in industrial wastes especially those from manufacture of ceramics, inks, electric heating units, and cobalt pigments.	Usually suggests pollution. Relatively low toxicity to man. Fish and aquatic life tolerance varies widely from less than 3 mg/L to more than 10 mg/L. Essential in trace quantities for plant growth.

Table 19.--General significance of dissolved mineral constituents and properties of water--Continued

Constituent or property	Source or cause	General significance
Color	Yellow-to-brown color of some water is usually caused by organic matter extracted from leaves, roots, and other organic substances. Objectionable color in water also results from industrial wastes and sewage.	Water for domestic and some industrial uses should be free from perceptible color. The U.S. Environmental Protection Agency (1977b) proposes a limit of 15 Pt-Co units. Color in water is objectionable in food and beverage processing and many manufacturing processes. Limits light penetration in water, thus preventing growth of some organisms.
Copper (Cu)	Copper is a fairly common trace constituent of natural water. Small amounts may be introduced into water by solution of copper and brass water pipes and other copper-bearing equipment in contact with the water or from copper salts added to control algae in open reservoirs. Copper salts such as the sulfate and chloride are highly soluble in waters with a low pH but in water of normal alkalinity the salts hydrolyze and copper may be precipitated. In the normal pH range of natural water containing carbon dioxide, the copper might be precipitated as carbonate.	Copper imparts a disagreeable metallic taste to water. As little as 1.5 mg/L can usually be detected, and 5 mg/L can render the water unpalatable. Copper is not considered to be a cumulative systemic poison like lead and mercury; most copper ingested is excreted by the body and very little is retained. The pathological effects of copper are controversial, but it is generally believed very unlikely that humans could unknowingly ingest the toxic quantities from palatable drinking water. The U.S. Environmental Protection Agency (1977b) recommends that copper should not exceed 1,000 ug/L in drinking and culinary water. Copper is essential in trace amounts for plant growth but becomes toxic in large amounts.

Table 19.--General significance of dissolved mineral constituents and properties of water--Continued

Constituent or property	Source or cause	General significance
Dissolved Oxygen (DO)	Dissolved in water from air and from oxygen given off in the process of photosynthesis by aquatic plants.	Dissolved oxygen increases the palatability of water. The amount necessary to support fish life varies with species and age, with temperature, and concentration of other constituents in the water. Under average stream conditions, 5 mg/L is usually necessary to maintain a varied fish fauna in good condition. For many industrial uses, zero dissolved oxygen is desirable to inhibit corrosion.
Dissolved solids	Chiefly mineral constituents dissolved from weathering of rocks and soils.	The U.S. Environmental Protection Agency (1977b) recommends that the dissolved solids should not exceed 500 mg/L, however, 1,000 mg/L is permitted under certain circumstances. Waters containing more than 1,000 mg/L of dissolved solids are unsuitable for many purposes. The Geological Survey classifies the degree of salinity of these more mineralized bodies of water as follows (U.S. Geological Survey, 1978): Dissolved solids (mg/L): less than 1,000, nonsaline; 1,000 to 3,000, slightly saline; 3,000 to 10,000, moderately saline; 10,000 to 35,000, very saline.

Table 19.--General significance of dissolved mineral constituents and properties of water--Continued

Constituent or property	Source or cause	General significance
Fluoride (F)	Dissolved in small to minute quantities from most rocks and soils. Enters many waters from fluoridation of municipal supplies.	Fluoride in drinking water reduces the incidence of tooth decay when the water is consumed during the period of enamel calcification. However, it may cause mottling of the teeth depending on the concentration of fluoride, the age of the child, amount of drinking water consumed, and susceptibility of the individual (Maier, 1950).
Hardness (as $CaCO_3$)	In most waters, nearly all the hardness is due to calcium and magnesium. All of the metallic cations other than the alkali metals also cause hardness.	Consumes soap before a lather will form. Deposits soap curd on bathtubs. Hard water forms scale in boilers, water heaters, and pipes. Hardness equivalent to the bicarbonate and carbonate is called carbonate hardness. Any hardness in excess of this is called non-carbonate hardness. Waters of hardness up to 60 mg/L are considered soft; 61 to 120 mg/L, moderately hard; 121 to 200 mg/L, hard; more than 200 mg/L, very hard.

Table 19.--General significance of dissolved mineral constituents and properties of water--Continued

Constituent or property	Source or cause	General significance
Iron (Fe)	Iron is dissolved from many rocks and soils. On exposure to air, normal basic waters that contain more than 1 mg/L of iron soon become turbid with the insoluble reddish ferric compounds produced by oxidation. Surface waters, therefore, seldom contain as much as 1 mg/L of dissolved iron, although some acid waters carry large quantities of iron in solution.	The U.S. Environmental Protection Agency (1977b) recommends a limit of 300 ug/L. On exposure to air, iron in ground water oxidizes to reddish-brown sediment. More than about 300 ug/L may stain laundry and utensils reddish-brown. Objectionable for food processing, textile processing, beverages, ice manufacture, brewing and other processes. USPHS drinking water standards state that for esthetic reasons iron and manganese should not exceed 300 ug/L. Larger quantities cause unpleasant taste and favor growth of iron bacteria.
Lead (Pb)	Lead seldom occurs in most natural waters, but industrial mine and smelter effluents may contain relatively large amounts of lead which contaminate the streams. Also, atmospheric contamination which is produced from several types of engine exhausts has considerably increased the availability of this element for solution in rainfall, resulting in contamination of lead in streams (Hem, 1970).	The U.S. Environmental Protection Agency (1977a) states that lead shall not exceed 50 ug/L in drinking and culinary water on carriers subject to Federal quarantine regulations. Maximum safe concentrations for animal watering is reported to be 500 ug/L. Toxicity of lead to fish decreases with increasing water hardness.

Table 19.--General significance of dissolved mineral constituents and properties of water--Continued

Constituent or property	Source or cause	General significance
Manganese (Mn)	Dissolved from some rocks and soils. Not as common as iron. Large quantities often associated with high iron content and with acid waters.	Same objectionable features as iron. Causes dark brown or black stain. The U.S. Environmental Protection Agency (1977b) proposes that manganese should not exceed 0.3 mg/L.
Nickel (Ni)	Chiefly from metal-plating works, manufacturing of ceramic colors, and inks.	Presence of nickel in water may suggest pollution. Federal drinking water standards do not place a limit on nickel. In the Soviet Union the maximum permissible concentration is 1.0 mg/L (Kirkor, 1951).
Ammonia Nitrogen (N)	Includes nitrogen in the form of NH_3 and NH_4+. Found in many waters but usually only in trace amounts. Waters from hot springs may contain high concentrations. Found also in waters polluted with sewage and other organic waste.	Usually indicates organic pollution. Toxicity to fish is dependent on the pH of the water; 2.5 mg/L ammonia nitrogen can be harmful in the 7.4 to 8.5 pH range (Ellis and others, 1946). Ammonium salts are destructive to concrete made from portland cement.

Table 19.--General significance of dissolved mineral constituents and properties of water--Continued

Constituent or property	Source or cause	General significance
Nitrate Nitrogen (N)	Decaying organic matter, sewage, fertilizers, and nitrates in soil.	Concentrations much greater than the local average may suggest pollution. The U.S. Environmental Protection Agency (1975) has established a 10 mg/L maximum contamination level for Nitrate Nitrogen. There is evidence that more than about 10 mg/L of nitrate (N) may cause a type of methemoglobinemia in infants, sometimes fatal. Water of high nitrate content should not be used in baby feeding (Maxcy, 1950). Nitrate has shown to be helpful in reducing intercrystalline cracking of boiler steel. It encourages growth of algae and other organisms which produce undesirable tastes and odors.
Nitrite Nitrogen (N)	Unstable in the presence of oxygen and is present in only small amounts in most waters. Found in sewage and other organic wastes.	Presence of nitrite is usually an indication of recent organic pollution. Undesirable in waters for some dyeing and brewing processes.
Total Kjeldahl Nitrogen (N)	Includes ammonia nitrogen and organic nitrogen.	See organic and ammonia nitrogen.
Total Nitrogen (N)	All forms of nitrogen--inorganic and organic.	See ammonia nitrogen, nitrite, nitrate, and organic.

Table 19.--General significance of dissolved mineral constituents and properties of water--Continued

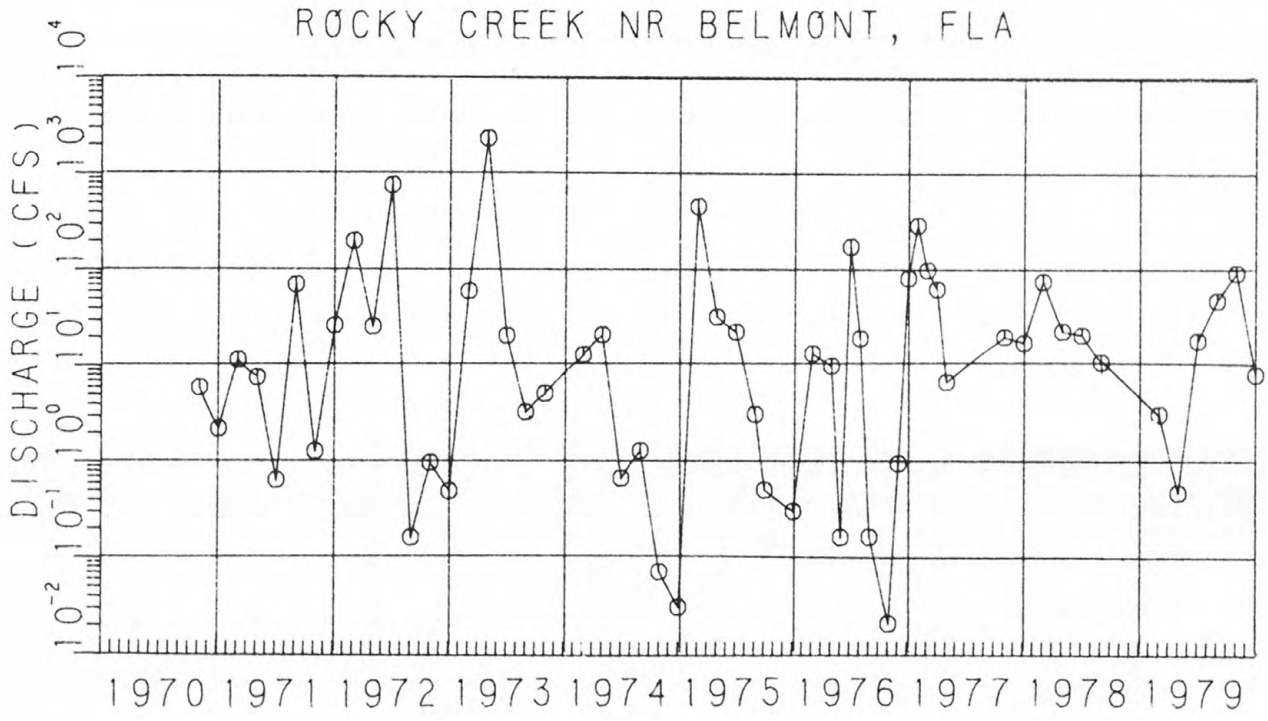
Constituent or property	Source or cause	General significance
Hydrogen ion concentration and pH	Hydrogen ions derived from ionization of weak and strong acids. Hydrogen ion concentration is expressed in terms of pH where pH = log (H+). Acid generating salts and dissolved gases such as SO_2 and CO_2 increase the number of hydrogen ions. Carbonates, bicarbonates, hydroxides, phosphates, silicates, and borates reduce the number of hydrogen ions.	pH ranges between 0 and 14. A pH of 7.0 indicates solution having equal numbers of hydrogen and hydroxide ions. pH higher than 7.0 denotes predominance of hydroxide ions; values lower than 7.0 indicate predominance of hydrogen ions. Corrosiveness of water generally increases with decreasing pH. However, excessively alkaline waters may also attack metals. A pH range of 6.5-8.5 is recommended by the U.S. Environmental Protection Agency (1977b).
Strontium (Sr)	Dissolved from rocks and soils. Found in seawater and many brines. Present in waters of local areas where strontium minerals such as celestite and strontianite are present.	Naturally occurring strontium is similar chemically to calcium and only adds to the hardness of water. Radioactive isotopes of strontium, as from nuclear bomb fallout, can be harmful. These isotopes can be detected by radiometric measurements.
Sulfate (SO_4)	Dissolved from rocks and soils containing gypsum, iron sulfides, and other sulfur compounds. Usually present in mine waters and in some industrial waters.	Sulfate in water containing calcium forms hard scale in steam boilers. In large amounts, sulfate in combination with other ions gives bitter taste to water. Some calcium sulfate is considered beneficial in the brewing process. The U.S. Environmental Protection Agency (1977b) recommends that the sulfate content should not exceed 250 mg/L.

Table 19.--General significance of dissolved mineral constituents and properties of water--Continued

Constituent or property	Source or cause	General significance
Temperature	Solar energy, thermal pollution from waste outfalls and heat from earth's core.	Affects usefulness of water for many purposes. For most uses, a water of uniformly low temperature is desired. Shallow wells show some seasonal fluctuations in water temperature. Ground waters from moderate depths usually are nearly constant in temperature, which is near the mean annual air temperature of the area. In very deep wells, the water temperature generally increases on the average about 1°C with each 100-foot increment of depth. Seasonal fluctuations in temperatures of surface waters are comparatively large, depending on the depth of water, but do not reach the extremes of air temperature.
Turbidity	Colloidal suspensions of sediment, precipitates, and other small particles.	The U.S. Environmental Protection Agency (1977a) has established a maximum contaminant level as a monthly average of one nephelometric turbidity unit (NTU) [or 5 turbidity units (NTU) with state approval, provided it does not interfere with disinfection, maintenance of chlorine residual, or bacteriological testing]. Interferes with light penetration and limits growth of organisms. Also directly lethal to some life forms.

Table 19.--General significance of dissolved mineral constituents and properties of water--Continued

Constituent or property	Source or cause	General significance
Zinc (Zn)	Dissolved from some rocks and soils. Found in high concentrations in some mine waters having a low pH. Zinc is used in many commercial products and industrial wastes may contain large amounts. May be derived from zinc plated or galvanized metal products.	Small amounts are toxic to aquatic plants and animals. Zinc may have such a toxic action on purifying bacterial flora of streams as to present serious sewage pollution problems. The U.S. Environmental Protection Agency (1977b) recommends that zinc should not exceed 5,000 ug/L (5 mg/L).



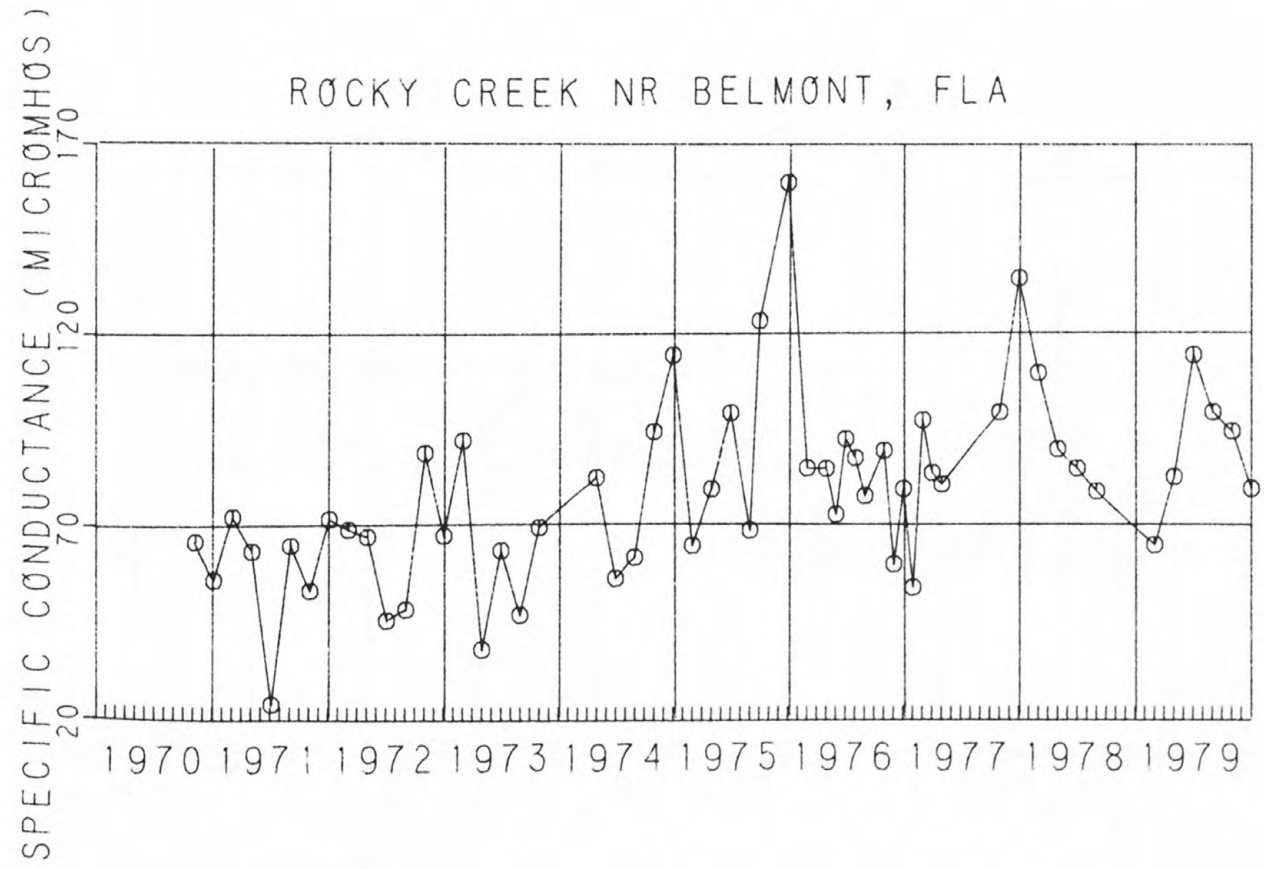
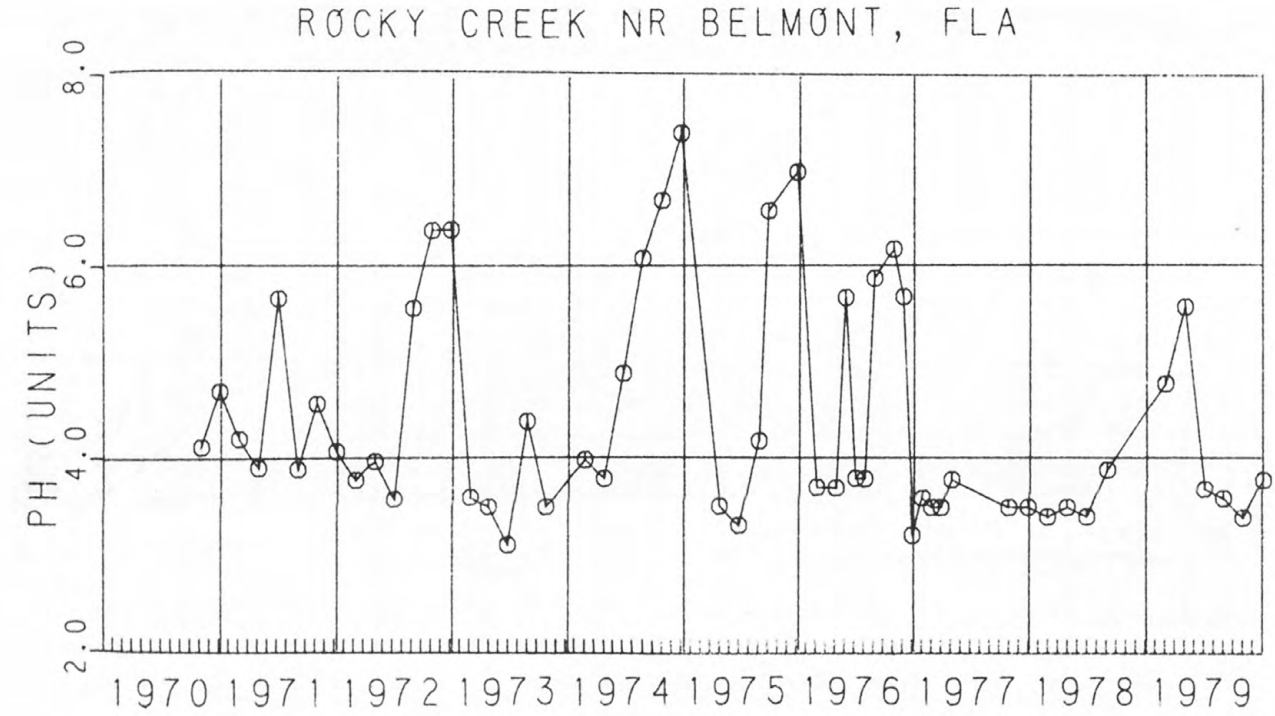


Figure 2.--Discharge and conductance for Rocky Creek near Belmont, 1970-79.



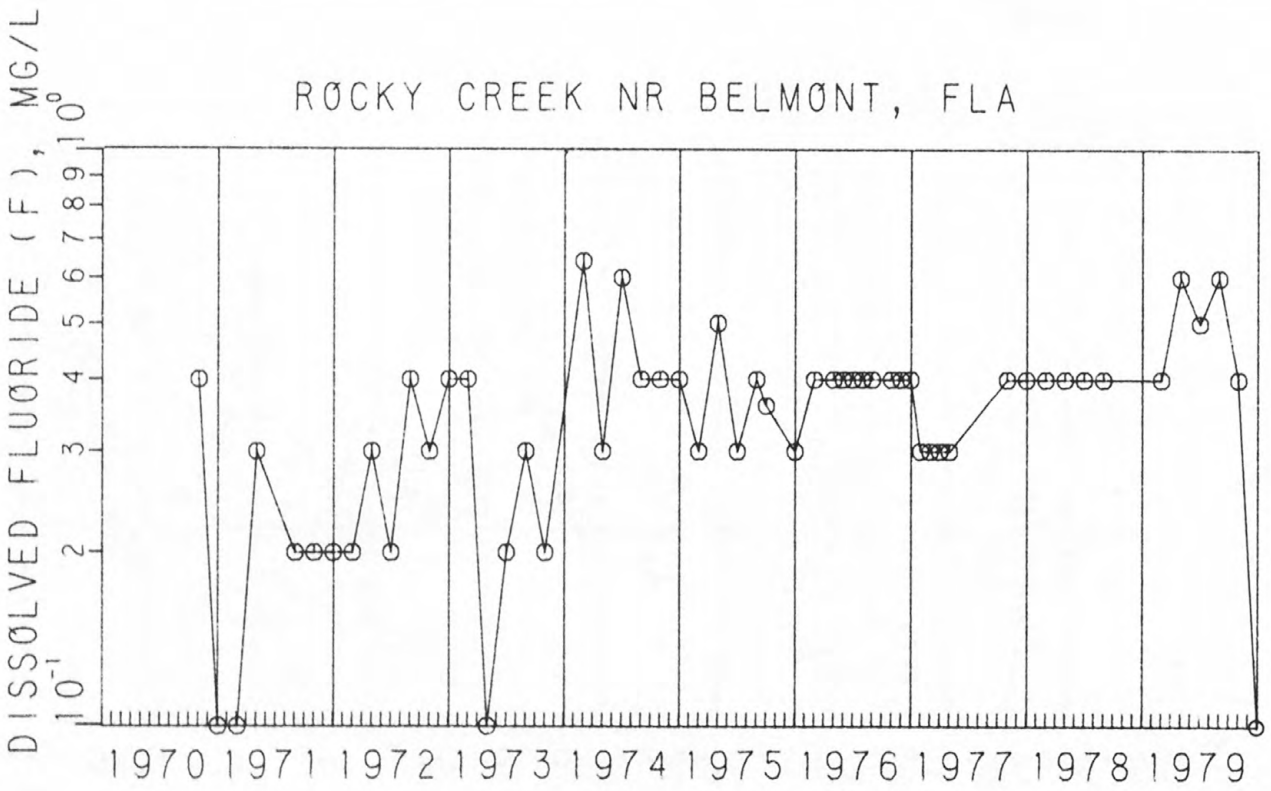


Figure 3.--pH and dissolved fluoride for Rocky Creek near Belmont, 1970-79.

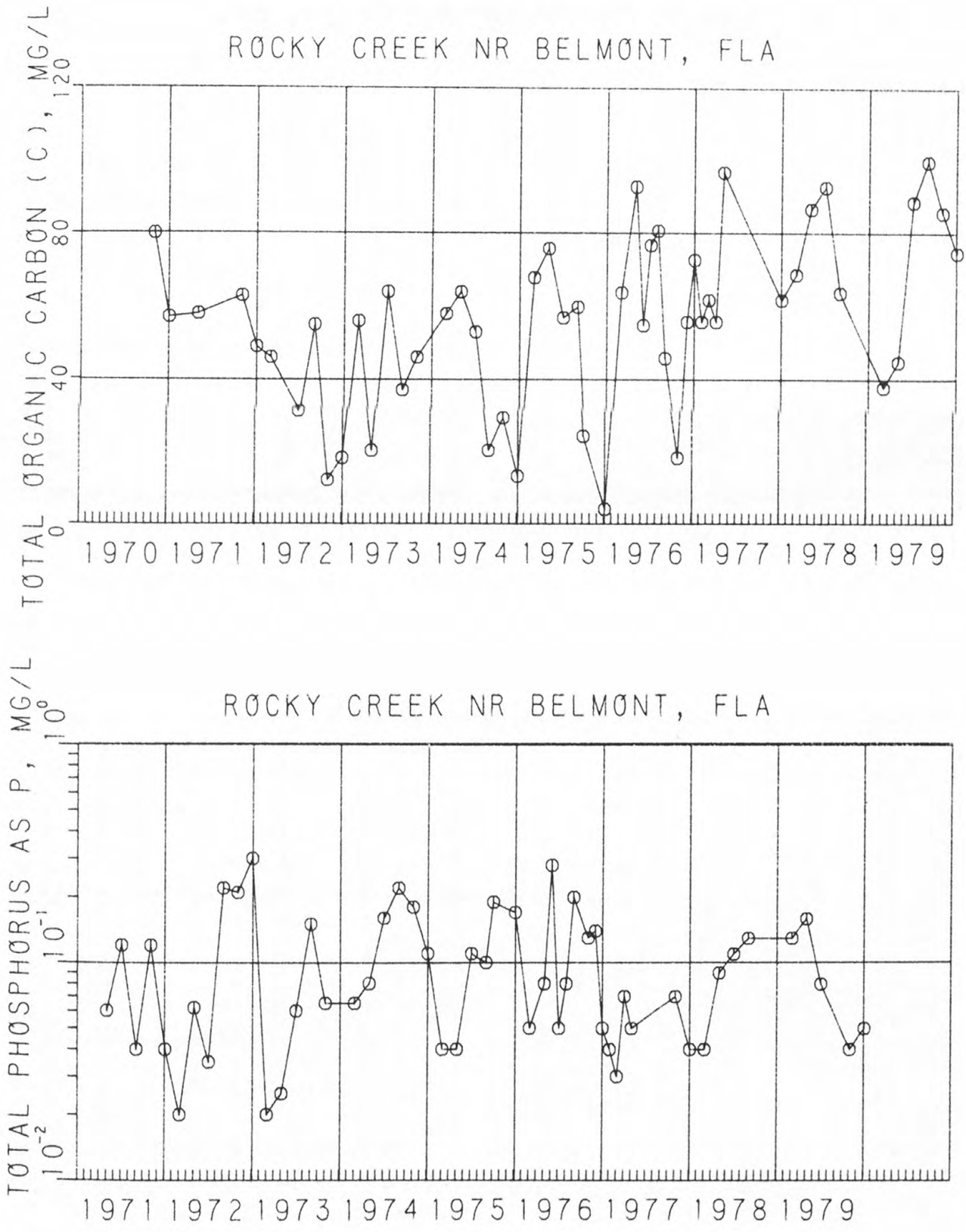
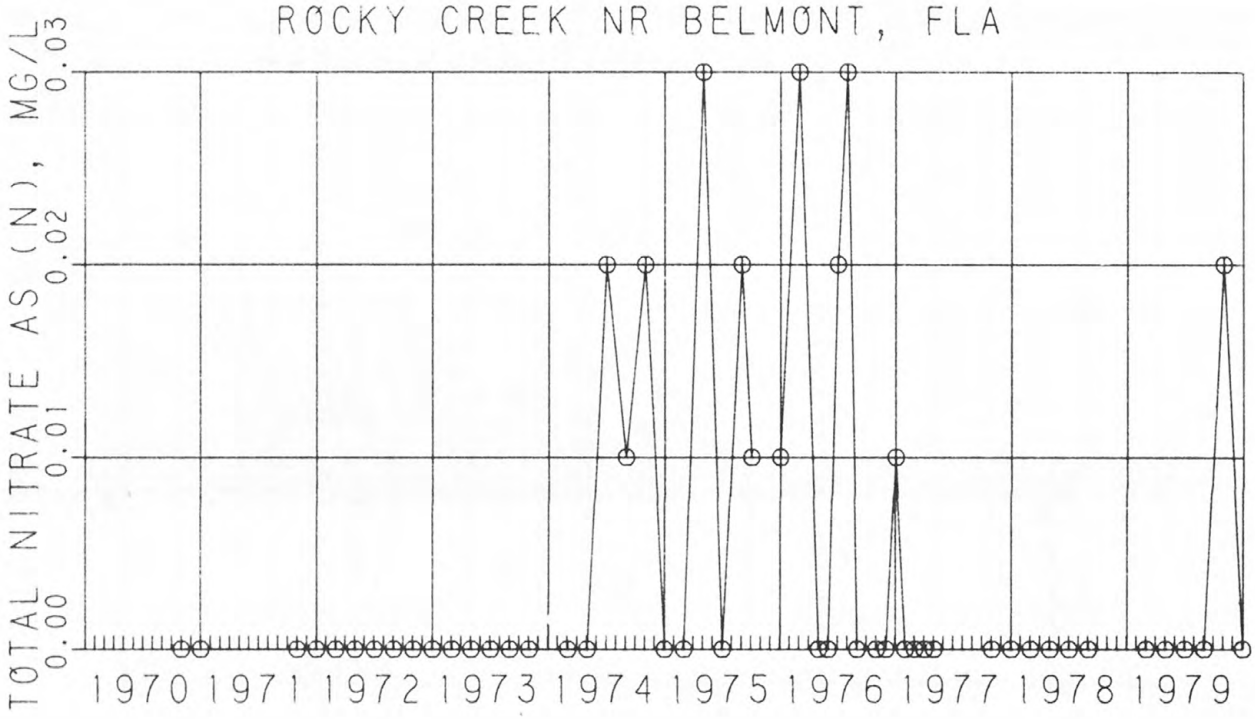


Figure 4.--Total organic carbon and total phosphorus for Rocky Creek near Belmont, 1970-79.



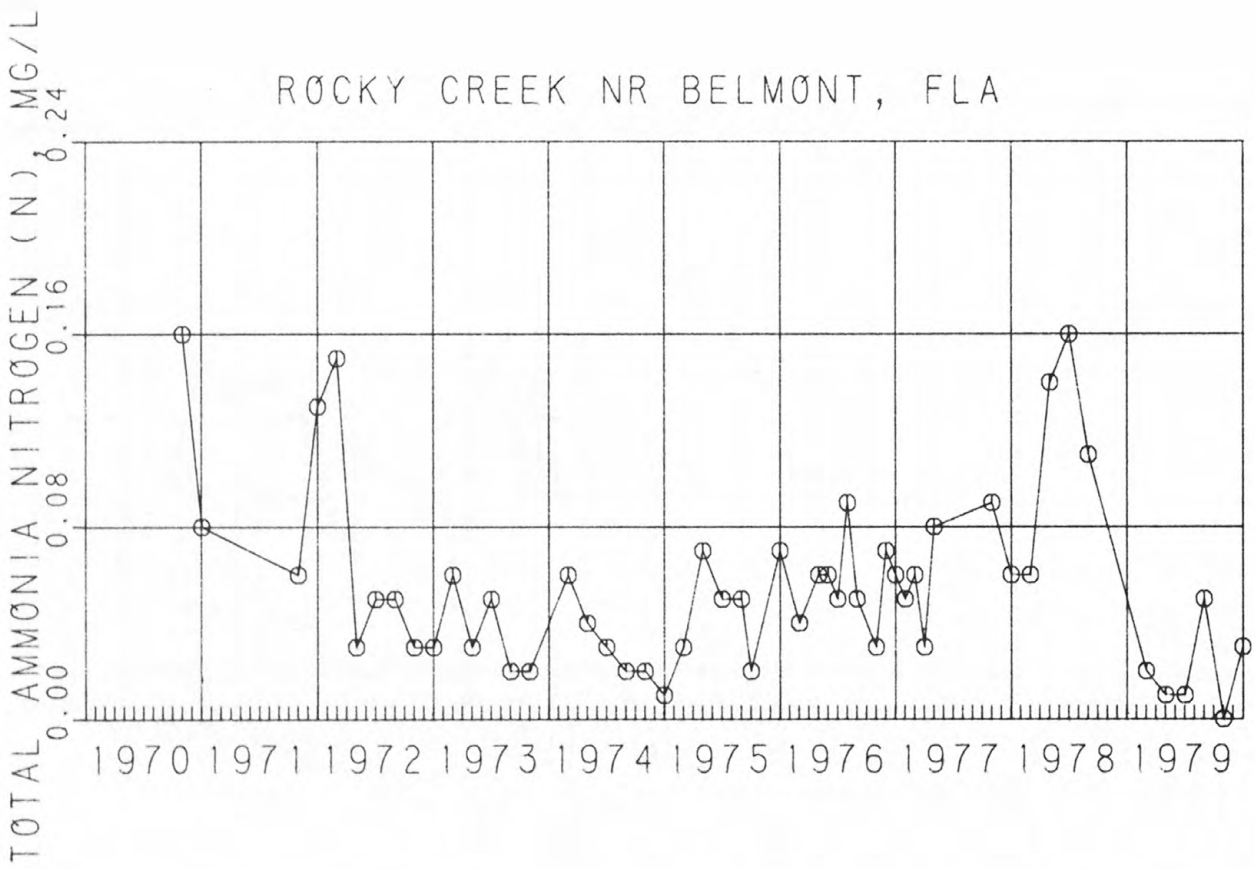
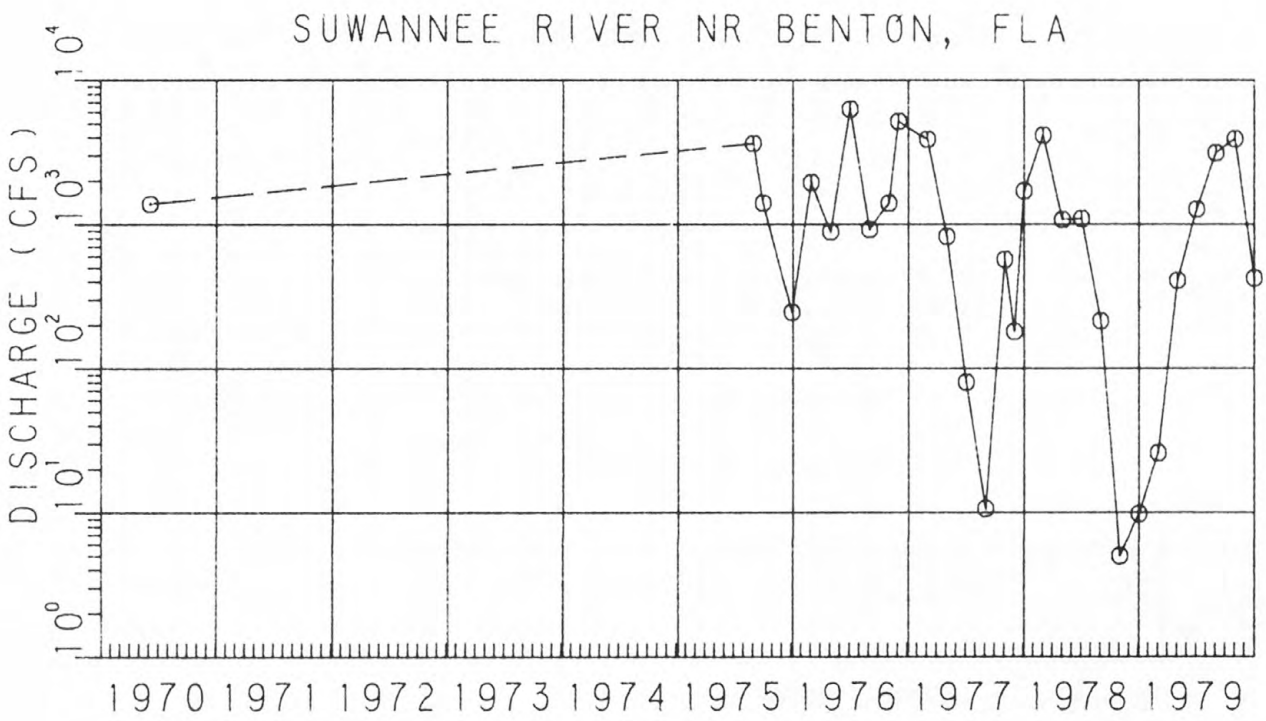


Figure 5.--Total nitrate and total ammonia nitrogen for Rocky Creek near Belmont, 1970-79.



