TECHNICAL MEMORANDUM

SEPTEMBER 1980

INTERIM PROGRESS REPORT

WATER QUALITY ASPECTS OF THE CALOOSAHATCHEE RIVER SYSTEM

PHASE II

1978 - 1979

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DRE 106

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PART I

INTRODUCTION

The Caloosahatchee River study (Program 8762) was initiated in January 1978 due to the importance of the system to the Lower West Coast Water Use Plan (LWC-WUP) and due to the lack of water quality data in the Caloosahatchee River and tributaries. The primary goal of this study was to develop a water quality data base for the Caloosahatchee River and its major tributaries. Specific objectives included:

1. Characterizing the quality of water discharged into the Caloosahatchee River by the tributaries and Lake Okeechobee;
2. Determining the water quality effects of tributaries and Lake Okeechobee discharge upon the river;
3. Identifying the water quality conditions associated with the recurrent algal blooms upstream of the W. P. Franklin lock and dam (S-79).

In order to accomplish the first two objectives, seventeen river and tributary sites were sampled monthly. Time composite samples were collected during discharge events at S-77 (1979). Sampling during potential bloom periods (April through July) consisted of biweekly grab samples at all stations, daily samples collected at Alva bridge by use of an automated sampler, and daily grab samples at the Lee County water treatment plant. A sediment inventory of the River has been completed each January since 1978.

A final technical publication presenting a detailed analysis of the completed three year study of the Caloosahatchee River system is scheduled for completion in September 1981. This report will focus primarily upon

phosphorus, nitrogen, and chloride concentrations at the major water control structures in the tributaries, and along the River. This report will not include a specific section outlining the results of the daily sampling program (Intensive Study Period) which occurred during 1978 and 1979. This will be discussed in the final report. Bimonthly sampling during this period will be included only as part of the calculations of mean annual or monthly data and in the graphics, not as a separate section. The weekly composite samples collected at S-77 and a detailed discussion of field profile data will also be presented in the final report.

The results found within this document are based primarily upon 1978 and 1979 data. In some cases, historic data through 1978 will be related to current data for comparative purposes. All historic data for S-77 prior to 1978 is taken from unpublished South Florida Water Management District files. The results of this report are preliminary and subject to change as future information might indicate.

Description and Hydrology of the Caloosahatchee River Study Area: The function of Lake Okeechobee in the drainage of south Florida is as a balancing reservoir, receiving runoff from the north, northwest, and south and within the limit of safe storage capacity retaining a portion of the runoff to meet water supply demands. The stage of Lake Okeechobee is controlled to provide flood protection and a water supply to residents within the adjacent drainage basins. The same canal network and water control system which regulates water releases from Lake Okeechobee to control stage also serves for both irrigation and drainage of adjacent lands. Outflow from Lake Okeechobee is controlled, in part, to the Atlantic and Gulf Coasts by the St. Lucie and Caloosahatchee Canals,

respectively. The Caloosahatchee River originates in Moore Haven on the southwest shore of Lake Okeechobee. Water from Lake Okeechobee is released through a combination spillway and navigation lock (S-77) and flows southwest about 6 miles through a nearly level overflow basin, Lake Hicpochee. The River continues westerly to Ortona some 15 miles from Moore Haven where a second lock and spillway (S-78) aids in the control of water levels on adjacent lands upstream. Water level and salinity control in the remaining 26 mile reach of the Caloosahatchee River are maintained by the W. P. Franklin lock and dam (S-79).

The Caloosahatchee River has been straightened and channelized throughout most of its 65 mile length. Many of the bends found in the natural setting now remain only as oxbows on both sides of the channel in the lower pool. The drainage influence to the Caloosahatchee River extends, on an average, about 15 miles on either side of the river, sloping toward the river (U. S. Corps of Engineers, Jacksonville, 1957). Ortona Lock (S-78) separates the Caloosahatchee River study area into two distinct hydrologic boundaries. The upper pool or East Caloosahatchee Basin (ECB) drains 338 square miles (216,133 acres) while the lower pool or West Caloosahatchee Basin (WCB) drains 497 square miles (318,253 acres). The hydrologic boundaries are shown in Figure 1. Table 1 presents the land use in each basin (Isern and Brown, 1980).

Stages in the Eastern Basin from S-77 to S-78 (upper pool) are maintained at approximately 11 feet M.S.L. while the Western Basin from S-78 to S-79 (lower pool) stages are maintained at approximately 3 feet M.S.L.

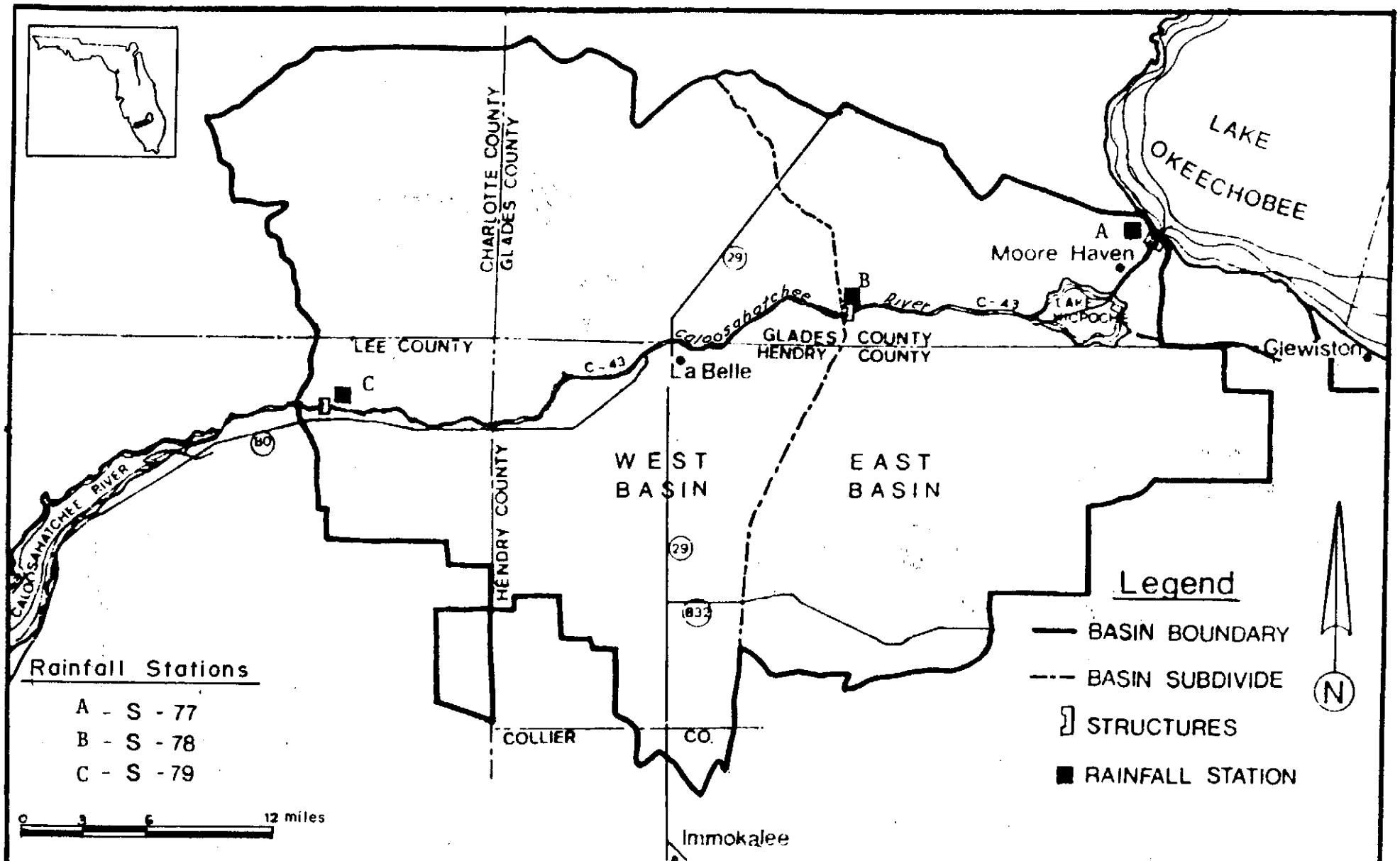


Figure I CALOOSAHATCHEE BASIN AREA

TABLE 1. LAND COVER INVENTORY

Land Use	East Caloosahatchee Basin (Acres)	West Caloosahatchee Basin (Acres)
Urban and built-up land	1,530	18,993
Agriculture	116,029	182,952
Rangeland	6,214	12,902
Forested uplands	14,078	64,898
Wetlands	76,451	35,299
Water	1,177	1,572
Barren Land	654	1,637
Total	216,133	318,253

Table 2 lists the tributaries sampled during 1978 and 1979 and their respective drainage area. The principal land use associated with each tributary's drainage area is not currently available; however, it will be included in the final report.

The Caloosahatchee River triburary drainage system is complex with most of the canals in and around the periphery of Lake Hicpochee draining agricultural lands. There are five major canals east and south of Lake Hicpochee: Diston Island Canal, Nine Mile Canal, Whidden Corner Canal, Lake Hicpochee Canal, and Grassey Marsh East Canal. Of the five, Grassey Marsh East Canal is the only one which drains to the Caloosahatchee River directly. Of the remaining canals, the Diston Island Canal drains lands east of Lake Hicpochee by pumping water to the Lake and secondary canals which lead to the Caloosahatchee River. The Nine Mile Canal gravity drains to a minor canal below the pump and spillway structure located on the Whidden Corner Canal, ultimately draining to Lake Hicpochee.

The Whidden Corner Canal and the Lake Hicpochee Canal drain lands in Hendry County between the River and S. R. 80 by pumping the water south then west through natural and artificial systems to the Caloosahatchee River by way of the Grassey Marsh East Canal. Alternately, the drainage of lands south of S.R. 80 concurrent with the irrigation of associated lands between Lake Hicpochee and S.R. 80 may occur as gravity drainage toward Lake Hicpochee through the Whidden Corner and Lake Hicpochee Canals. In this case, the potential water quality impact upon the Caloosahatchee River is partially absorbed by Lake Hicpochee which functions as a natural buffer zone.

The canals in the WCB differ with regard to adjacent land usage, quantity of flow, canal morphology and direction of flow. Some of the

TABLE 2. TRIBUTARY DRAINAGE AREA

Tributary Name/Code	Drainage Area (Acres)	% of Total by County
ECB:		
1. Diston Island Canal/CR-03.2T	3,328.0	100% Glades
2. Whidden Corner Canal/CR-04.3T	19,993.6	3% Glades, 97% Hendry
3. C-19 at S47D/CR-04.8T	11,008.0	100% Glades
4. Meanderline Ditch/ CR-08.9T	14,636.8	100% Glades
5. Long Hammock Canal/CR-14.0T	48,096.0	6% Glades, 94% Hendry
WCB:		
1. Goodno Canal/CR-14.9T	5,894.6	11% Glades, 89% Hendry
2. Okaloacoochee Branch/CR-22.0T	20,780.8	26% Glades, 74% Hendry
3. Crawford Canal/CR-26.2T	1,811.2	100% Hendry
4. Jack's Branch/CR-30.3T	44,428.0	50% Charlotte, 43% Glades, 7% Hendry
5. Banana Branch of Roberts Canal/CR-30.4T	29,337.6	10% Collier, 90% Hendry
6. Ft. Simmons Branch	Data not currently available.	
7. Townsend Canal/CR-33.5T	43,929.6	100% Hendry
8. Bedman Creek/CR-36.2T	13,331.2	18% Hendry, 82% Lee
9. Cypress Creek/CR-38.2T	11,968.0	68% Lee, 32% Charlotte
10. Hickey Creek/CR-39.6T	Data not currently available.	

canals in the WCB do not discharge directly to the river but discharge to oxbows within the river.

Generally, most of the tributaries adjoining the Caloosahatchee River exhibit flow to the river during the wet season, May through October inclusive. During the dry season, some of the tributaries are utilized for drainage, flowing to the river, while other tributaries are utilized for irrigation purposes withdrawing water from the Caloosahatchee River. Still other tributaries exhibit no flow during the dry season.

Figure 2 demonstrates the daily hydrograph at S-77 from 1973 to 1979, inclusive. Historically, water releases were relatively predictable and followed normal cyclic patterns. Pool stage maintenance releases (less than 2000 acre-feet/day) occurred during the dry season to supply the local irrigation needs within each basin. No releases occurred during the wet season as rainfall was sufficient to meet local demands. Occasionally, as in 1974, major regulatory releases (greater than 2000 acre-feet/day) were made during the wet season (July and/or August) to lower Lake Okeechobee to within the regulation stage limits. Water releases for flushing purposes occurred occasionally (June 1976 and May, June, and July 1977) to flush massive algal mats from the river that had accumulated adjacent to the Lee County water treatment plant near S-79.

The pattern of discharge activity at S-77 during 1978 and 1979, however, was atypical. Water releases at S-77 during 1978 were limited, with discharges occurring only during the latter part of March through early April and again during August. During the first major water release period (March - April) approximately 18,000 acre-feet of water (averaging 534 acre-feet/day) were released to maintain canal stages in the upper and

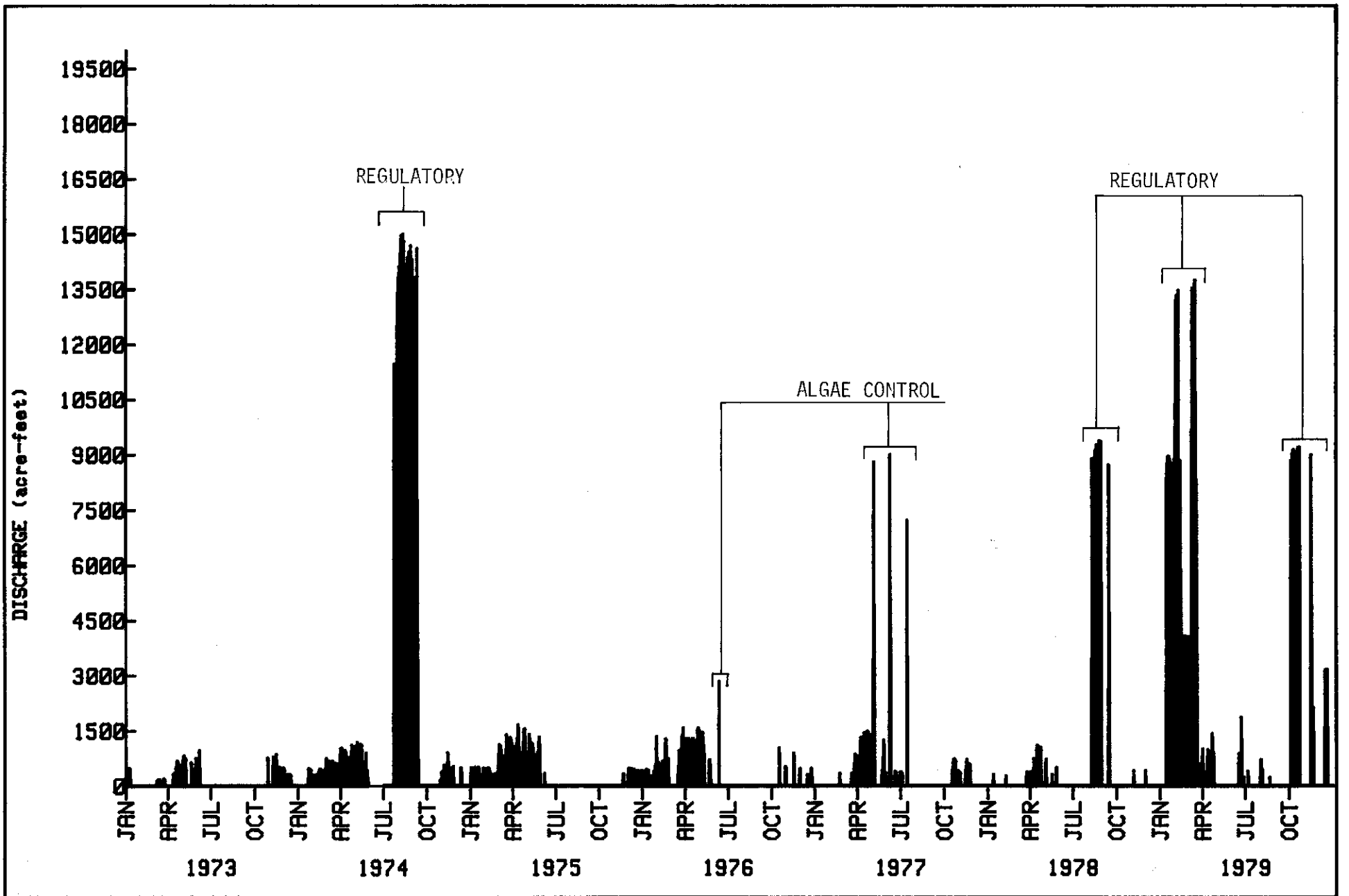


FIGURE 2. DAILY HYDROGRAPH FOR S-77 FROM 1973 TO 1979

lower pools. The second major water release period in August was for regulatory purposes. This release totaled approximately 180,000 acre-feet of water (averaging 5,800 acre-feet/day). The remainder of the year exhibited intermittent releases lasting no more than a few days at a time. During most of 1978, Lake Okeechobee was effectively isolated from the Caloosahatchee River. Discharges through S-77 occurred 76 days during the entire year.

During 1979, water releases at S-77 were more frequent, of greater magnitude, and of longer duration than in 1978. The period of release between January 11 and March 15 was a unique dry season regulatory release averaging approximately 8,100 acre-feet/day. From March 15 to April 30 an average of 589 acre-feet/day was released to maintain canal stages. Regulatory releases were again necessary during most of October, November, and December. These discharges lasted approximately one week during each month.

S-78 and S-79 discharges during the 1978 study year were substantially different from that of S-77 in that water releases occurred continuously. Intermittent gate closures lasted only a few days to a couple weeks at a time. Generally, water releases at S-78 and S-79 were a function of tributary run-off in the east and west basins and major water releases at S-77.

Discharges at S-78 and S-79 during 1978 were generally less than the historical average while discharges during 1979 were greater than the historical average (Table 3).

TABLE 3. DISCHARGE* COMPARISON ON THE CALOOSAHATCHEE RIVER 1978 AND 1979 CALENDAR YEARS

	S77			S78			S79		
	Average**	1978	1979	Average	1978	1979	Average	1978	1979
January	32,035	879	168,300	35,542	8,860	117,900	47,327	18,940	251,400
February	23,102	758	202,300	25,992	2,640	217,400	35,883	11,350	116,820
March	48,605	3,440	178,100	60,044	12,020	180,600	86,973	38,010	186,500
April	80,439	14,490	17,320	77,203	10,150	6,400	79,080	3,660	5,020
May	35,550	3,350	307	41,094	25,070	71,700	45,006	23,820	56,230
June	49,898	298	7,690	97,019	23,460	6,110	141,963	41,390	Data
July	57,870	307	1,230	118,947	50,430	6,040	183,983	100,100	not
August	87,684	180,500	3,070	147,176	262,200	10,380	183,089	308,359	currently
September	15,393	25,090	298	55,071	64,860	110,000	113,189	77,380	available
October	32,988	307	174,963	55,365	18,876	Data	93,996	43,786	"
November	35,305	1,632	34,816	39,943	6,018	not	51,095	15,583	"
December	25,052	543	22,328	23,378	10,332	currently	32,108	27,780	"
Annual Total	523,921	231,594	810,722	775,774	494,915	available	1,093,690	752,051	"

* Discharge in Acre-feet

** Average data from the USGS Water Resources Data, 1966-1977

1. S-77; January 1978 - September 1978 published USGS Water Resources Data
   October 1978 - December 1979 Provisional USGS Water Resources Data
2. S-78; January 1978 - September 1978 published USGS Water Resources Data
   October 1978 - December 1978 U.S. Army C.O.E., unpublished, instantaneous flow logs
   January 1979 - September 1979 Provisional USGS Water Resources Data
3. S-79; January 1978 - September 1978 published USGS Water Resources Data
   October 1978 - December 1978 miscellaneous USGS data
   January 1979 - May 1979 Provisional USGS Water Resources Data

Rainfall

For the purposes of this report the rainfall in the East Caloosahatchee Basin was computed by averaging the rainfall rates at S-77 and S-78. The rainfall for the West Caloosahatchee Basin is the average of the rates at S-78 and S-79.

The average monthly rainfall for each basin for the two years of study (1978 and 1979) are shown in Figure 3. Also shown in this figure are the historical averages for these two basins based on the entire period of record for the three rain gauges. As might be expected, there is little difference between the ECB and the WCB for either the study period or the historical average priod. The historical data show the typical south Florida pattern of wet summers and falls and dry winters and springs. The 1978 rainfall in both basins followed the historical average closely with the exception of above average rainfall in July and December.