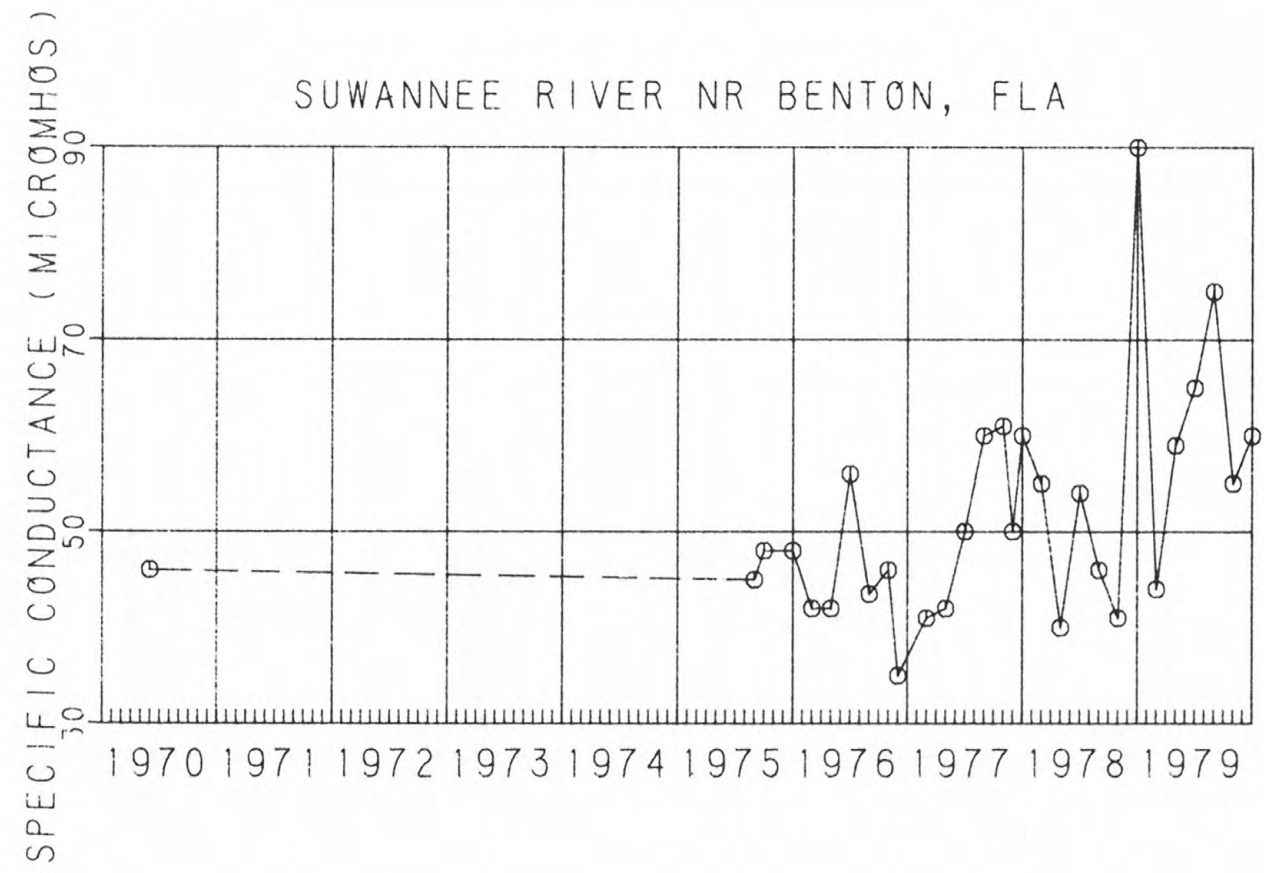


Figure 6.--Discharge and conductance for Suwannee River near Benton, 1970-79.

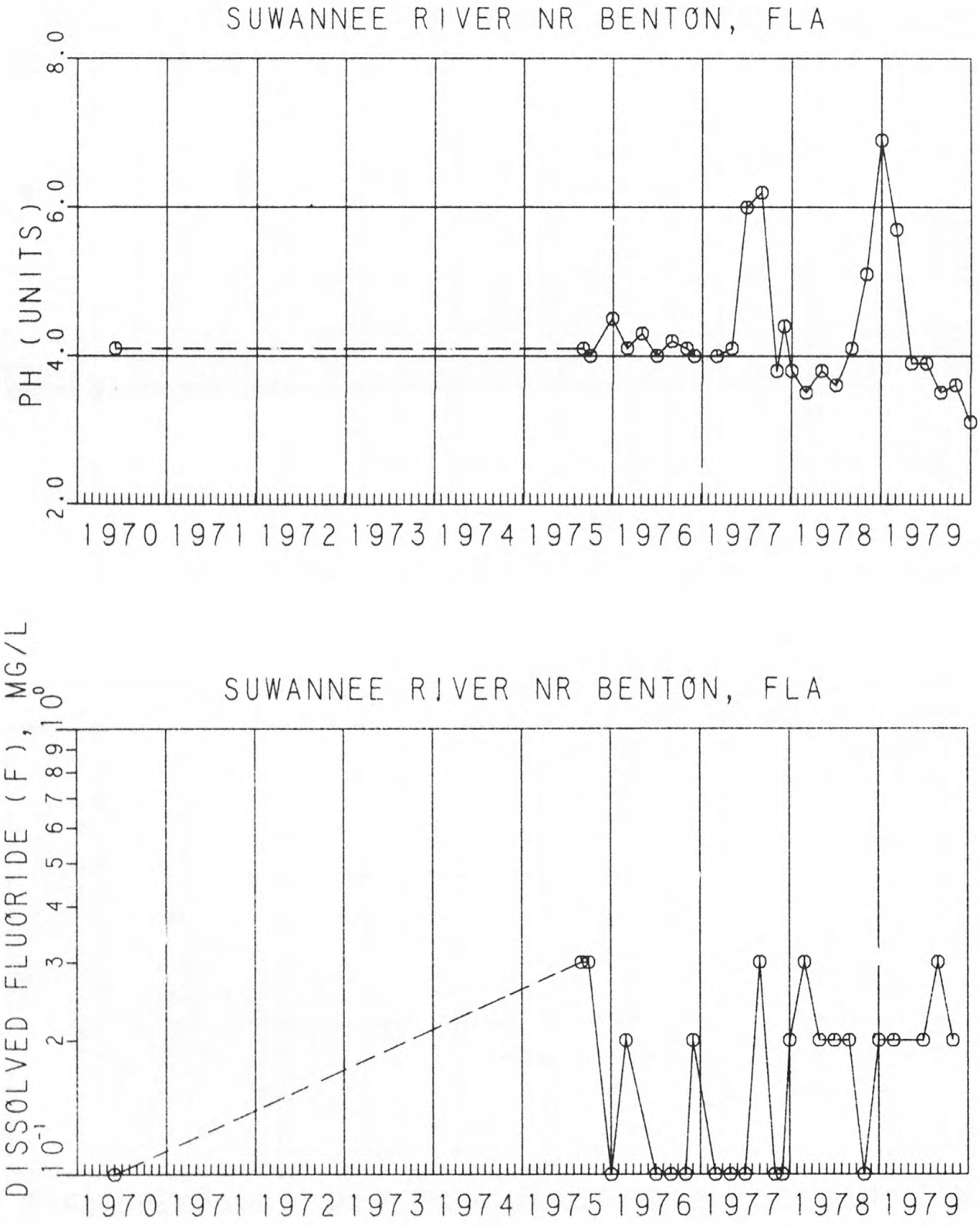


Figure 7.--pH and dissolved fluoride for Suwannee River near Benton, 1970-79.

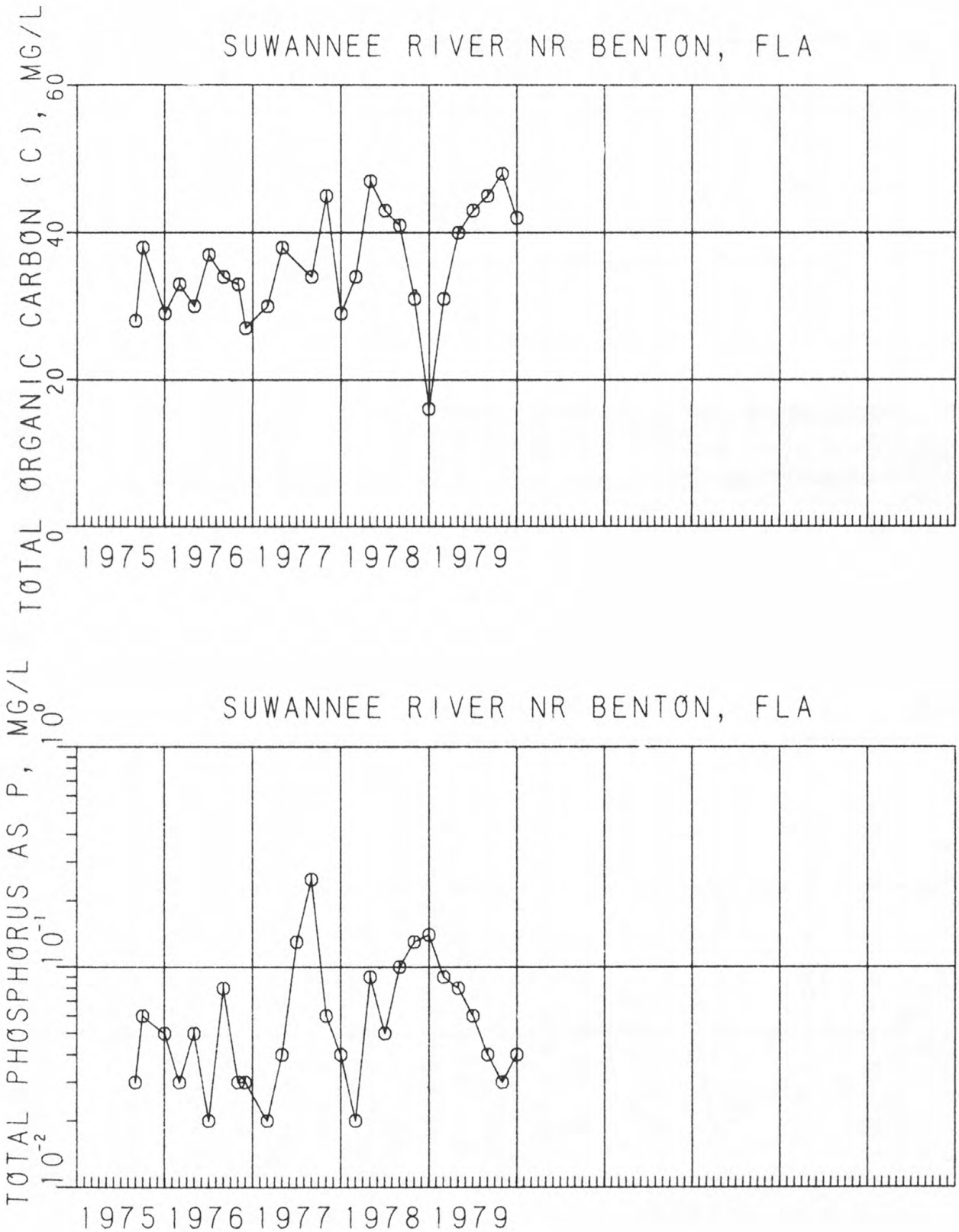
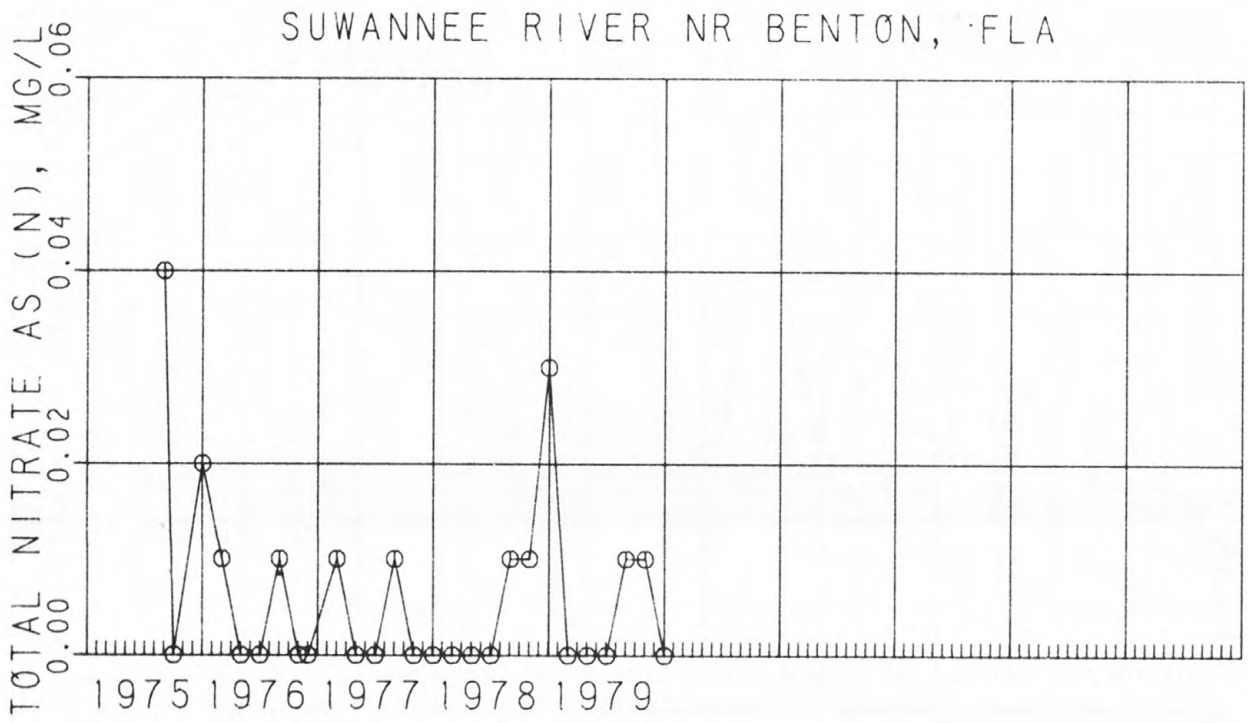


Figure 8.--Total organic carbon and total phosphorus for Suwannee River near Benton, 1975-79.



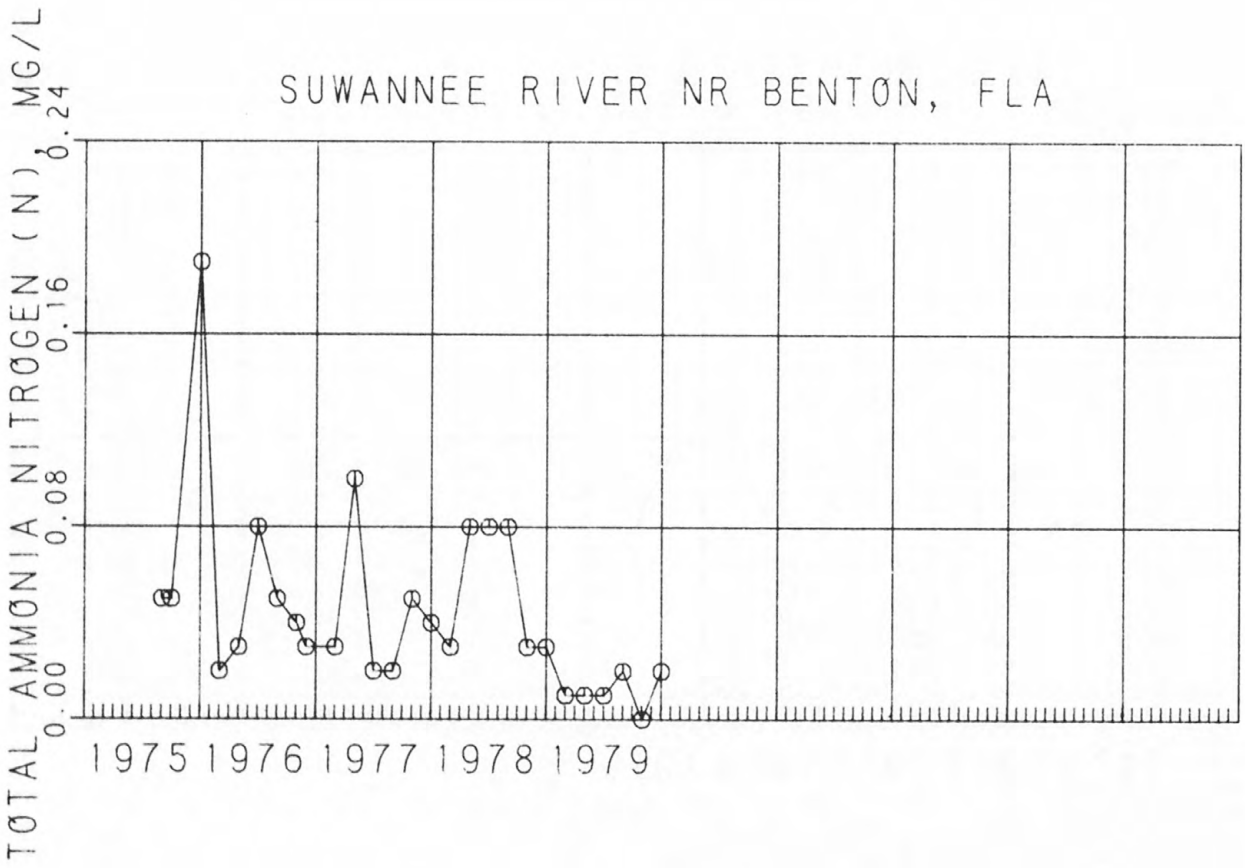


Figure 9.--Total nitrate and total ammonia nitrogen for Suwannee River near Benton, 1975-79.

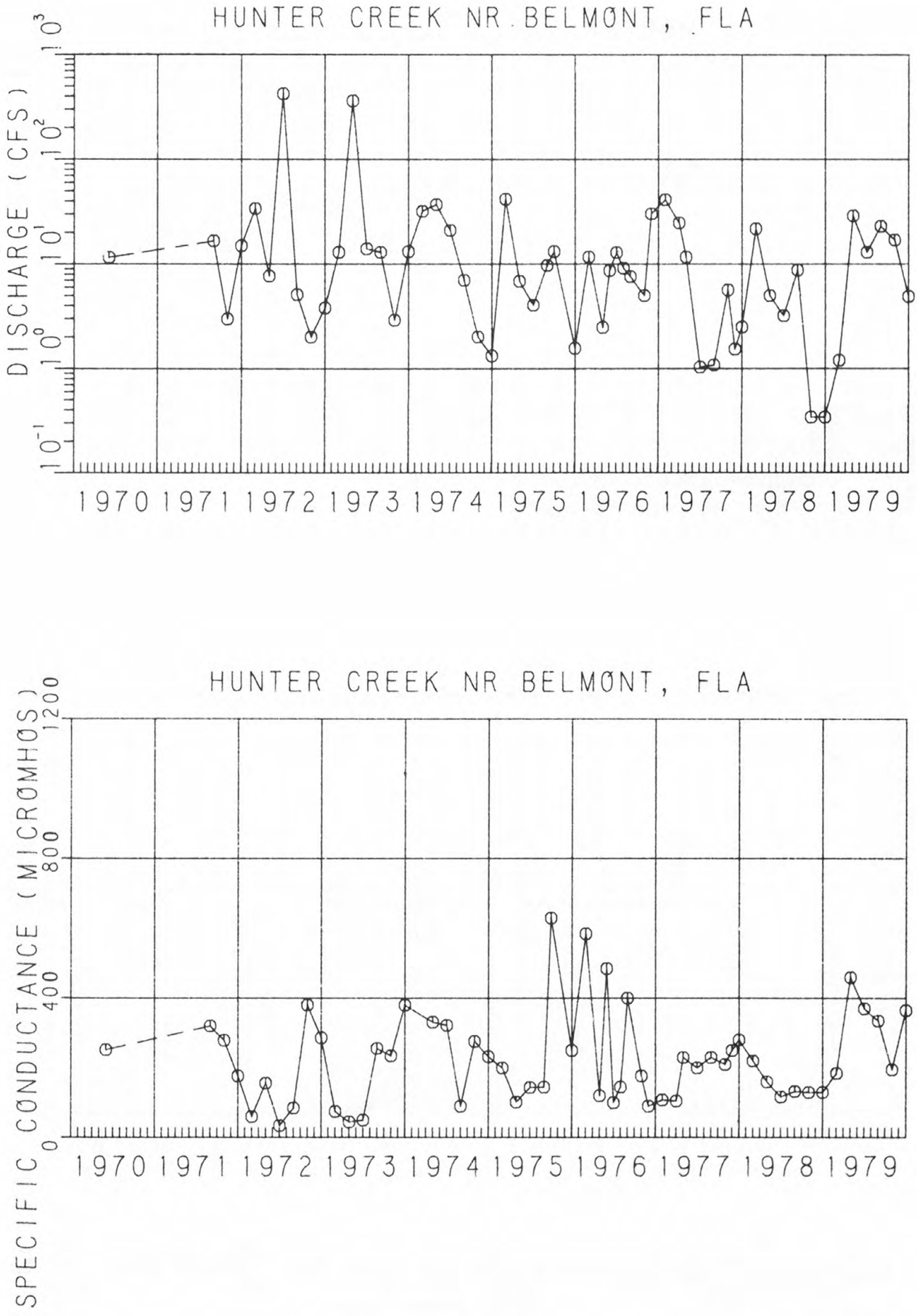
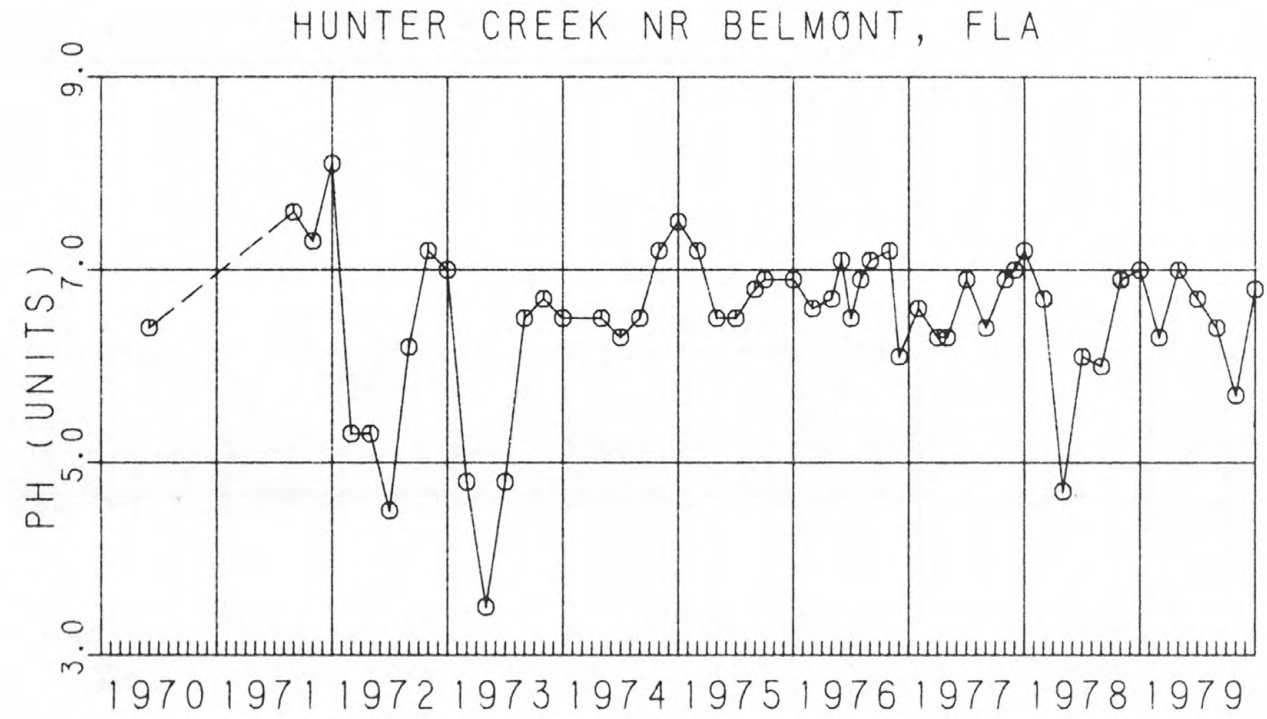


Figure 10.--Discharge and conductance for Hunter Creek near Belmont, 1970-79.



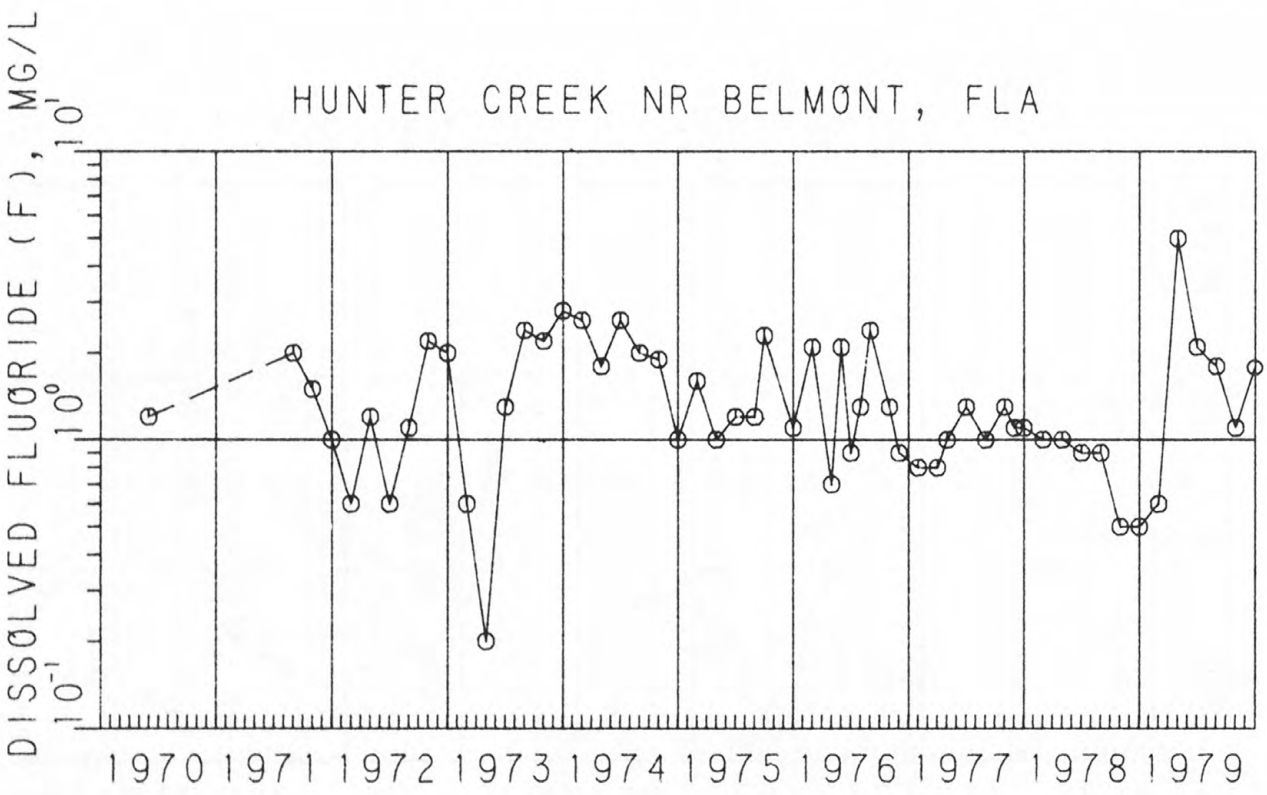


Figure 11.--pH and dissolved fluoride for Hunter Creek near Belmont, 1970-79.

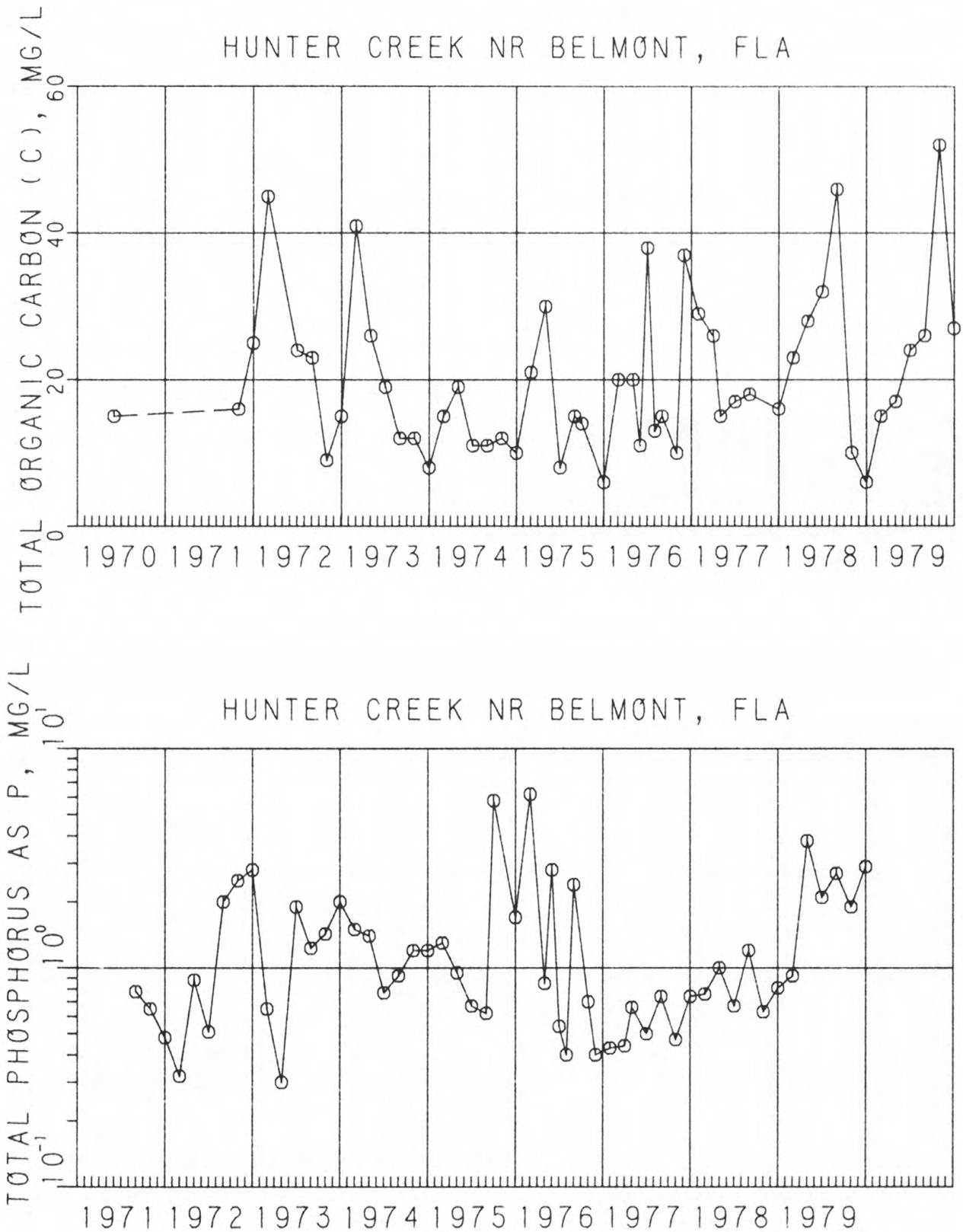


Figure 12.--Total organic carbon and total phosphorus for Hunter Creek near Belmont, 1970-79.