The 1979 rainfall pattern was considerably different than the historical. The months of January and September were very much above the average while the months of June and July were well below the average.

In terms of annual rainfall amounts, 1978 was wetter than average. The ECB recorded 50.5 inches compared to a historical average of 47.4 while the WCB had 52.9 inches in 1978 compared to a historical average of 45.9 inches. Although the monthly values for 1979 were often considerably different than the historical means for each month, the total annual amounts were actually closer to the historical average in 1979 than in 1978. In 1979 the ECB received 47.4 inches of rain and WCB received 51.8 inches of rain.

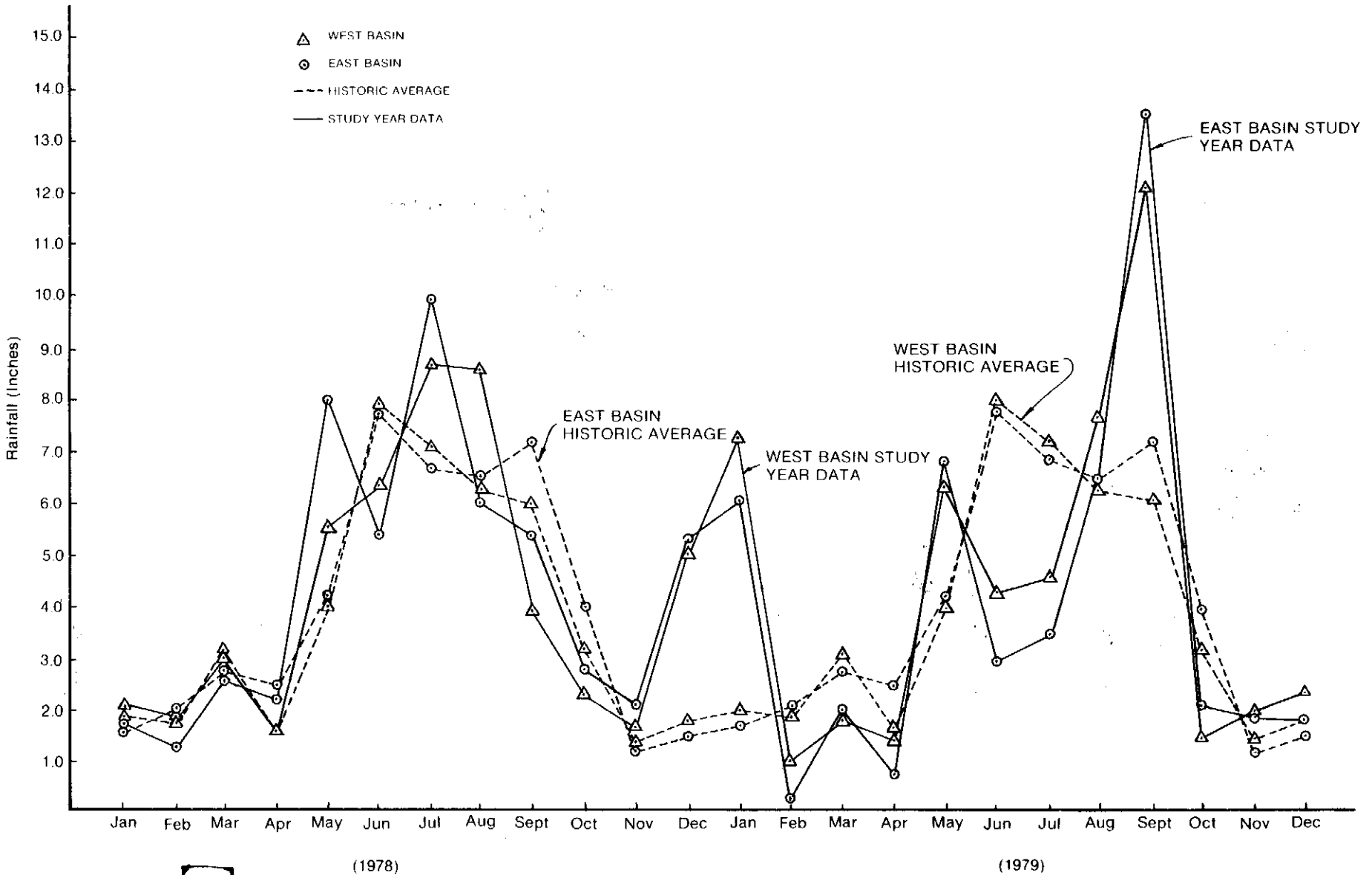


Figure 3 STUDY PERIOD (1978-1979) RAINFALL AND HISTORIC RAINFALL IN THE EAST AND WEST CALOOSAHATCHEE BASINS

MATERIALS AND METHODS

Sampling Locations and Frequency: Thirty-three stations were sampled routinely in the Caloosahatchee River Study Area; seventeen tributary sites and sixteen mainstream sites. Their codes and corresponding site descriptions are presented in Table 4 and their locations are shown in Figure 4.

Station identification numbers include a two letter prefix representing the study area (CR) and a 3-digit number corresponding to the mileage from a point of orientation located at the center of the Lake Okeechobee Rim Canal (adjacent to S-77 spillway in Moore Haven). An additional letter suffix (T) is included in the identification number when the code refers to a tributary station. The mileage indication for the tributary stations refers to that point where the Caloosahatchee River and an associated tributary intersect.

Samples were collected from the river and tributaries monthly except during the period, April through July, when they were collected bimonthly. Sediment samples were collected from all river stations in January 1979. A refrigerated automatic sampler was installed at S-77 to collect daily composite samples during discharge events at approximately 2.5 hour intervals.

Sampling and Analytical Methods: Dissolved oxygen, temperature, specific conductivity and pH were measured at each station with a Hydrolab(R) Surveyor II. Field profile measurements were taken at two meter intervals at the main river stations and at one meter intervals at the tributary sites. Routine water samples were collected from the surface and one

TABLE 4. CALOOSAHATCHEE RIVER SAMPLE LOCATIONS

A. River Station Locations:

1. CR-03.0, C-43 3 miles west of Moore Haven Lock (S-77)
*2. CR-04.5, C-43 4.5 miles west of Moore Haven Lock (S-77)
3. CR-06.0, C-43 6 miles west of Moore Haven Lock (S-77)
*4. CR-09.0, C-43 9 miles west of Moore Haven Lock (S-77)
5. CR-11.0, C-43, 11 miles west of Moore Haven Lock (S-77)
ECB *6. CR-13.5, C-43 2.3 miles east of Ortona Lock (S-78)
WCB 7. CR-16.0, C-43 1.2 miles west of Ortona Lock (S-78)
*8. CR-19.0, C-43 4.2 miles west of Ortona Lock (S-78)
9. CR-22.5, C-43 1.0 miles east of LaBelle Bridge (SR-29)
10. CR-26.0, C-43 2.5 miles west of LaBelle Bridge (SR-29)
11. CR-30.4, C-43 1.6 miles west of Ft. Denaud Bridge (C-78A)
12. CR-32.0, C-43 3.6 miles west of Ft. Denaud Bridge (C-78A)
13. CR-36.0 C-43 5.0 miles east of Franklin Lock (S-79)
14. CR-37.0, C-43 4.0 miles east of Franklin Lock (S-79)
15. CR-39.0, C-43 2.0 miles east of Franklin Lock (S-79)
16. CR-40.3, C-43 at Franklin Lock adjacent to Olga surface water intake at water plant.

B. Tributary

*1. CR-03.2T, Diston Island Canal at Diston Island, Hicpochee Pump
*2. CR-04.3T, Whidden Corner Canal (C-5) at S.R. 80
*3. CR-04.8T, C-19 at S-47D
*4. CR-10.1T, Meander line Ditch at S.R. 78
ECB *5. CR-14.0T, Long Hammock Canal at S.R. 89
WCB *6. CR-14.9T, Goodno Canal at S.R. 89 near Ortona
7. CR-22.0T, Okaloacoochee Branch at S.R. 80 near Port LaBelle
8. CR-26.2T, Crawford Canal at S.R. 80
9. CR-30.3T, Jack's Branch at Norris Road
10. CR-30.4T, Banana Branch of Robert's Canal at S-78A
11. CR-31.0T, Ft. Simmon's Branch at S-78A
12. CR-33.5T, Townsend Canal at S.R. 80
13. CR-36.2T, Bedman's Creek at S.R. 80
14. CR-38.2T, Cypress Creek at S.R. 80
15. CR-39.6T, Hickey's Creek at S.R. 78
**16. Grassey Marsh East Canal
**17. S235

* Stations added during 1979
** Stations added during 1980

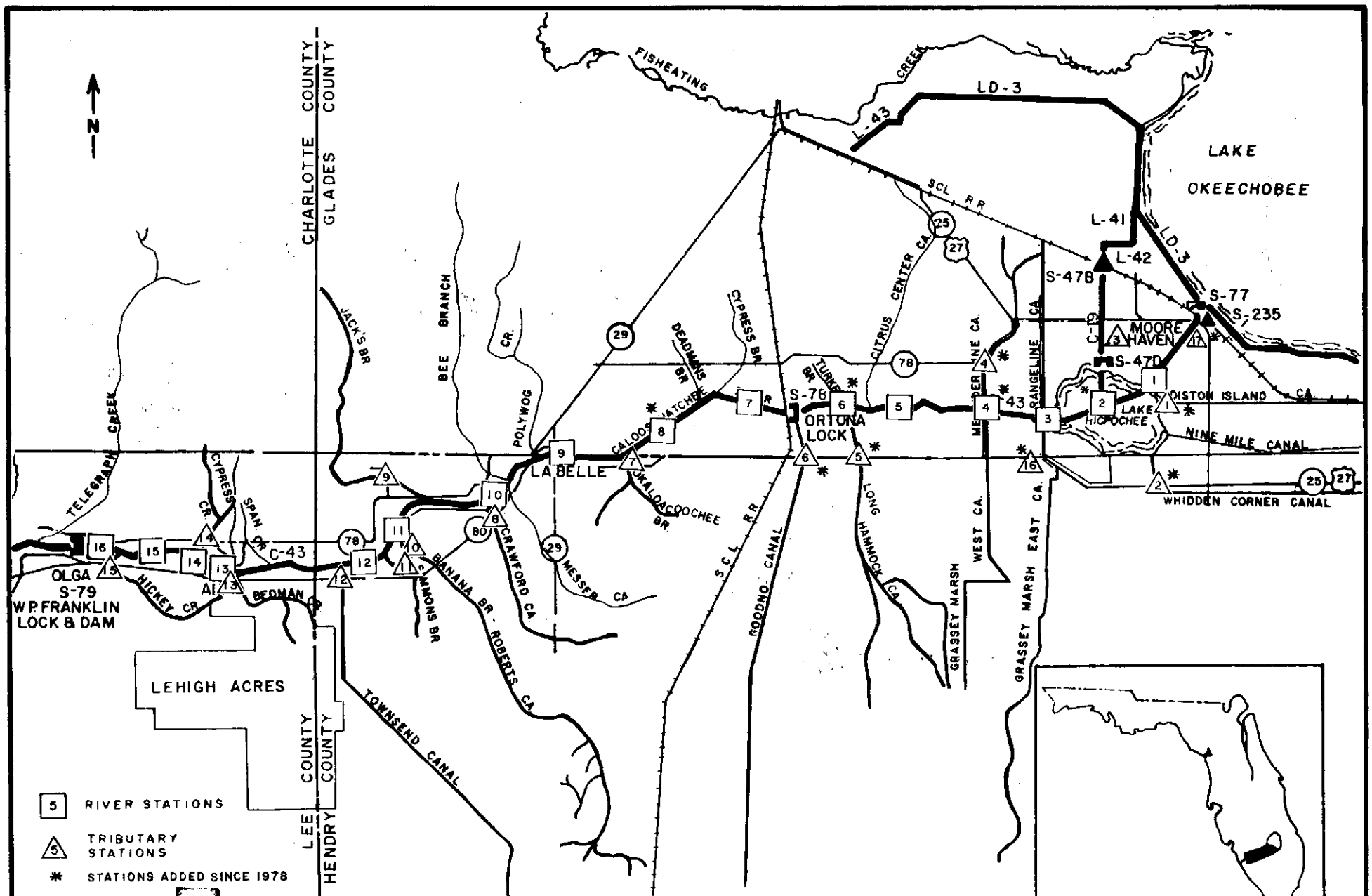


Figure 4 CALOOSAHATCHEE RIVER STUDY AREA

meter above the bottom at each river station with a 5 liter PVC Niskin(R) Sampler. One liter of each surface and bottom sample was then mixed as a composite sample in a polyethylene bucket from which subsamples were then taken and prepared for analysis. Unfiltered aliquots of samples were collected for total nutrient analysis. Samples for the analysis of dissolved constituents were filtered at the time of collection through a 0.45 micron Nuclepore(R) membrane filter. All water samples were stored in the dark, on ice in polyethylene bottles until returned to the laboratory, at which time they were transferred to a refrigerator and held at 4° C for subsequent analyses, usually within one to two weeks.

Daily water samples were collected at S-77 approximately 1.0 meter below the surface with an ISCO Automated Sampler Model 1392 and composited in a refrigerated polyethylene bottle. The automatic sampler was calibrated to collect approximately 70 - 100 mls of sample (stage dependent) every 2.5 hours and composite each sample in a 5 liter polyethylene bottle. The sampler was manually activated at the time the spillway gates were opened and deactivated when the gates closed. The composite sample was then collected weekly and returned to the laboratory for subsequent analysis. The routine chemical analyses performed on each sample are listed in Table 5. The laboratory methods used for sample analysis were either recommended or approved by the Environmental Protection Agency or the American Public Health Association (Standard Methods for the Examination of Water and Wastewater). (Appendix A).

TABLE 5. FIELD AND LAB WATER QUALITY PARAMETERS, 1979.

I. River Sites and Tributary Sites

A. Monthly and Bimonthly

1. Field measurements (2 meter profile/River, 1 meter profile/Tributary)

a. Physical Parameters - Temperature, specific conductivity, dissolved oxygen, pH, depth, (Secchi Disc- River only)

2. Lab Measurements (Composite/River, Surface/ Tributary)

a. Physical Parameters

1) Turbidity, Color (all Tributaries plus River stations CR-03.0, CR-22.5, CR-40.3)

2) Total Suspended Solids (River Stations CR-03.0, CR-22.5, CR-40.3 only)

b. Nutrients - NO_x, NO_2, TKN, NH_4, TPO_4, $TdPO_4$, OPO_4

c. Major and Minor Constituents

1) Alkalinity, River Stations CR-03.0, CR-22.5, CR-40.3

2) Chloride, all stations

d. Metals - Total Fe, Ca, Mg, Na, K

e. Other - Fluoride

PART II

RESULTS AND DISCUSSION

Introduction

During the 1978 study year, water samples were collected from the surface and the bottom of the river to determine whether significant stratification occurred with regard to the water quality. These data indicated that for most parameters studied, the Caloosahatchee River System remained vertically homogeneous (Appendix B). Consequently, discrete surface and bottom data collection was replaced with surface and bottom composite samples as discussed earlier in the section on sampling and analytical methods. In order to test the validity of compositing samples as a routine method for collection, quarterly checks were performed at three stations during 1979. These tests included the collection and analysis of a composite sample, a discrete surface sample and a bottom sample, then computing the relative percent difference. The results are presented in Appendix C . Generally, composite samples resulted in representative quality information.

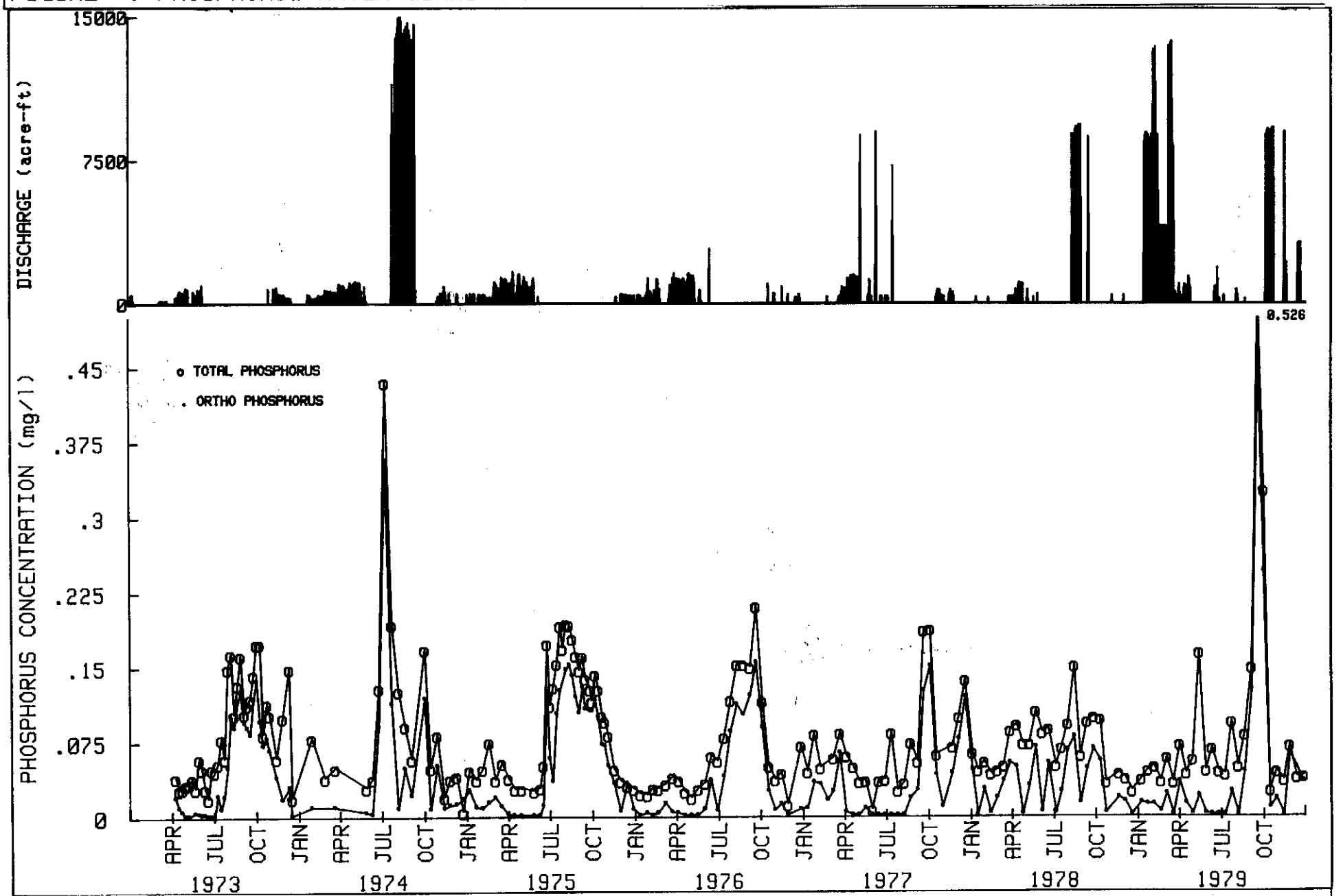
All data used in the evaluation of Lake Okeechobee discharge through S-77 was taken from unpublished information collected by the South Florida Water Management District's Water Chemistry Division and is part of the Water Quality Monitoring Network, Project 8506. This is a continuing project for which bimonthly sampling began in early 1973.

Lake Okeechobee and the Caloosahatchee River at S-77

Phosphorus

Figure 5 represents a summary of the phosphorus and hydrology data at S-77 from 1973 to 1979. Phosphorus demonstrated a well defined seasonal

FIGURE 5. PHOSPHORUS WATER QUALITY DATA AND DAILY HYDROGRAPH AT S-77



pattern which was extremely sensitive to water releases. Increases in phosphorus levels routinely measured during the wet season months (approximately May through October) probably occur as a result of local runoff and sub-basin inputs near S-77. Extreme wet season rainfall conditions in July 1974 (18.6 inches) and September 1979 (17.7 inches) caused the highest levels of phosphorus (0.44 and 0.53 mg/l, respectively) measured. Ortho-phosphorus was the principal component contributing to the elevated total phosphorus levels.

During the wet season, total phosphorus averaged 0.105 mg/l while during the dry season the average concentration (0.051 mg/l) was 50% less (Table 6). The duration and intensity of the wet season increases were mitigated by water releases from Lake Okeechobee. With the onset of both regulatory and non-regulatory releases, reductions in the phosphorus levels were routinely apparent. Table 7 demonstrates that overall, the average wet season concentration during discharge downstream of S-77 was lower than the average wet season concentration during no discharge (0.062 and 0.111 mg/l, respectively). This pattern of lower phosphorus levels during discharge also occurred during the dry season (discharge: 0.049 mg/l; no discharge: 0.053 mg/l). When local tributary effects were minimal, low concentrations were reduced even further when S-77 discharged from Lake Okeechobee. The lowest phosphorus levels, therefore, occurred during dry season water releases and the highest levels occurred during wet season periods when no discharges were being made from Lake Okeechobee.

TABLE 6. AVERAGE CONSTITUENT CONCENTRATION AT S-77 FOR PERIOD OF RECORD 1973 - 1979

	Total P	Total N	Chloride
	mg/l-P	mg/l-N	mg/l
Annual Mean	.083	1.91	78.8
Minimum	.006	0.10	26.5
Maximum	.526	4.86	178.3
Wet Season Mean	.105	1.92	70.9
Dry Season Mean	.051	1.90	90.0
Discharge Mean	.053	1.74	83.5
No Discharge Mean	.095	1.98	77.5

TABLE 7. AVERAGE CONSTITUENT CONCENTRATION COMPARISON BETWEEN DISCHARGE AND SEASON OF OCCURRENCE AT S-77, 1973-1979

	Total P		Total N		Chloride	
	mg/l-P		mg/l-N		mg/l	
	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season
Discharge	.062	.049	1.81	1.70	83.1	83.7
No Discharge	.111	.053	1.94	2.06	69.4	98.5

Nitrogen

A summary of the nitrogen data collected since 1973 at S-77 is presented in Figure 6. Unlike phosphorus, there does not appear to be a well defined difference between the wet or dry season mean total nitrogen concentration (1.92 and 1.90 mg/l, respectively). Like phosphorus, though, a discharge/no discharge pattern is evident (Table 6). The overall average concentration during discharge was lower than the average concentration during no discharge (1.74 and 1.98 mg/l, respectively, (Table 6).

Chloride

Figure 7 displays a summary of the chloride data collected since 1973 at S-77. Chloride demonstrated a relatively pronounced seasonal pattern during no discharge with low values occurring during the wet season and higher values occurring during the dry season (mean values of 69.4 and 98.5 mg/l, respectively) (Table 7). Discharges from Lake Okeechobee removed this seasonal variation causing the mean wet and dry season concentrations to be equal (83 mg/l). This mean chloride concentration during discharge was intermediate between the average wet and dry season no discharge levels. This resulted in increased chloride levels during the dry season (90.0 mg/l)and decreased levels during the wet season (70.9 mg/l) (Table 6).

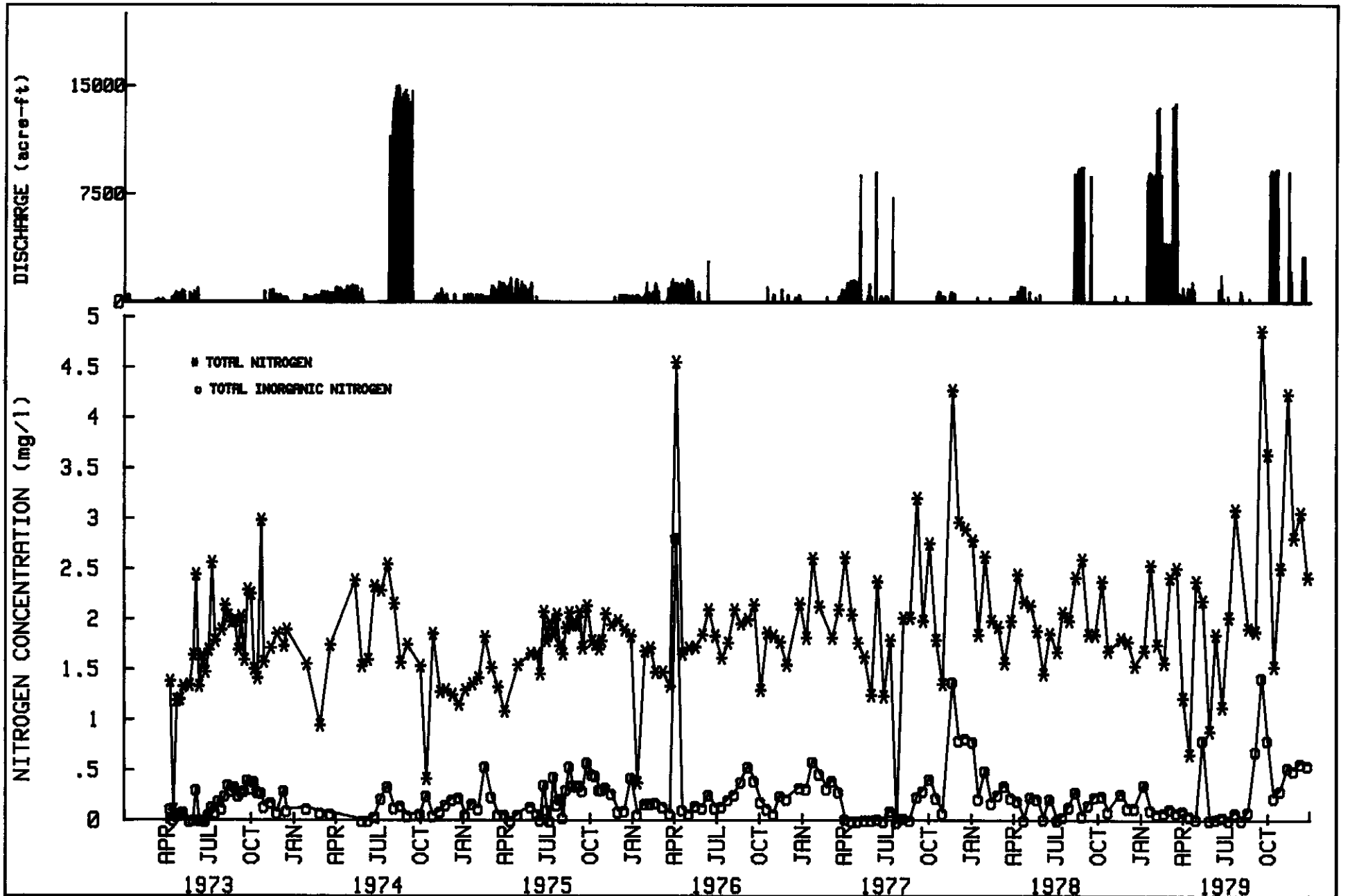


FIGURE 6. NITROGEN WATER QUALITY DATA AND DAILY HYDROGRAPH AT S-77

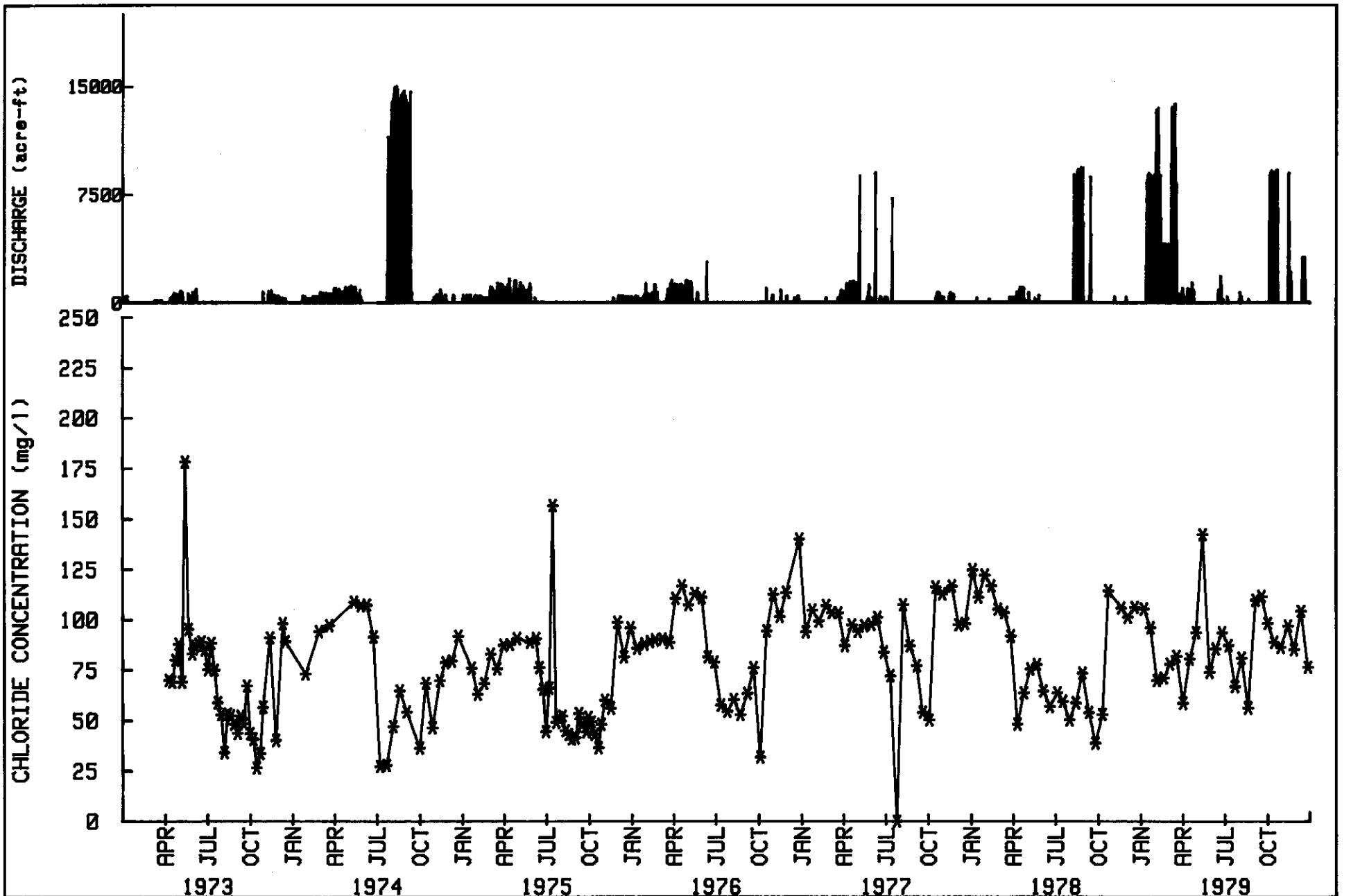


FIGURE 7. CHLORIDE WATER QUALITY DATA AND DAILY HYDROGRAPH AT S-77

Water Quality of the Major Tributaries

This section will focus mainly on the major seasonal trends and on major similarities or differences in the water quality between tributaries.

Phosphorus

Figure 8 presents the mean total phosphorus concentration and range of values recorded during the two-year study. The range of values in the ECB demonstrated more variability and higher mean concentrations of phosphorus than did the tributaries in the WCB. The lowest mean value recorded in the ECB (.095 mg/l at the Whidden Corner Canal) was greater than the highest mean value recorded in the WCB (.087 mg/l at the Townsend Canal). Generally, elevated levels of phosphorus occurred during the wet season as indicated by the wet season means and Figures 9a to 9d. Differences between the wet and dry season means were most apparent in the ECB. Many of the tributaries in the WCB demonstrated little or no apparent difference between the wet season or dry season means. Land use (unimproved and natural areas) and land use practices (nutrient polishing ponds and water reuse) are probably reasons for the lower phosphorus levels and narrow ranges in the WCB.

Nitrogen

The mean total nitrogen concentration and range of values recorded during the two-year study are presented in Figure 10. As with phosphorus, total nitrogen in the ECB demonstrated generally higher mean concentrations than in the WCB. The lowest mean concentration in the ECB (1.70 mg/l) at Meanderline Ditch was higher than the highest mean value in the ECB (1.63 mg/l) at the Townsend Canal. The highest mean concentration of total nitrogen was recorded at the Diston Island Canal, a value of 5.10