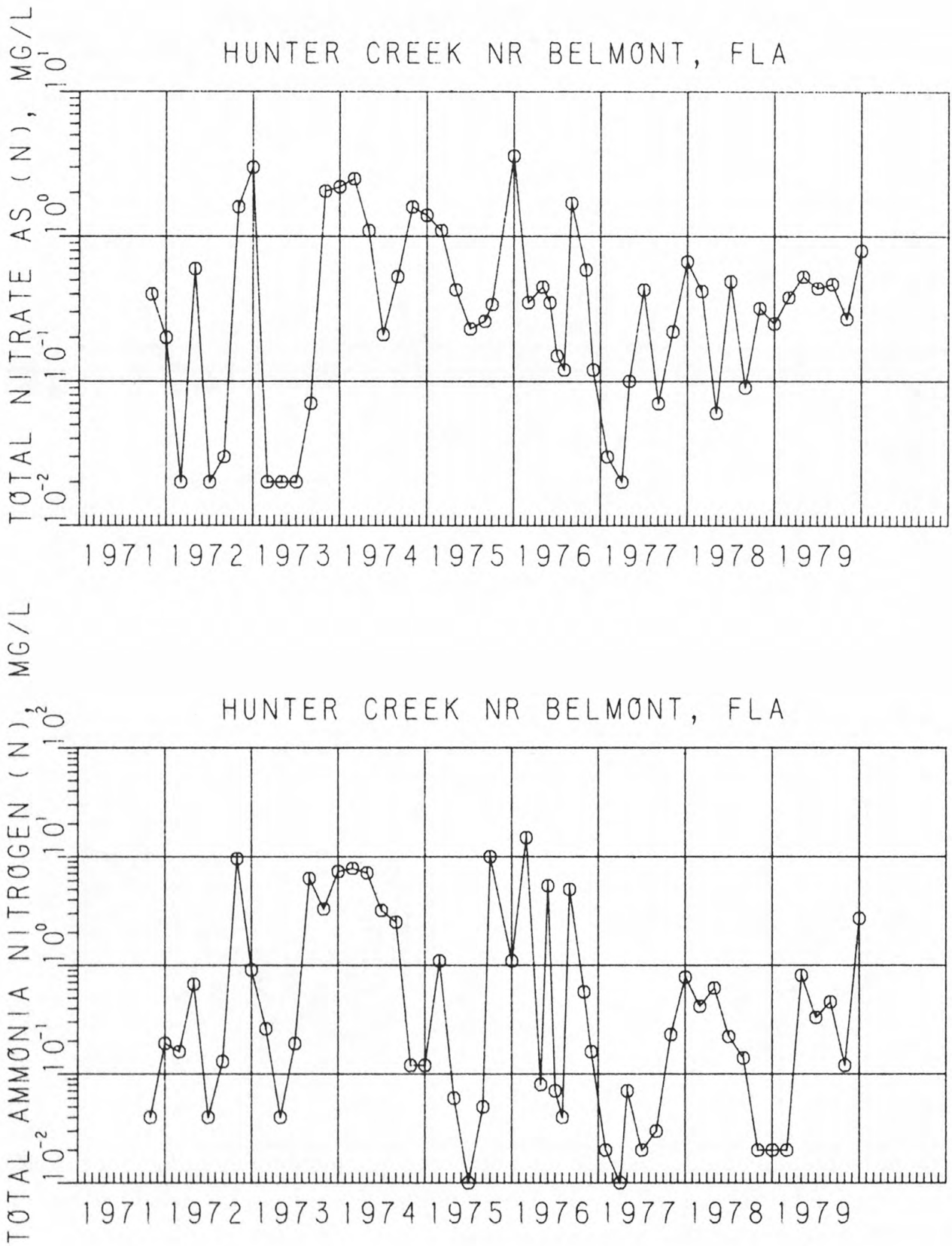
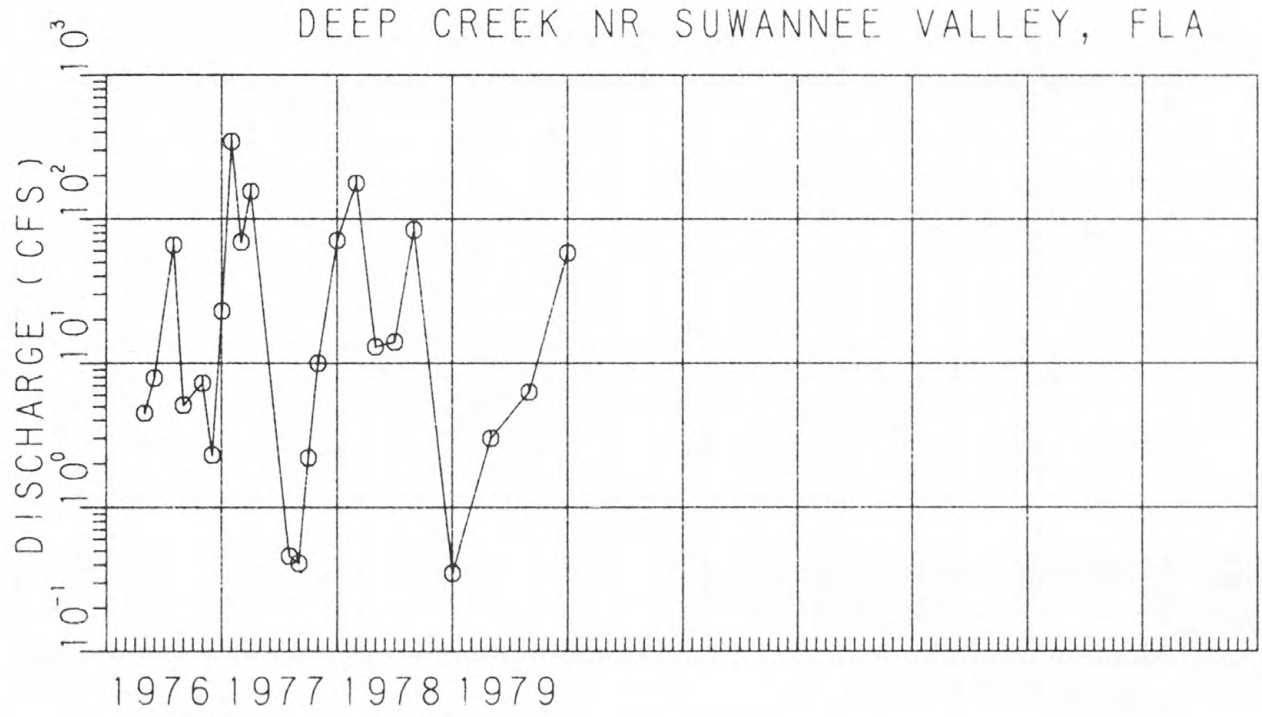


Figure 13.--Total nitrate and total ammonia nitrogen for Hunter Creek near Belmont, 1971-79.



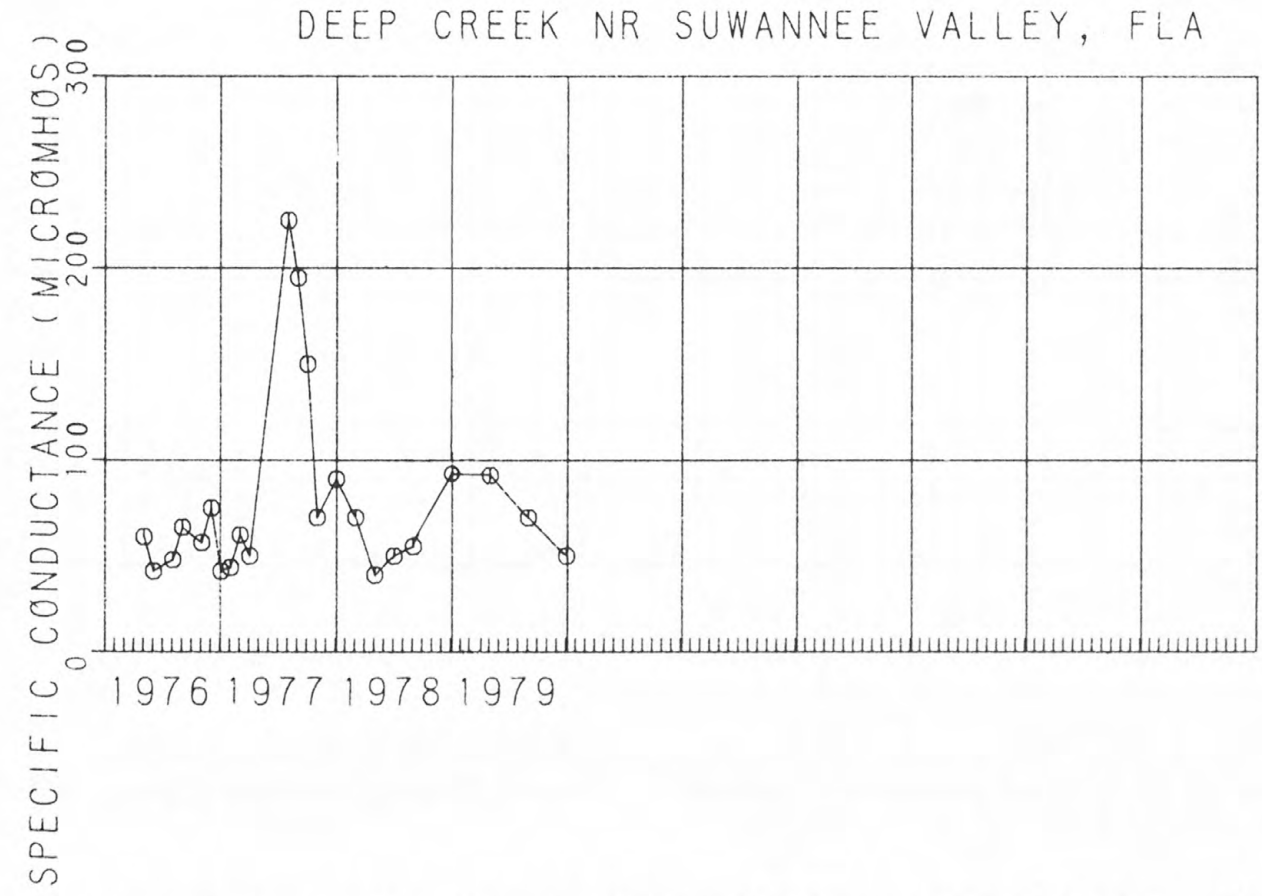
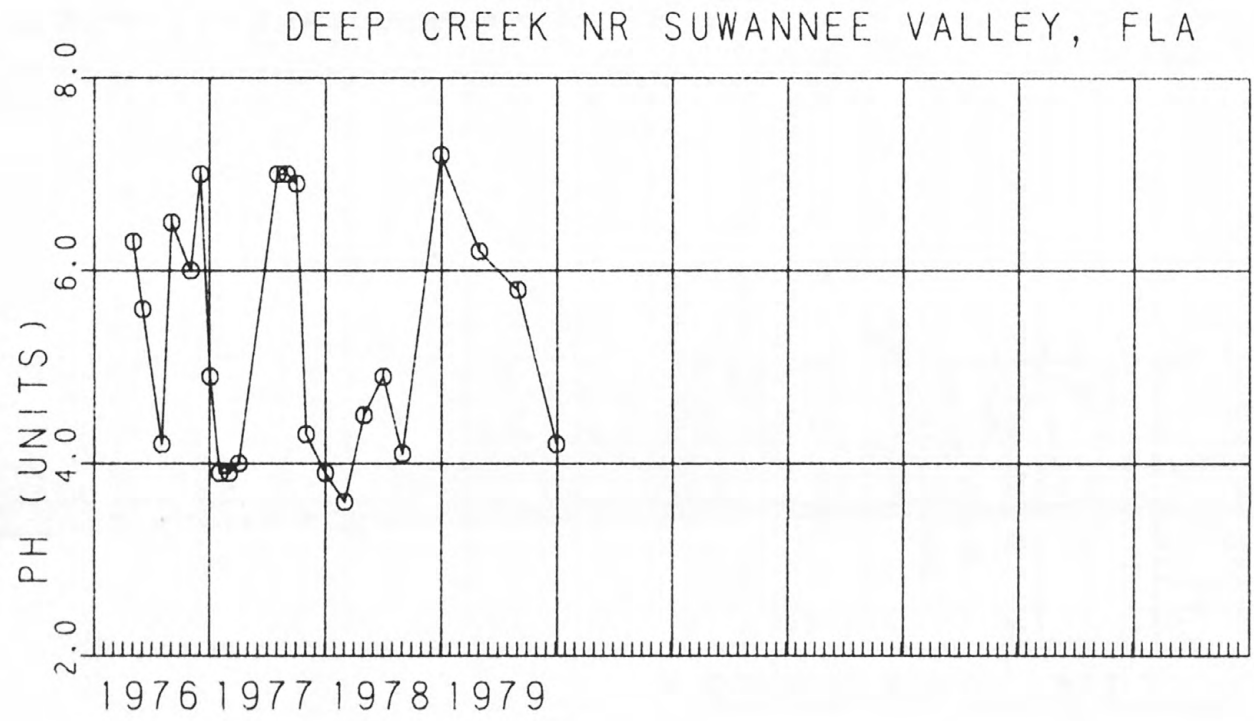


Figure 14.--Discharge and conductance for Deep Creek near Suwannee Valley, 1976-79.



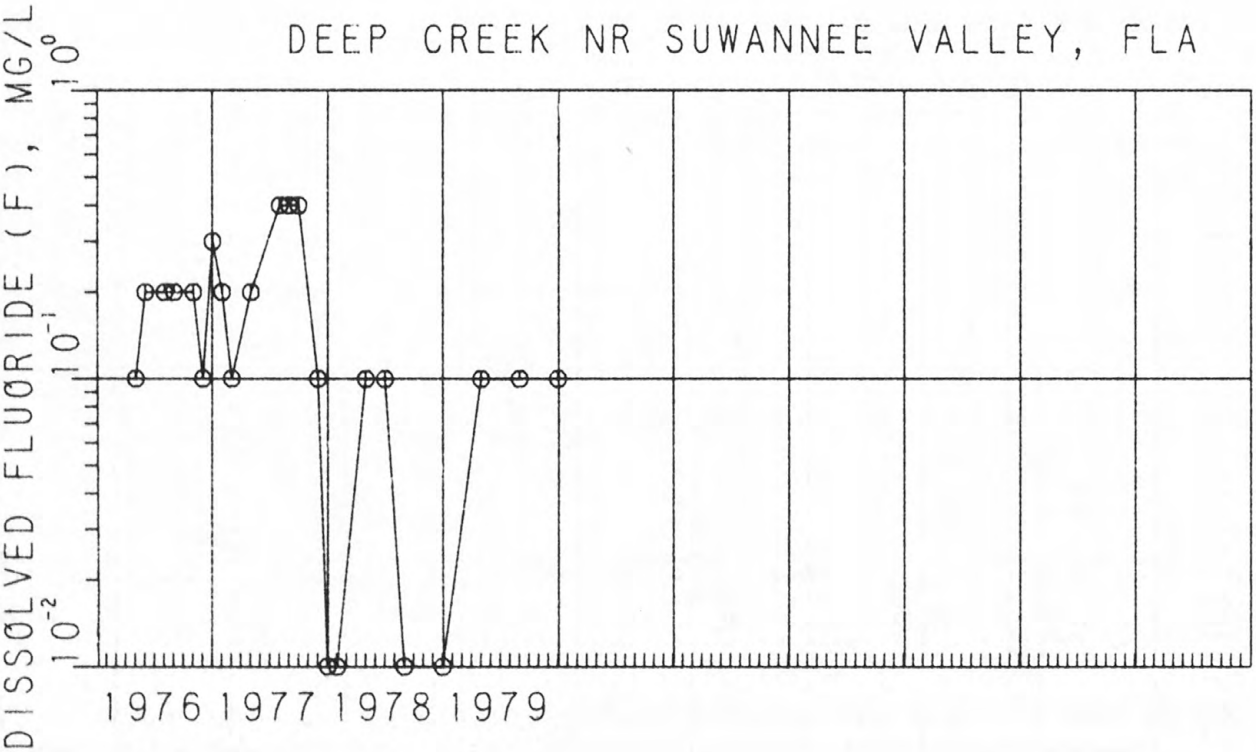
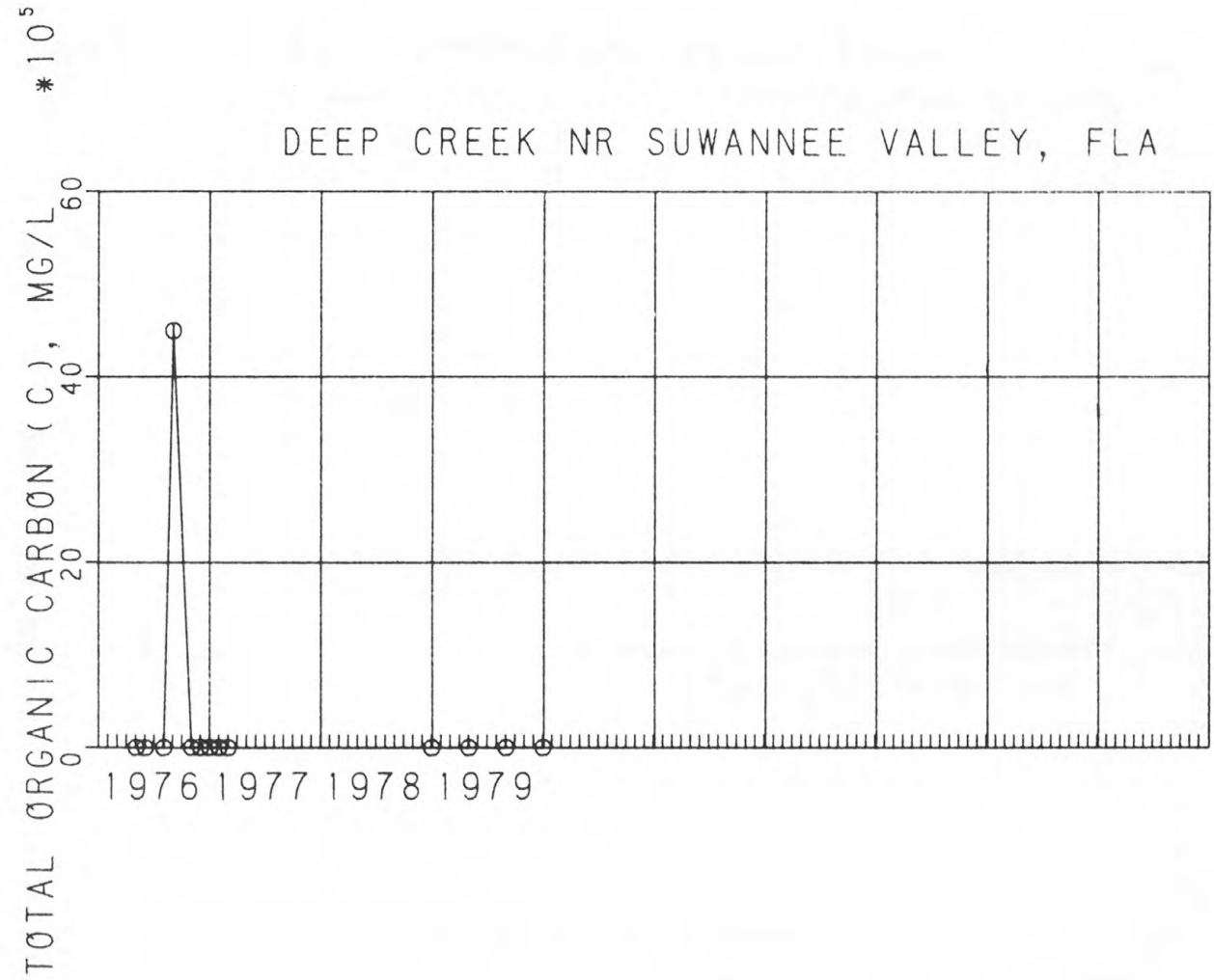


Figure 15.--pH and dissolved fluoride for Deep Creek near Suwannee Valley, 1976-79.



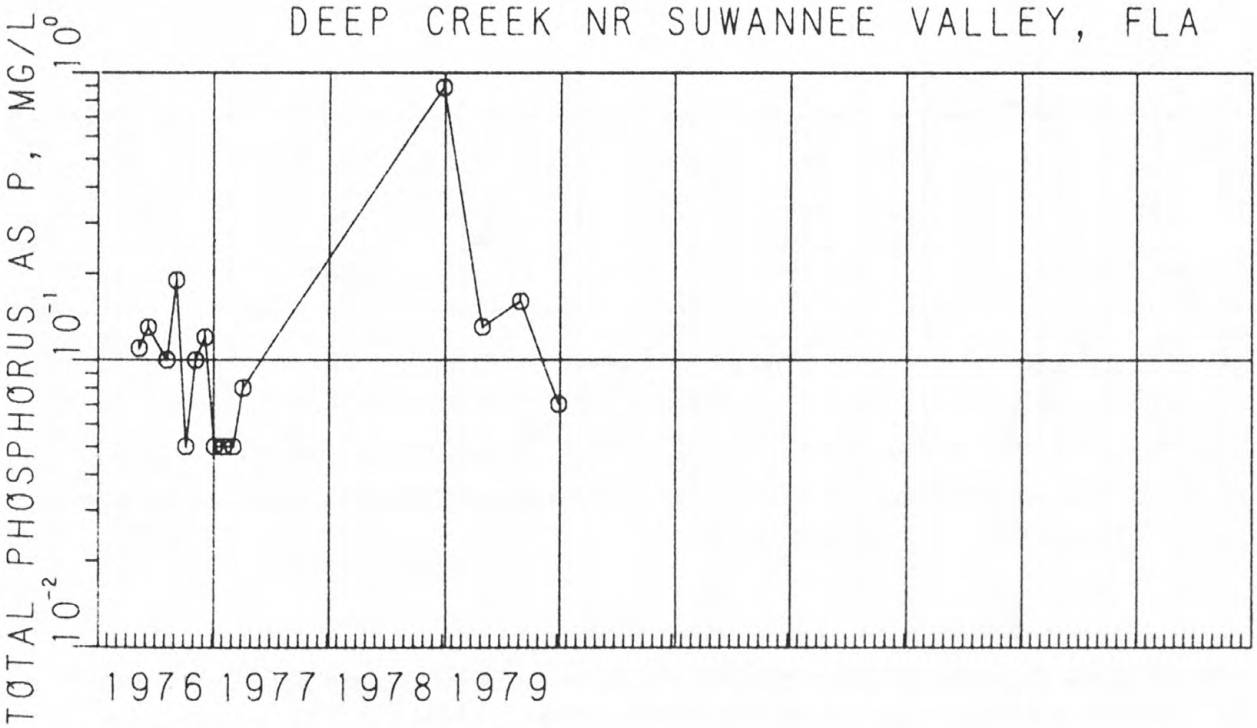


Figure 16.--Total organic carbon and total phosphorus for Deep Creek near Suwannee Valley, 1976-79.

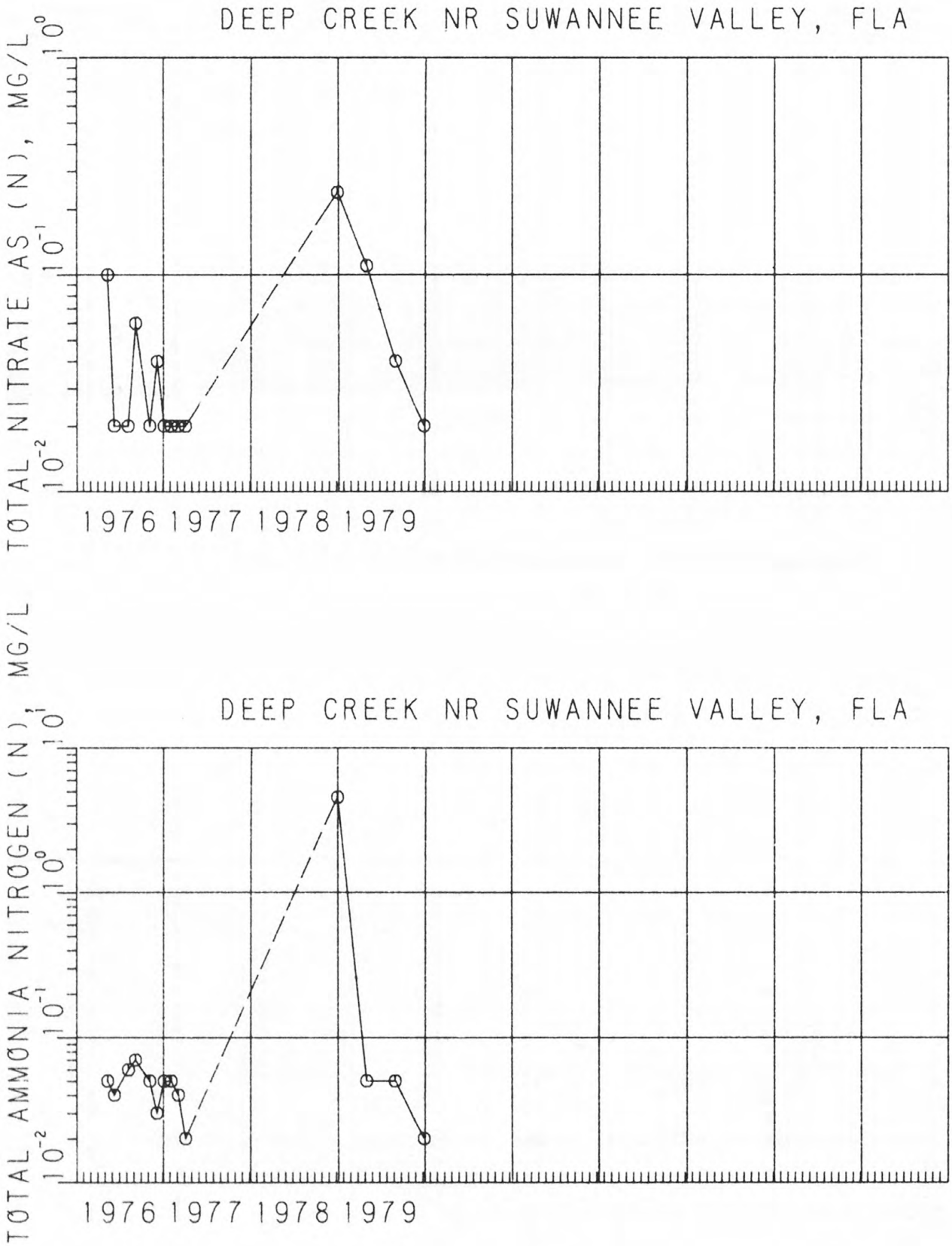


Figure 17.--Total nitrate and total ammonia nitrogen for Deep Creek near Suwannee Valley, 1976-79.

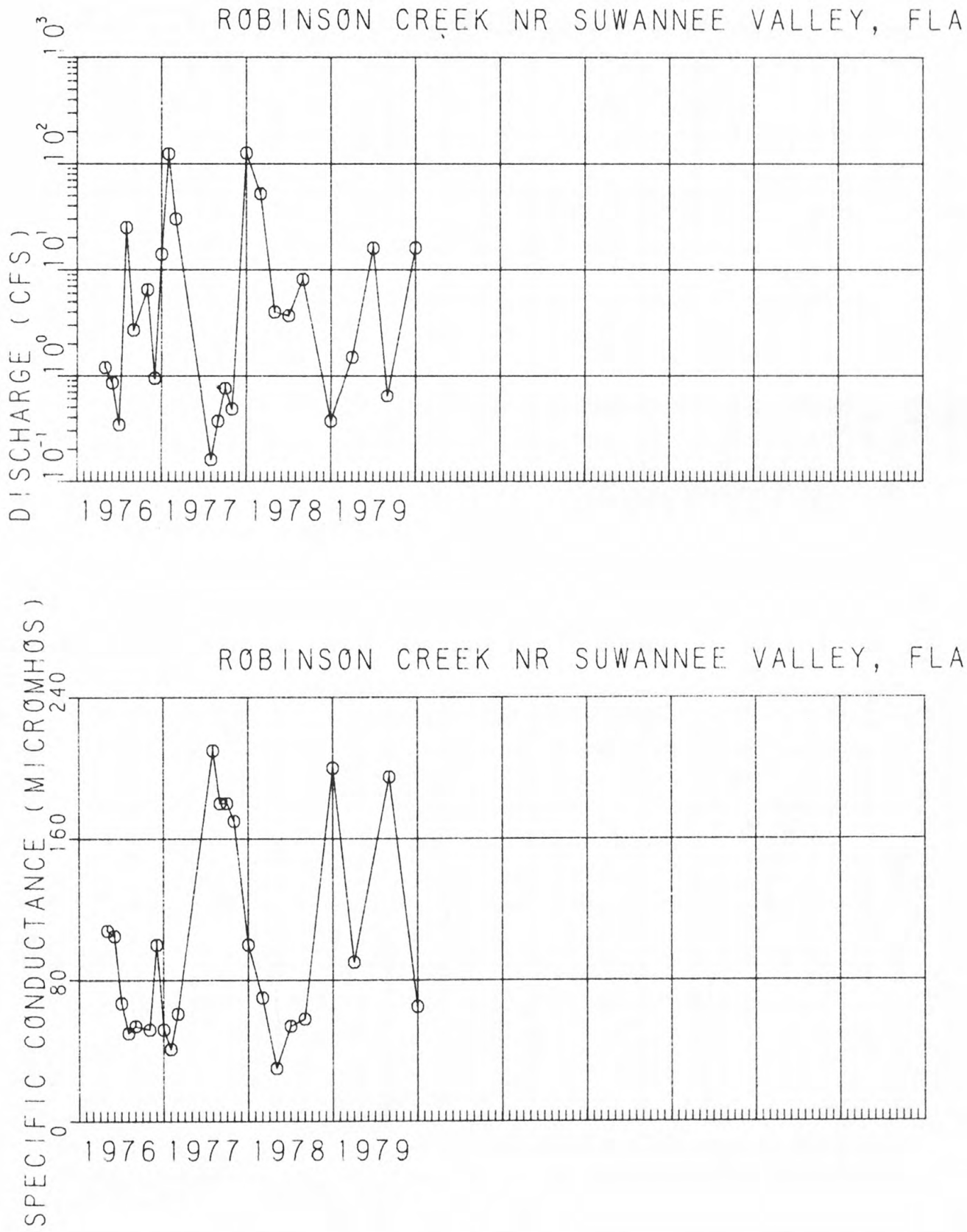


Figure 18.--Discharge and conductance for Robinson Creek near Suwannee Valley, 1976-79.

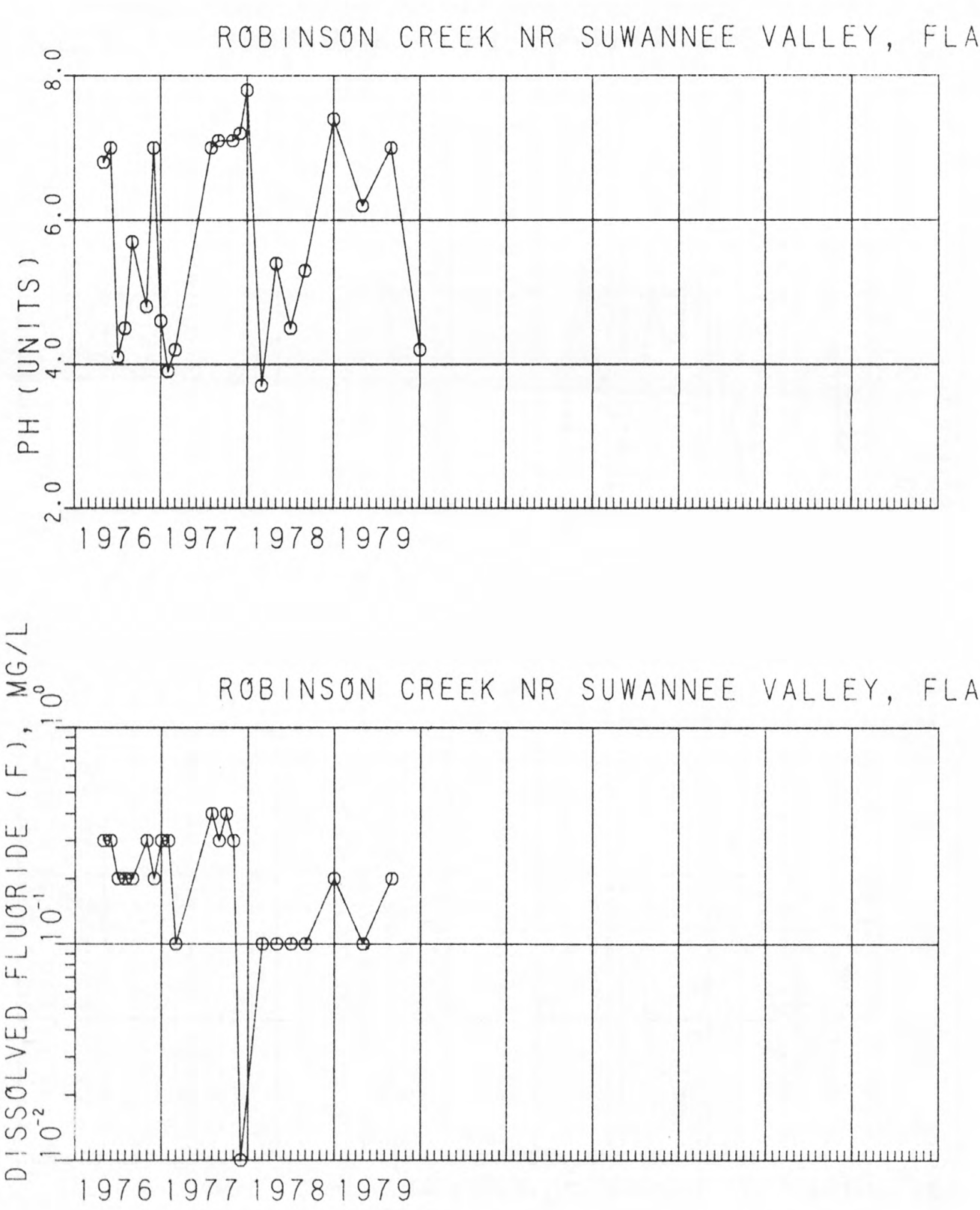
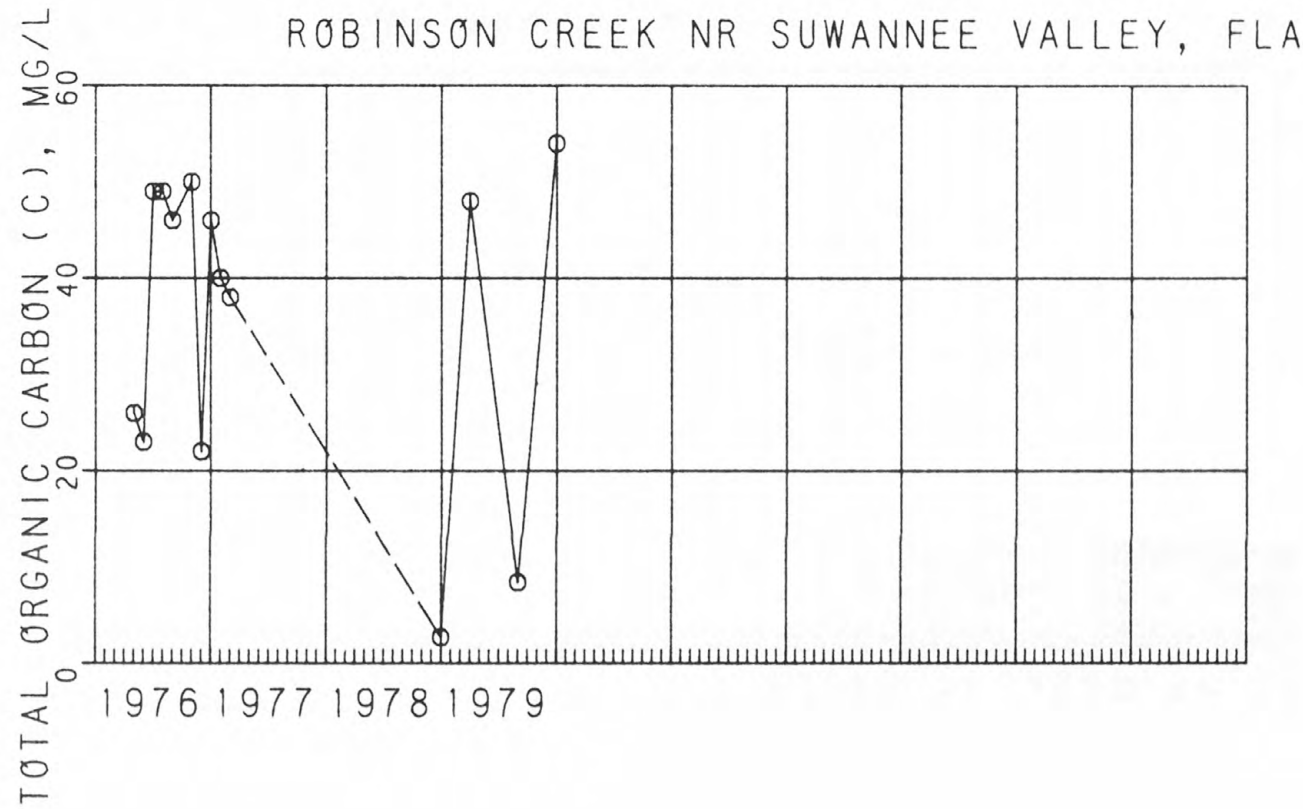


Figure 19.--pH and dissolved fluoride for Robinson Creek near Suwannee Valley, 1976-79.