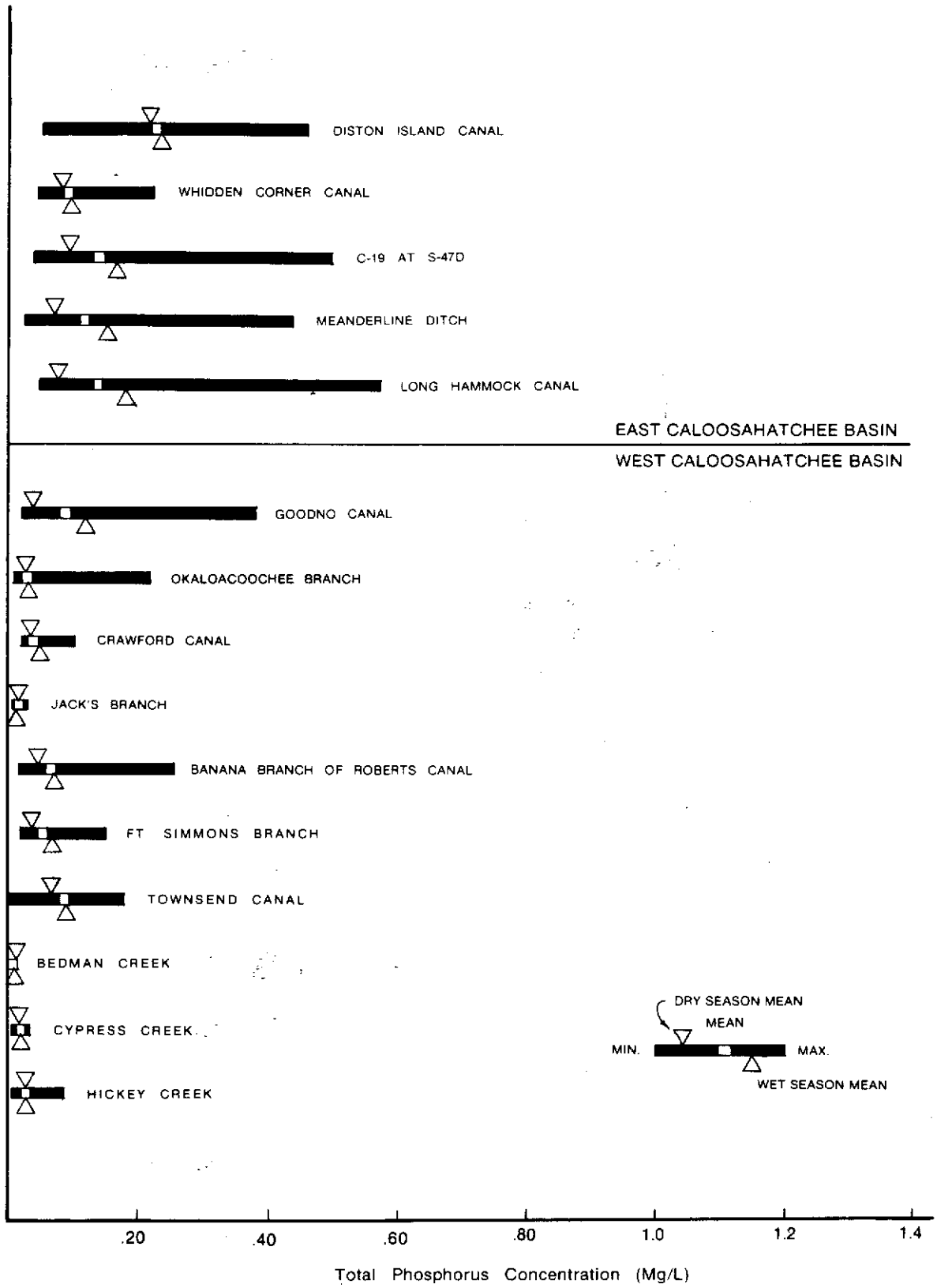


Figure 8 TOTAL PHOSPHORUS MEAN CONCENTRATION AND RANGE INCLUDING THE WET AND DRY SEASON, 1978 AND 1979

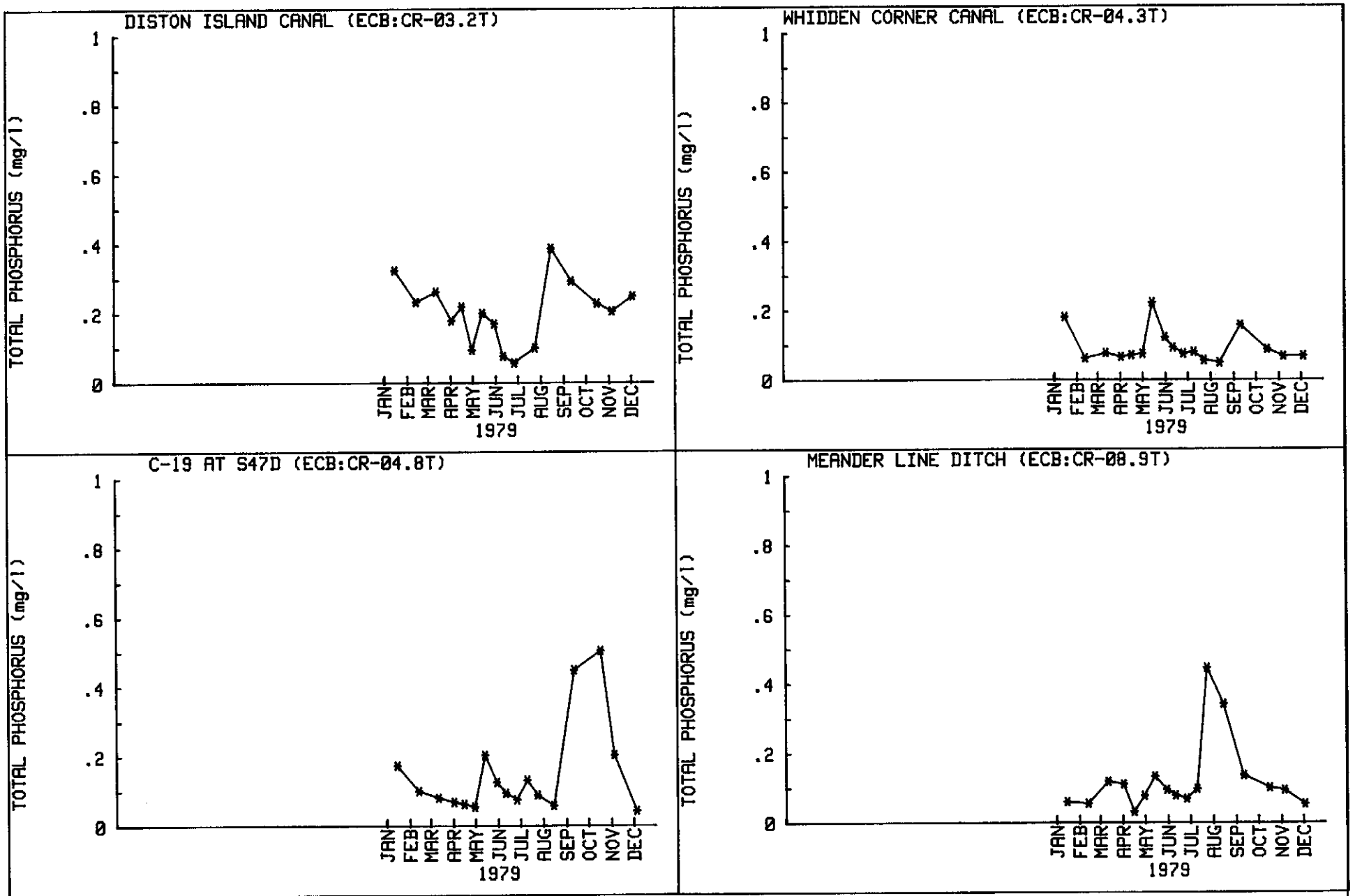


FIGURE 9a. TOTAL PHOSPHORUS DATA VS DATE FOR SELECT TRIBUTARIES IN C-43 STUDY AREA

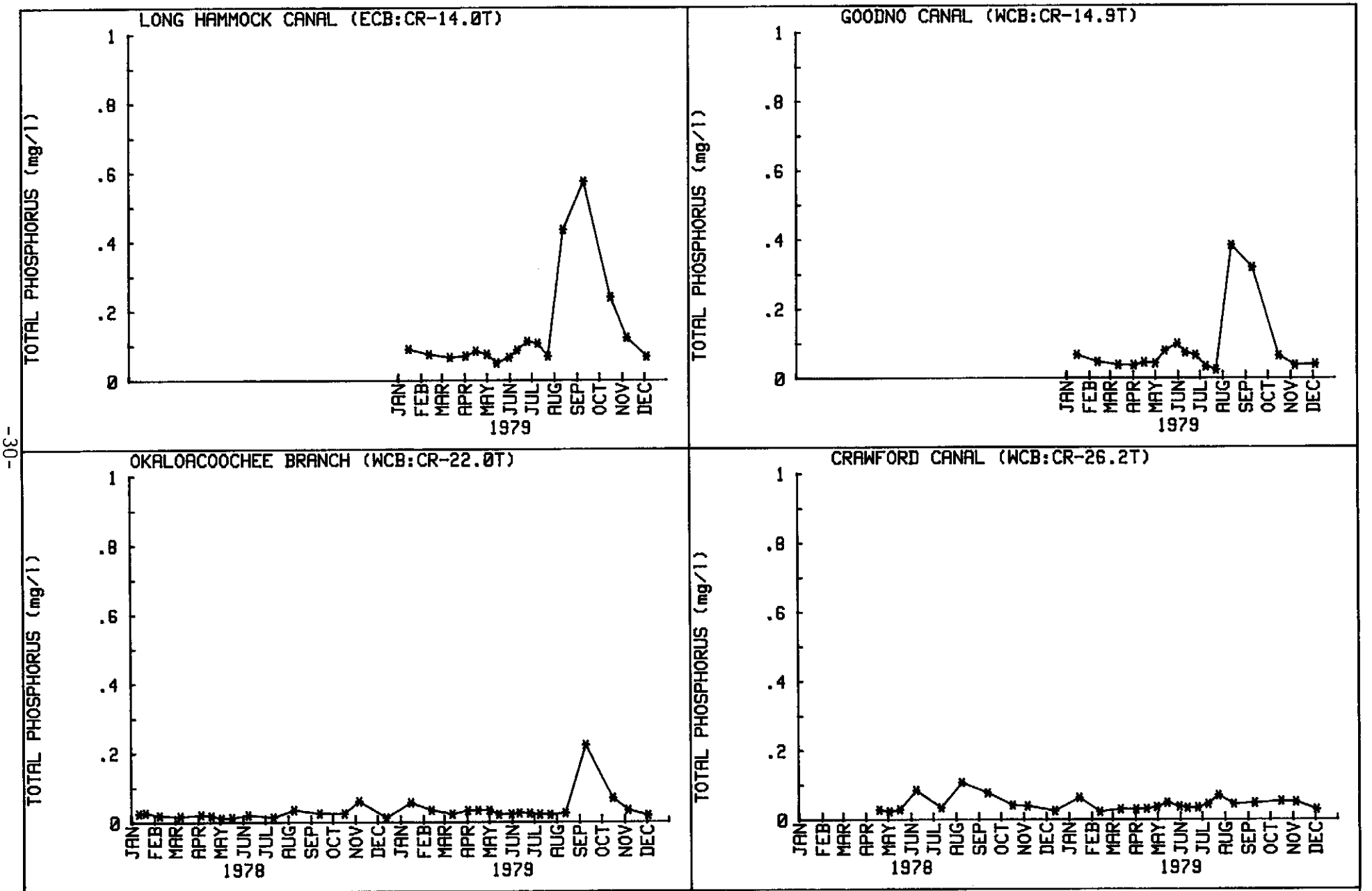


FIGURE 9b. TOTAL PHOSPHORUS DATA VS DATE FOR SELECT TRIBUTARIES IN C-43 STUDY AREA

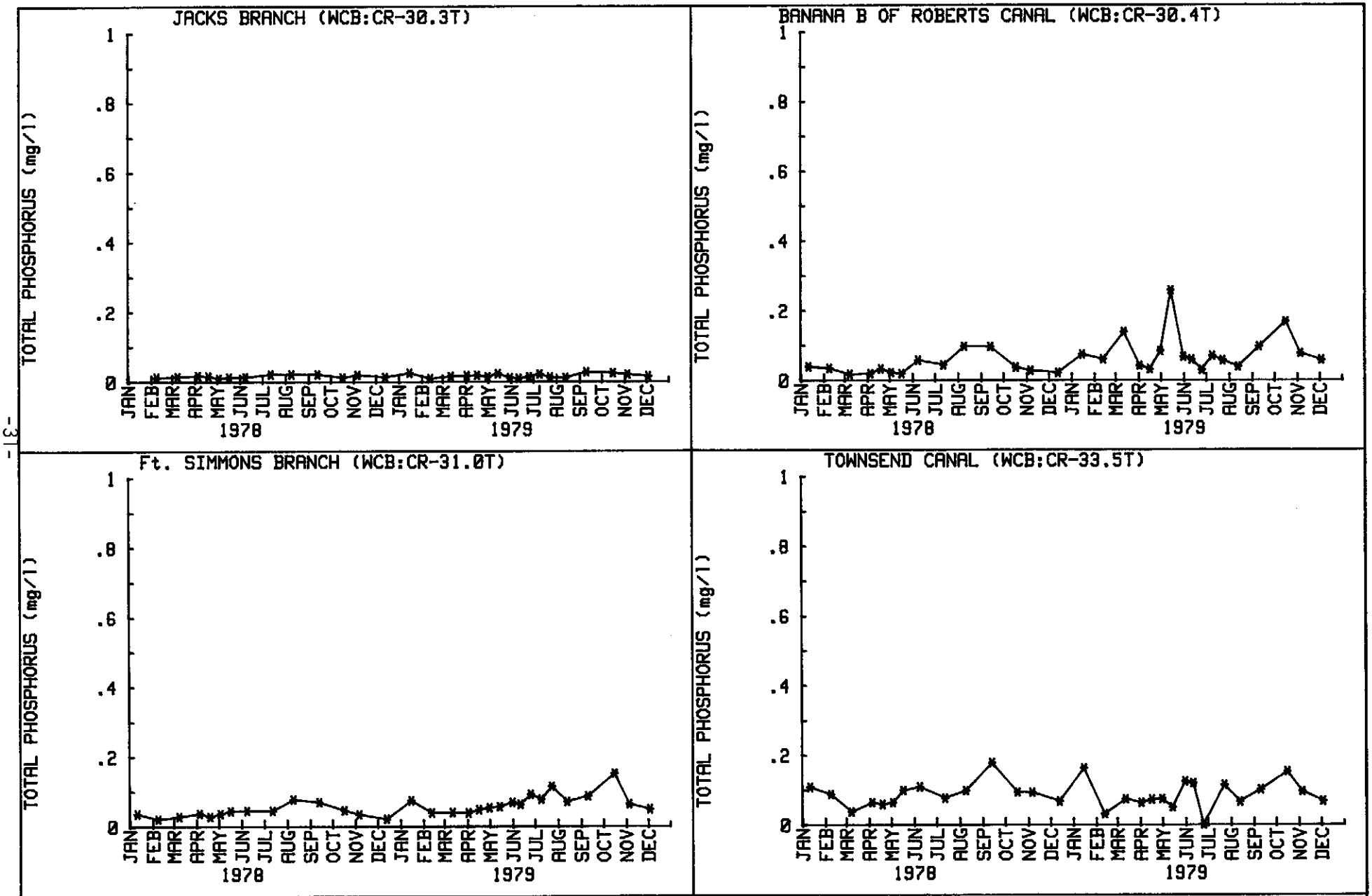


FIGURE 9c. TOTAL PHOSPHORUS DATA VS DATE FOR SELECT TRIBUTARIES IN C-43 STUDY AREA

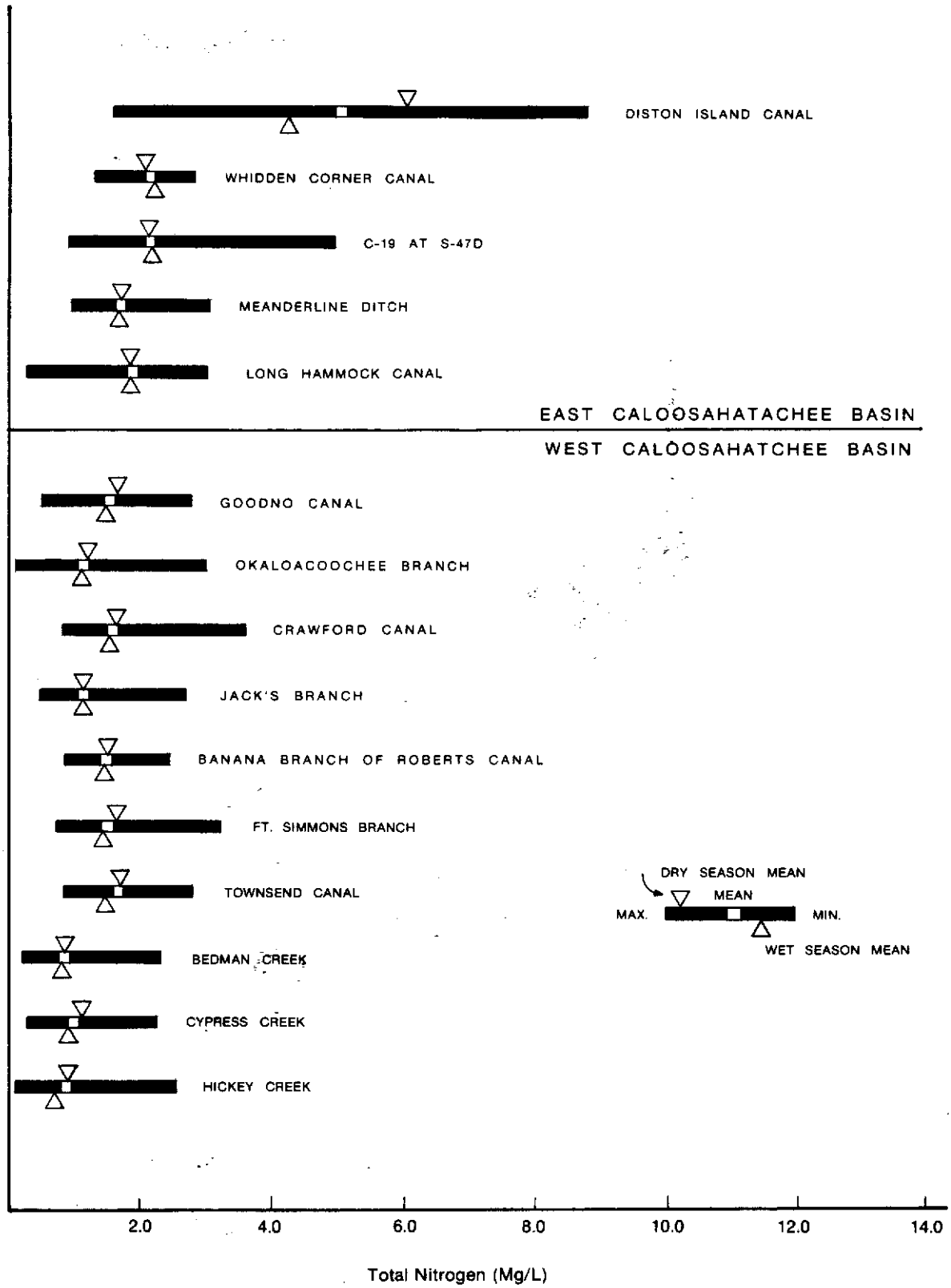


Figure 10 TOTAL NITROGEN MEAN CONCENTRATION AND RANGE INCLUDING THE WET AND DRY SEASON, 1978 AND 1979

mg/l. The highest single concentration was also at Diston Island (8.94 mg/l). Organic nitrogen (65%) and ammonia (31%) were the principal contributing components to the elevated mean total nitrogen value.

Chloride

Chloride levels (Figure 11) exhibited, with the exception of Ft. Simmons branch, moderate variability at each station and between stations. Ft. Simmons Branch demonstrated a mean chloride concentration (196.2 mg/l), approximately 1/3 higher than the highest recorded value among the remaining stations (Diston Island, 119.7 mg/l) and approximately 7.5 times higher than the lowest recorded value (Okaloacoochee Branch, 26.1 mg/l). The highest recorded chloride level (614.0 mg/l) was also recorded at Ft. Simmons Branch.

Generally, the chloride levels in the tributaries tended to decrease from Lake Okeechobee through the ECB to a low point at the Okaloacoochee Branch tributary. Thereafter, the concentrations for the remaining tributaries increased slightly with the exception of the very high levels measured at Ft. Simmons Branch.

Ft. Simmons Branch and Bedman Creek were the only tributaries which tended to have an appreciable difference between the wet and dry season means with the chloride levels being greater in the dry season. The remaining tributaries generally demonstrated no appreciable chloride difference between seasons (Figures 12a through 12d).

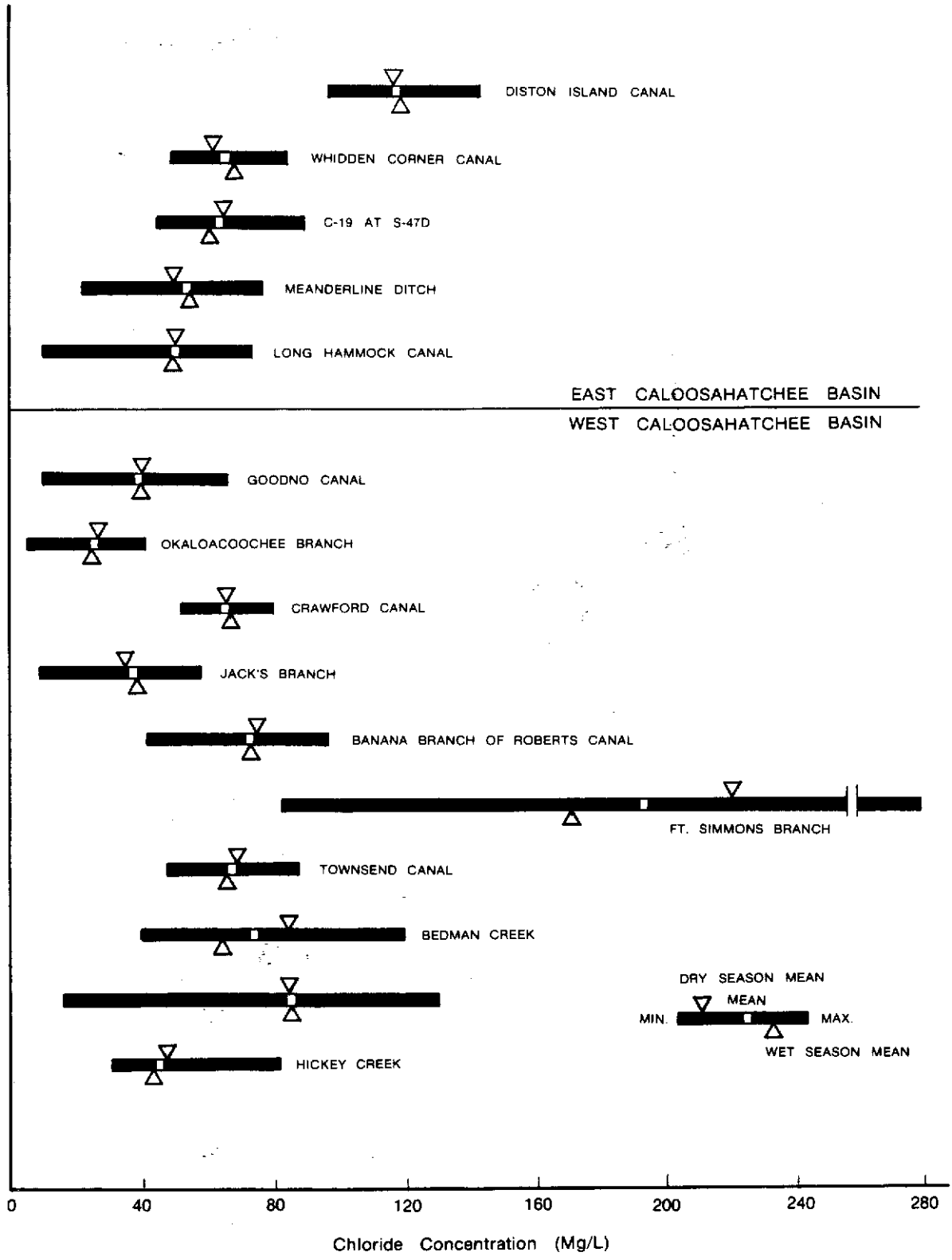


Figure 11 TOTAL CHLORIDE MEAN CONCENTRATION AND RANGE INCLUDING THE WET AND DRY SEASON, 1978 AND 1979

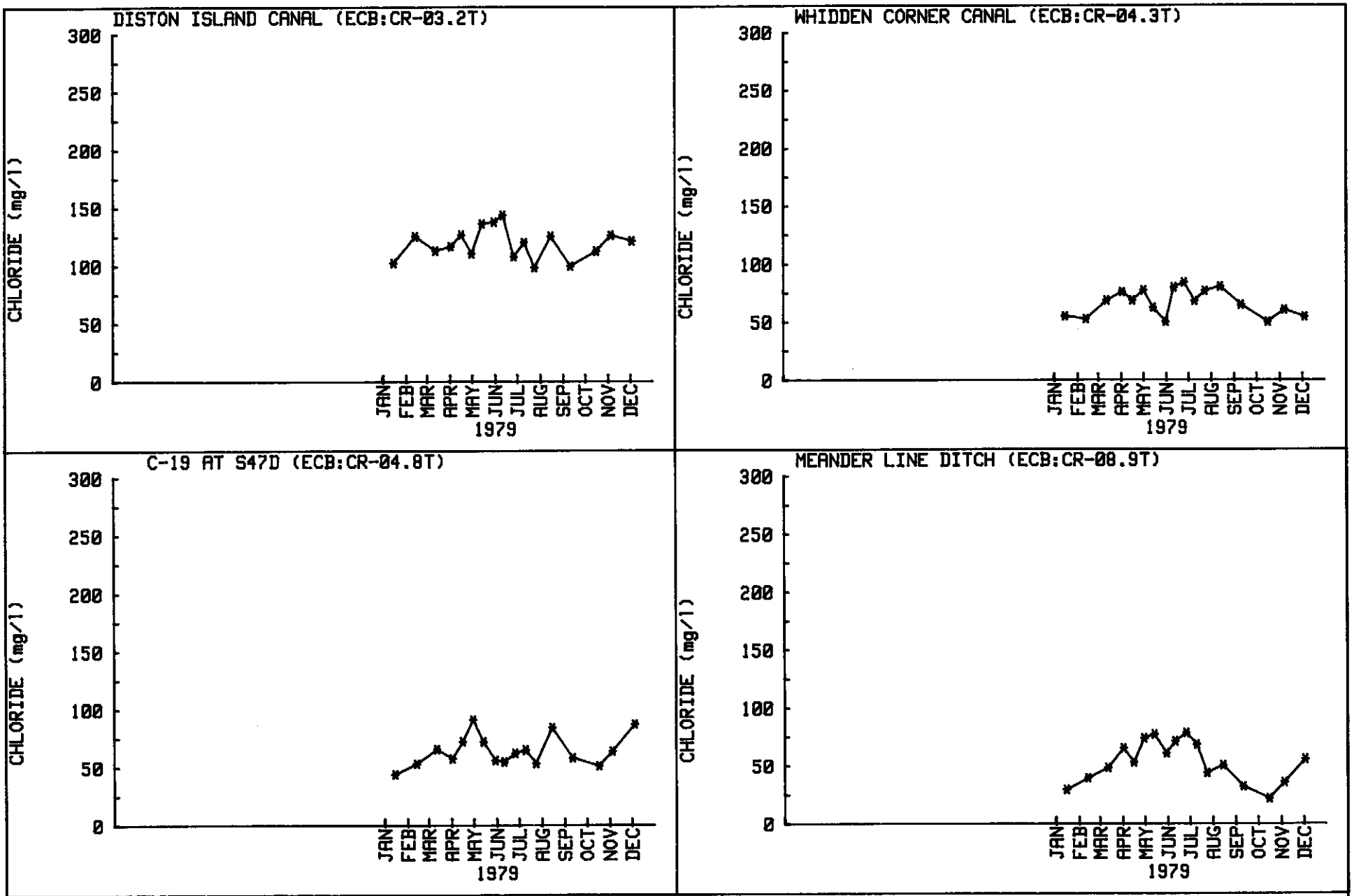


FIGURE 12a. CHLORIDE DATA VS DATE FOR SELECT TRIBUTARIES IN C-43 STUDY AREA

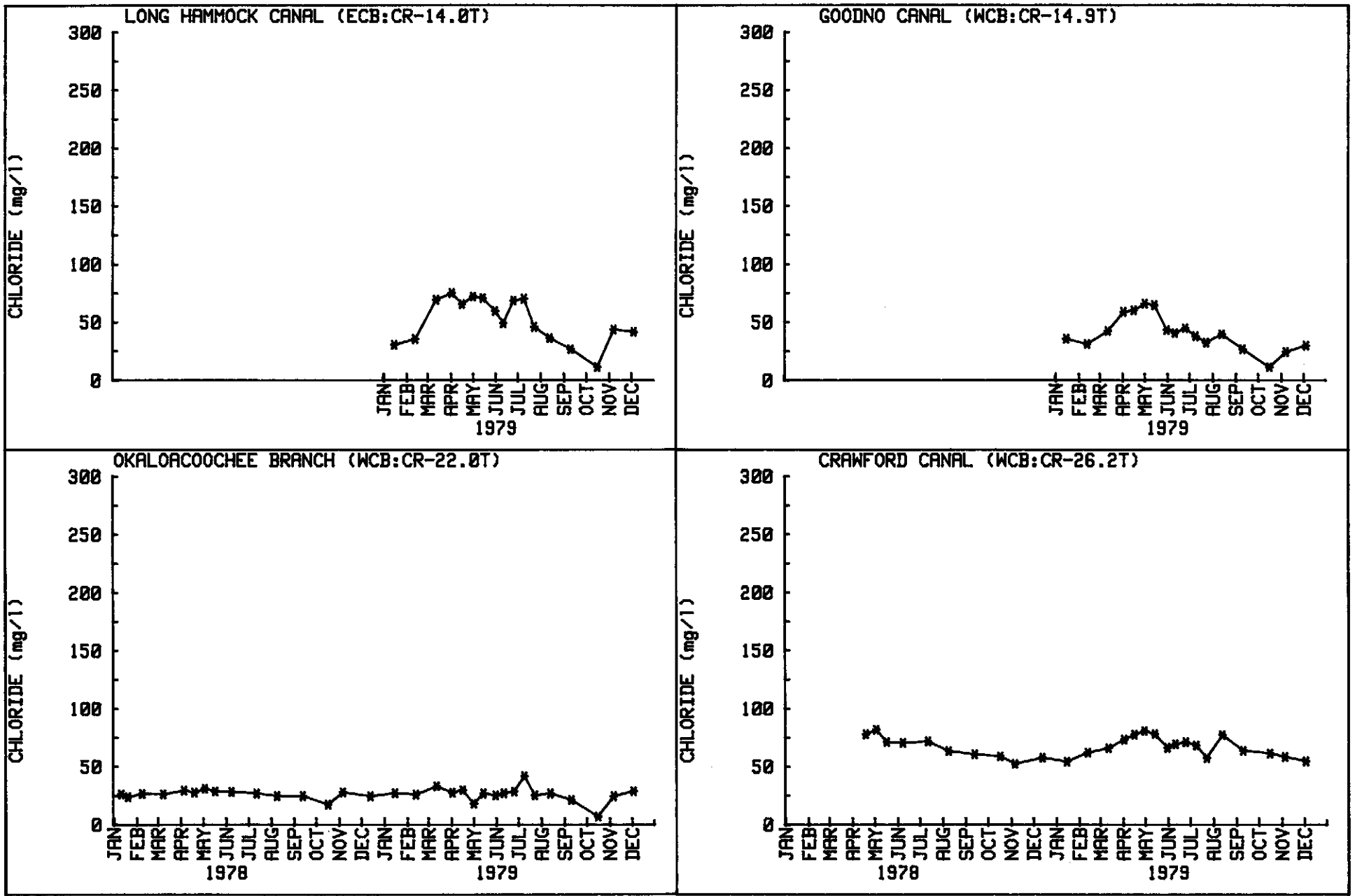


FIGURE 12b. CHLORIDE DATA VS DATE FOR SELECT TRIBUTARIES IN C-43 STUDY AREA

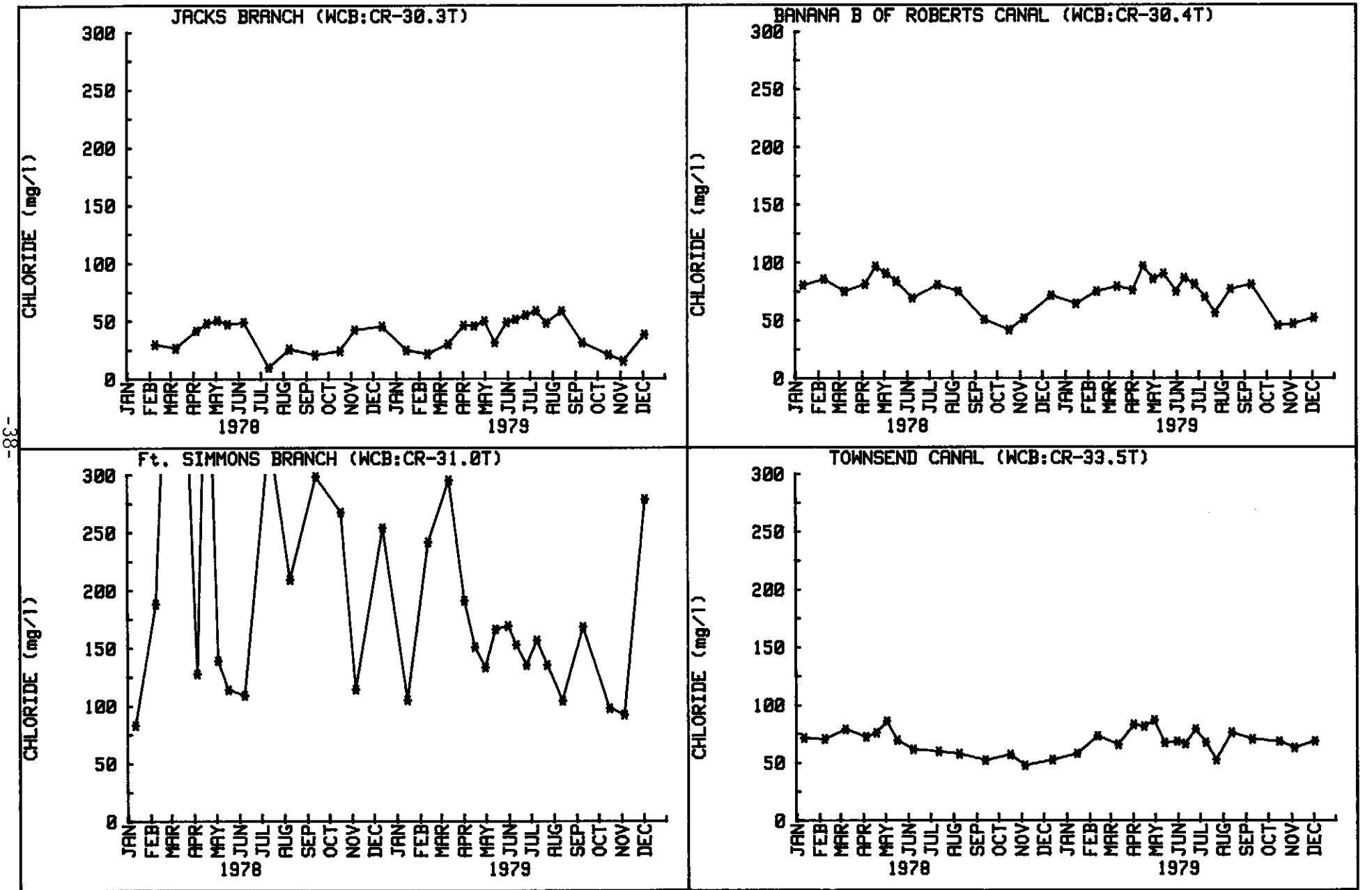
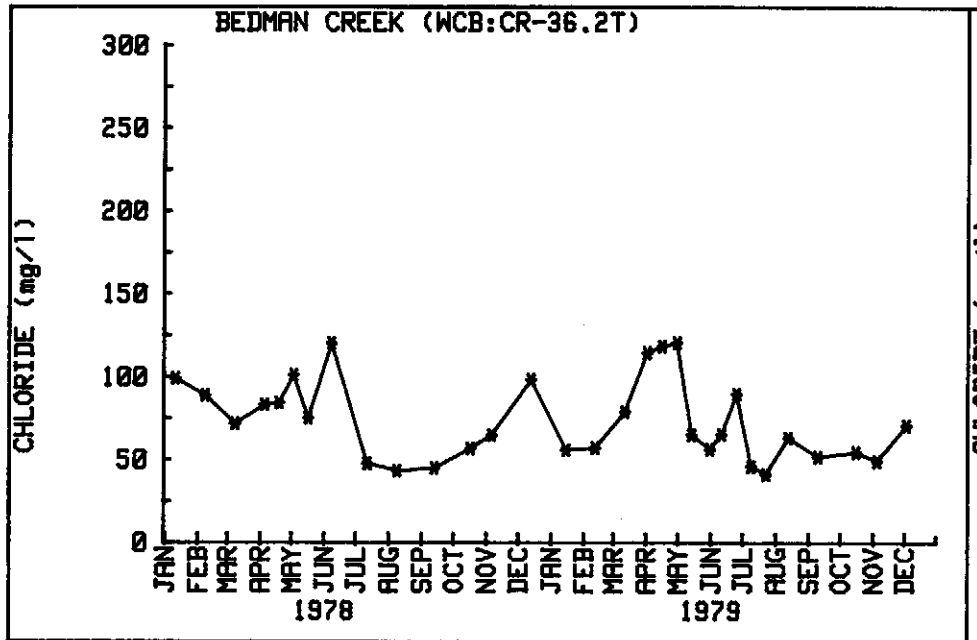
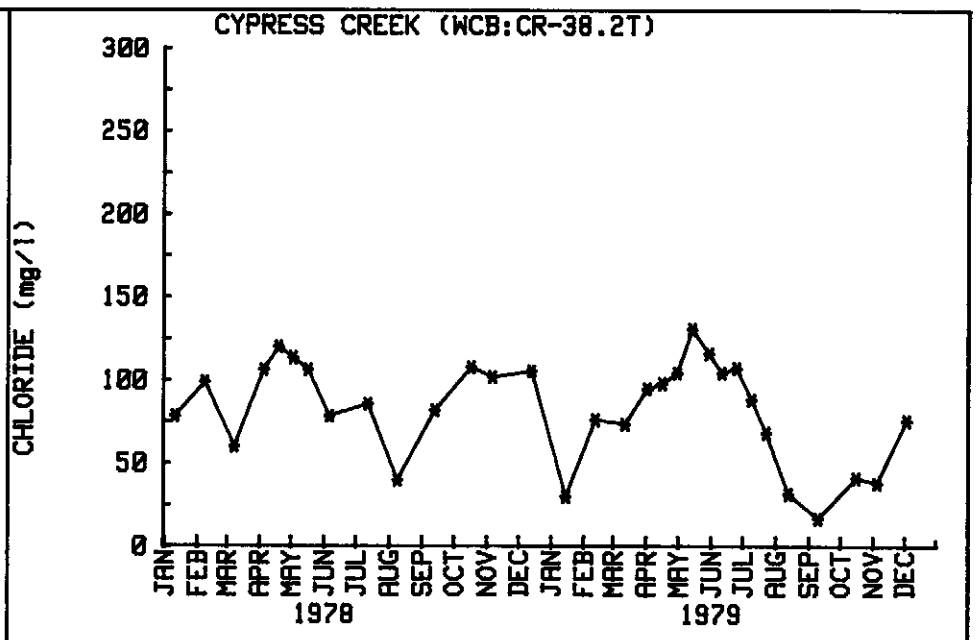


FIGURE 12c. CHLORIDE DATA VS DATE FOR SELECT TRIBUTARIES IN C-43 STUDY AREA





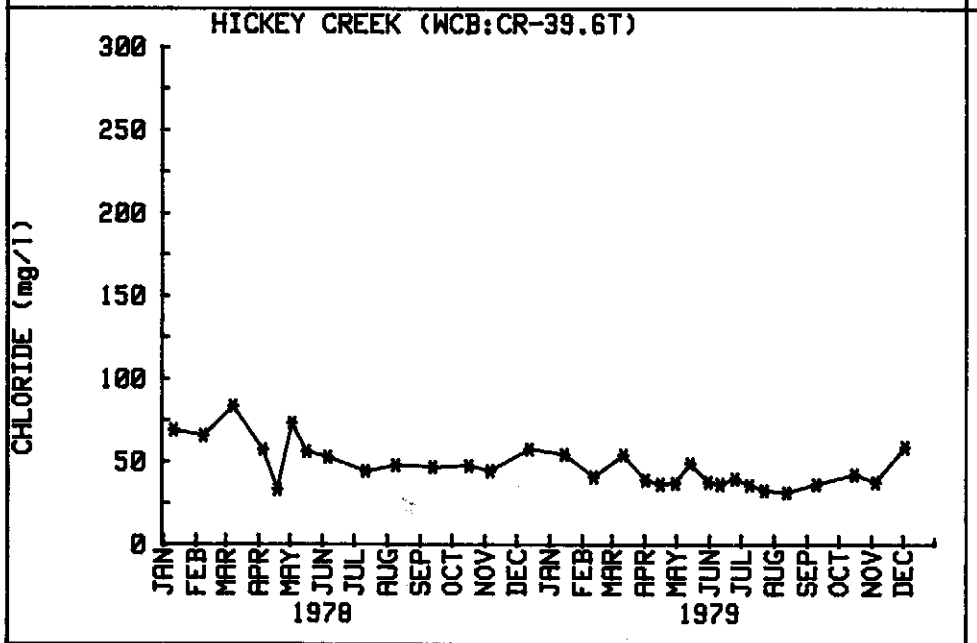


FIGURE 12d. CHLORIDE DATA VS DATE FOR SELECT TRIBUTARIES IN C-43 STUDY AREA

The Caloosahatchee River (C-43)

Phosphorus

Total phosphorus displayed a distinct spatial trend along the length of the Caloosahatchee River (Figure 13). Mean annual phosphorus concentrations increased in the ECB from S-77 to S-78 then declined in the WCB from S-78 to S-79. Cumulative tributary inputs downstream of S-77 appear to be the major factor influencing the phosphorus levels in the river. In the ECB, where phosphorus levels increased, 5 of the 6 tributaries sampled had higher concentrations than the river. Along the WCB, where phosphorus levels decreased, all of the major tributaries sampled had lower concentrations than the river. Viewed as a complete system, the phosphorus levels in the water that was discharged at S-79 were slightly higher than the levels entering at S-77.

Distinct seasonal trends were also noted along the river (Figures 14, 15, and 16) although the same spatial trends and tributary/river relationships discussed above were still evident (Table 8). Taken as a group, the ECB and WCB tributaries had higher phosphorus levels in the wet season than during the dry season. This seasonal trend in tributary phosphorus concentrations was reflected by the levels found at S-77, S-78, S-79, and the intermediate river stations (Table 8).

Nitrogen

Spatially, total nitrogen levels decreased as the distance from Lake Okeechobee increased (Figure 17). Since 1978, all the tributaries studied have had mean total nitrogen values less than the river mean excluding Diston Island Canal, Whidden Corner Canal, and C-19 at S-47D. The influence of the tributary nitrogen levels, at least in part, accounts