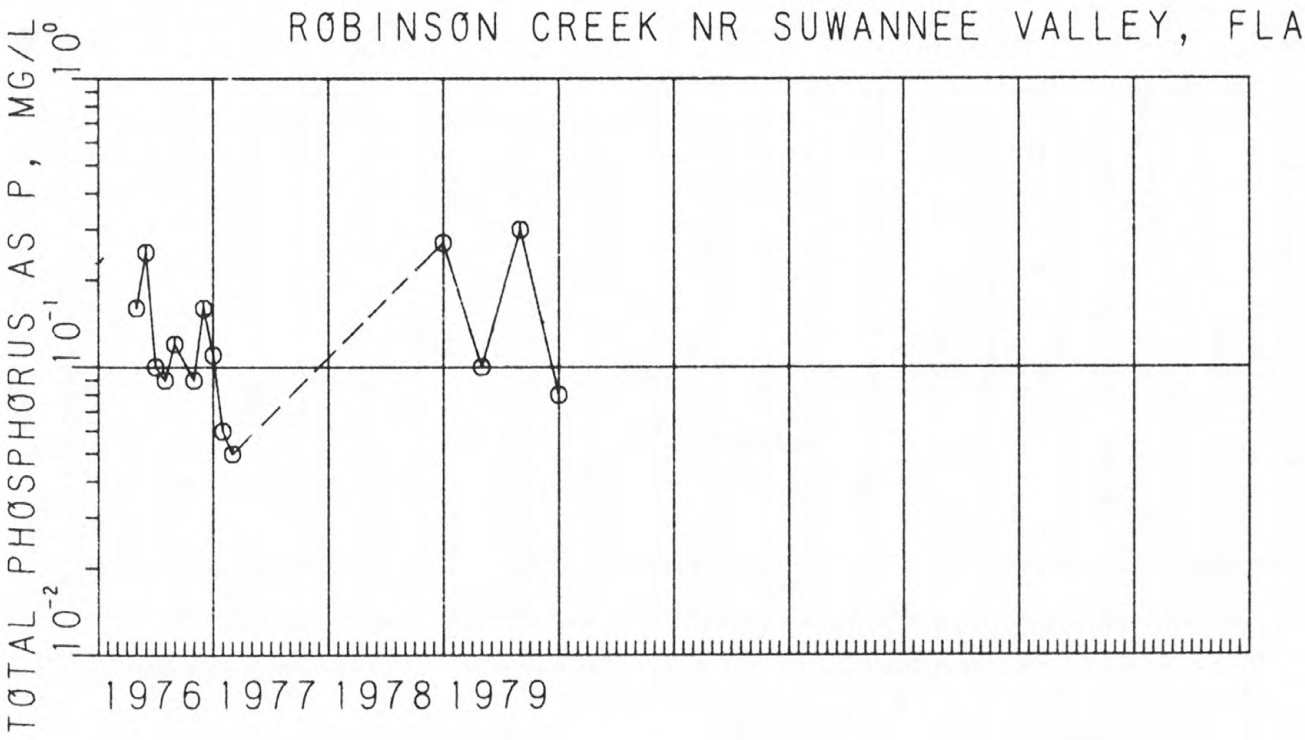


Figure 20.--Total organic carbon and total phosphorus for Robinson Creek near Suwannee Valley, 1976-79.

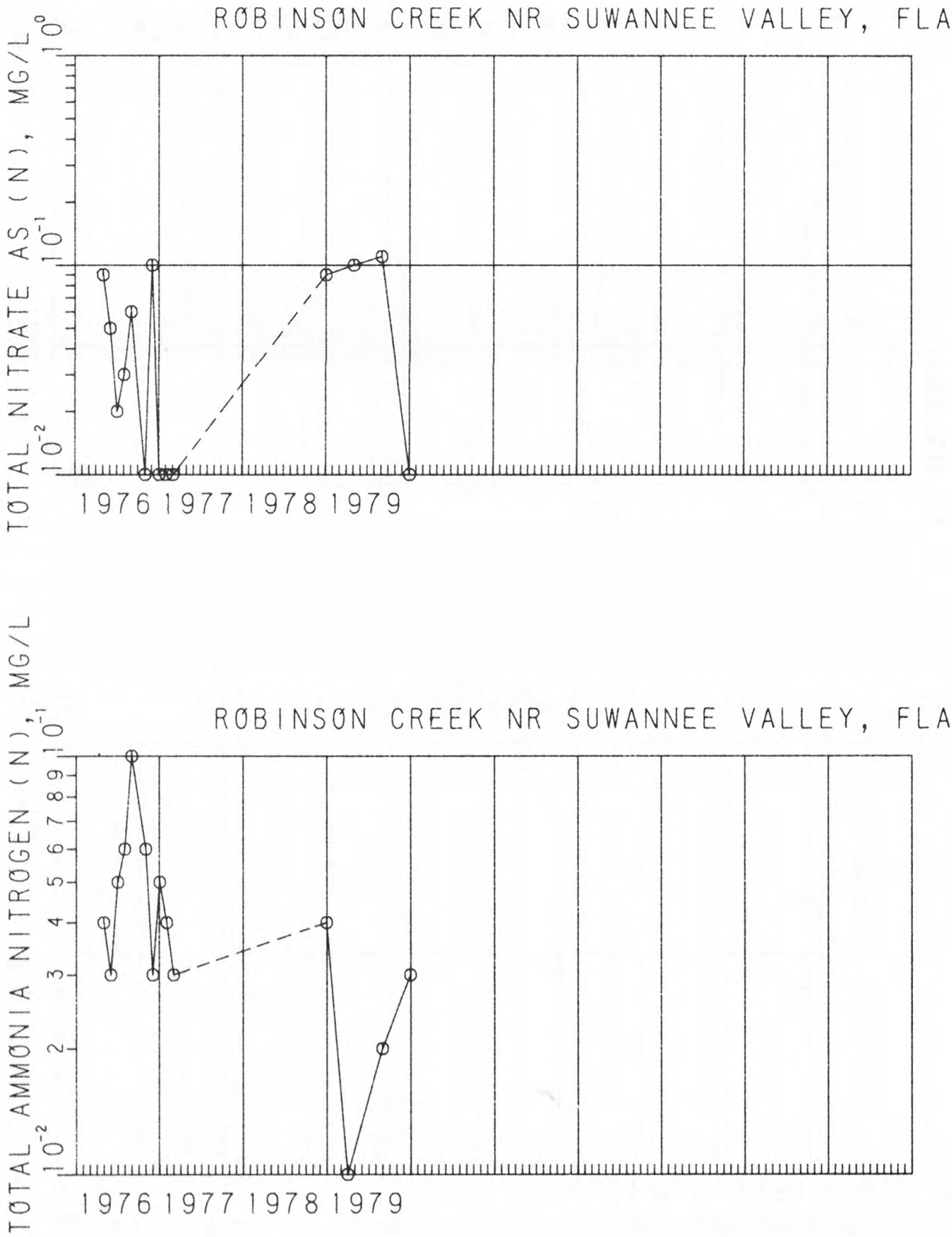


Figure 21.--Total nitrate and total ammonia nitrogen for Robinson Creek near Suwannee Valley, 1976-79.

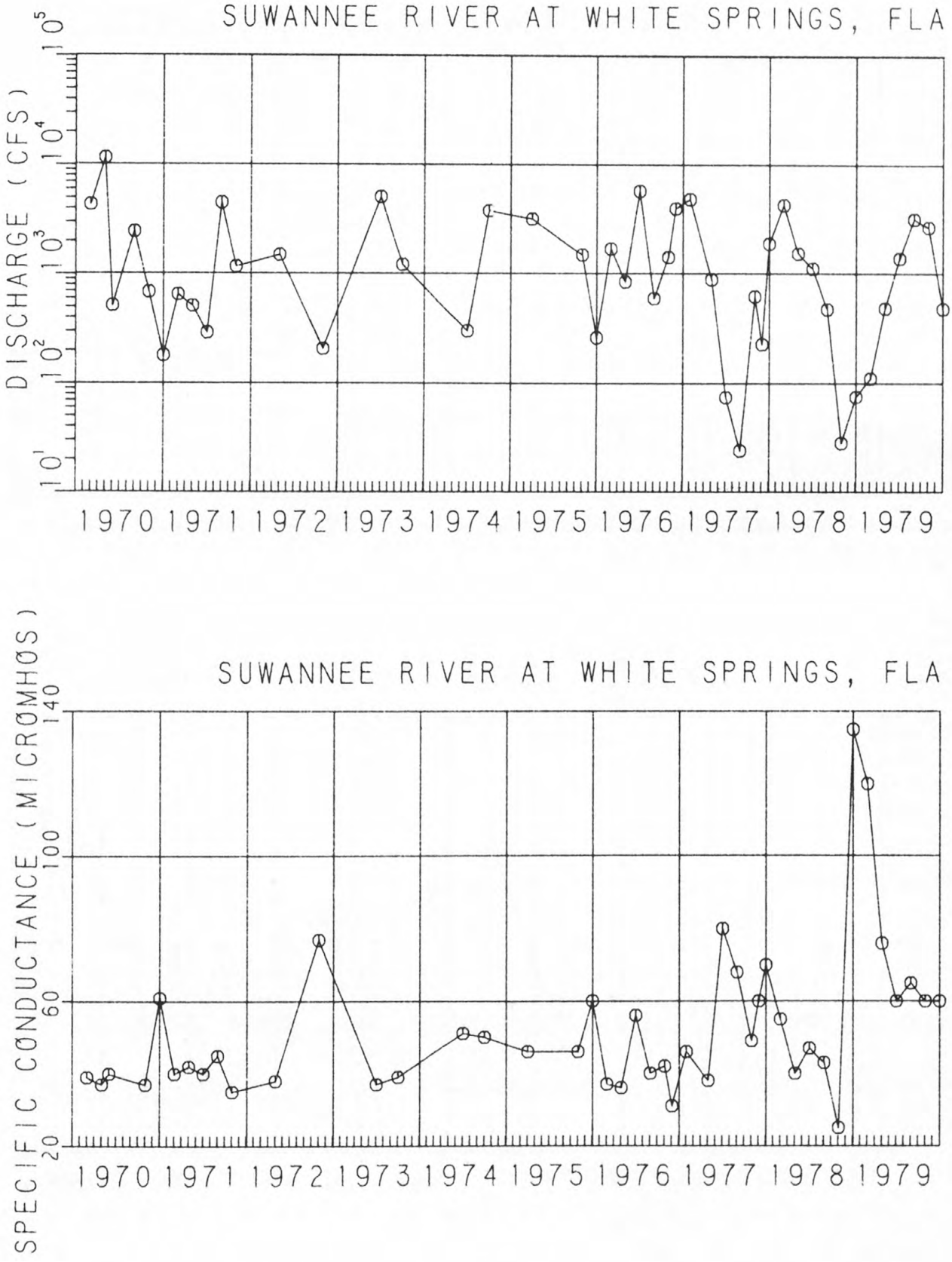


Figure 22.--Discharge and conductance for Suwannee River at White Springs, 1970-79.

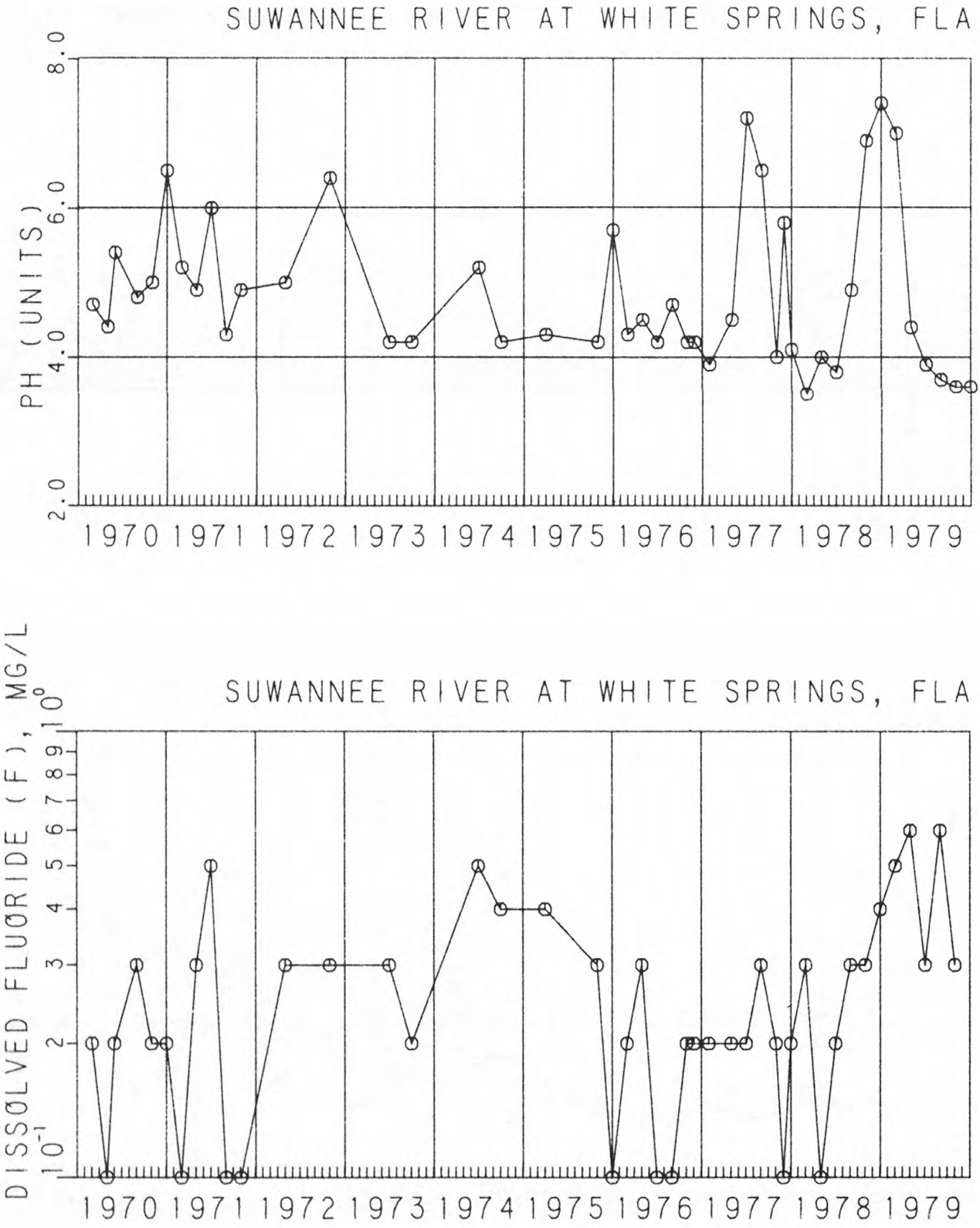


Figure 23.--pH and dissolved fluoride for Suwannee River at White Springs, 1970-79.

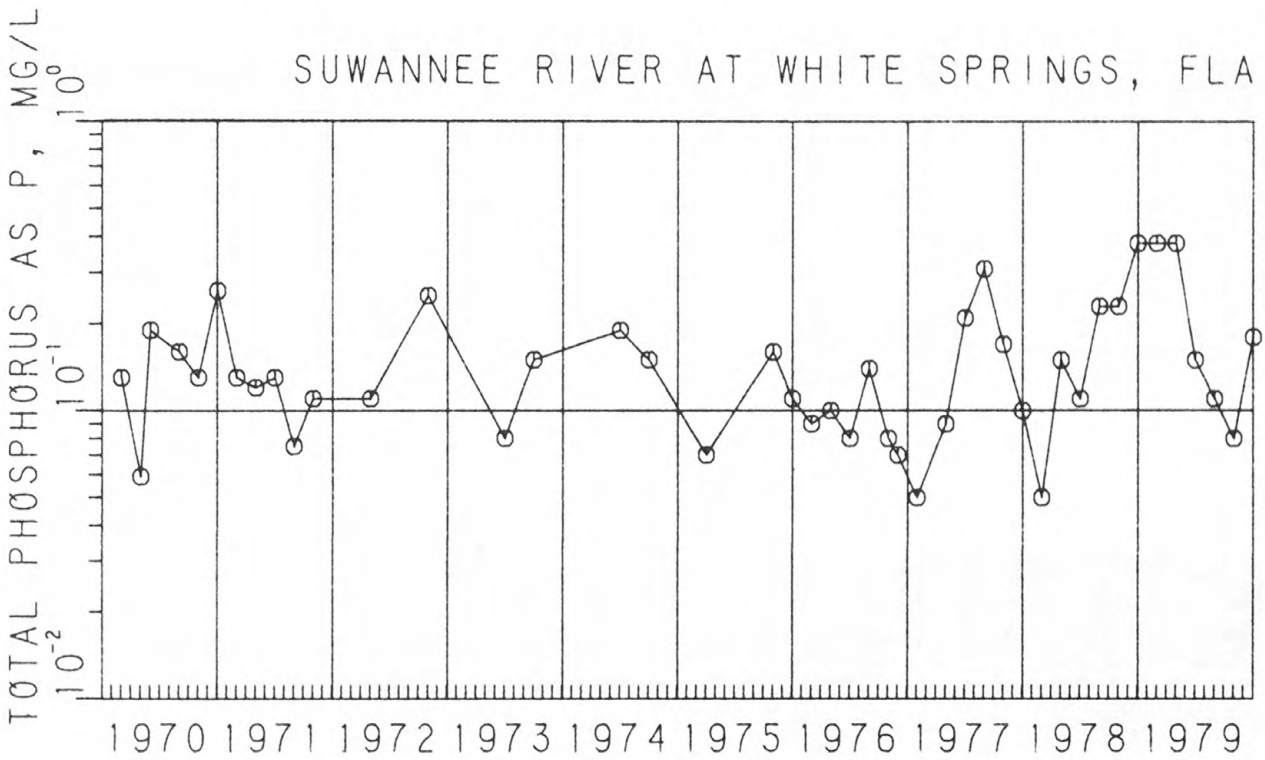
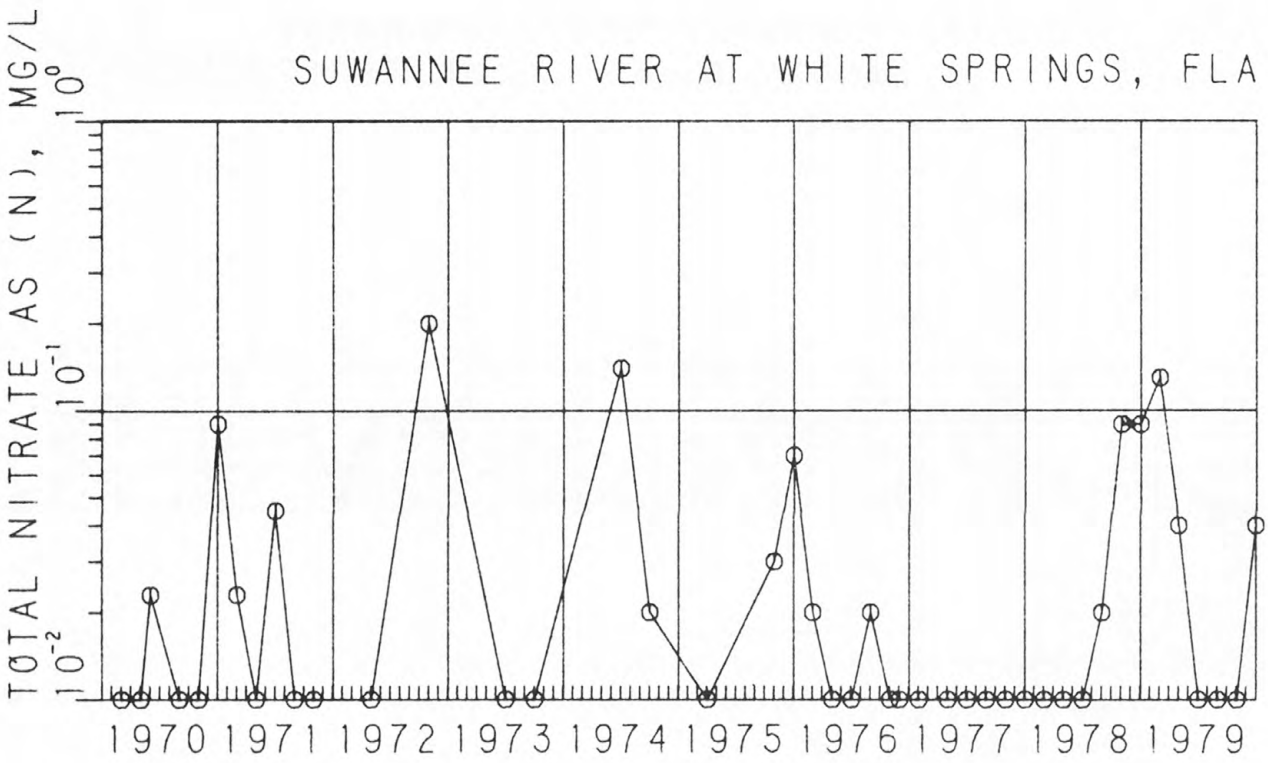


Figure 24.--Total phosphorus for Suwannee River at White Springs, 1970-79.



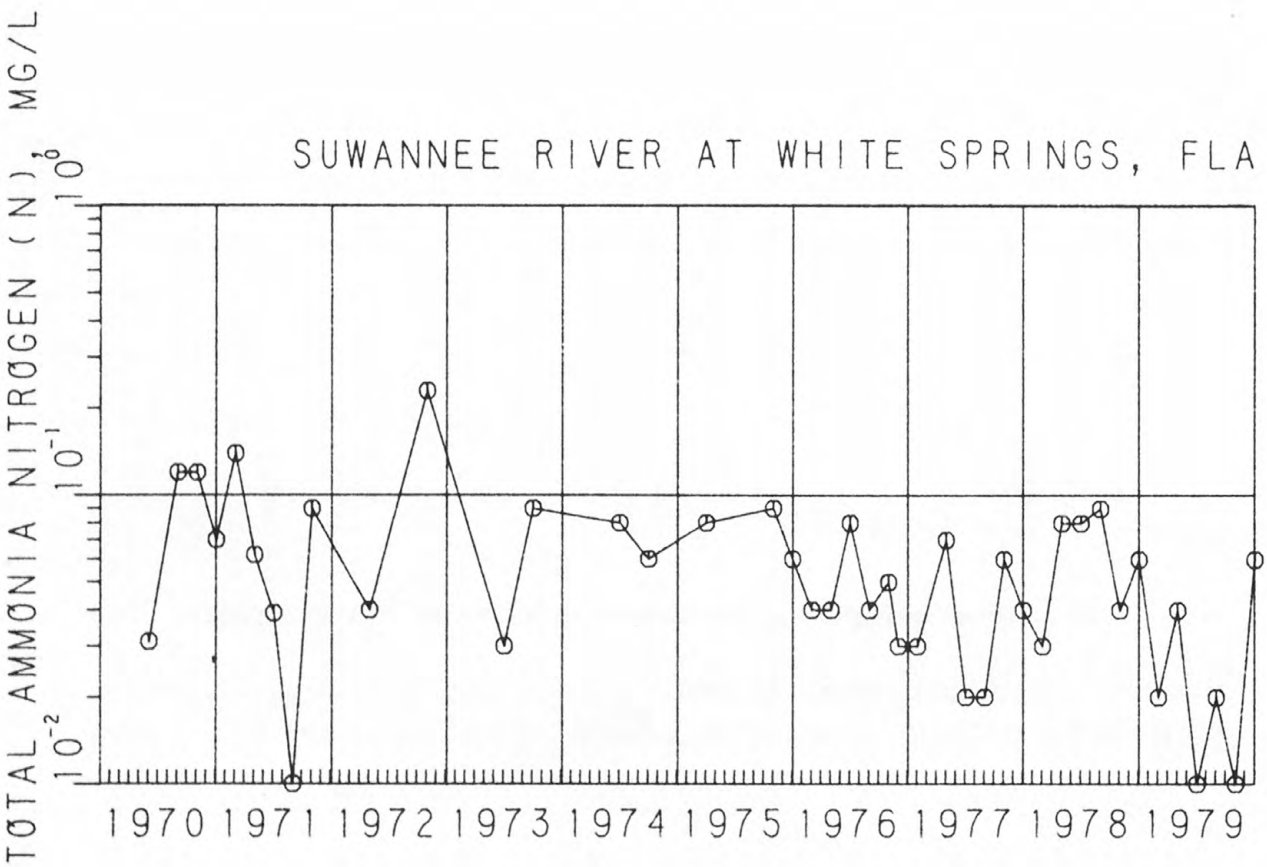
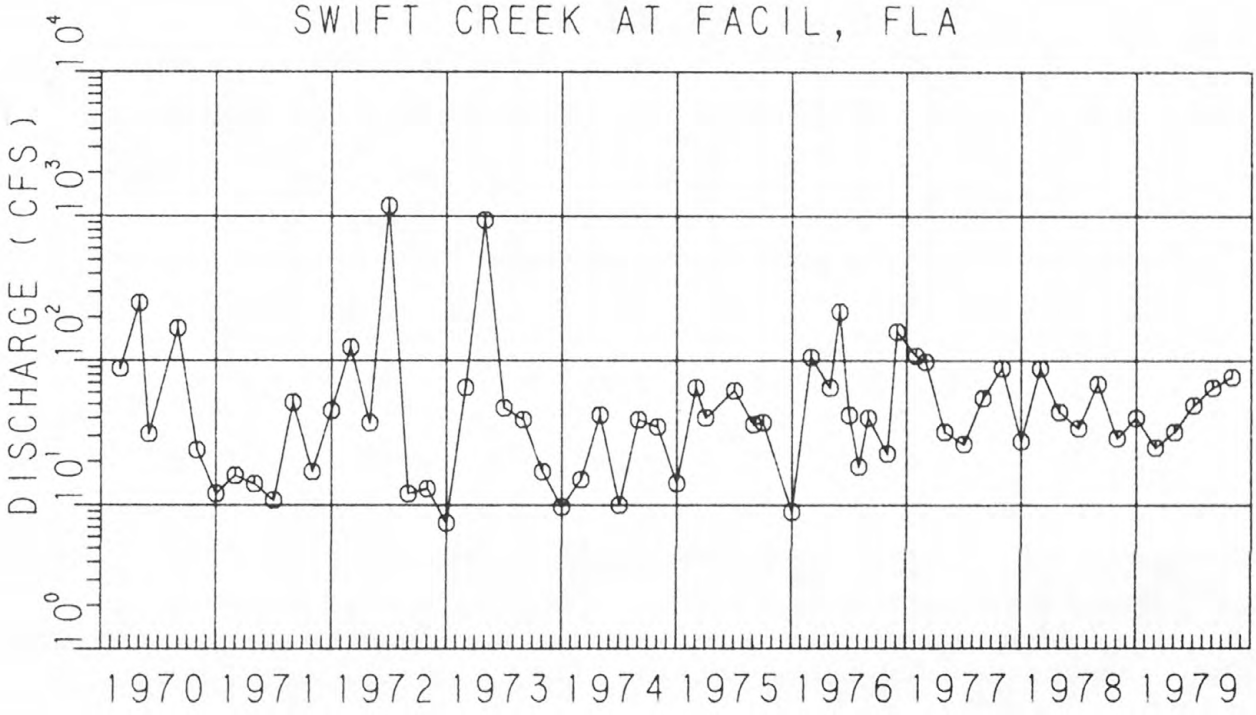


Figure 25.--Total nitrate and total ammonia nitrogen for Suwannee River at White Springs, 1970-79.



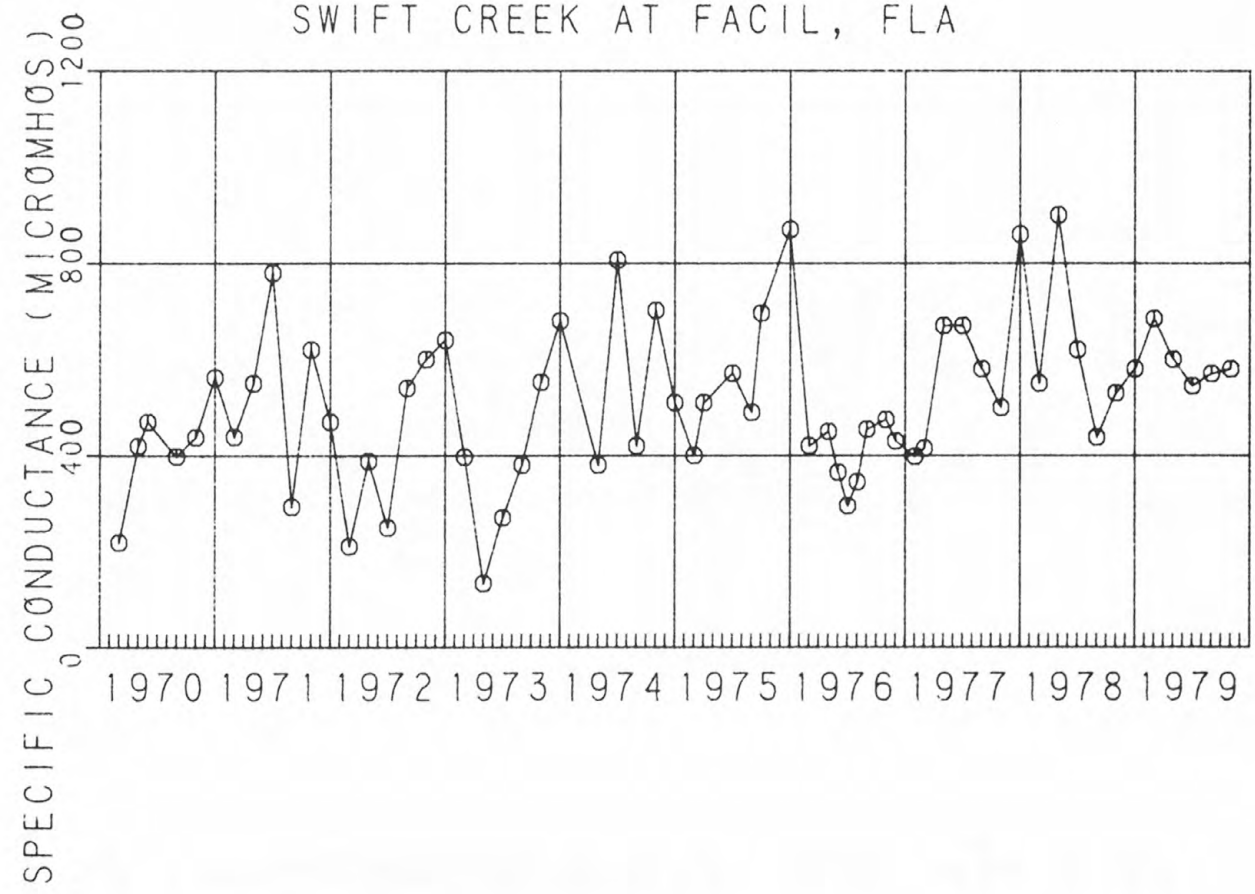


Figure 26.--Discharge and conductance for Swift Creek at Facil, 1970-79.

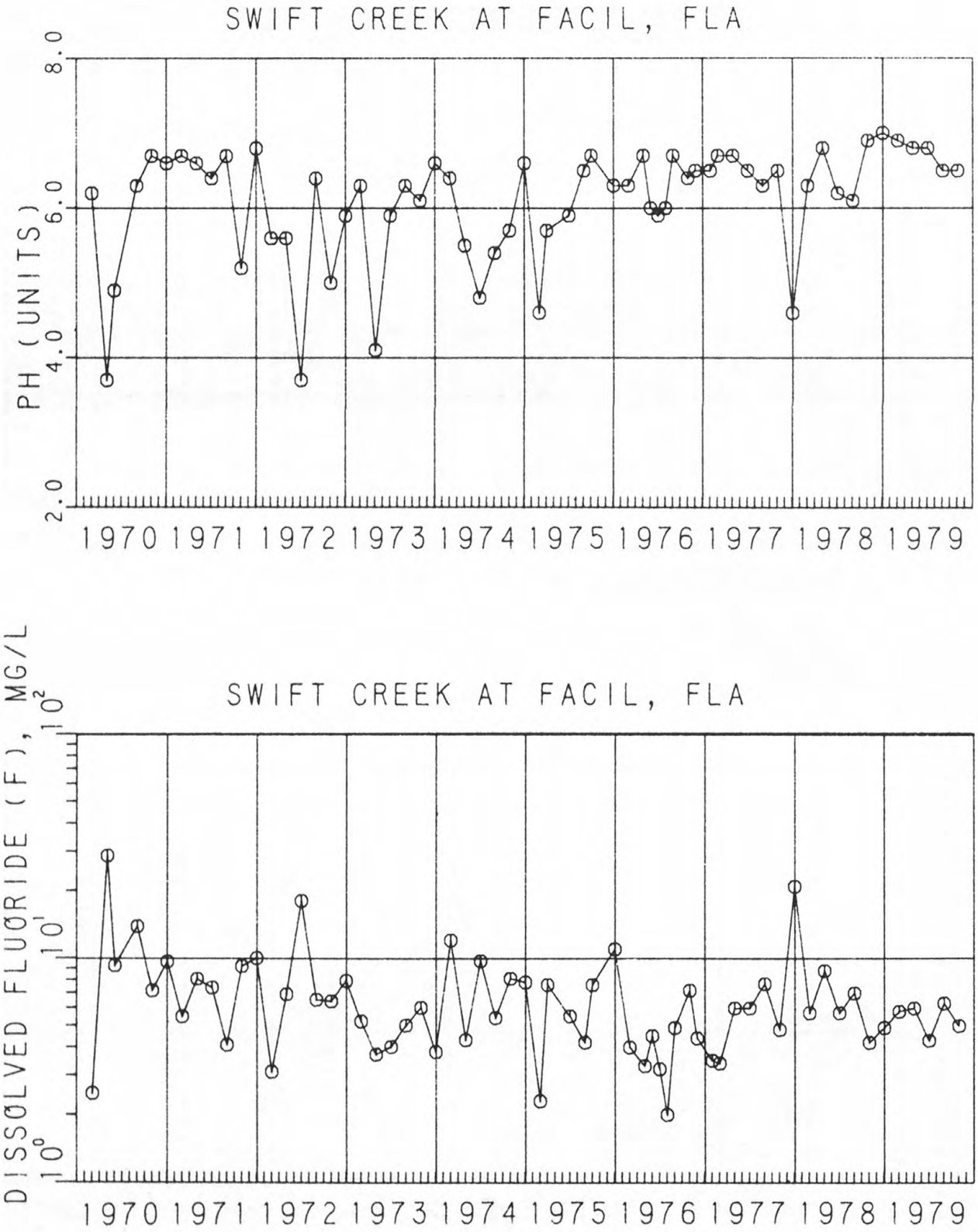


Figure 27.--pH and dissolved fluoride for Swift Creek at Facil, 1970-79.