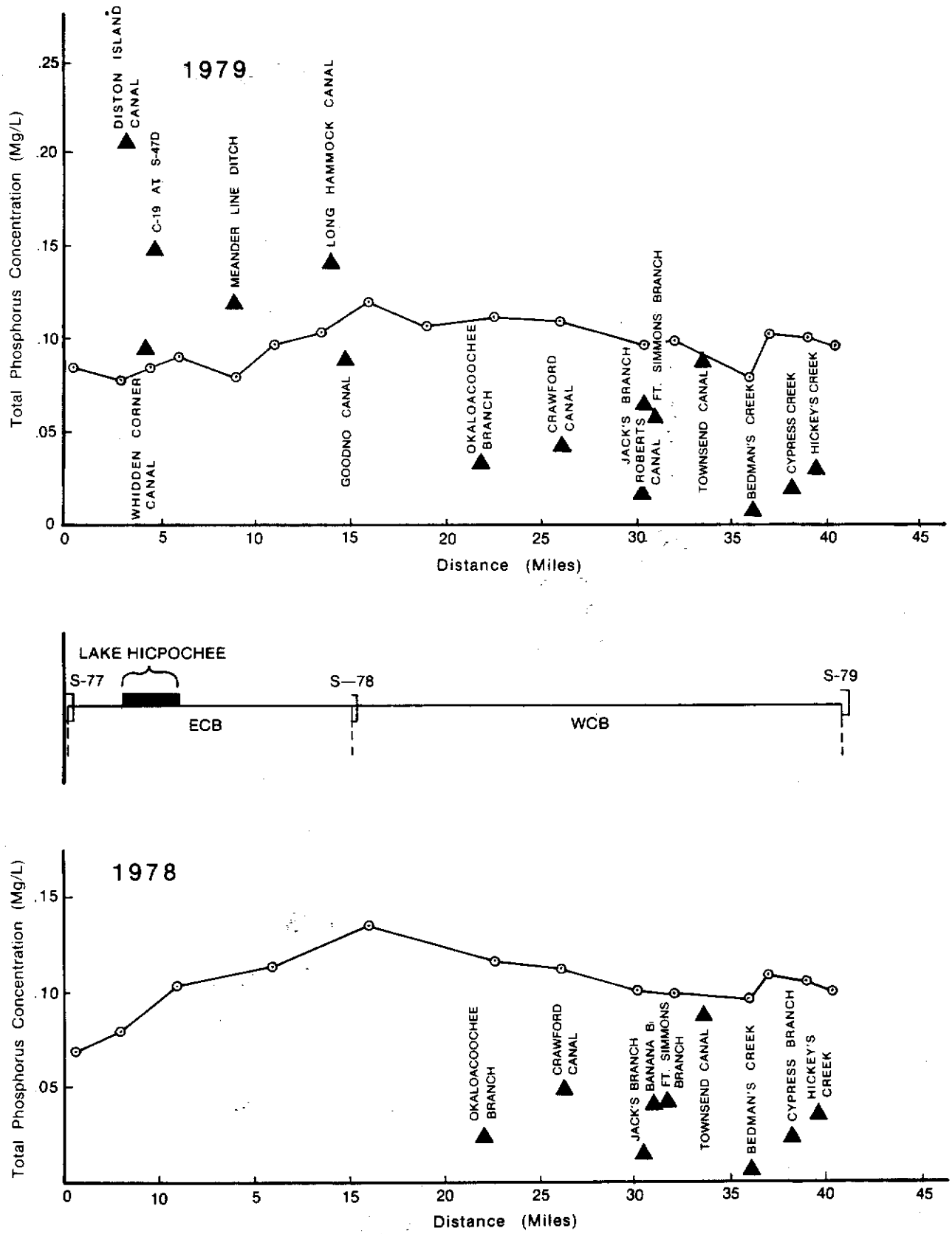


Figure 13 TOTAL PHOSPHORUS CONCENTRATION VS DISTANCE ON THE CALOOSAHATCHEE RIVER FOR 1978 AND 1979

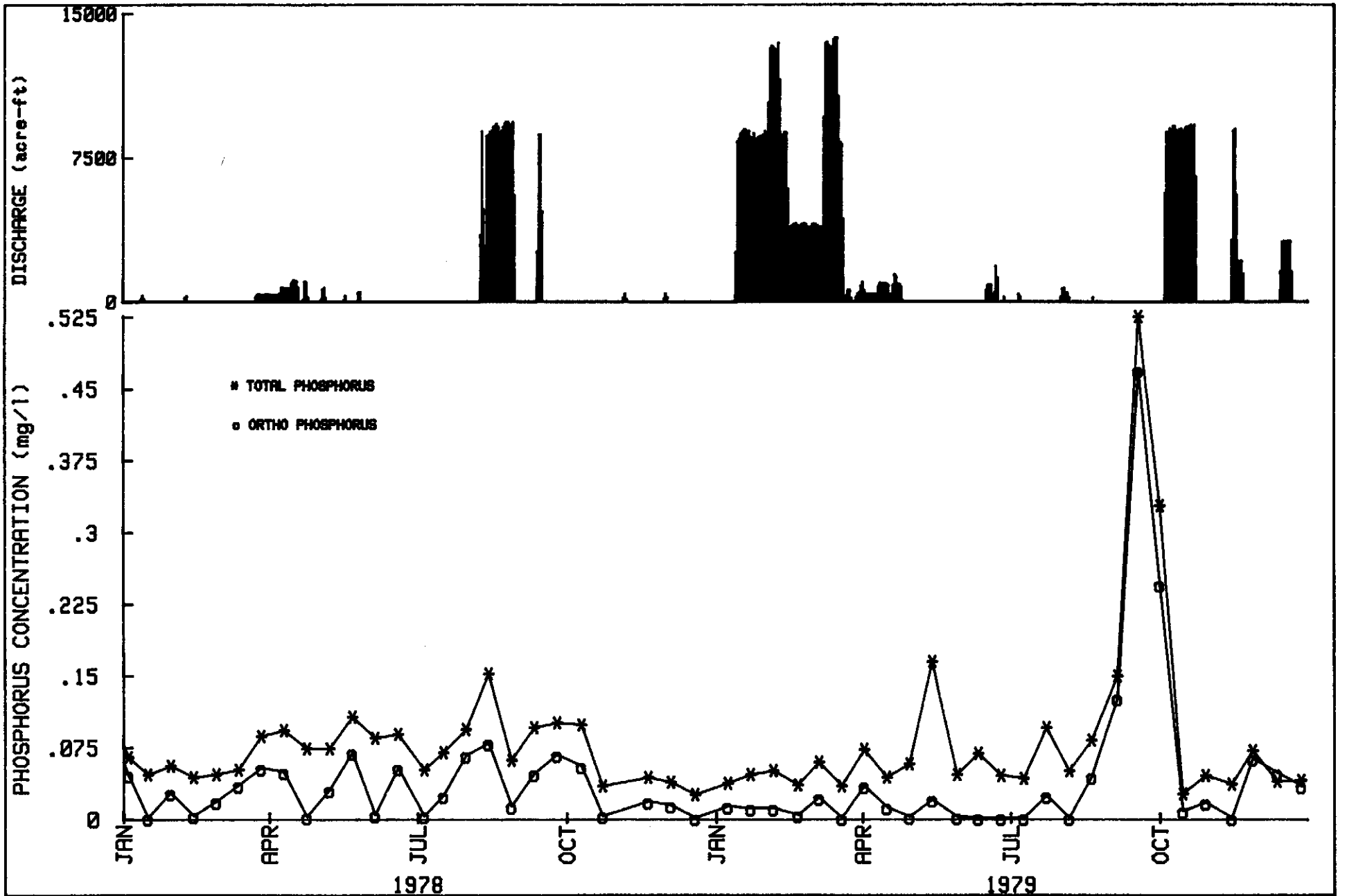


FIGURE 14. PHOSPHORUS CONCENTRATION VS DAILY HYDROGRAPH AT S-77

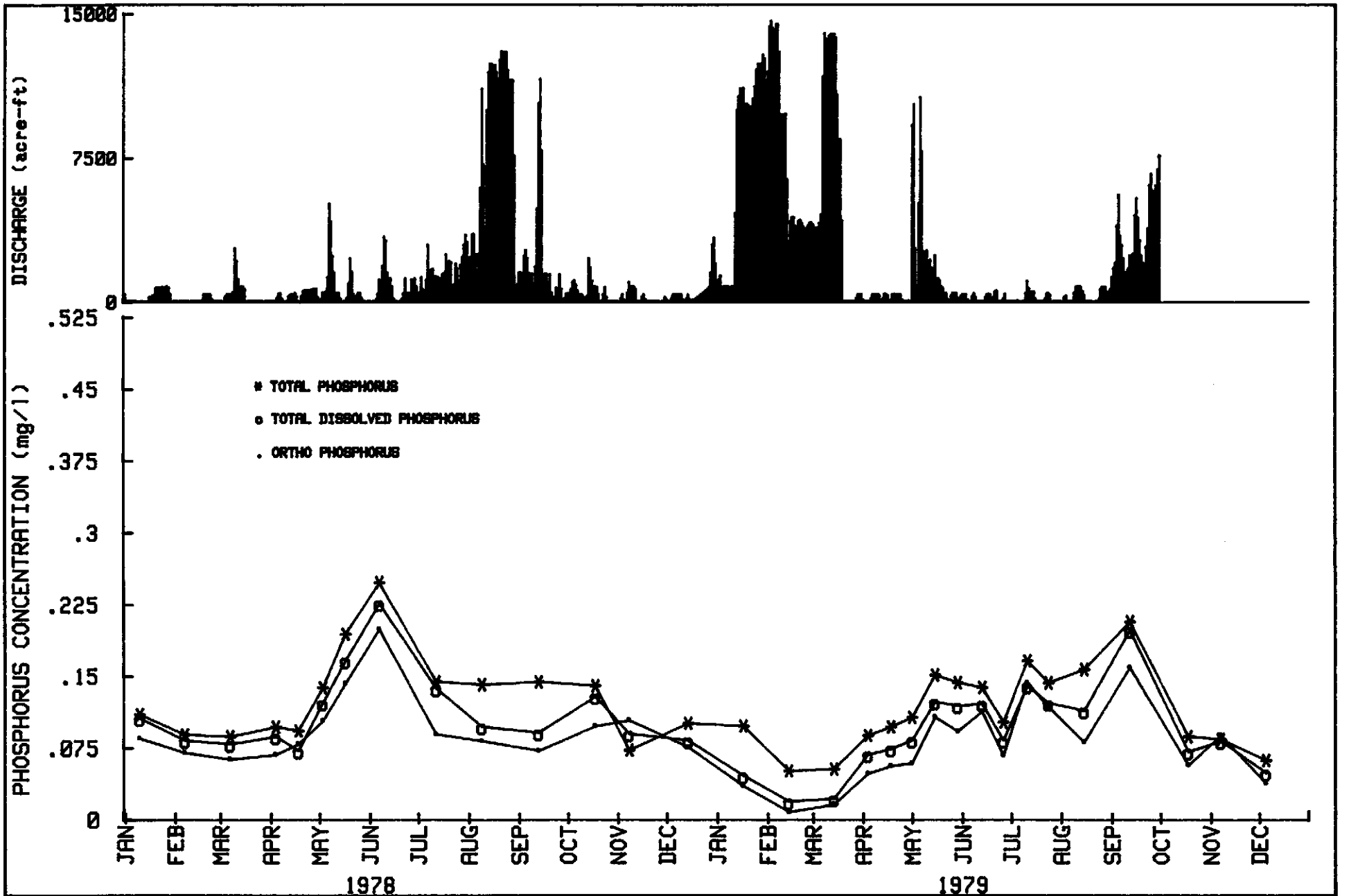


FIGURE 15. PHOSPHORUS CONCENTRATION VS DAILY HYDROGRAPH AT S-78 (CR-16.0)

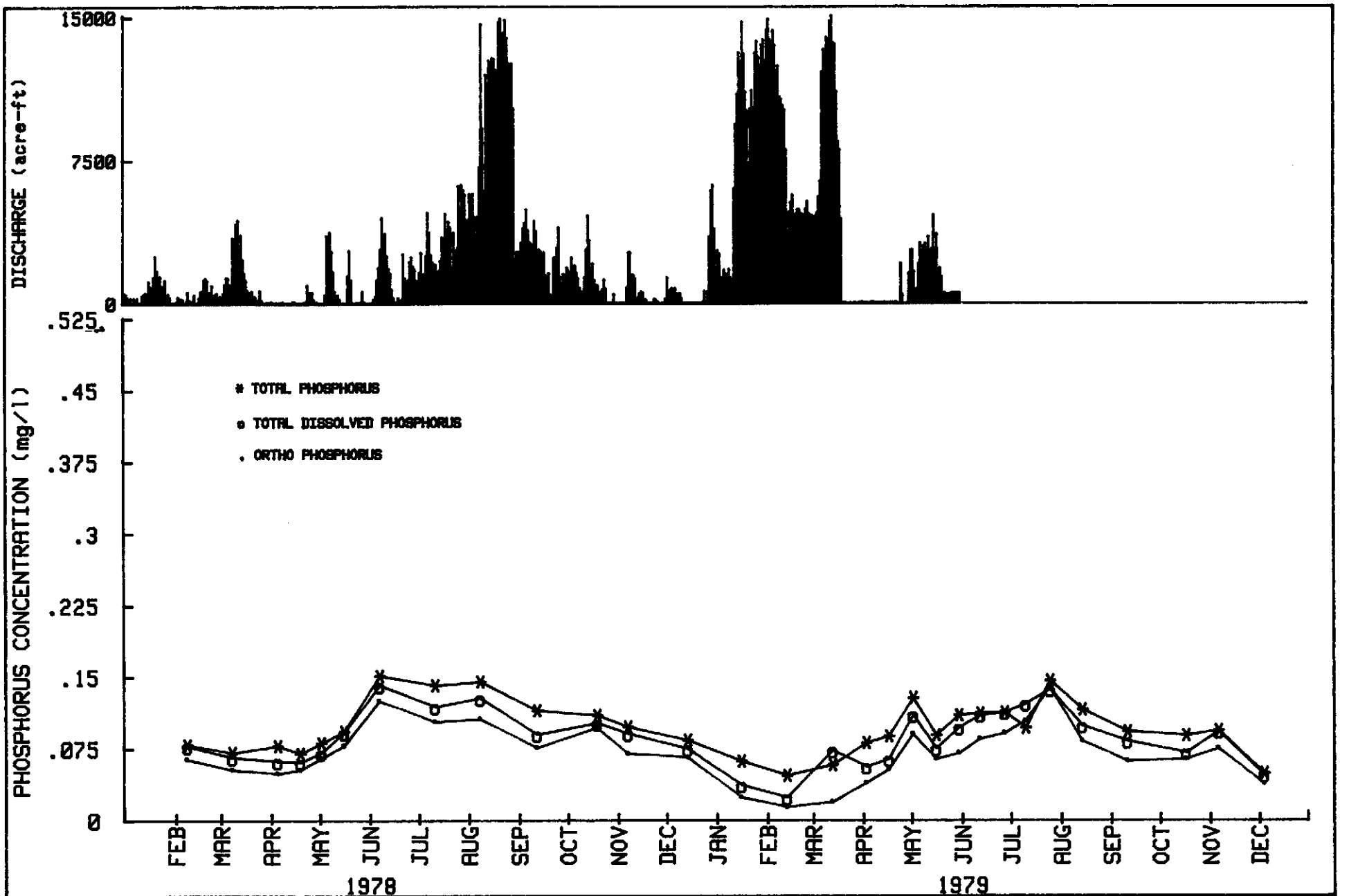


FIGURE 16. PHOSPHORUS CONCENTRATION VS DAILY HYDROGRAPH AT S-79 (CR-40.3)

TABLE 8. AVERAGE CONSTITUENT CONCENTRATION* DURING THE WET AND DRY SEASON**

	Total Phosphorus				Total Nitrogen				Chloride			
	1978		1979		1978		1979		1978		1979	
	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season
S-77	.082	.056	.129	.049	1.95	2.12	2.28	2.24	64.6	103.2	90.8	84.4
S-78	.137	.098	.140	.076	2.06	1.73	1.79	1.96	51.2	67.3	66.0	69.3
S-79	.118	.082	.109	.068	1.92	1.54	1.44	1.84	73.1	74.8	71.0	74.4
Tributaries ECB	no data	-	.168	.114	no data	-	2.47	2.83	no data	-	72.5	67.7
Tributaries WCB	.040	.030	.048	.037	1.34	1.21	1.09	1.44	75.5	87.4	66.5	72.0
ECB (excluding tributaries)	.123	.076	.105	.061	2.16	1.63	2.11	2.11	60.1	89.8	78.8	75.3
WCB (excluding tributaries)	.131	.087	.125	.070	1.63	1.61	1.59	2.03	60.5	66.5	68.0	73.3

* Concentrations in mg/l

** Wet Season - May to October
Dry Season - November to April

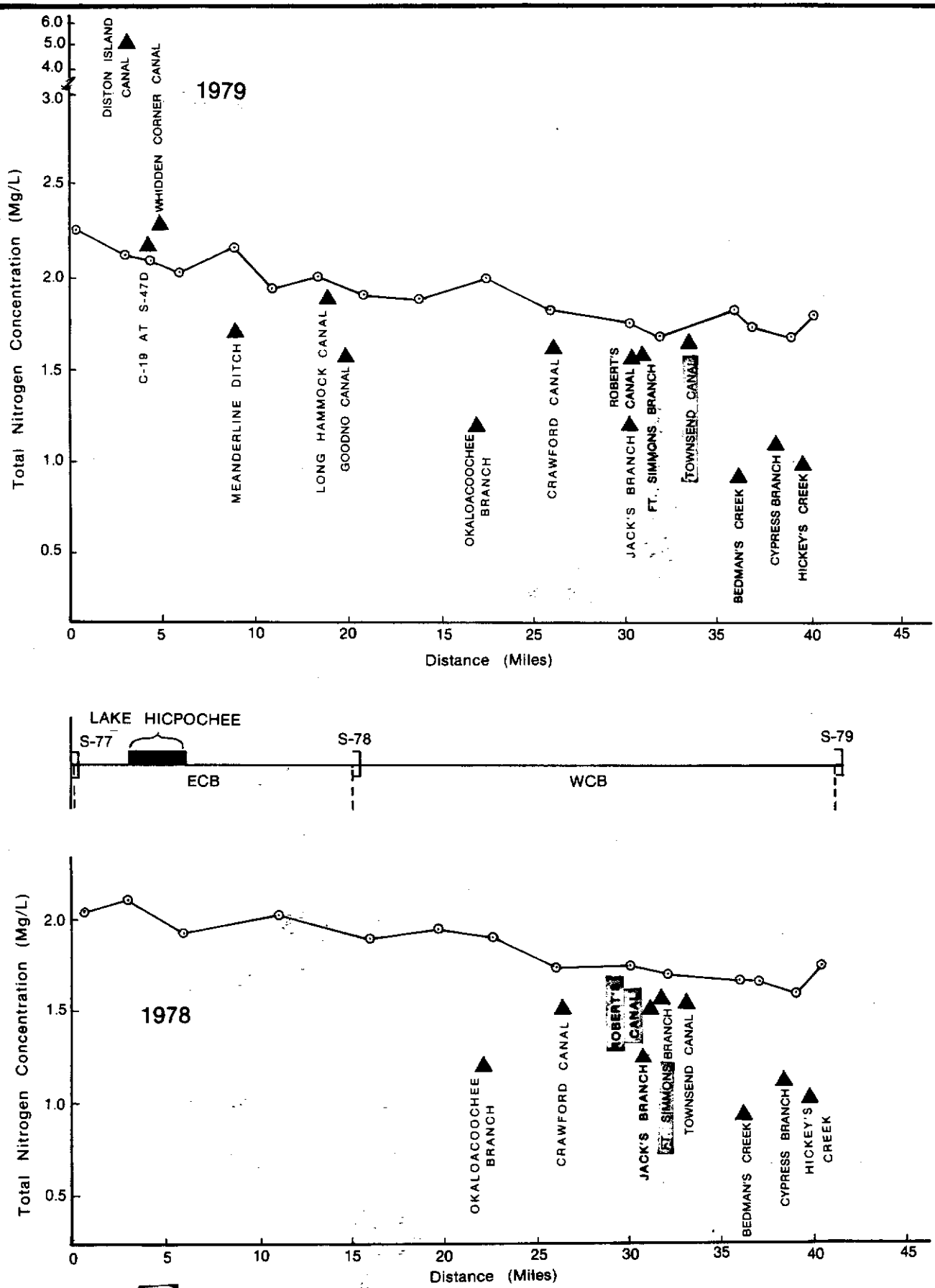


Figure 17 TOTAL NITROGEN CONCENTRATION VS DISTANCE ON THE CALOOSAHATCHEE RIVER FOR 1978 AND 1979

for the decreased nitrogen levels in the river from Lake Okeechobee at S-77 to the W. P. Franklin Lock and Dam (S-79).

Total nitrogen at S-77, S-78, and S-79 showed no apparent discharge related patterns (Figures 18, 19, and 20). Seasonal trends were also lacking along the river and tributaries (Table 8).

Chloride

Spatial variations in chloride levels were opposite to those displayed by phosphorus. Mean annual chloride concentrations decreased from S-77 to S-78 (ECB) and increased from S-78 to S-79 (WCB) (Figure 21). Again, tributary inputs appear to account for the majority of this variation. ECB tributaries usually had lower chloride levels than the river while the WCB had higher levels. Chloride levels in the water discharged by the river at S-79 were on the average lower than those released into the river at S-77.

The monthly chloride levels recorded at S-77, S-78, and S-79 for 1978 and 1979 are plotted in Figures 22, 23, and 24, respectively. These data indicate the chloride concentrations at all three structures were slightly lower in the wet season compared to the levels during the dry season.

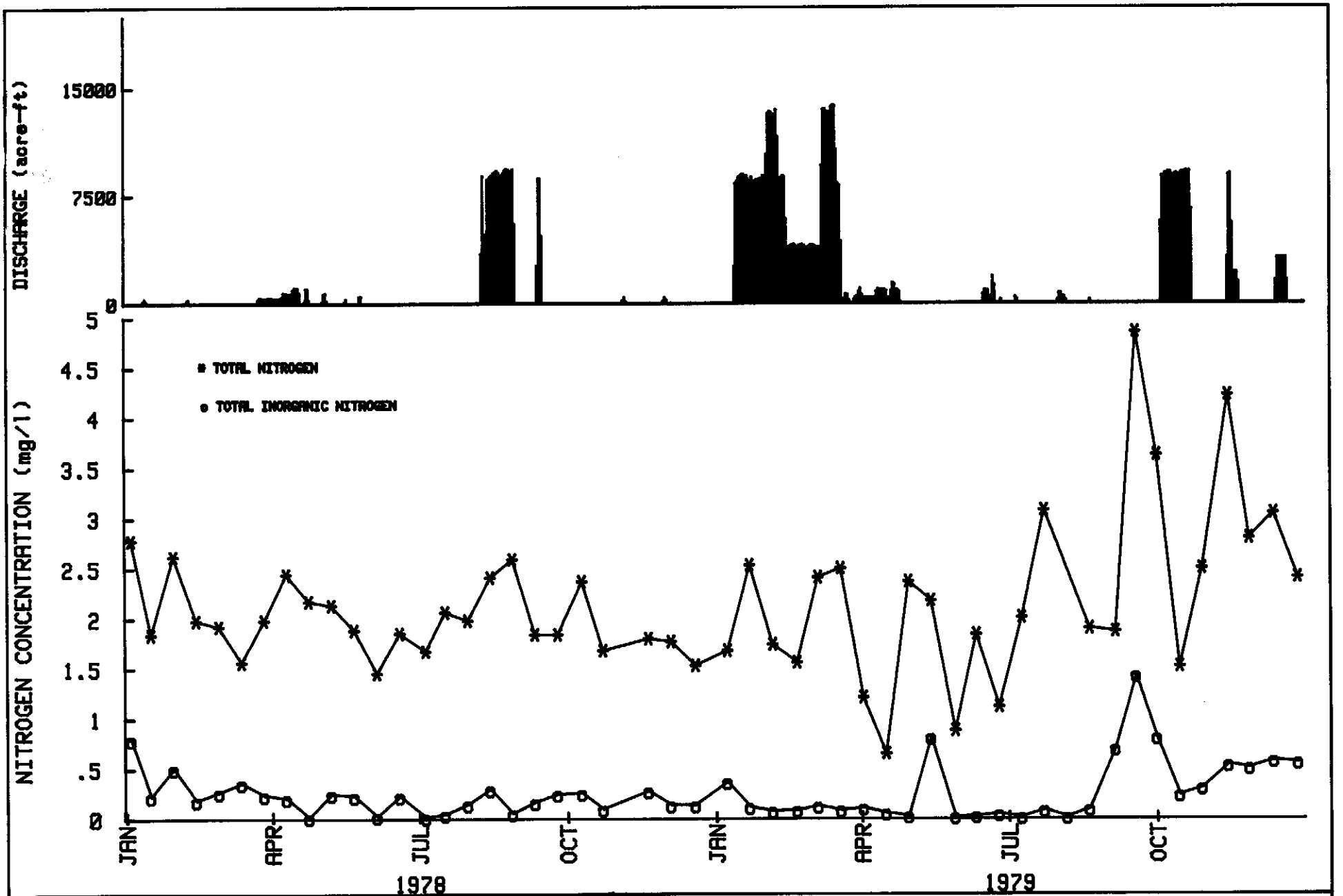


FIGURE 18. NITROGEN WATER QUALITY DATA AND DAILY HYDROGRAPH AT S-77

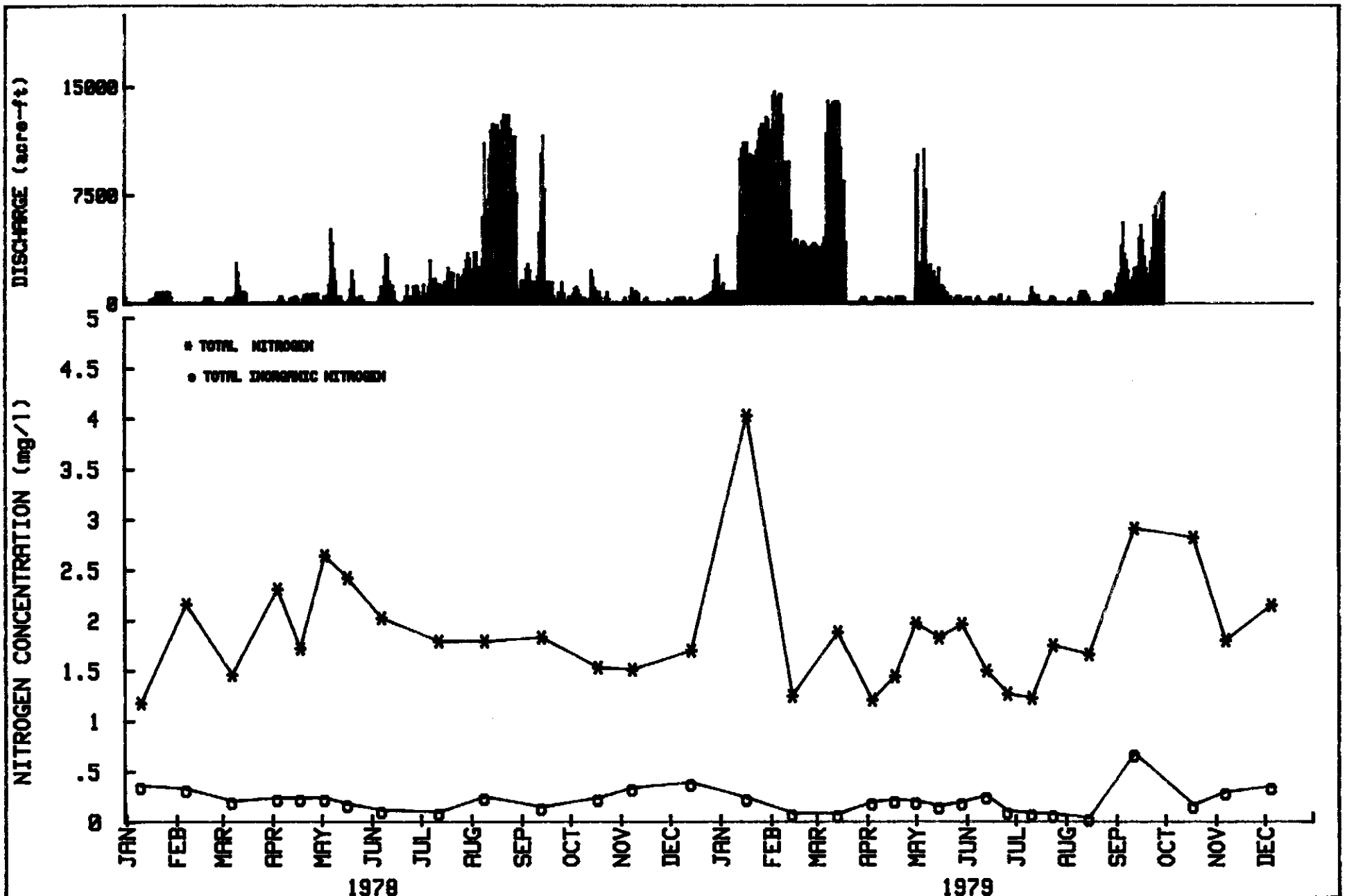


FIGURE 19. NITROGEN WATER QUALITY DATA AND DAILY HYDROGRAPH AT S-78 (CR-16.0)

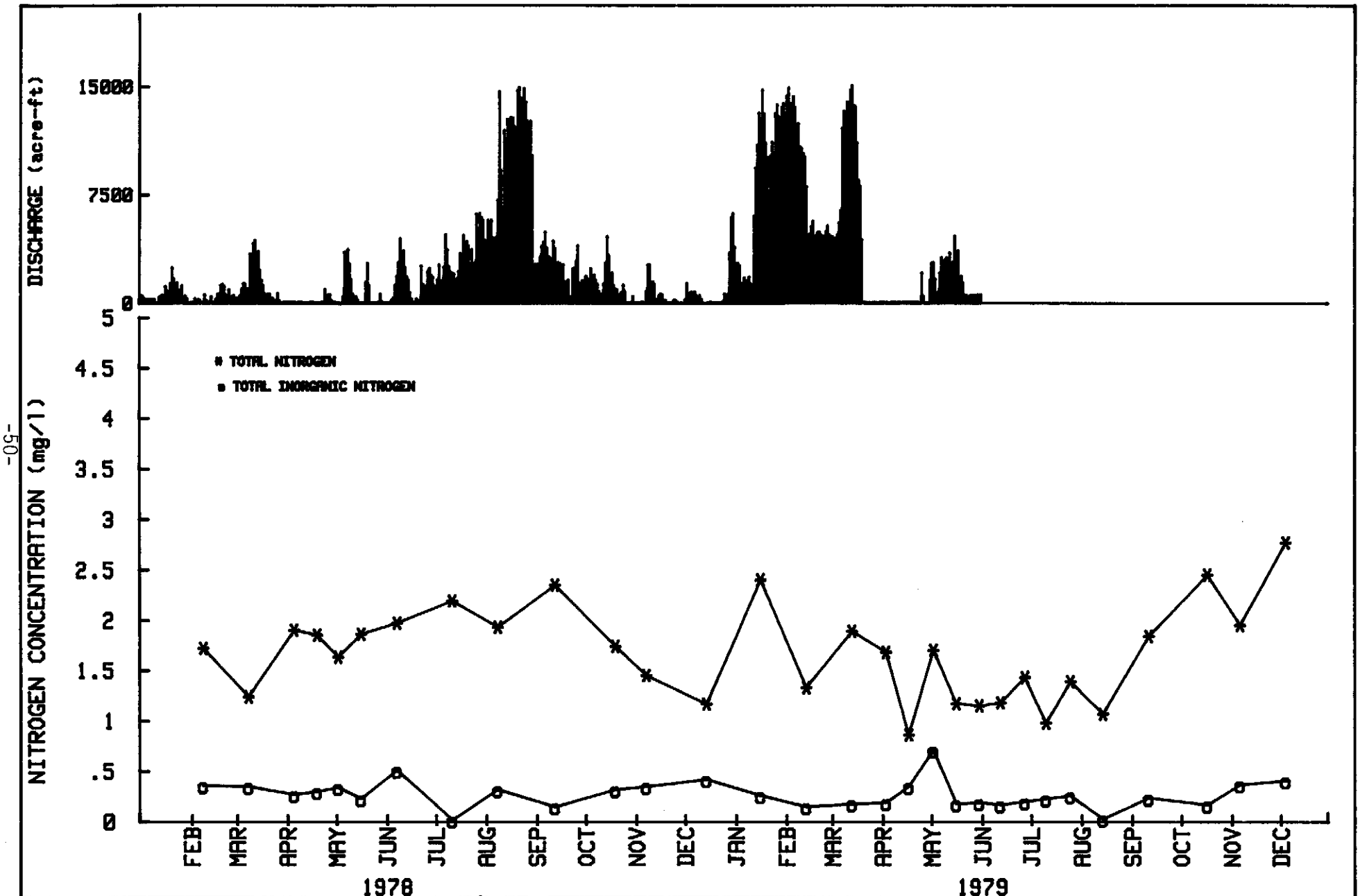


FIGURE 20. NITROGEN WATER QUALITY DATA AND DAILY HYDROGRAPH AT S-79 (CR-40.3)

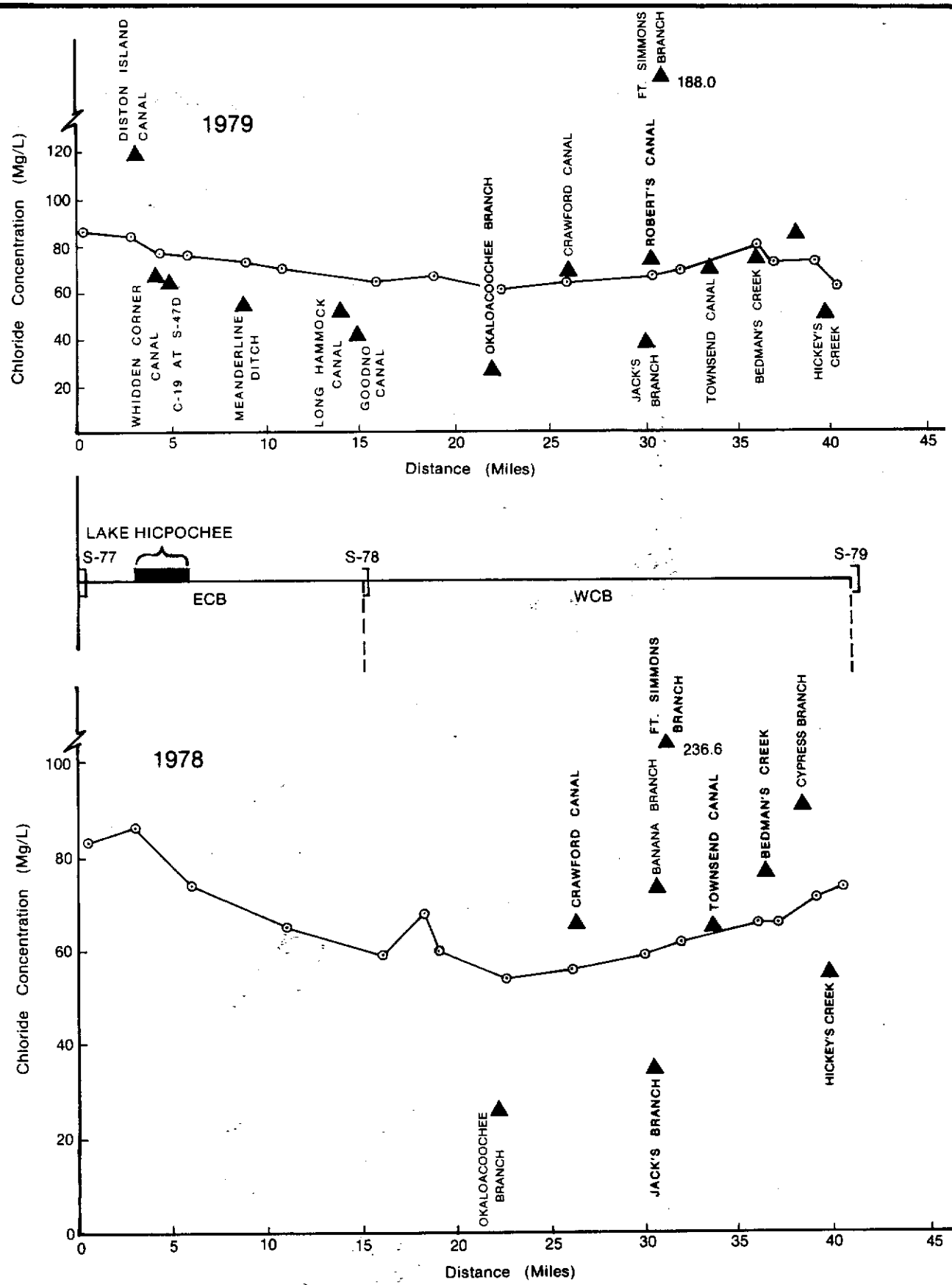


Figure 21 CHLORIDE CONCENTRATION VS DISTANCE ON THE CALOOSAHATCHEE RIVER FOR 1978 AND 1979

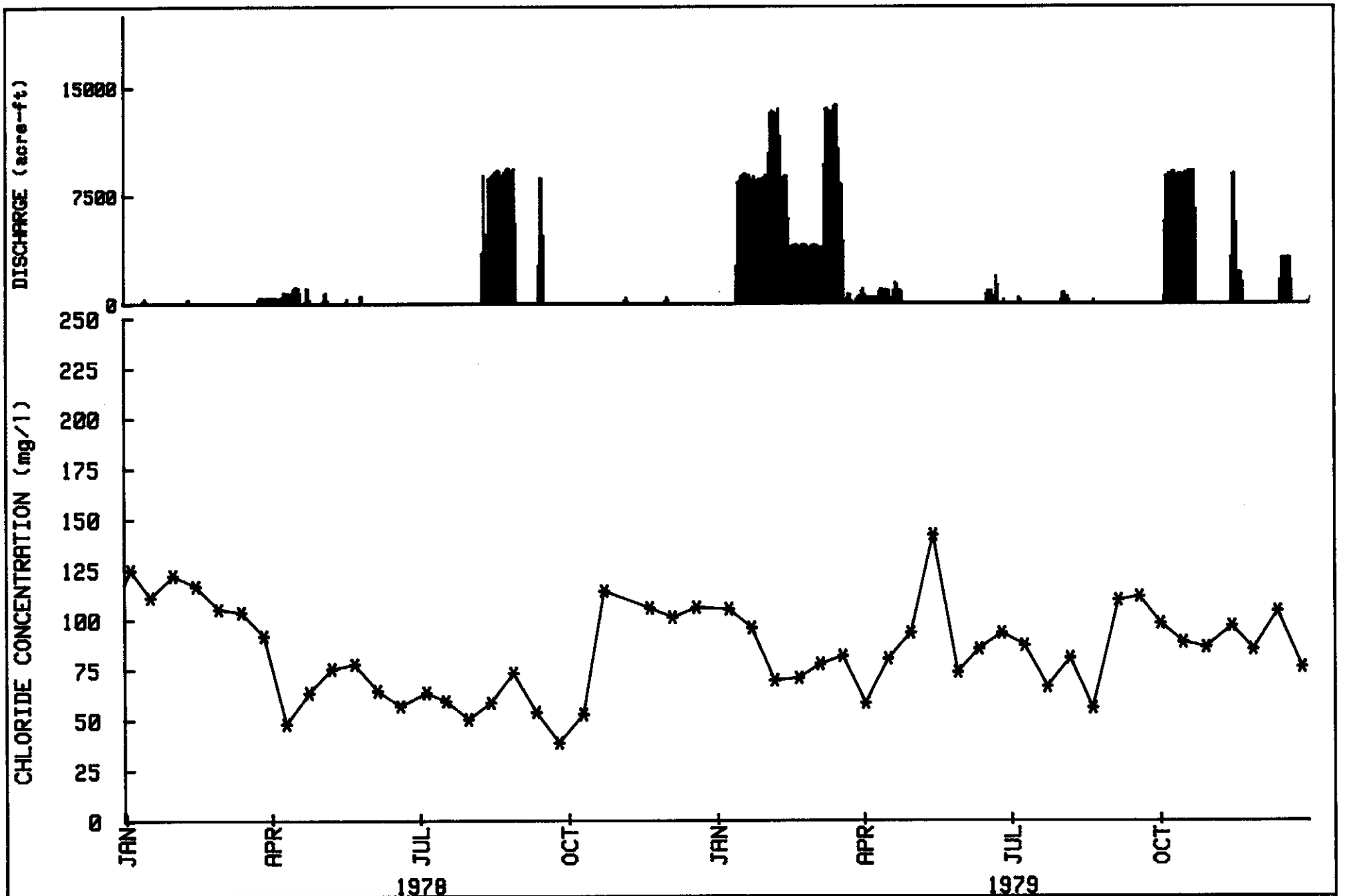


FIGURE 22. CHLORIDE WATER QUALITY DATA AND DAILY HYDROGRAPH AT S-77

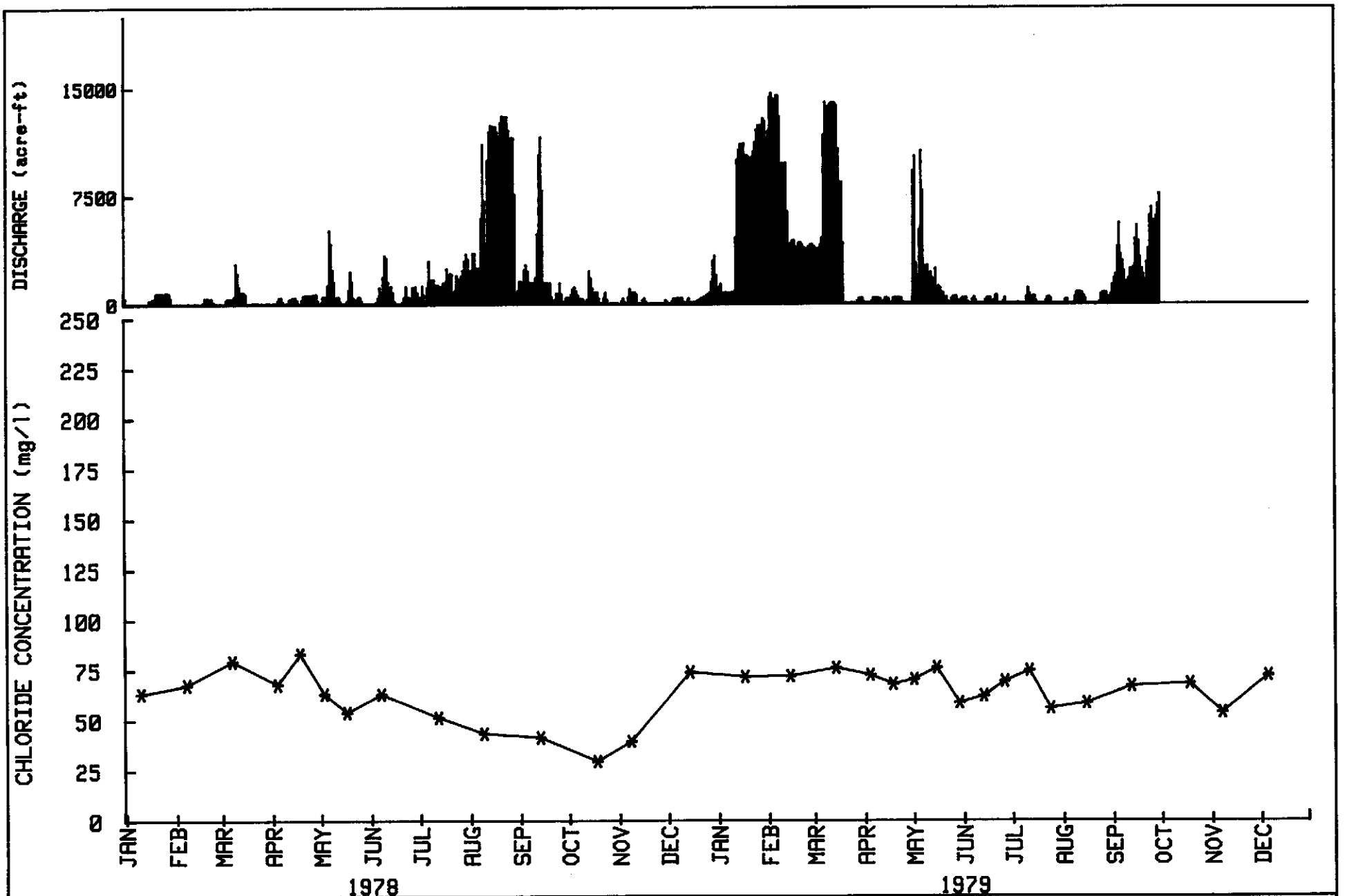


FIGURE 23. CHLORIDE WATER QUALITY DATA AND DAILY HYDROGRAPH AT S-78 (CR-16.0)

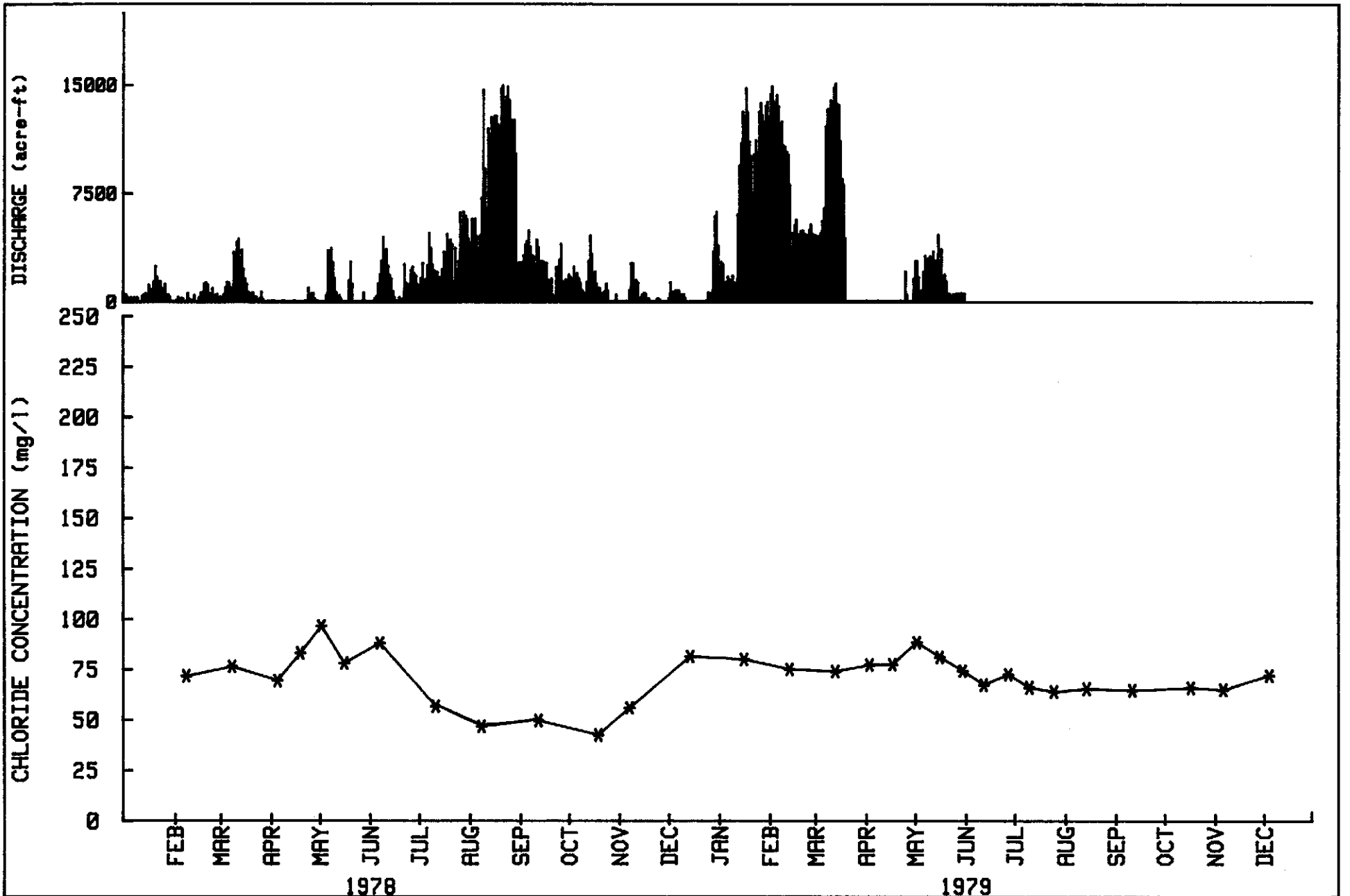


FIGURE 24. CHLORIDE WATER QUALITY DATA AND DAILY HYDROGRAPH AT S-79 (CR-40.3)

Lake Okeechobee Loadings to the Caloosahatchee River

Presented in Table 9 are the average annual loadings to the Caloosahatchee River based on a six-year period of record (1973-1978) at S-77. Annual rainfall at Moore Haven during this period ranged from 41.1 inches (January 1975 - December 1975) to 57.6 inches (January 1974 - December 1974) with a six-year average of 48.3 inches. As indicated earlier in Part I, Rainfall Section, the historic average rainfall of 50.2 inches for S-77 suggests that the six-year record of loadings to the Caloosahatchee River represent a slightly dry period. Loadings at S-77, S-78, and S-79 were calculated from daily hydrology data and water chemistry data collected biweekly from 1973 to 1979 at S-77 and monthly during 1978 and 1979 for S-78 and S-79. Basin comparisons combining S-77, S-78, and S-79 chemistry data will only include 1978 data (SFWMD - unpublished). Hydrology data was derived from published U. S. Geological Survey data (USGS, 1966-1977).