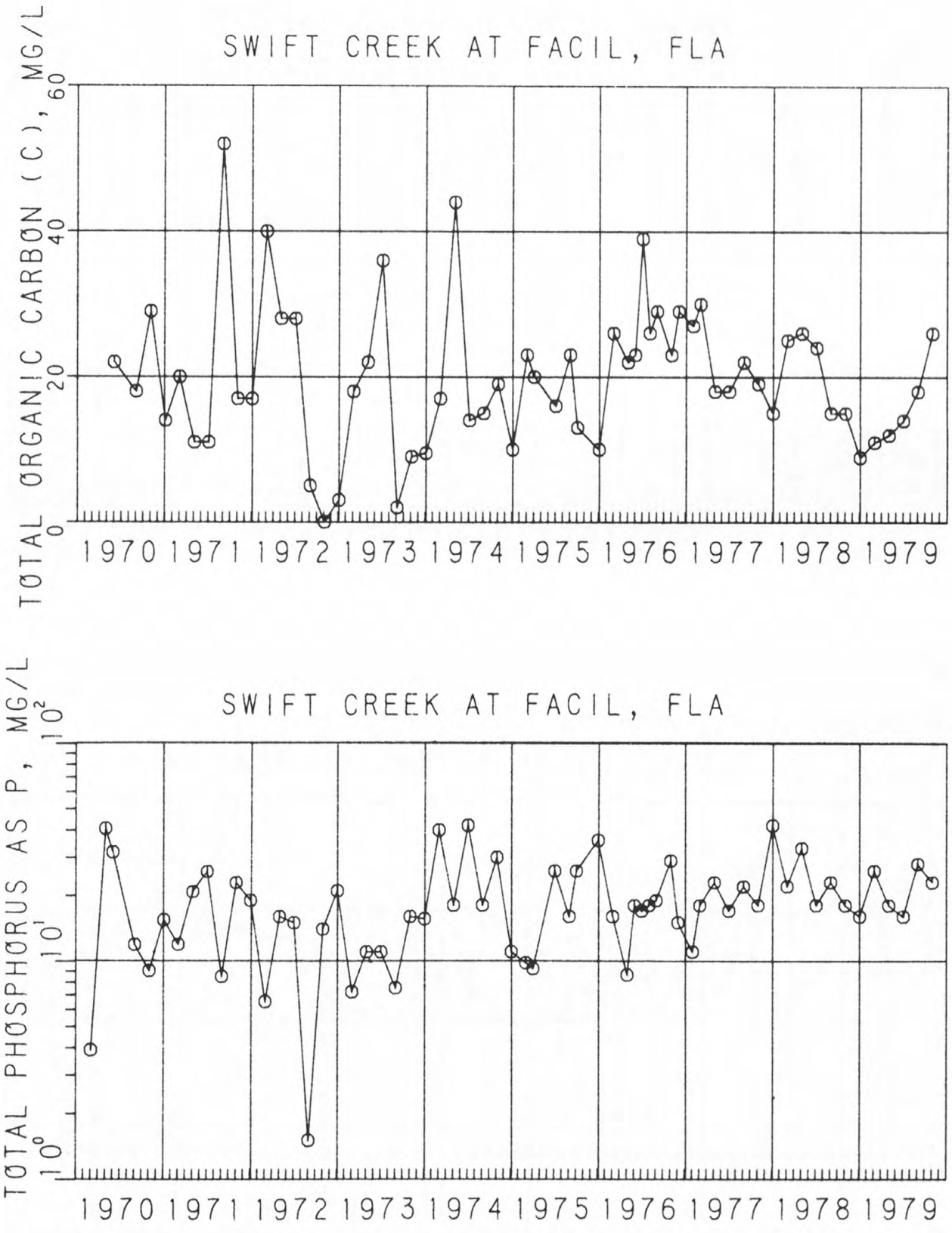
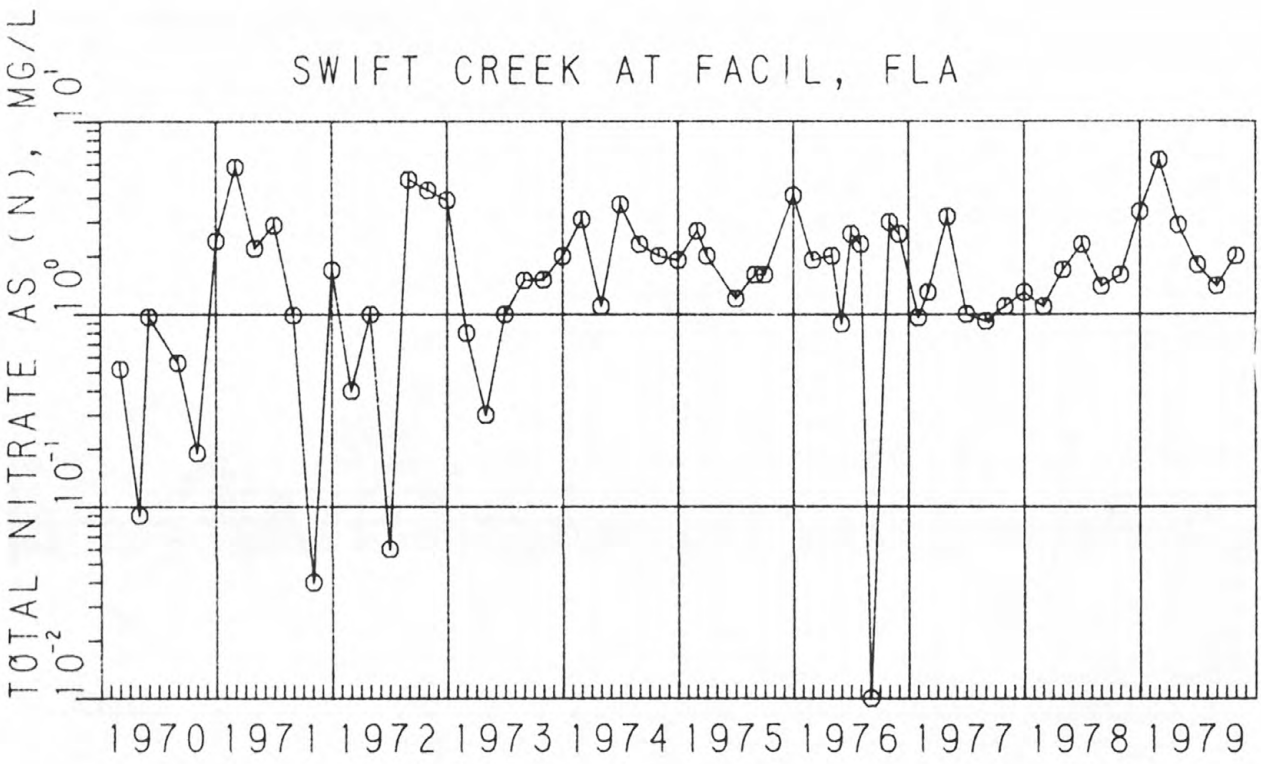


Figure 28.--Total organic carbon and total phosphorus for Swift Creek at Facil, 1970-79.



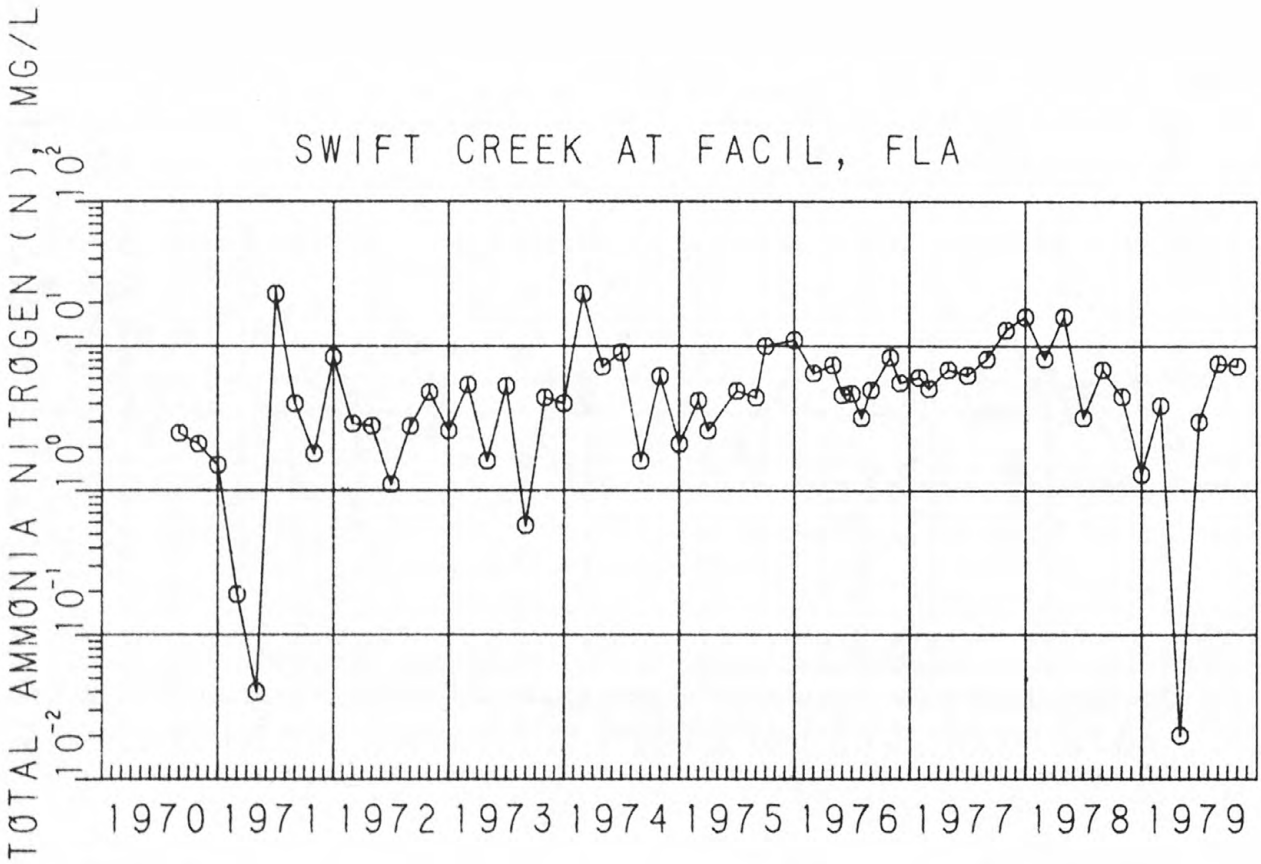
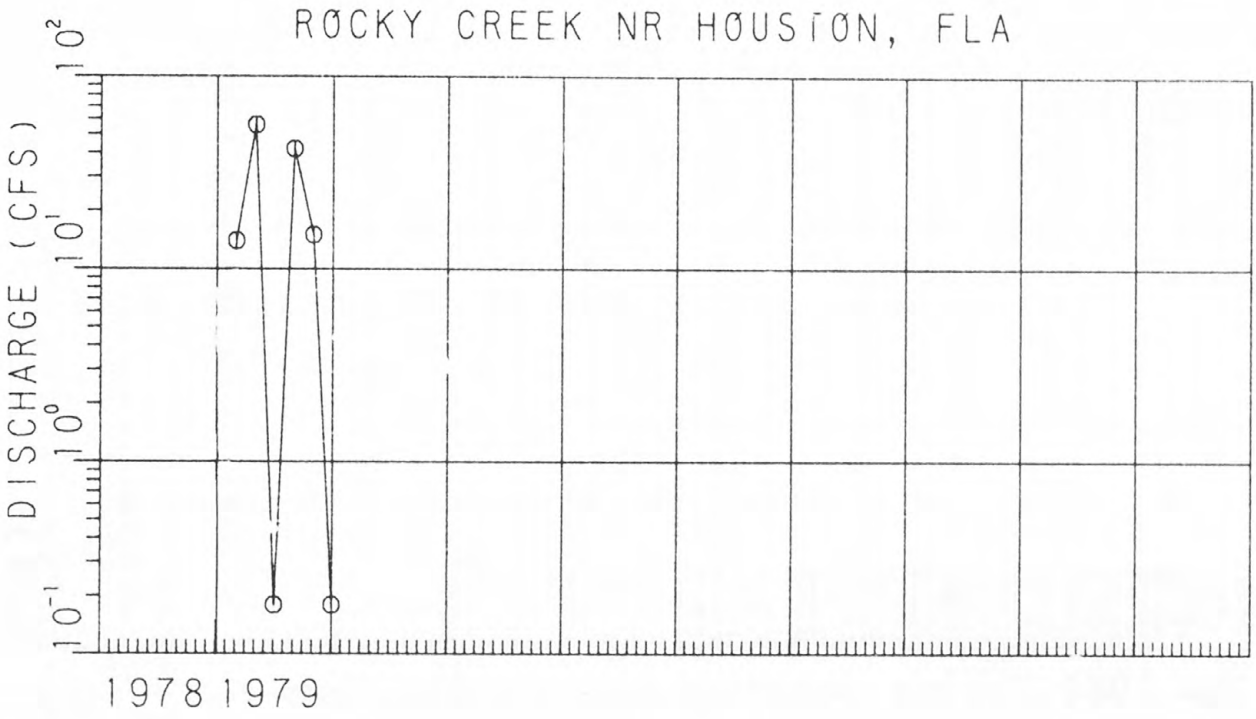


Figure 29.--Total nitrate and total ammonia nitrogen for Swift Creek at Facil, 1970-79.



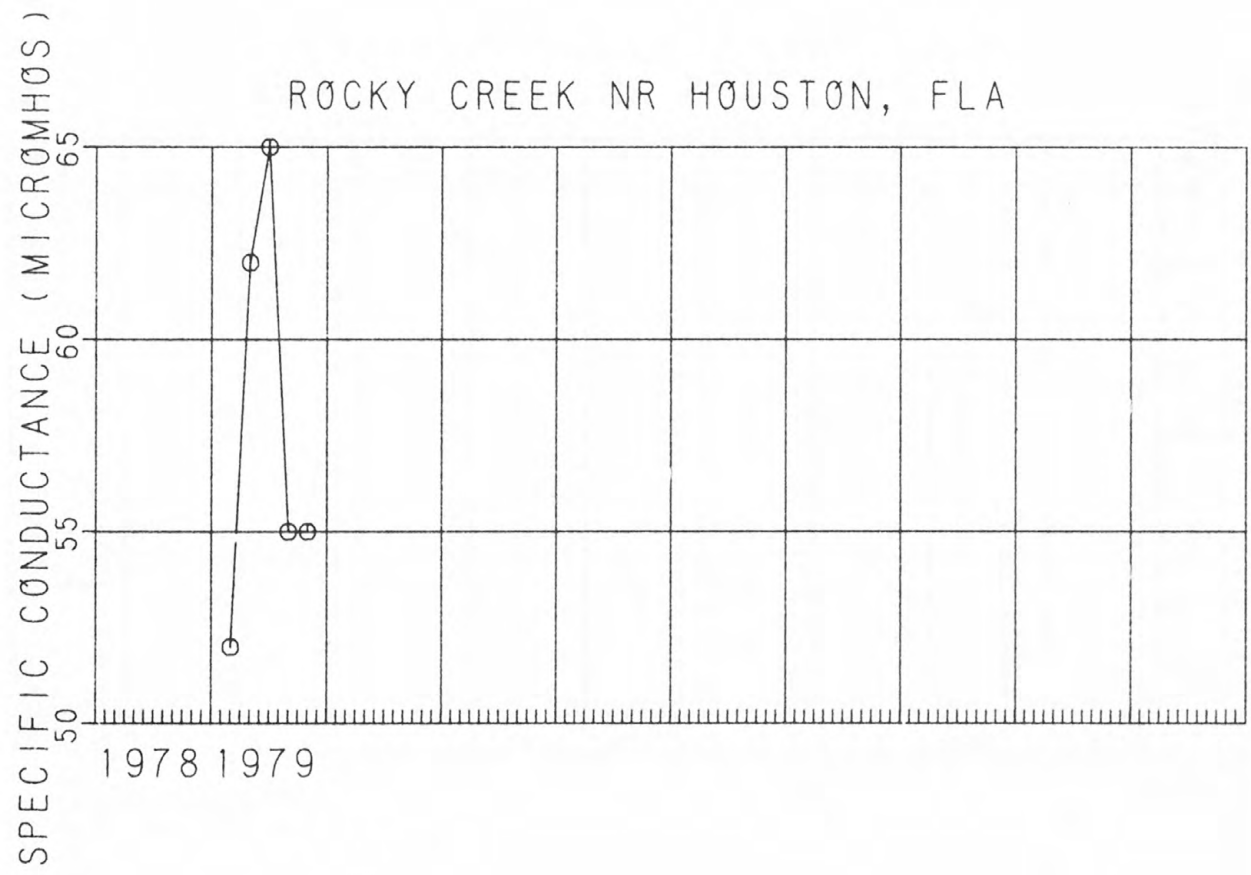


Figure 30.--Discharge and conductance for Rocky Creek near Houston, 1979.

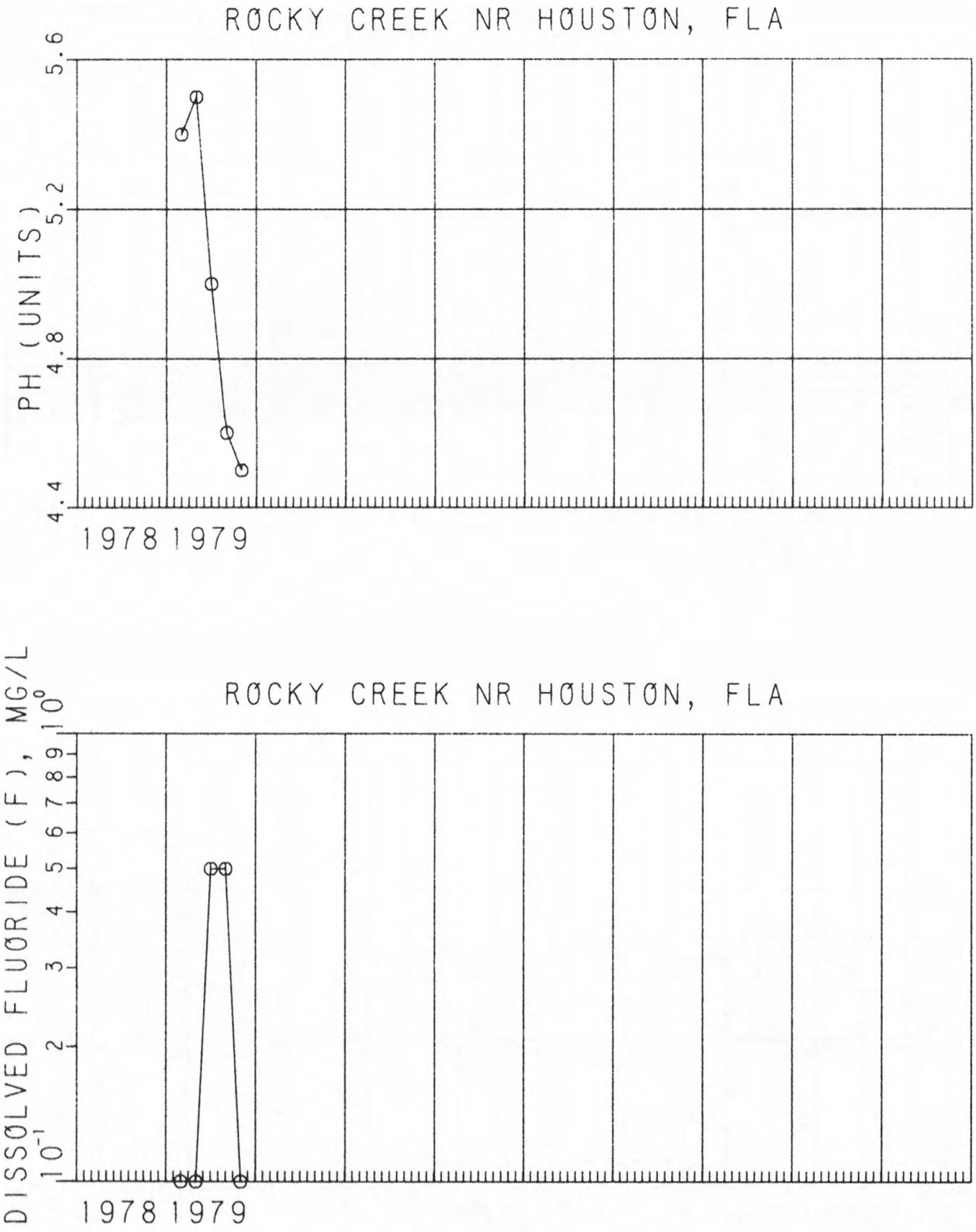


Figure 31.--pH and dissolved fluoride for Rocky Creek near Houston, 1979.

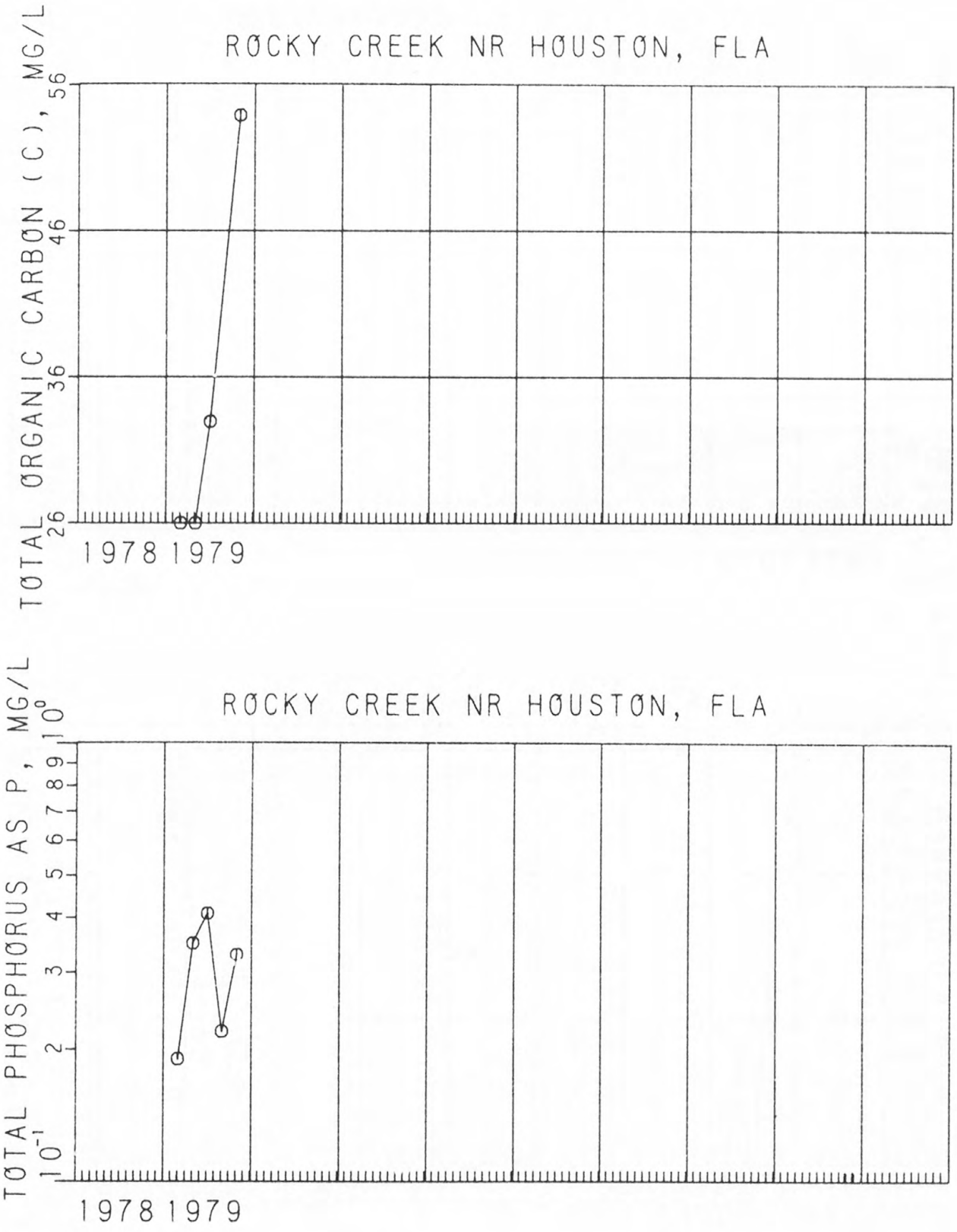


Figure 32.--Total organic carbon and total phosphorus for Rocky Creek near Houston, 1979.

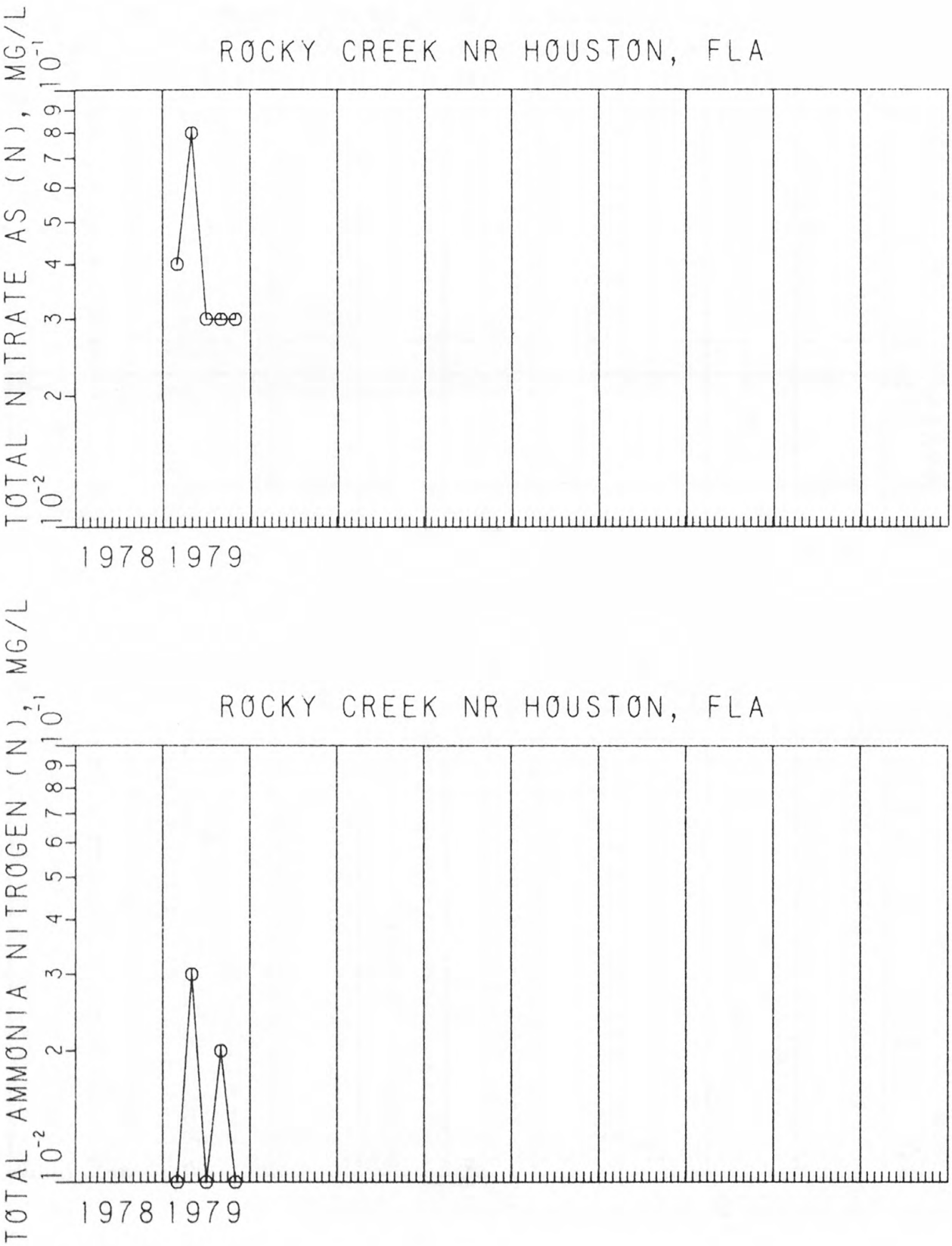
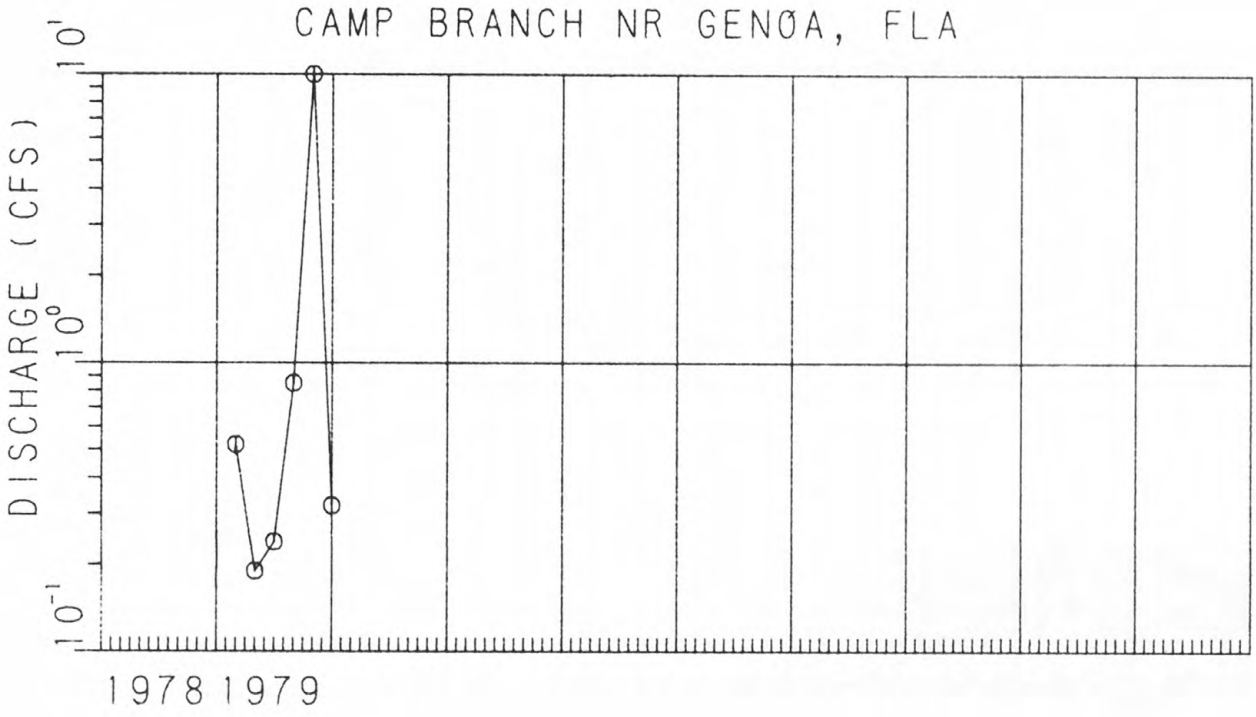


Figure 33.--Total nitrate and total ammonia nitrogen for Rocky Creek near Houston, 1979.



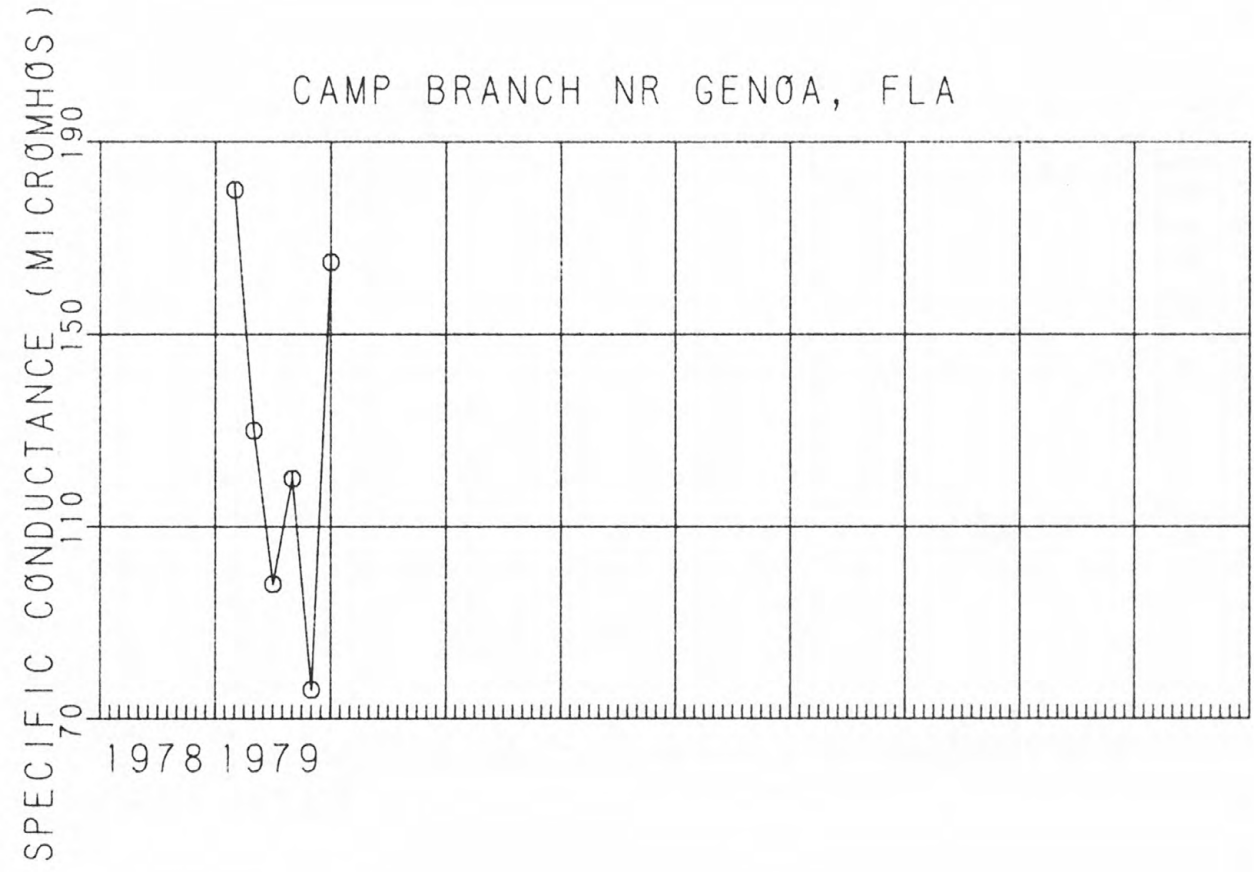


Figure 34.--Discharge and conductance for Camp Branch near Genoa, 1979.

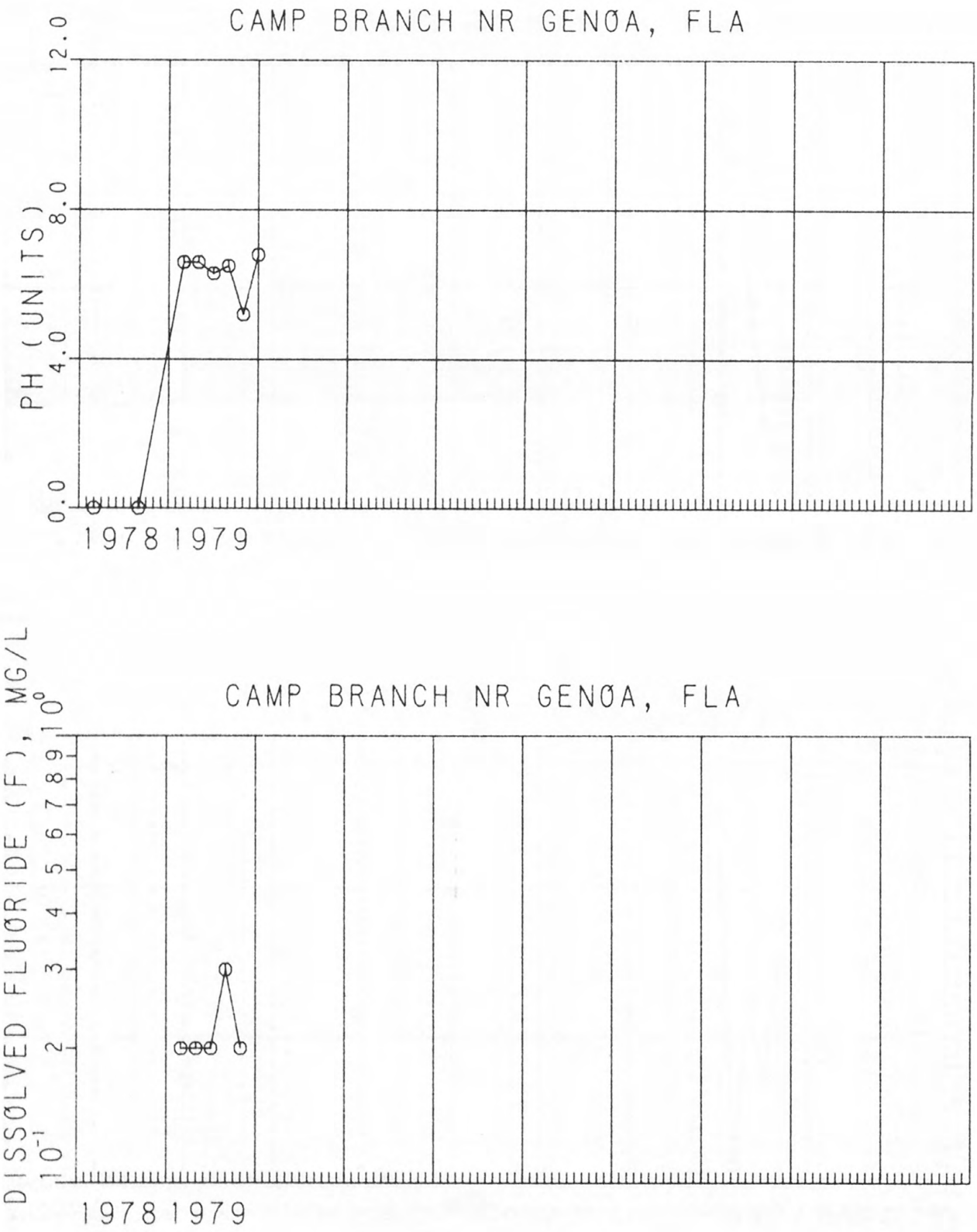
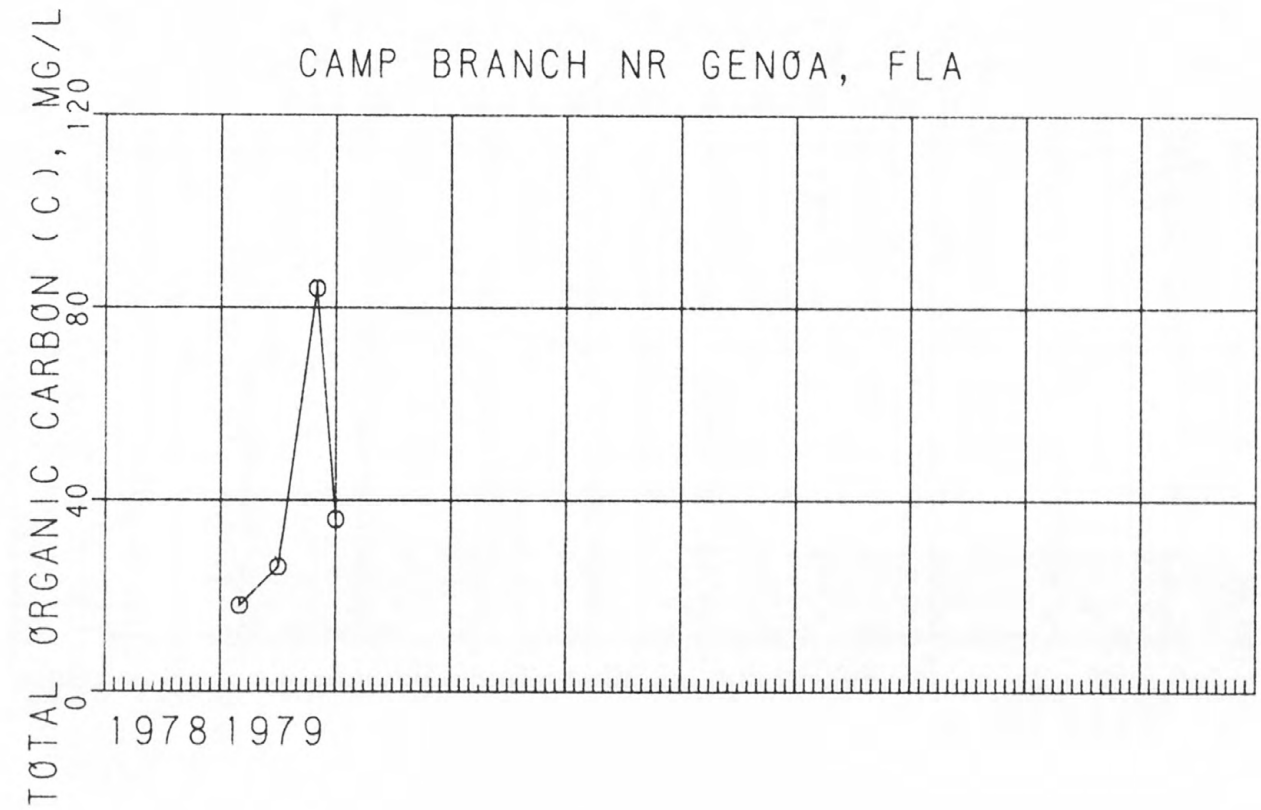


Figure 35.--pH and dissolved fluoride for Camp Branch near Genoa, 1978-79.



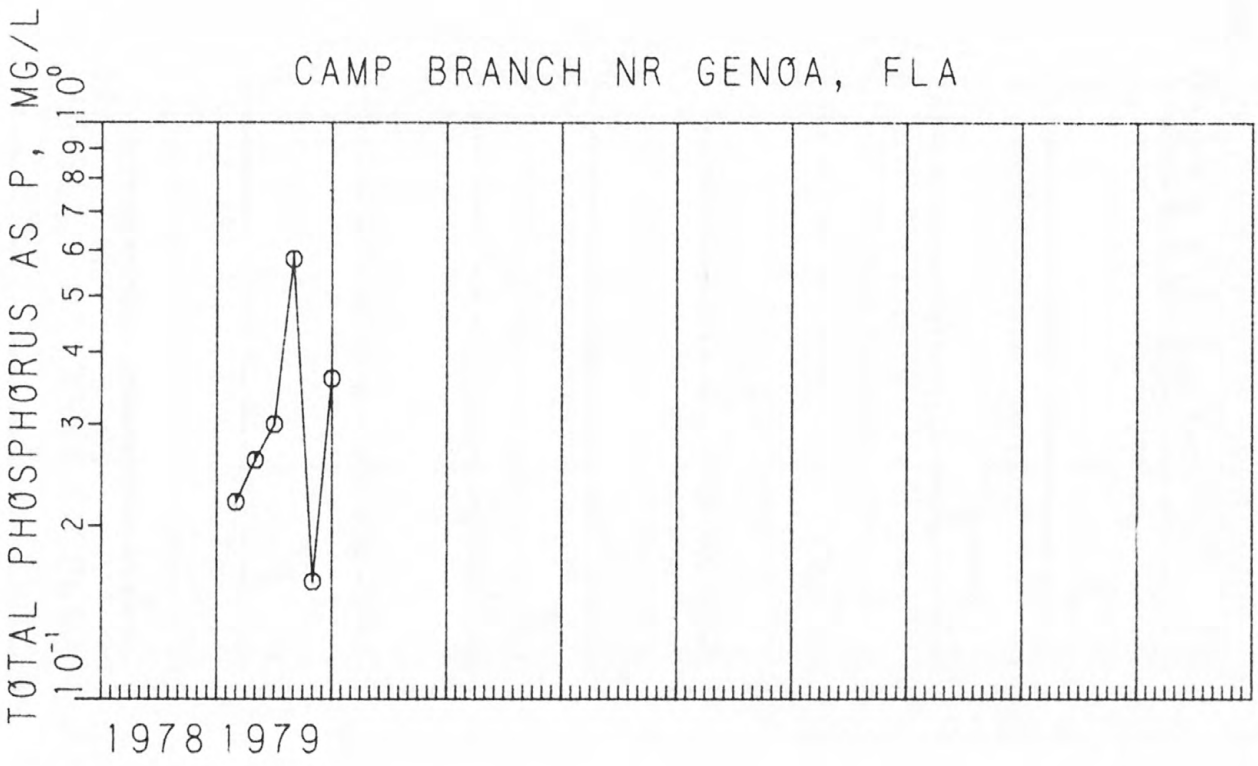


Figure 36.--Total organic carbon and total phosphorus for Camp Branch near Genoa, 1979.

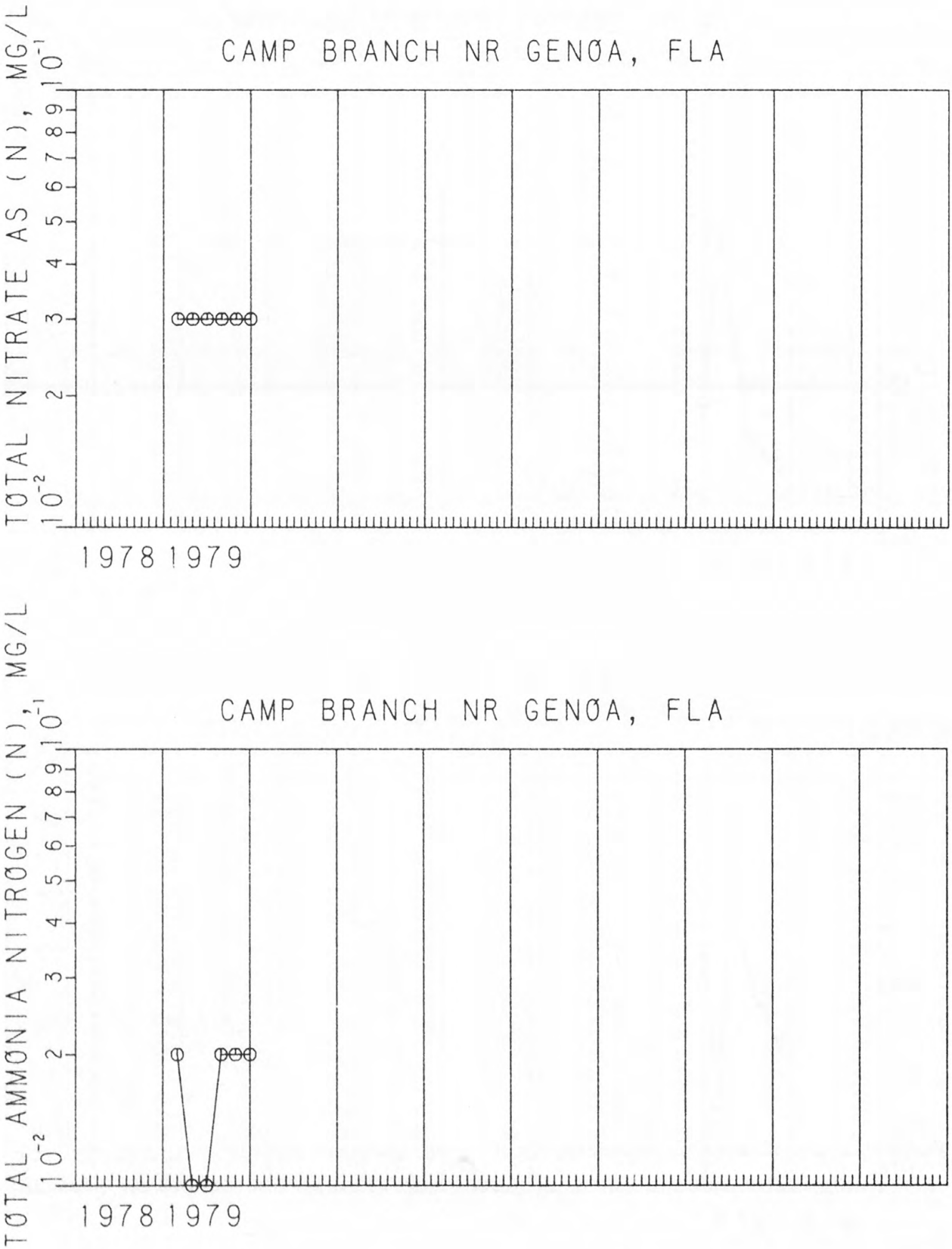
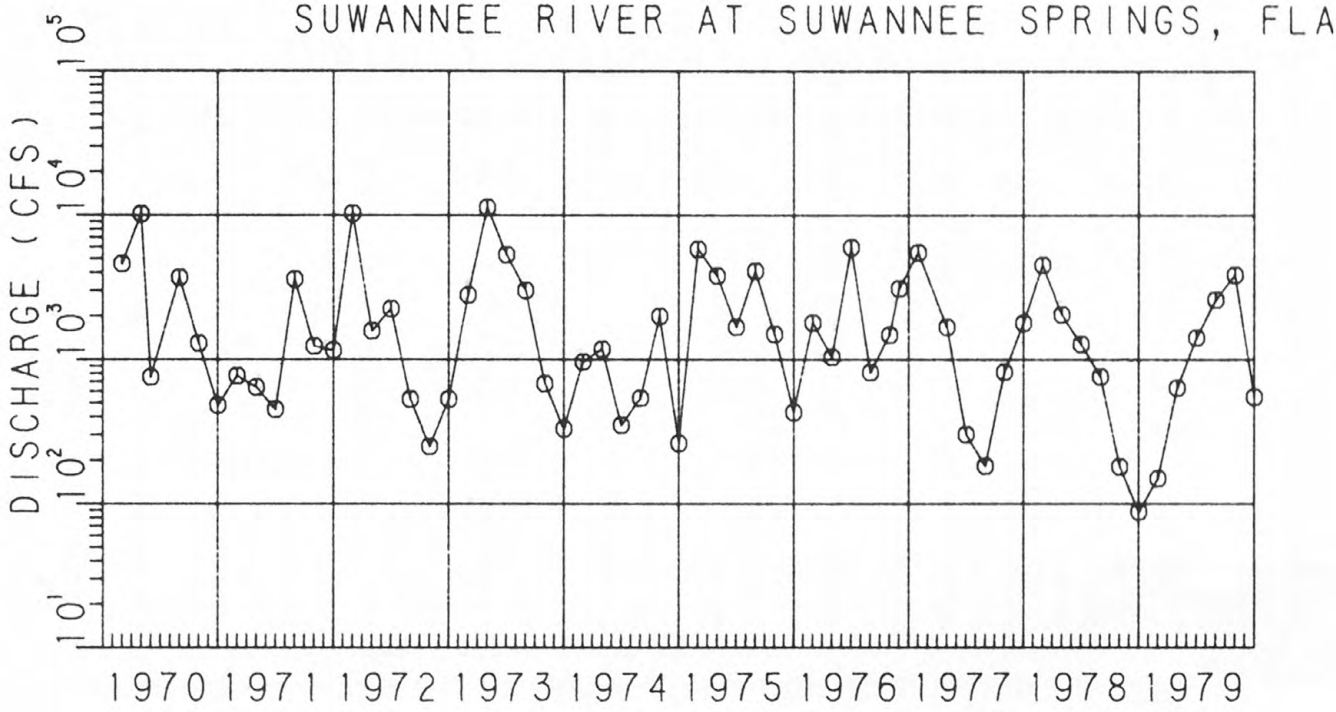


Figure 37.--Total nitrate and total ammonia nitrogen for Camp Branch near Genoa, 1979.



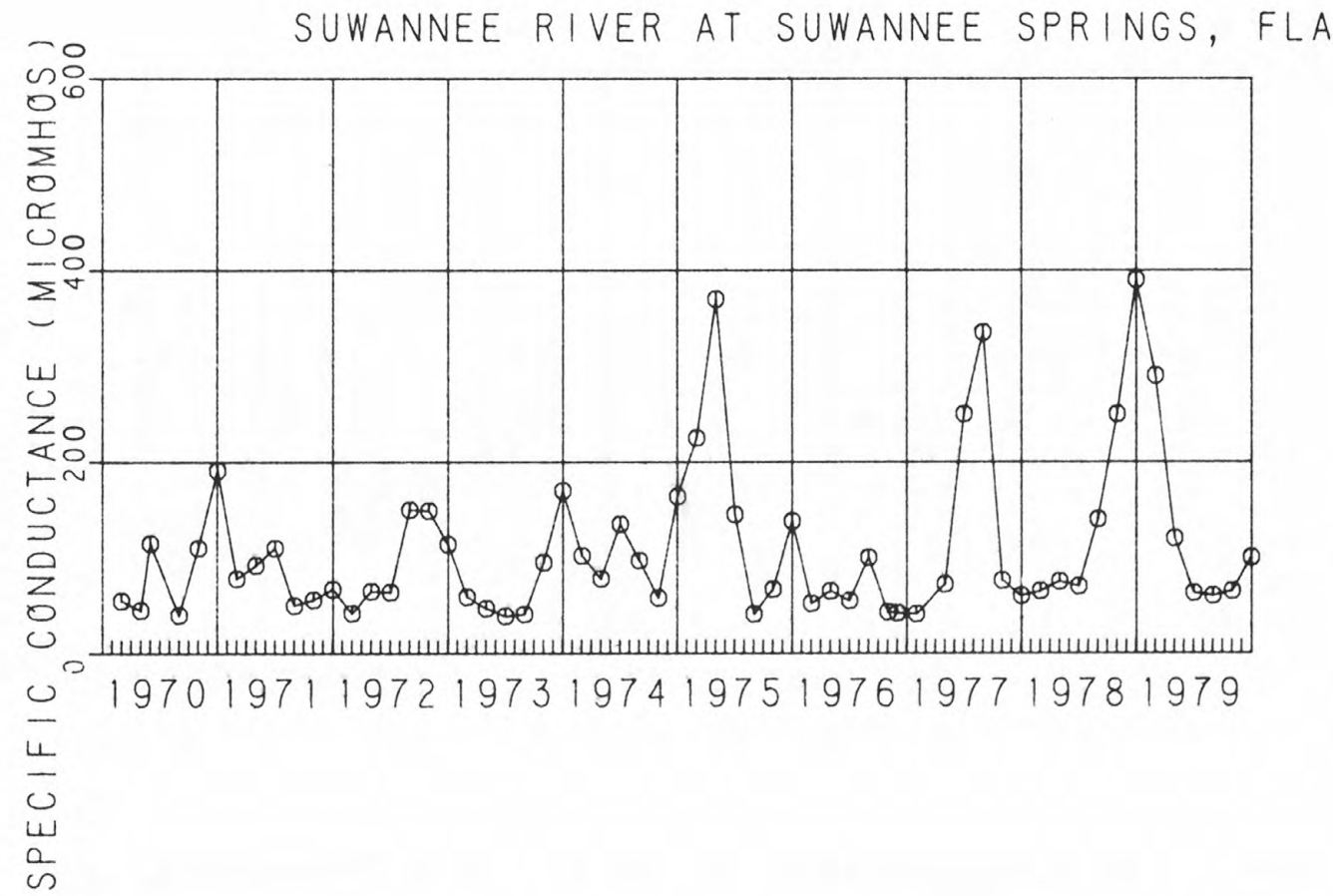
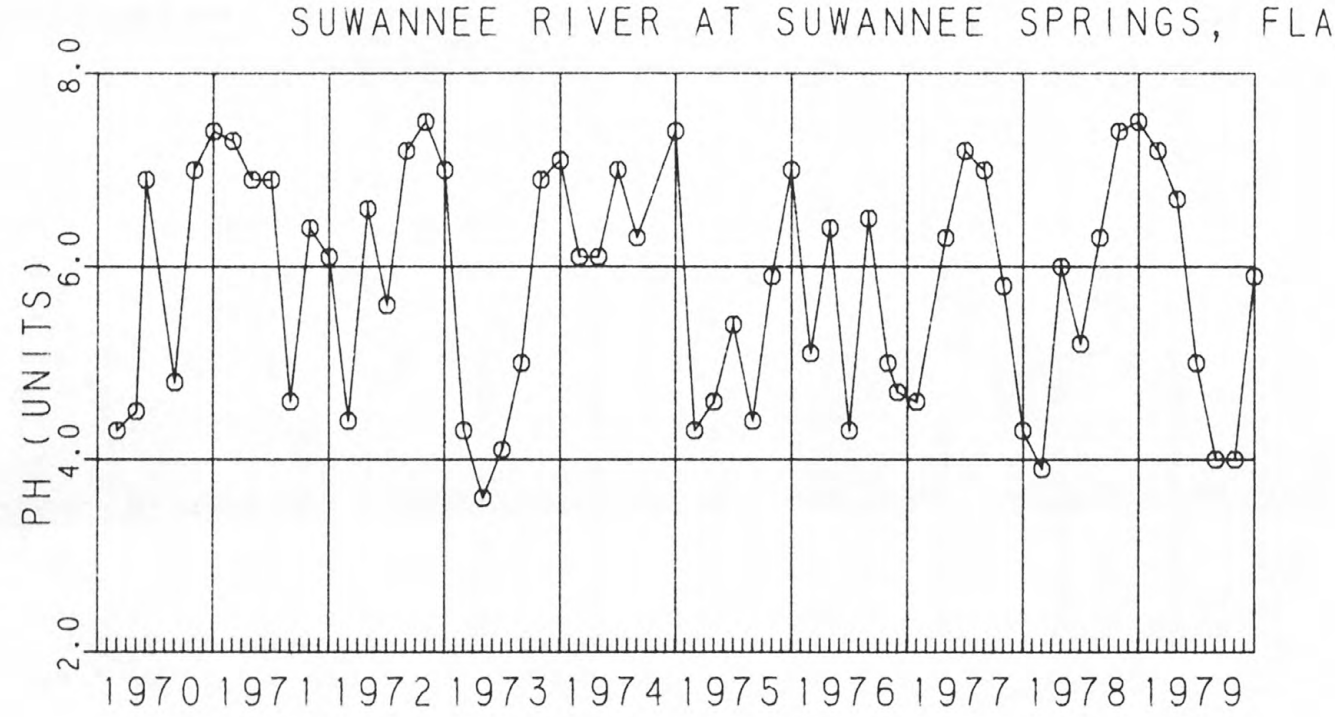


Figure 38.--Discharge and conductance for Suwannee River at Suwannee Springs, 1970-79.



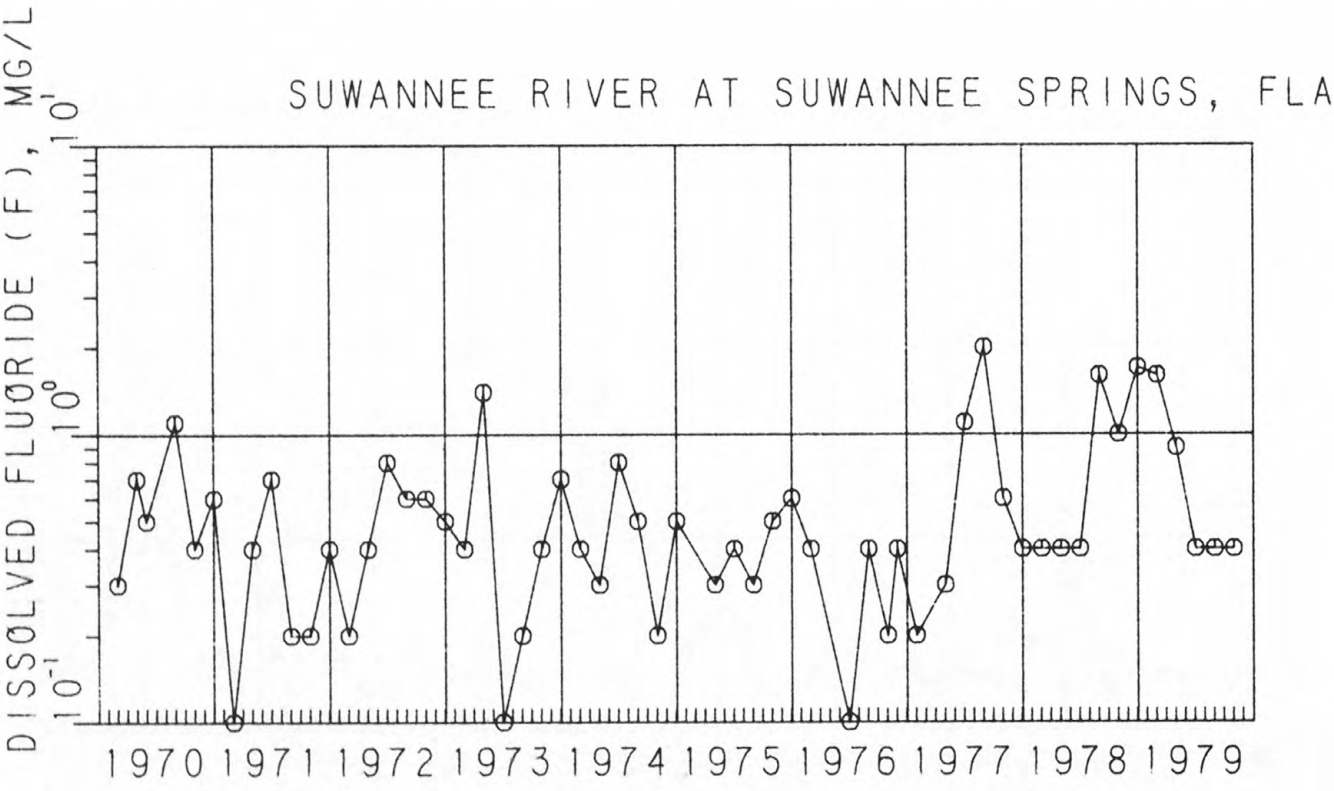
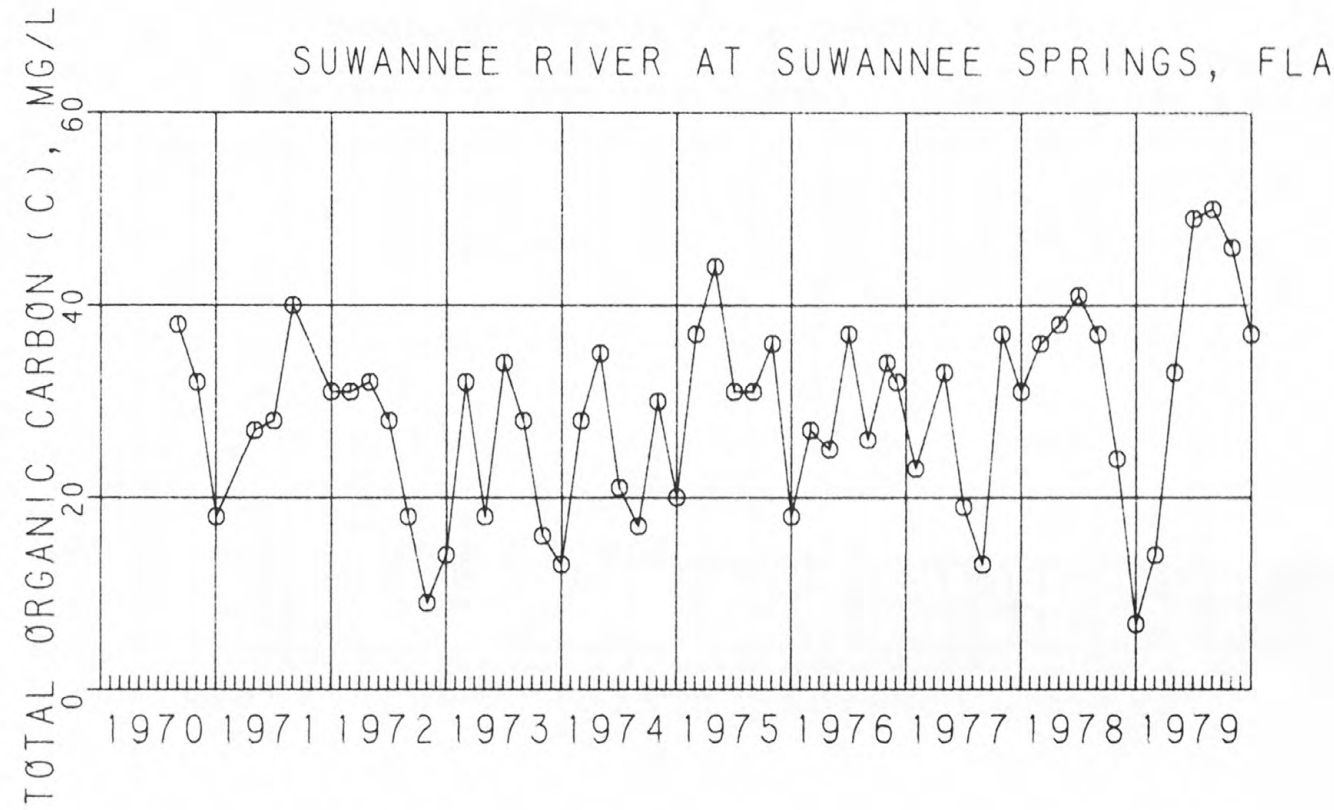


Figure 39.--pH and dissolved fluoride for Suwannee River at Suwannee Springs, 1970-79.



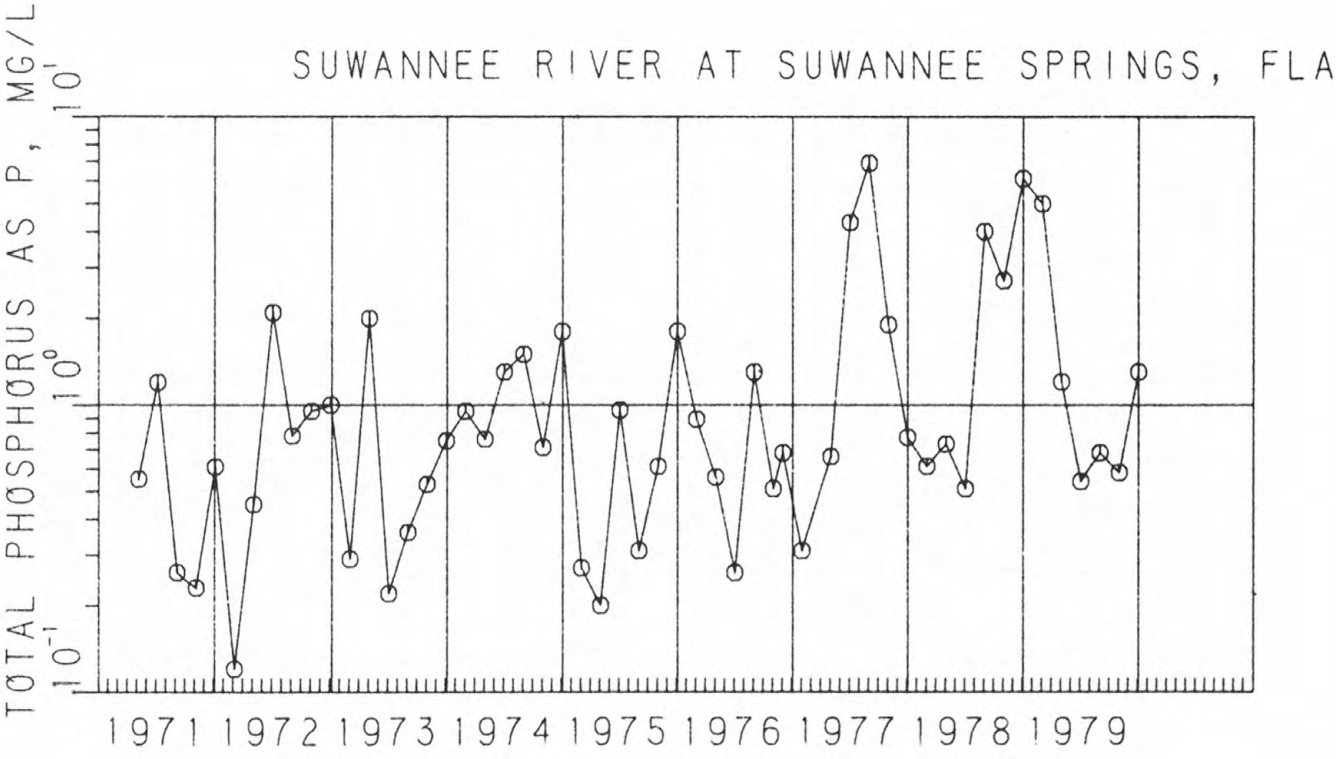
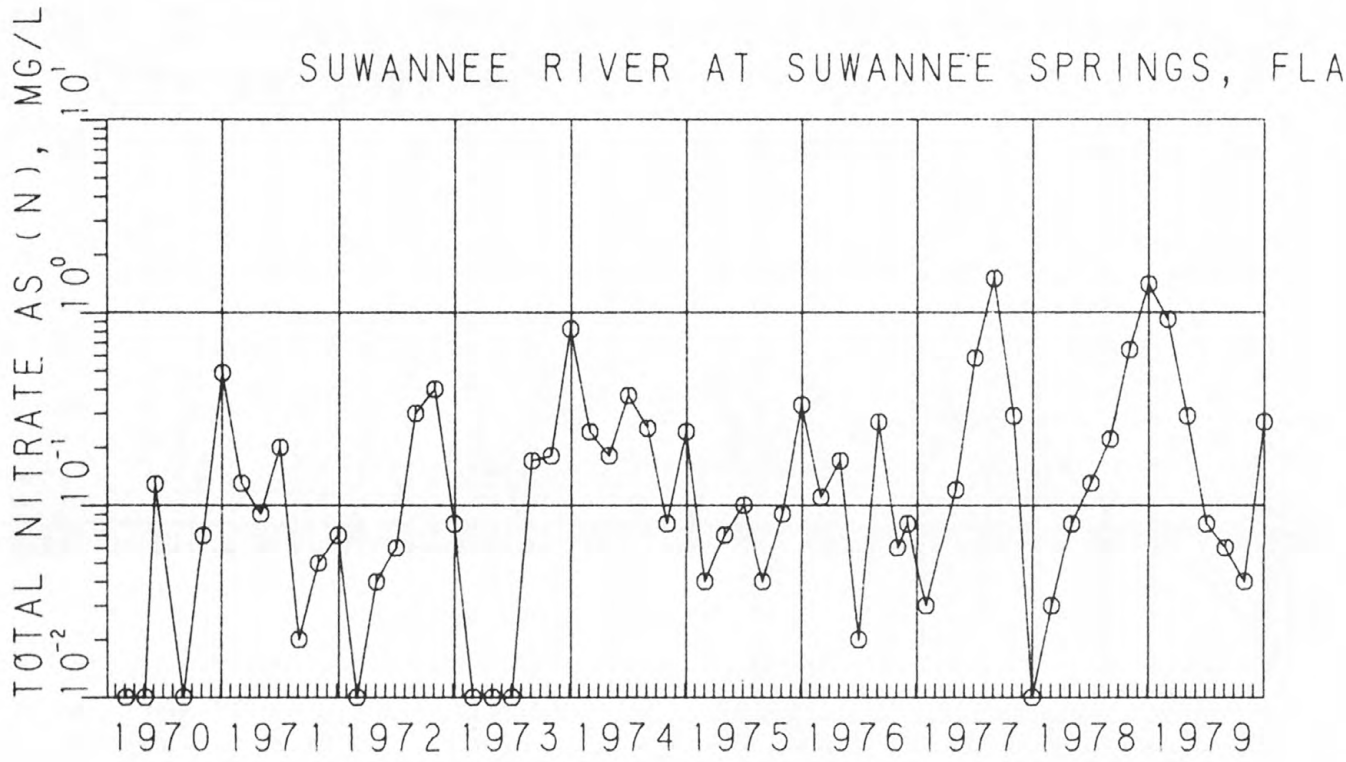


Figure 40.--Total organic carbon and total phosphorus for Suwannee River at Suwannee Springs, 1970-79.



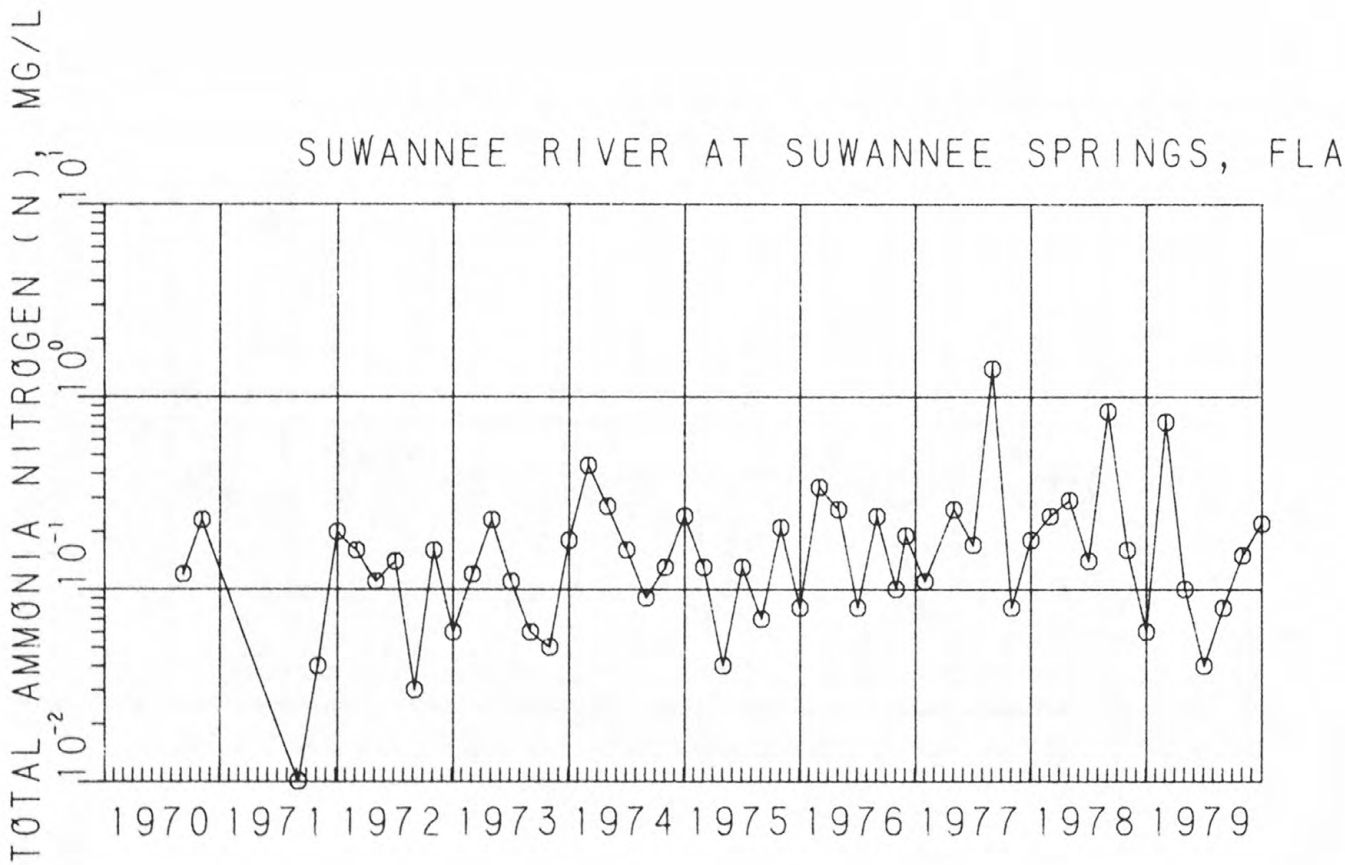
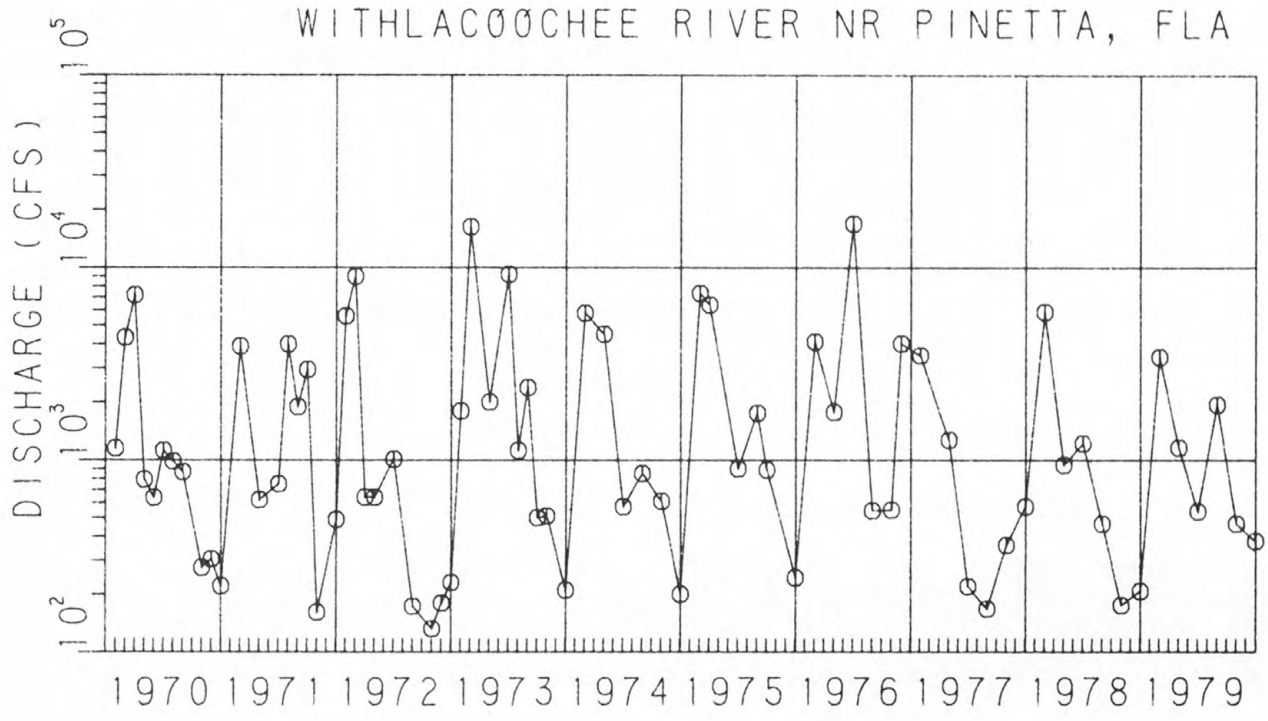


Figure 41.--Total nitrate and total ammonia nitrogen for Suwannee River at Suwannee Springs, 1970-79.



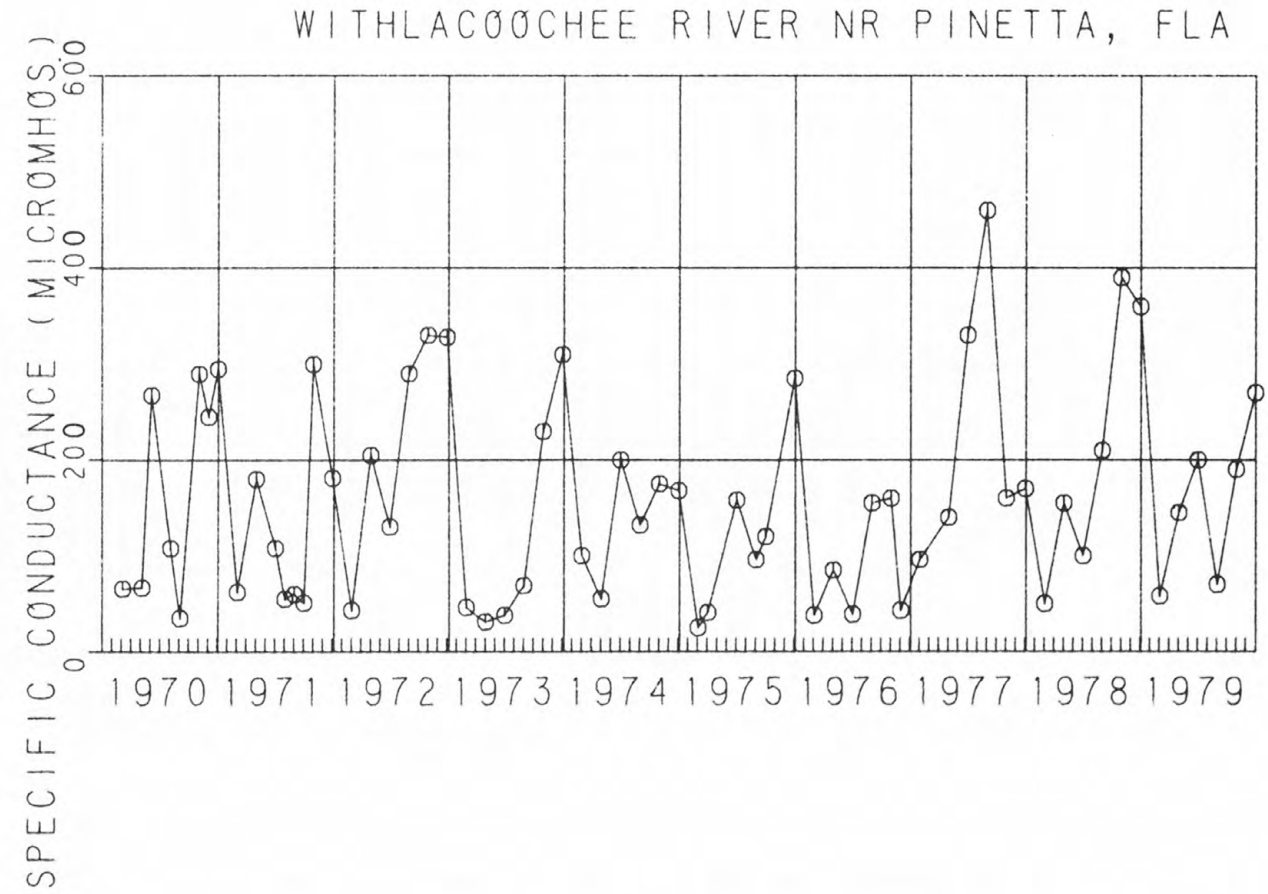


Figure 42.--Discharge and conductance for Withlacoochee River near Pinetta, 1970-79.

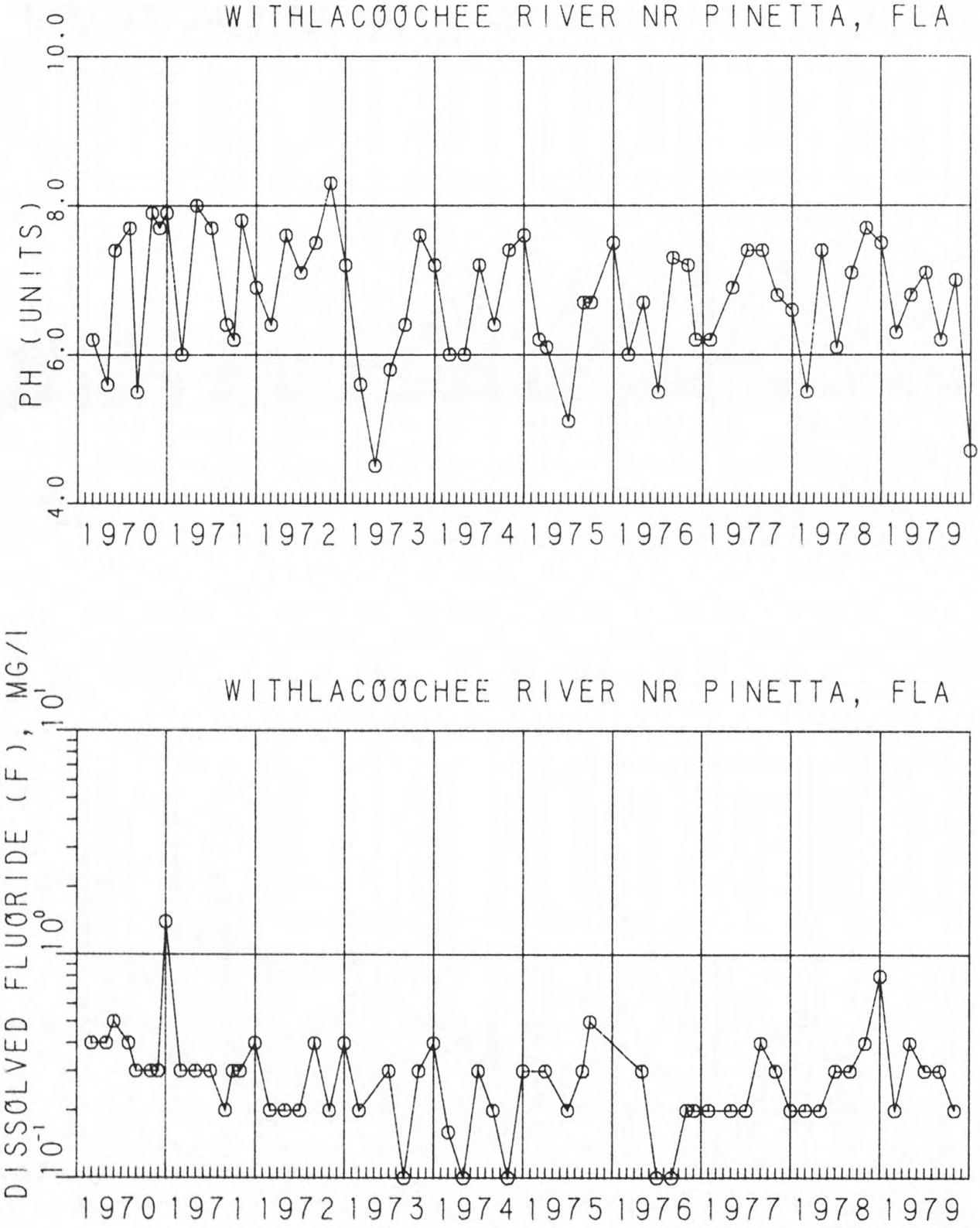


Figure 43.--pH and dissolved fluoride for Withlacoochee River near Pinetta, 1970-79.

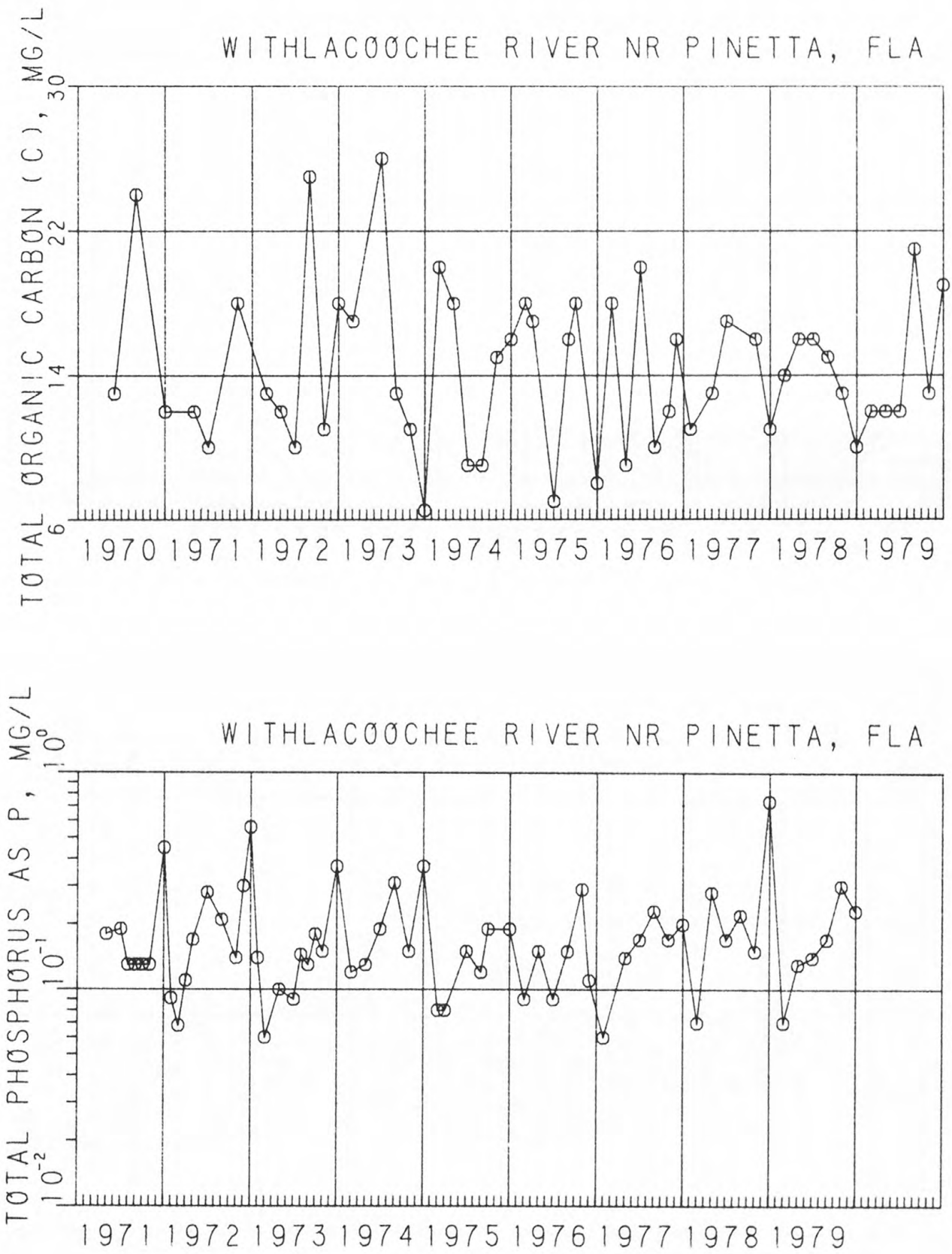
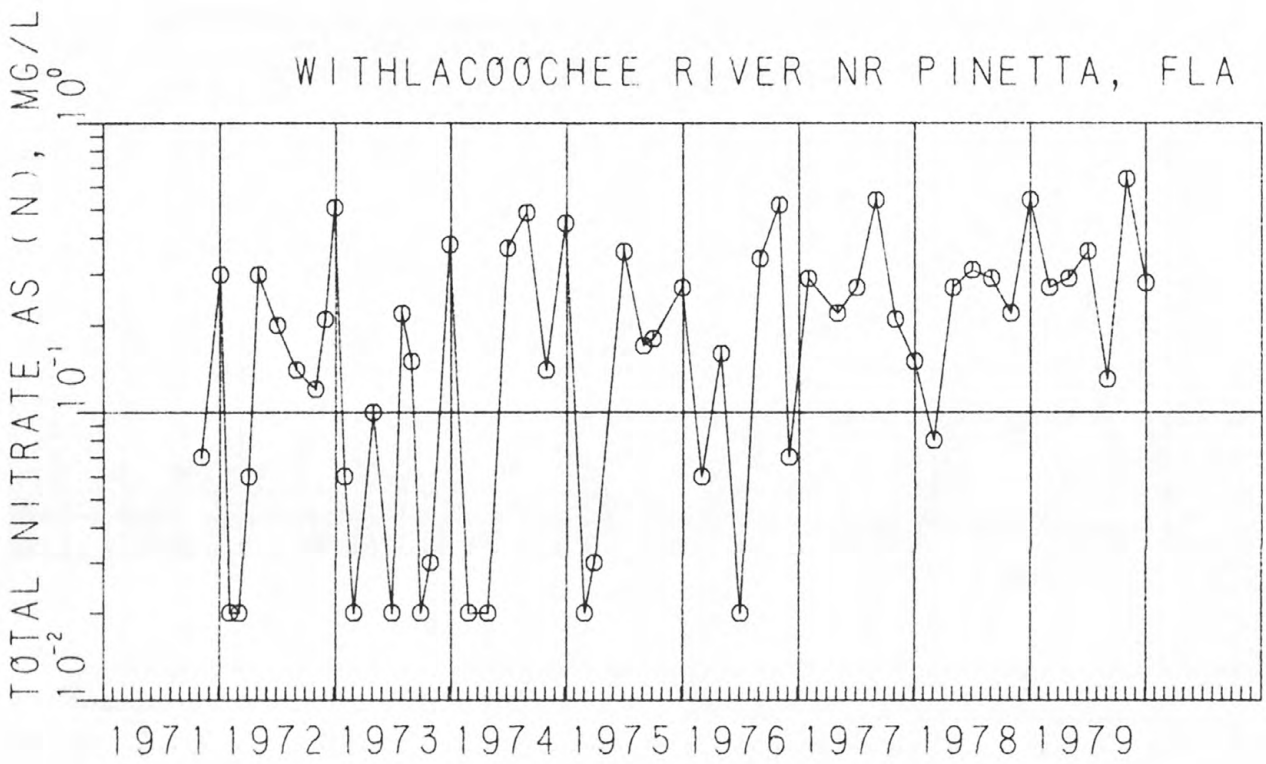


Figure 44.--Total organic carbon and total phosphorus for Withlacoochee River near Pinetta, 1970-79.



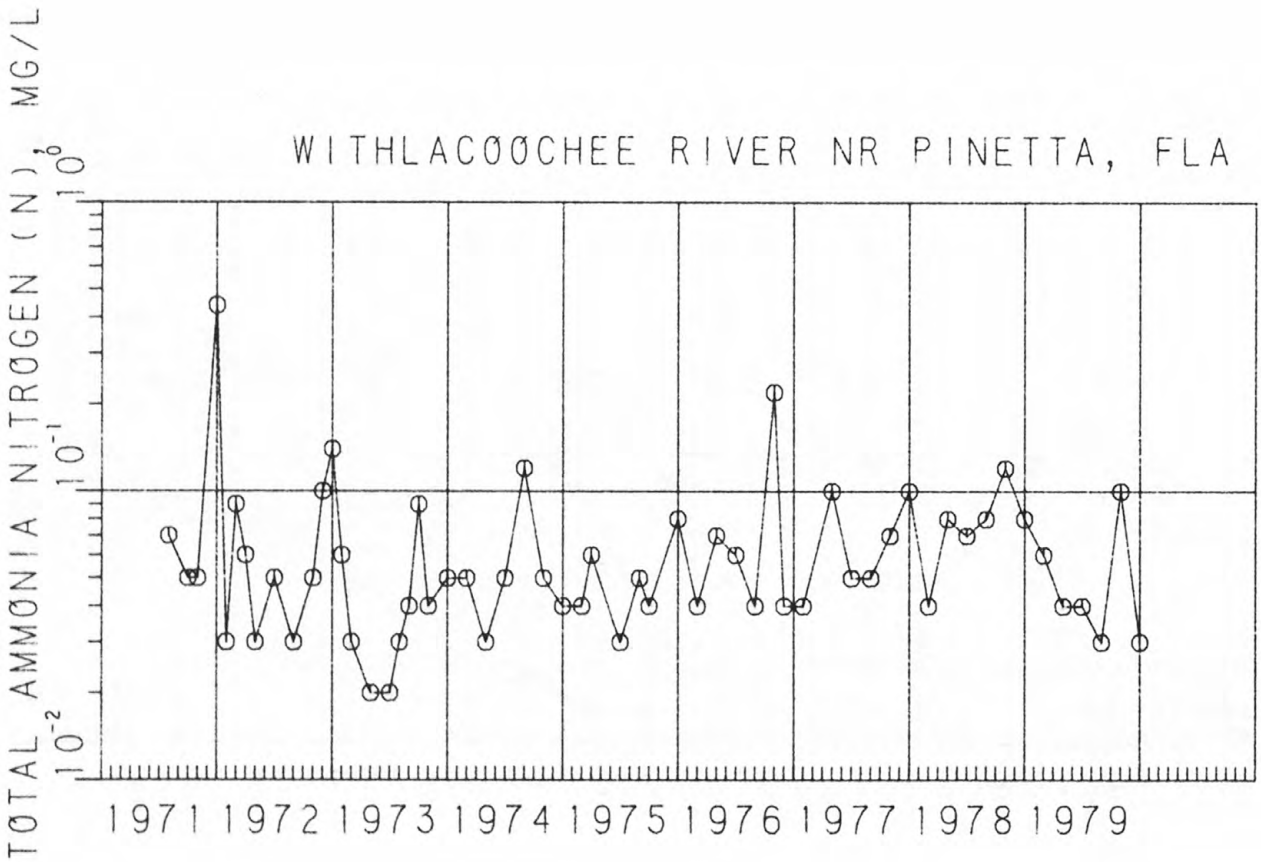
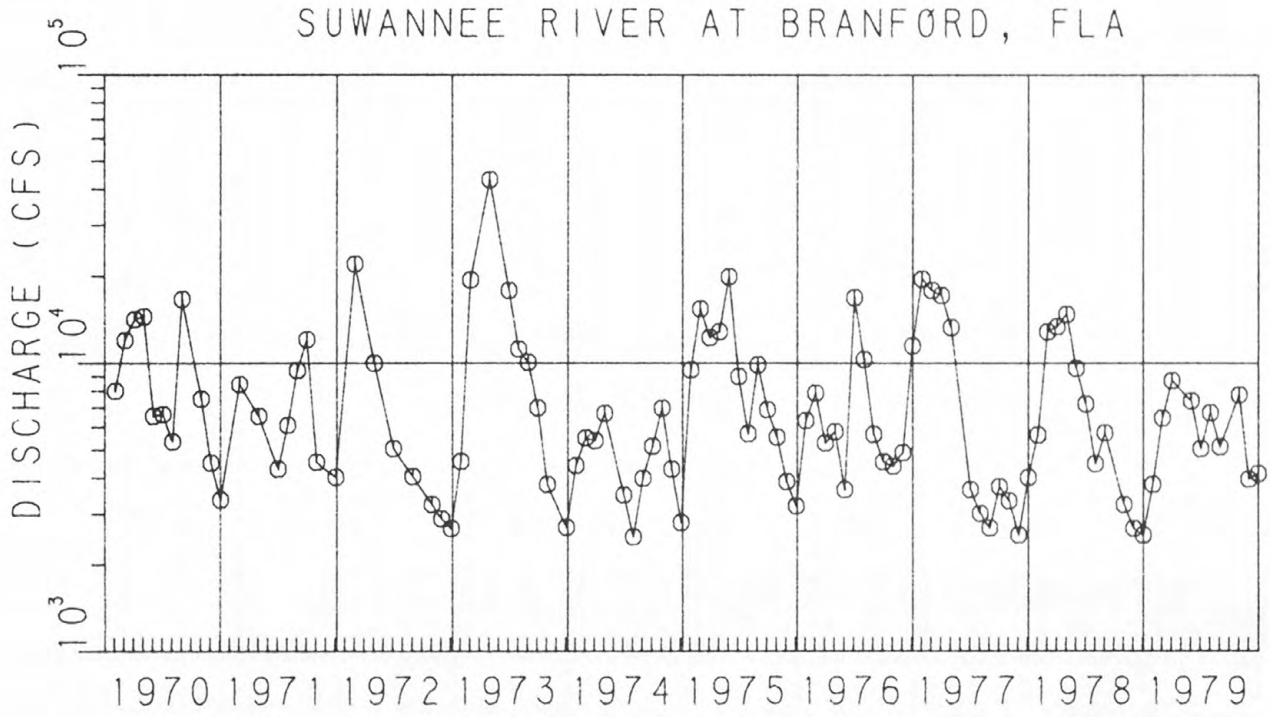


Figure 45.--Total nitrate and total ammonia nitrogen for Withlacoochee River near Pinetta, 1971-79.



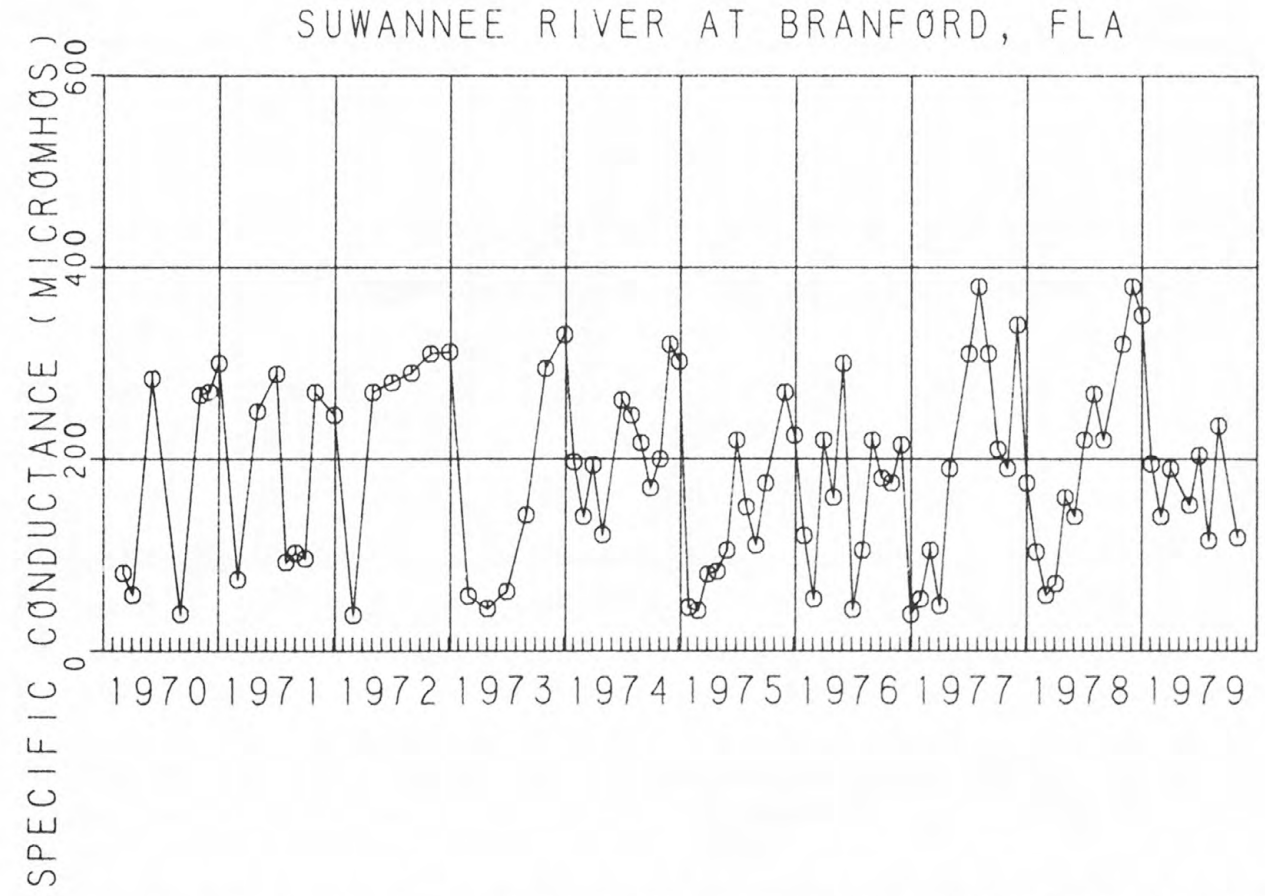


Figure 46.--Discharge and conductance for Suwannee River at Branford, 1970-79.

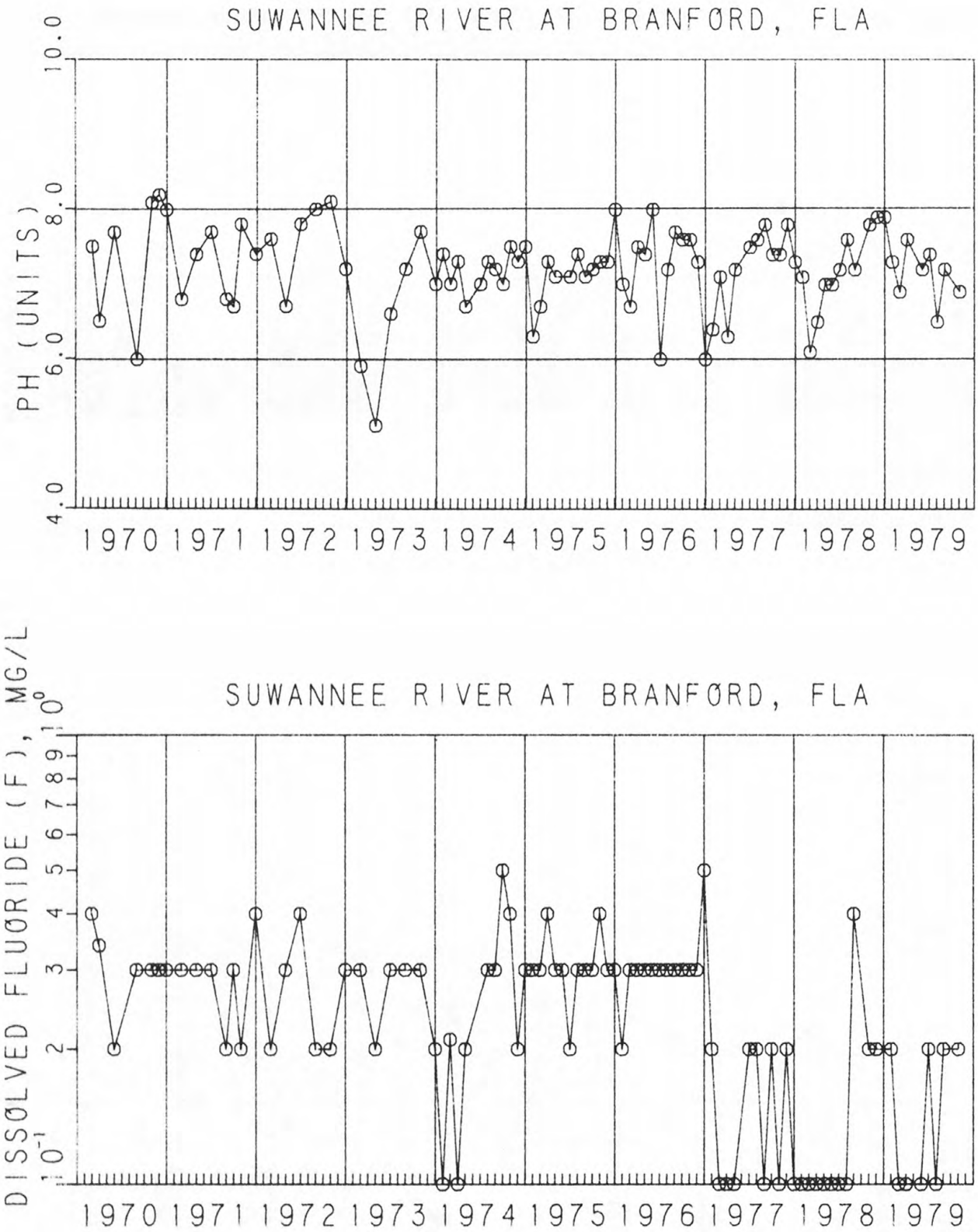


Figure 47.--pH and dissolved fluoride for Suwannee River at Branford, 1970-79.

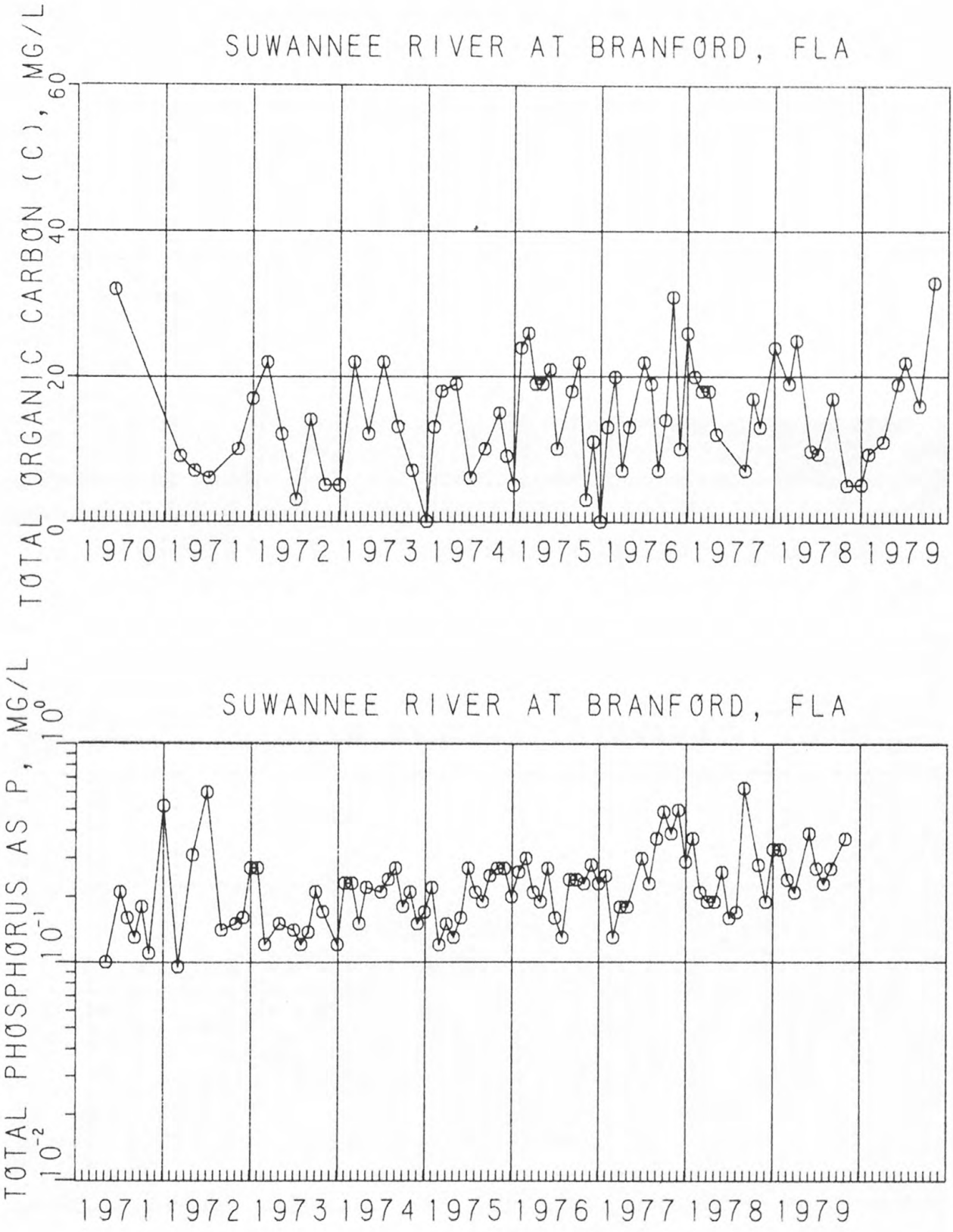
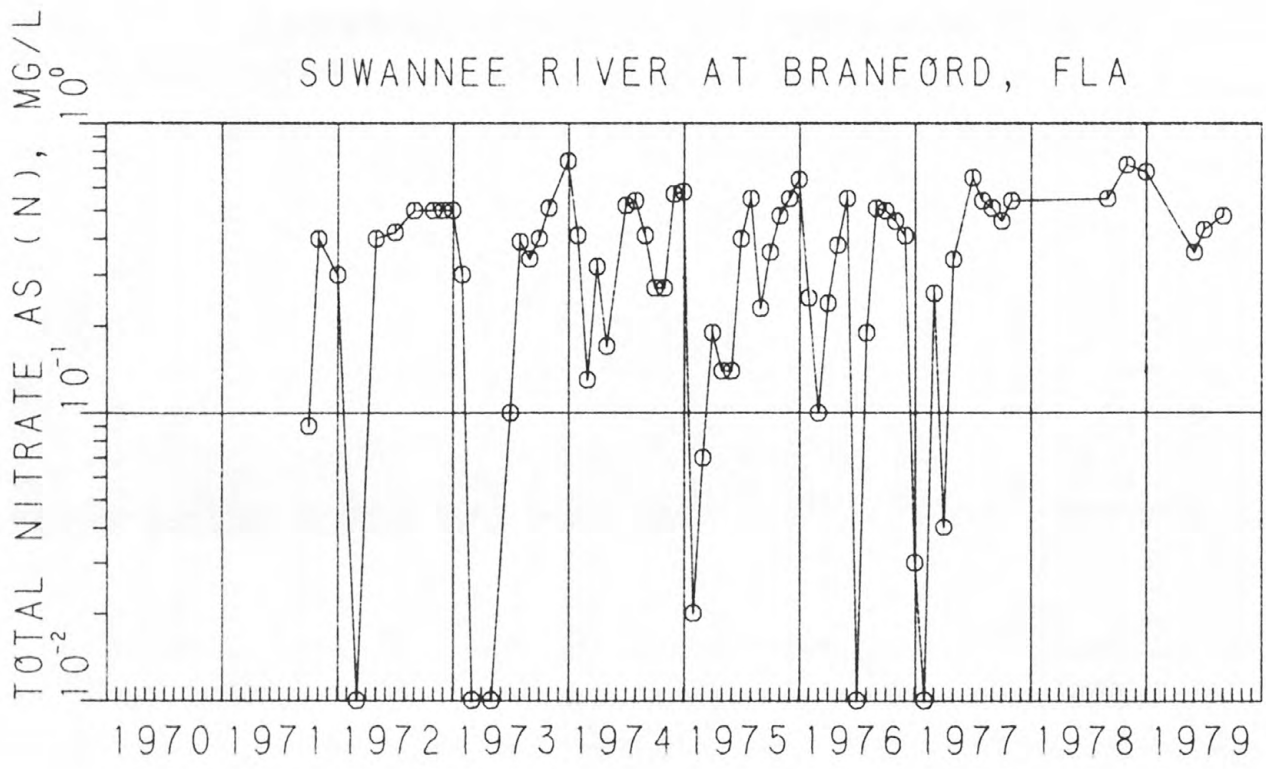


Figure 48.--Total organic carbon and total phosphorus for Suwannee River at Branford, 1970-79.



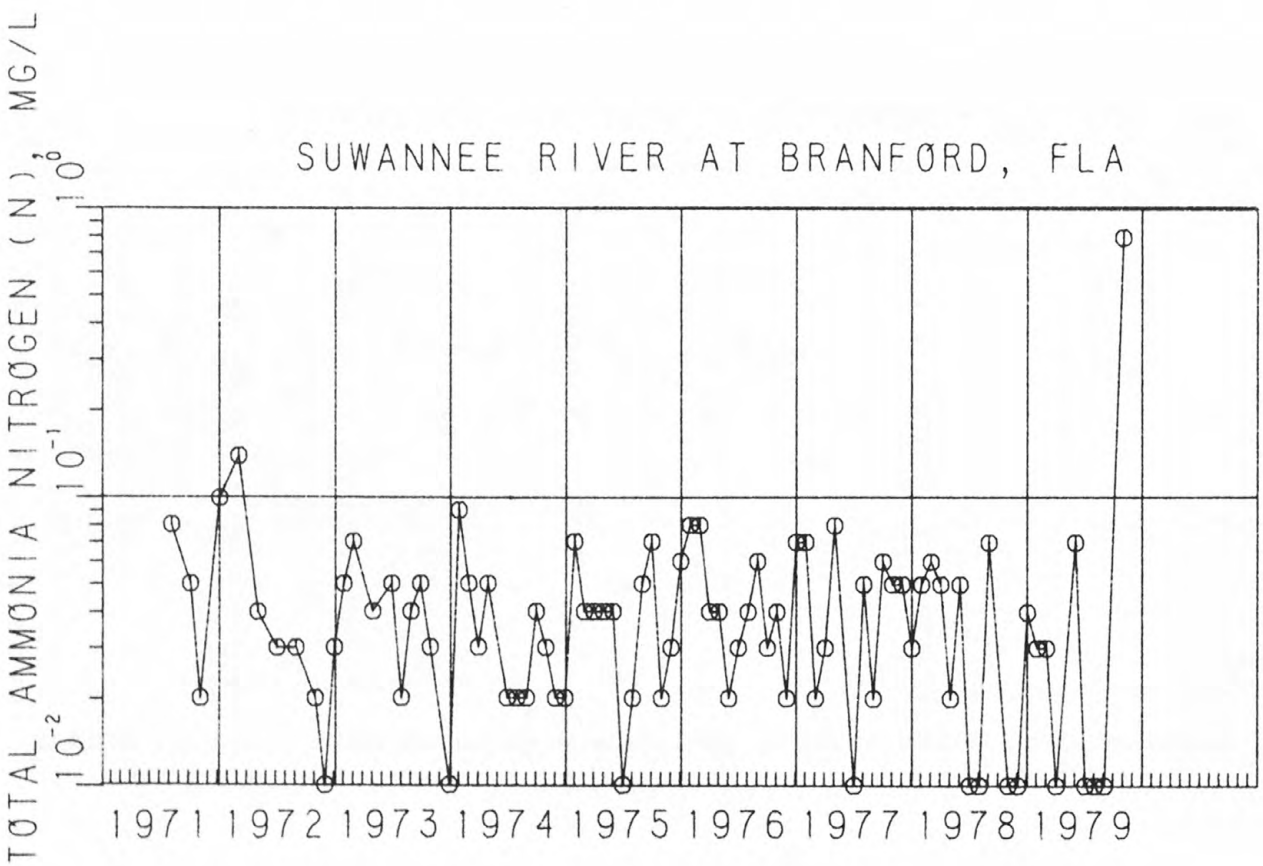
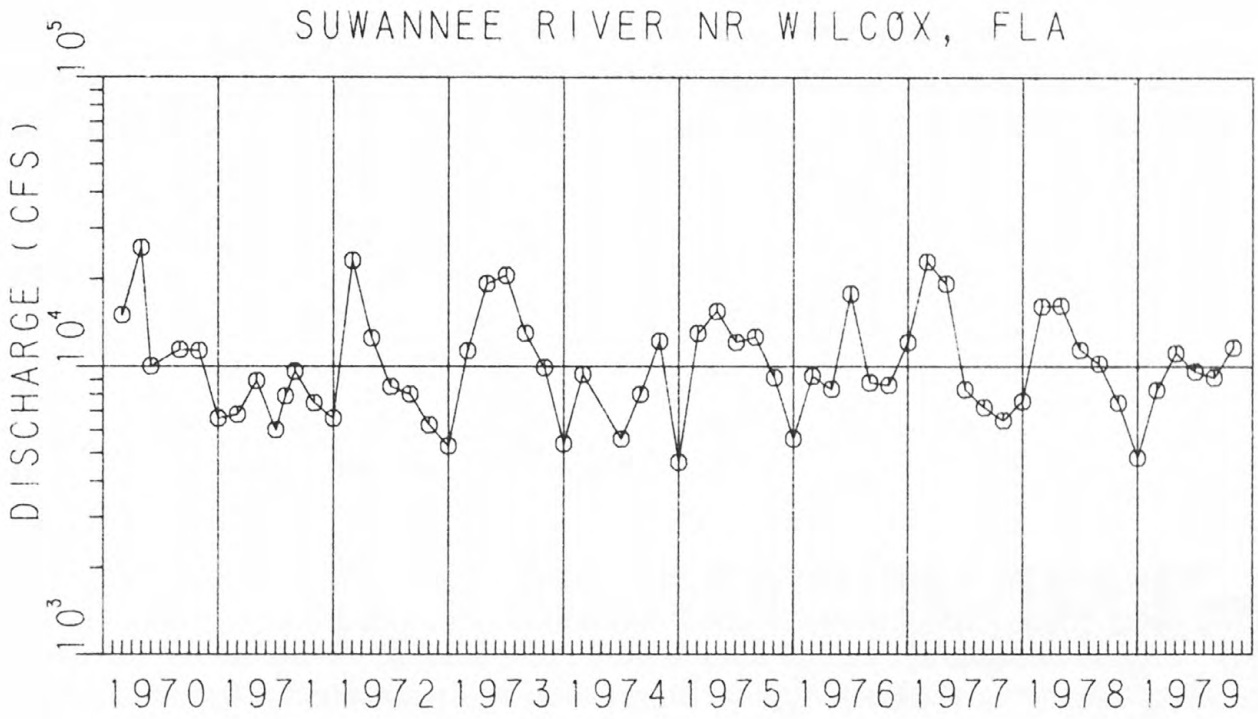


Figure 49.--Total nitrate and total ammonia nitrogen for Suwannee River at Branford, 1970-79.



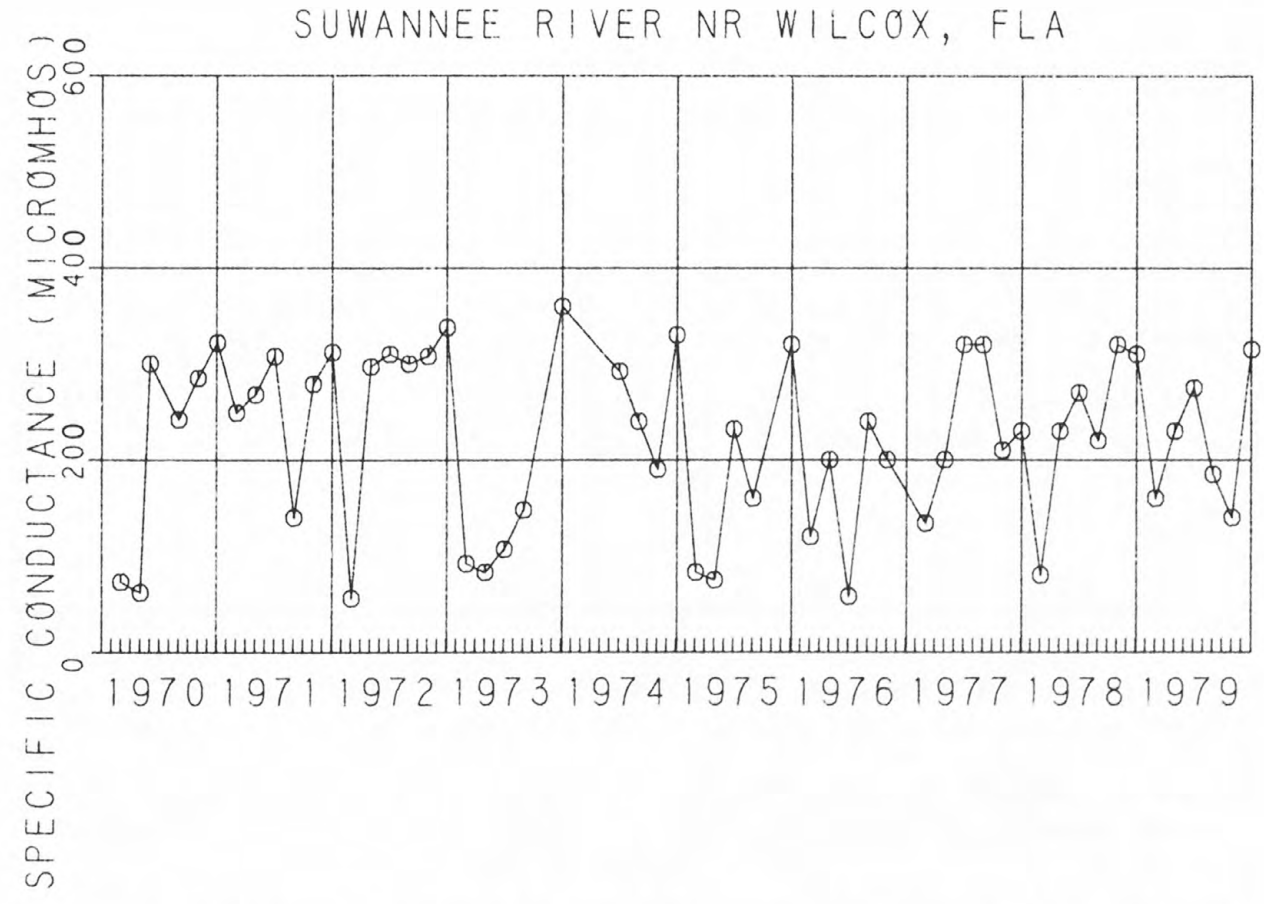
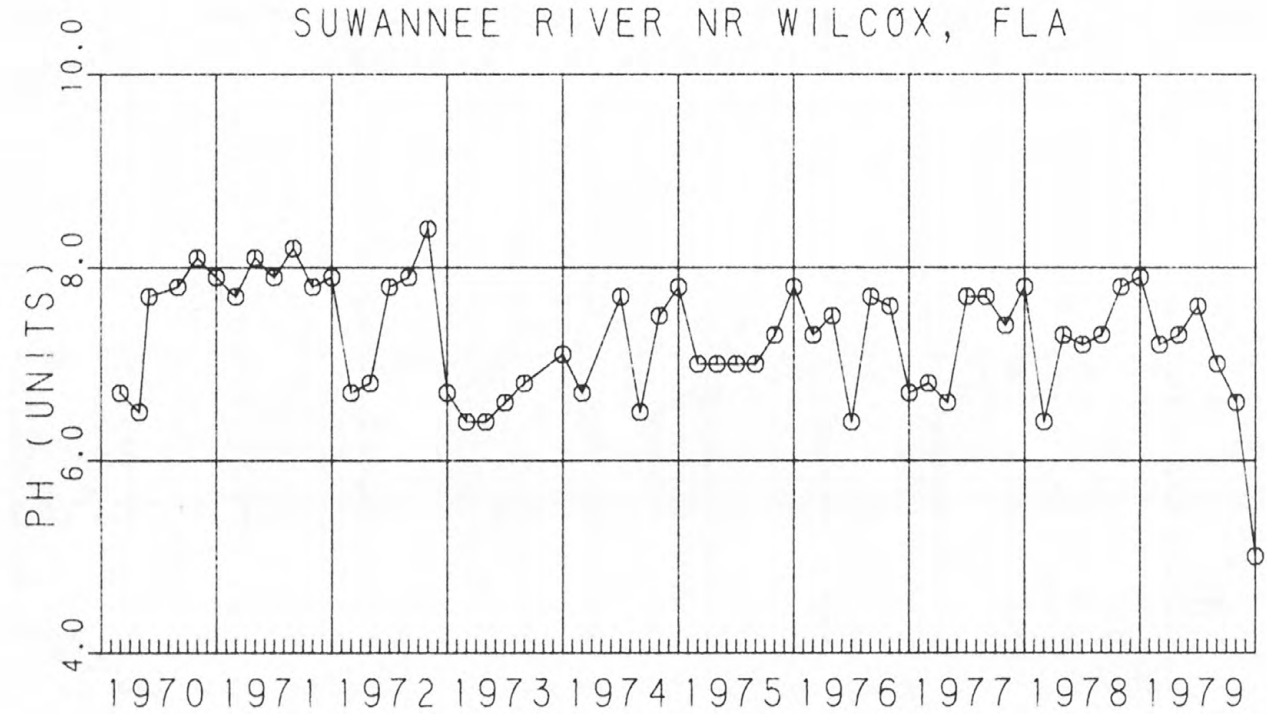


Figure 50.--Discharge and conductance for Suwannee River near Wilcox, 1970-79.



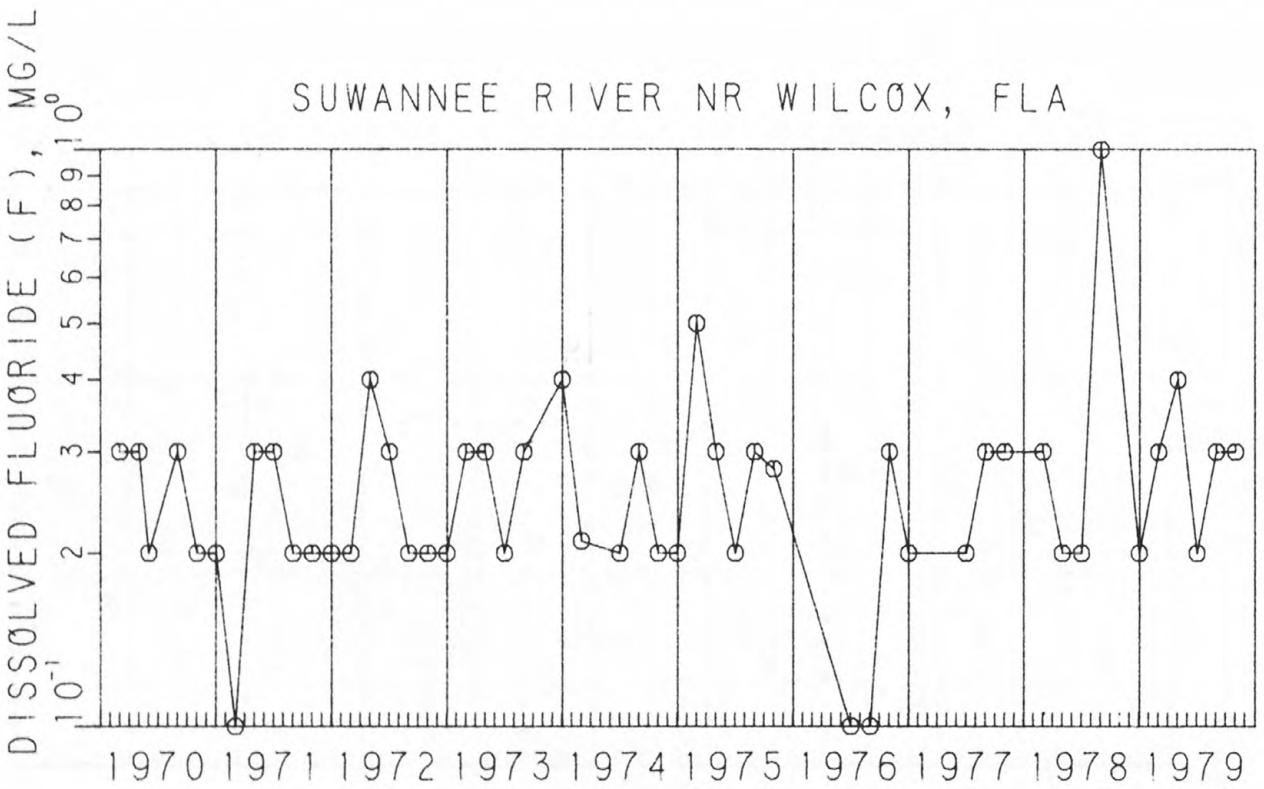


Figure 51.--pH and dissolved fluoride for Suwannee River near Wilcox, 1970-79.

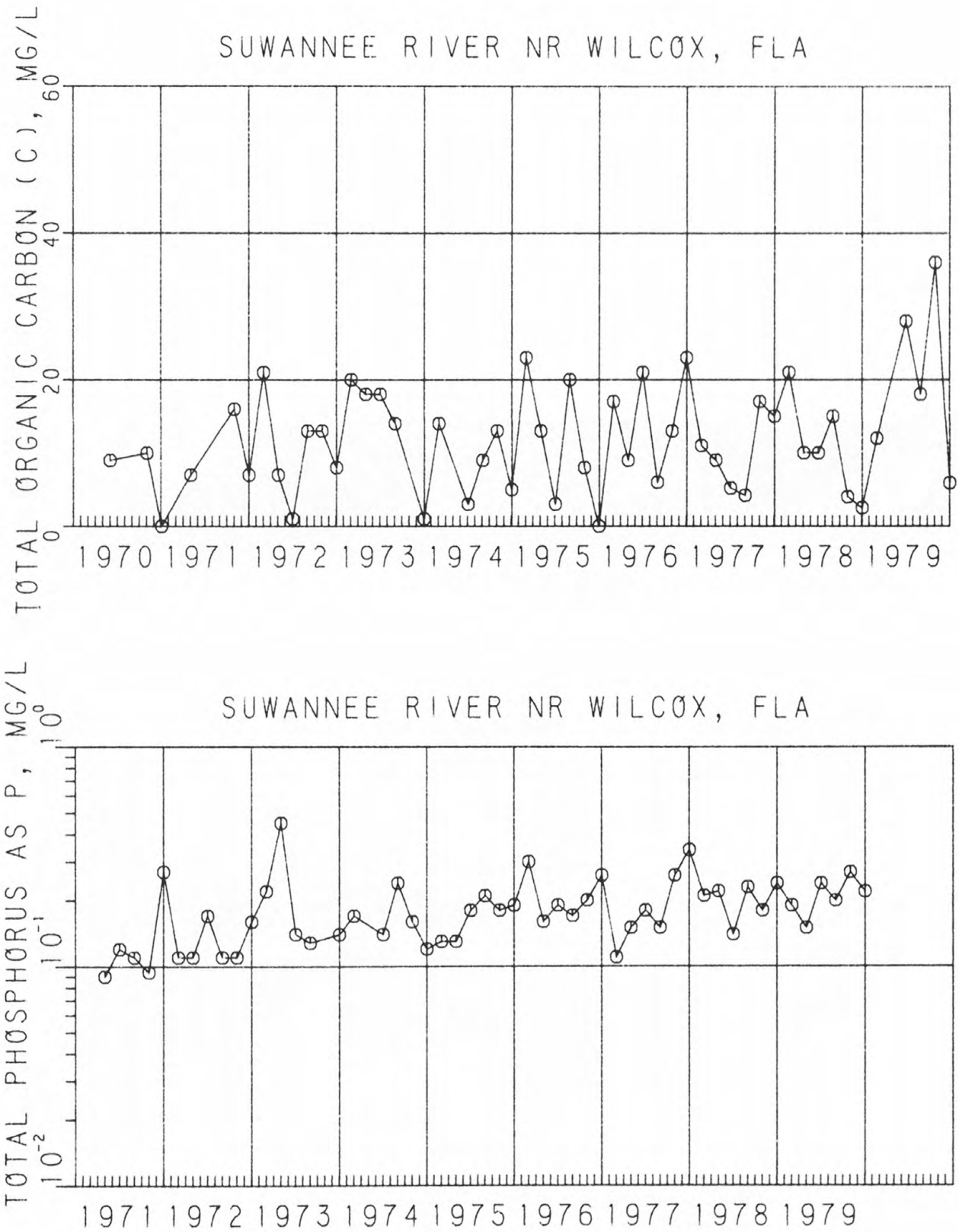
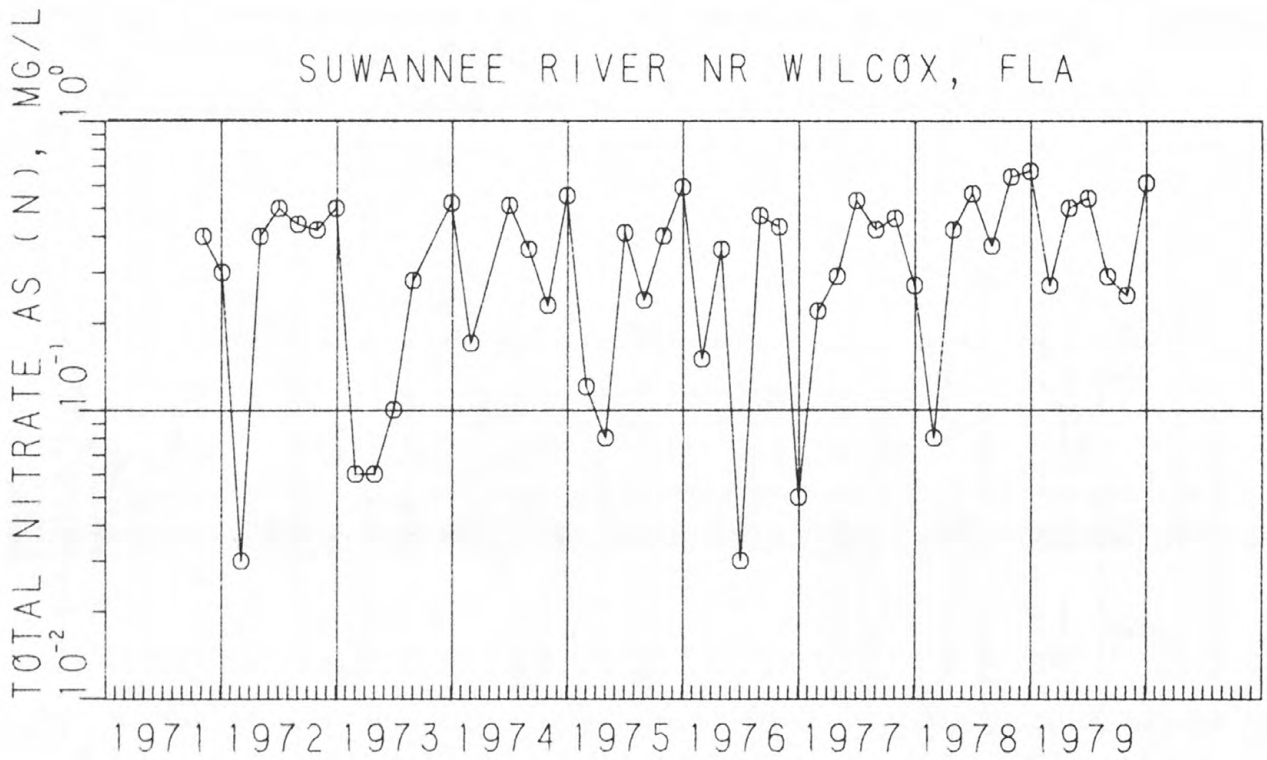


Figure 52.--Total organic carbon and total phosphorus for Suwannee River near Wilcox, 1970-79.



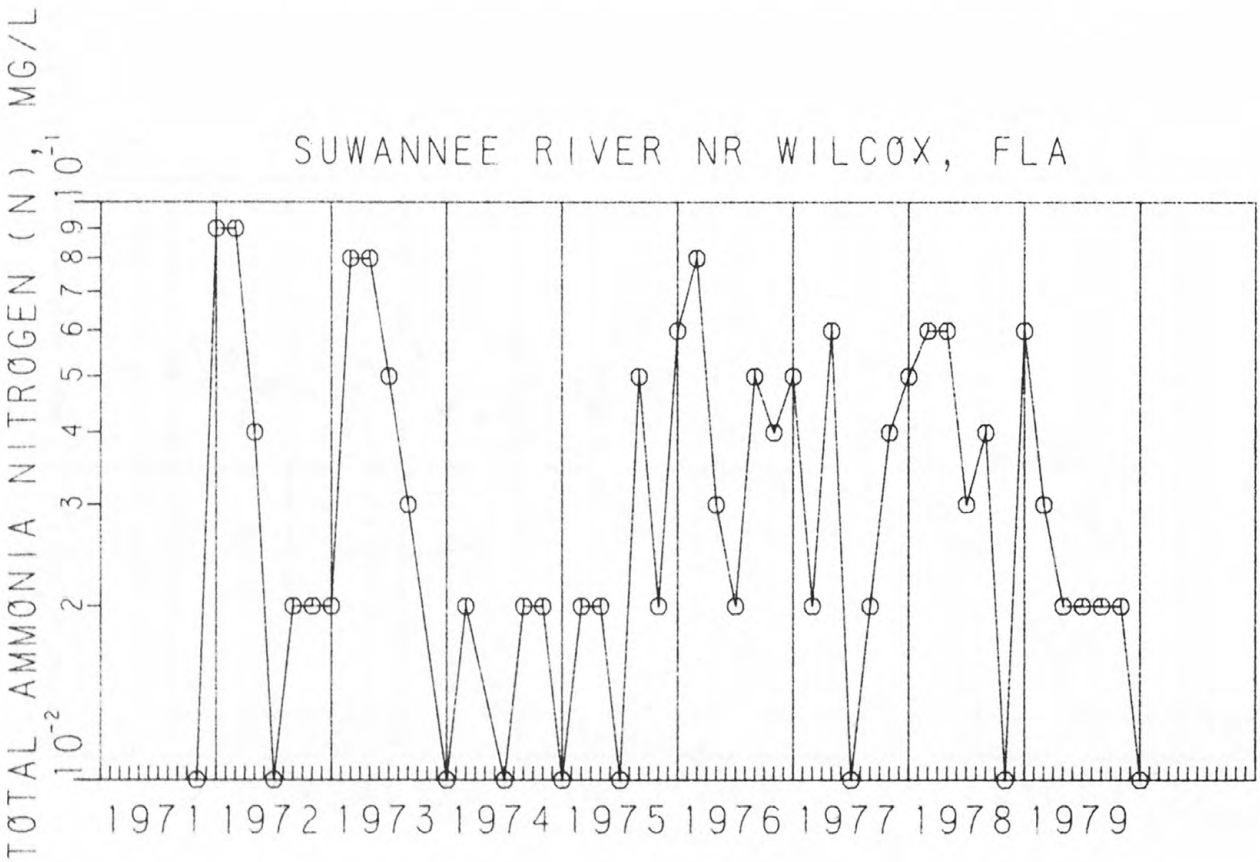


Figure 53.--Total nitrate and total ammonia nitrogen for Suwannee River near Wilcox, 1971-79.

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