Basin Loading Comparison

Table 10 presents the annual average mass load and percent contribution of total phosphorus, nitrogen, and chloride in the Caloosahatchee River System for the 1978 study year. The quantity of water discharged by S-77 in 1978 was approximately equal to the average discharge for the period of record. During 1978, approximately 232,000 acre-feet of water, 30 tonnes of phosphorus, 661 tonnes of nitrogen, and 17,830 tonnes of chloride were discharged to the Caloosahatchee River from Lake Okeechobee. These loads accounted for 36% of the water, 28% of the phosphorus, 39% of the nitrogen, and 36% of the chloride entering the Caloosahatchee River System at S-77. Based on the differences between S-77 and S-78, the tributaries within the ECB supplied the majority of the phosphorus entering the river system (55%) while supplying one-tenth the water (11%). The

TABLE 9. AVERAGE ANNUAL LOADINGS TO THE CALOOSAHATCHEE RIVER FROM LAKE OKEECHOBEE AT S-77

Year	Flow Acre-feet	Mass Load Tonnes			Flow Weighted Conc.(mg/l)			Mean Annual Concentration (mg/l)		
		T-P	T-N	Cl	T-P	T-N	Cl	T-P	T-N	Cl
1973	46,778	3.2	87.7	4,581	.072	1.64	70.8	.085	1.74	69.1
1974	751,364	112.4	1720.4	52,526	.117	1.53	68.3	.040	1.20	72.3
1975	118,751	5.7	220.4	12,311	.077	1.70	72.6	.099	1.75	65.9
1976	109,354	4.5	286.0	13,636	.062	1.92	90.9	.066	1.82	88.4
1977	139,854	8.0	336.3	16,612	.066	2.23	96.0	.068	2.16	95.5
1978	231,570	29.5	661.1	17,834	.072	2.02	80.8	.069	2.04	83.2
Average	232,945	27.2	552.0	19,583	.078	1.84	79.9	.071	1.78	79.1

TABLE 10. AVERAGE ANNUAL MASS LOAD AND PERCENT CONTRIBUTION TO THE CALOOSAHATCHEE RIVER - 1978

Source	Flow Acre-Feet	% Contribution	Total N Tonnes	% Contribution	Total P Tonnes	% Contribution	Chloride Tonnes	% Contribution
Lake Okeechobee (S-77)	231,570	36%	661	39%	30	28%	17,830	36%
* ECB	69,498	11%	466	27%	59	55%	11,248	23%
* WCB	344,023	53%	577	34%	18	17%	19,984	41%

* ECB = mass load at S-78 minus mass load at S-77

* WCB = mass load at S-79 minus mass load at S-78

proportions of chloride and nitrogen contributed by the ECB were 23% and 27%, respectively. Based on the difference between S-78 and S-79, the WCB was the largest contributor of water (53%) and chloride (41%). The amount of nitrogen (34%) contributed was approximately equal to that supplied by Lake Okeechobee (39%). Although the WCB was the largest contributor of water, it contributed the least amount of phosphorus (17%).

PART III

WATER QUALITY STANDARDS

Florida Administrative Code (FAC) Chapter 17-3 water quality criteria were adopted in 1972, revised in 1979, with the intent of maintaining and improving the quality of waters of the State. General surface water criteria have been established for all waters in Florida with additional specific criteria adopted according to a classification system based on designated use (Table 11).

There are two major groups of water quality parameters covered in Chapter 17-3, those with specific numeric criteria defining pollution, and those constituents for which no numerical threshold values have been established. These latter interpretive criteria cover any substance considered by the regulatory agency (FDER) to be deleterious and/or toxic according to designated uses.

Chapter 17-3 receiving water criteria are applied only after a reasonable opportunity for mixing with the receiving surface waters has been afforded. The reasonableness of the opportunity for mixing is stated to be dependent upon the condition of the receiving body of water, the nature, volume and frequency of the proposed waste including any possible synergistic effects with other pollutants or substances which may be present, and the cumulative effect of the proposed mixing zone and other mixing zones in the vicinity.

Due to the nature and design of this study, strict application of (FAC) Chapter 17-3 quality criteria is not possible. No provisions were made in the study design to delineate mixing zones or assess "natural background" levels.

TABLE 11. CLASSIFICATION OF WATERS

Classification	Designated Uses
Class I-A	Potable Water Supplies - Surface Waters
Class I-B	Potable and Agricultural Water Supplies and Storage - Groundwaters
Class II	Shellfish Propagation or Harvesting - Surface Waters
Class III	Recreation, Propagation and Management of Fish and Wildlife - Surface Waters
Class IV	Agricultural Water Supplies - Surface Waters
Class V-A	Navigation, Utility, and Industrial Uses - Surface Waters
Class V-B	Freshwater Storage, Utility and Industrial Uses - Groundwaters

A comparison between the water quality data collected during 1978 and 1979 and (FAC) Chapter 17-3 quality criteria does lend some perspective to the overall quality of waters in the Caloosahatchee River Study Area.

The Caloosahatchee River flows from Lake Okeechobee through a three county area and eventually reaches the estuaries of the Caloosahatchee River west of the W.P. Franklin Lock and Dam (S-79). The Caloosahatchee River's designated usage is divided at the Hendry-Lee County line with Glades and Hendry County segments being designated as Class III waters and Lee County as Class I-A Waters because the river supplies potable water to Lee County and the City of Fort Myers. The tributaries discharging to the Caloosahatchee River are designated Class III.

Presented in Table 12 are the mean, minimum, maximum, and numeric threshold values for nine select (FAC) Chapter 17-3 quality parameters for which measurements were taken at 17 river stations and 15 tributary stations in the Caloosahatchee River Study Area. Although other parameters have numerical criteria, there was a lack of sufficient data for their proper evaluation. This table covers the period January 1978 through December 1979. Sampling frequency was presented earlier in Part I, Materials and Methods section.

Alkalinity, chloride, nitrate, and pH levels were at no time during 1978 and 1979 outside the range limits established by the State Criteria for fresh water according to designated usage and as such will not be discussed further. Of the remaining parameters, total iron, zinc, and dissolved oxygen were occasionally beyond the limits established by State Criteria for Class IA and Class III waters while ammonia was in excess for Class III only.

TABLE 12. SELECT FAC CHAPTER 17-3 SURFACE WATER QUALITY PARAMETERS FOR ALL STATIONS DURING 1978 AND 1979

Parameter	Class I-A Standards	River Reach Min.	Max.	Annual Mean
Specific Conductance (μmhos/cm)	See Text	418	769	590
pH	No specific criteria	6.7	8.2	7.4
Chloride (mg/l)	not >250.0 mg/l	42.6	148.8	76.5
T-Fe (mg/l)	not >0.3 mg/l	0.07	*0.50	0.24
Alkalinity (mg/l $CaCO_3$)	not <20 mg/l as $CaCO_3$	106.0	189.0	154.6
Zinc (mg/l)	not >0.03 mg/l	0.01	*0.07	0.03
Ammonia (mg/l ionized)	not >0.02 mg/l (mg/l un-ionized)**	0.01	0.52	0.04
Dissolved Oxygen (mg/l)	not <5.0 mg/l	*3.6	8.2	6.4
Nitrate (mg/l)	not >10.0 mg/l	0.004	0.594	0.201

* Represents some values beyond the limits of State Standards.

** Based upon an average pH for the study area of 7.4 and 25°C, the concentration of total ammonia (NH_3+NH_4^+) which contains an un-ionized ammonia concentration of 0.020 mg/l NH_3 (mg/l) is equal to 1.58 mg/l.

TABLE 12. (CONTINUED)

Class III

Parameter	Standard	River Reach Min.	River Reach Max.	River Reach Annual Mean	Tributary Inflows Min.	Tributary Inflows Max.	Tributary Inflows Annual Mean
Specific Cond. (mhos/cm)	See Text	266	990	568	98	2680	657
pH	6.0 - 8.5	6.3	8.5	7.4	6.4	8.1	7.3
Chloride (mg/l)	no specific criteria	29.6	123.6	68.9	6.9	614.0	72.4
T-Fe (mg/l)	not >1.0 mg/l	0.05	0.84	0.2	0.02	3.57	0.42
Alkalinity (mg/l $CaCO_3$)	not <20 mg/l as $CaCO_3$	53.5	247.0	149.1	25.5	368.5	193.7
Zinc (mg/l)	not >0.03 mg/l	0.01	*0.08	0.03	0.01	*0.09	0.02
*Ammonia (mg/l ionized)	not >0.02 mg/l (mg/l un-ionized)	0.01	0.79	0.06	0.01	*4.95	0.11
Dissolved Oxygen (mg/l)	not <5.0 mg/l	*0.4	10.4	6.2	*0.8	14.0	6.1
Nitrate (mg/l)	no specific criteria	0.004	0.705	0.134	0.004	1.982	0.1

* Represents some values beyond the limits of State Standards

** Based upon an average pH for the study area of 7.4 and 25°C, the concentration of total ammonia (NH_3+NH_4^+) which contains an un-ionized ammonia concentration of 0.020 mg/l NH_3 (mg/l) is equal to 1.58 mg/l

Specific Conductance: Specific conductance ranges from 98 to 2680 μmhos/cm throughout the study area with a river and tributary average of 579 and 657 μmhos/cm, respectively. Chapter 17-3 states that the specific conductance shall not be increased more than 100% above background levels, or to a maximum level of 500 μmhos/cm in those surface waters in which the specific conductance of the water at the surface is less than 500 μmhos/cm; and shall not be increased more than 50% above background level, or to a maximum of 5,000 μmhos/cm for predominantly fresh waters in which the specific conductance of the water at the surface is equal to or greater than 500 μmhos/cm. Specific conductance in the study area was usually greater than 500 μmhos/cm. Generally, however, even though the "specific conductance" of certain tributaries was occasionally 50% greater than the river average, the maximum specific conductance recorded in the study area (2680 μmhos/cm) was still considerably less than the maximum allowable level for predominantly fresh water (5000 μmhos/cm). The average specific conductance of all the tributaries except Diston Island Canal (CR-03.2T) and Ft. Simmons Branch (CR-31.0T) was less than 50% greater than the river average or the 500 μmhos/cm criteria.

Total Iron: The total iron concentrations for the river and tributaries, collectively, ranged between .02 mg/l and 3.57 mg/l. The Class I-A criteria for iron in fresh waters is 0.30 mg/l while in Class III waters the criteria iron value shall not exceed 1.0 mg/l. The Class I-A waters usually exceeded the 0.30 mg/l criteria and probably reflected the effect of the tributary inflows. With the exception of the Diston Island Canal (CR-03.2T) and C-19 (CR-04.8T), all remaining canals in the ECB sampled demonstrated total iron values in excess of the state criteria of 1.0 mg/l.

Zinc: Zinc was sampled only during the 1978 study year. The overall average for zinc in the river (0.03 mg/l) was slightly higher than the tributaries (0.02 mg/l), with a collective range between 0.01 and 0.09 mg/l. FAC Chapter 17-3 indicates that zinc in Class I-A and Class III waters shall not exceed 0.03 mg/l. All stations, with the exception of the Okaloacoochee Branch (CR-22.0T), the Crawford Canal (CR-26.2T), and the Banana Branch of Robert's Canal (CR-30.4T) in the study area exceed this criteria at some time.

Ammonia: Ammonia is a biologically active compound present in most waters as a normal biological degradation product of nitrogenous organic matter. FAC Chapter 17-3 states that ammonia (un-ionized), for Class I-A and Class III, shall not exceed 0.02 milligrams (mg)/l for predominantly fresh waters. Temperature and pH are the most important factors controlling the levels of un-ionized ammonia in natural waters. The U.S. Environmental Protection Agency published in July 1976 a report entitled Quality Criteria for Water which presented a table of concentrations of total ammonia ($NH_3 + NH_4^+$) and un-ionized ammonia concentrations. In the Caloosahatchee River study area, the average pH is approximately 7.4 with an average annual temperature of approximately 25°C. Extrapolating from the table presented in the EPA report, the concentration of total ammonia in the study area which contains an un-ionized ammonia concentration of 0.020 mg/l NH_3 is approximately equal to 1.58 mg/l. At no time did the river average or recorded maximum levels approach or exceed this level. Of the tributaries sampled, only Diston Island Canal (CR-03.2T) exceeded this standard with total ammonia levels in excess of 1.58 mg/l 35% of the time. Elevated ammonia values occurred during the dry season only. The wet season average was 0.85 mg/l while the dry season average was 2.50 mg/l.

Dissolved Oxygen: The Chapter 17-3 criteria for dissolved oxygen for Class I-A and Class III waters states that the dissolved oxygen shall not be less than 5 mg/l. Normal daily and seasonal fluctuations above this level shall be maintained for predominantly fresh waters.

All dissolved oxygen measurements were taken during daylight hours between 0800 hours and 1700 hours when the dissolved oxygen levels are generally highest. Dissolved oxygen in the river (Table 13), ranged between 0.4 mg/l and 10.4 mg/l. Dissolved oxygen in the tributaries, (Table 14) ranged between 0.8 and 14.0 mg/l with an overall mean of 6.4 mg/l for the river and 5.9 mg/l for the tributaries.

Each table includes the total number of dissolved oxygen measurements taken at each station (surface only) and the number of values less than 5.0 mg/l. The dissolved oxygen in the river occasionally was less than 5.0 mg/l (20 percent of the measurements).

A review of the tributaries of the study area indicates that Ft. Simmons Branch (CR-31.0T) was the only tributary not below the State criteria at any time during the study period.

TABLE 13. DISSOLVED OXYGEN* REVIEW ON THE CALOOSAHATCHEE RIVER DURING 1978 AND 1979

River Stations	Surface Min.	Surface Max.	Surface Annual Mean	Bottom Mean	Total No. Observations	Total No. Surface Observ. <5.0 mg/l
Class III S-77						
CR-03.0	0.4	9.5	5.5	3.7	30	12
CR-04.5	2.4	9.8	5.9	4.0	17	3
CR-06.0	0.6	10.4	6.1	4.0	31	7
CR-09.0	3.1	8.2	6.5	4.8	17	2
CR-11.0	1.0	9.2	6.3	4.8	31	7
CR-13.5	3.3	8.5	6.6	4.2	17	2
CR-16.0	3.6	9.2	6.4	4.7	31	5
CR-19.0	4.8	9.9	6.8	4.7	16	1
CR-22.5	3.8	9.4	6.7	4.9	30	3
CR-26.0	3.3	9.4	6.3	4.3	31	5
CR-30.4	3.4	8.3	6.2	4.0	32	5
CR-32.0	3.6	8.3	6.1	3.9	31	5
Grand Mean			6.3	4.3		
TOTAL					314	57 or 18%
Class IA						
CR-36.0	3.7	8.0	6.3	4.3	31	6
CR-37.0	3.7	8.1	6.3	4.3	30	6
CR-39.0	3.6	8.1	6.4	4.4	30	6
CR-40.3	3.6	8.2	6.4	4.7	30	6
Grand Mean			6.4	4.4		
TOTAL					121	24 or 20%

* All Concentrations in mg/l

TABLE 14. DISSOLVED OXYGEN* REVIEW OF TRIBUTARIES IN THE CALOOSAHATCHEE RIVER STUDY AREA DURING 1978 AND 1979

Tributary Station	Minimum	Maximum	Annual Mean	Total No. Observations	Total No. Surface Observ. <5.0 mg/l
Class III					
Diston Isl. Canal	0.8	8.6	4.5	17	12
Whidden Corner Canal	1.9	8.9	5.2	17	7
C-19 at S47D	1.5	6.8	4.8	17	6
Meander Line Ditch	0.9	14.0	7.0	17	5
Long Hammock Canal	2.0	7.1	4.7	17	9
Goodno Canal	1.3	9.0	4.7	17	11
Okaloacoochee Canal	2.8	13.9	8.4	31	3
Crawford Canal	4.1	8.7	6.2	27	6
Jack's Branch	3.8	8.4	5.5	30	11
Roberts Canal	1.6	9.0	6.8	31	4
Ft. Simmons Branch	5.2	9.3	7.1	31	0
Townsend Canal	2.7	8.0	6.1	31	4
Bedman's Creek	4.9	9.1	6.5	31	1
Cypress Creek	3.3	7.8	5.0	31	16
Hickey Creek	4.3	7.8	6.4	31	2
Grand Mean			5.9		
Total				376	97 or 26%

SUMMARY

1. Rainfall during 1978 was relatively typical while 1979 was atypical. Most of the rain during the study period fell between August and October.
2. Phosphorus at S-77 displayed a well defined seasonal pattern which was extremely sensitive to water releases. Based upon the period of record, the highest phosphorus concentrations occurred during the wet season periods of no discharge. The lowest concentrations occurred during dry season discharge periods. Phosphorus levels increased in the ECB along the river from S-77 to S-78, then decreased in the SCB towards the W. P. Franklin Lock and Dam (S-79). The ECB tributaries generally had higher phosphorus levels than the river while the WCB tributaries had lower levels.
3. Nitrogen levels were generally higher in the tributaries in the ECB than the tributaries in the WCB. Nitrogen concentration decreased almost linearly from S-77 at Lake Okeechobee to S-79. The tributary influence was responsible, in part, for the decrease since as a group the mean concentrations were less than the river.
4. Chloride levels within the river demonstrated a less defined and opposite trend to that of phosphorus. Chloride levels in the ECB between S-77 and S-78 decreased, then increased again in the WCB toward the W. P. Franklin Lock and Dam (S-79). Generally, the ECB tributaries had lower chloride levels than the river while the WCB exhibited higher chloride levels.
5. Comparative analysis of mass loading data indicates that Lake Okeechobee contributes 36% of the water, 28% of the phosphorus, 39% of the nitrogen, and 36% of the chloride that the Caloosahatchee River discharges to the Gulf of Mexico. The ECB supplied most of

the phosphorus (55%) and the least amount of water (11%). The WCB contributed the largest percentage of chloride (41%), the least amount of phosphorus (17%) and the most water (53%). Lake Okeechobee was the largest contributor of nitrogen.

6. Alkalinity, chloride, nitrate, and pH levels were at no time during 1978 or 1979 outside the range limits established by the State Criteria for fresh water. Total iron, dissolved zinc, and dissolved oxygen were beyond the limits established by the State Criteria for Class I-A and Class III waters while ammonia was in excess for Class III only.

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APPENDIX A

ANALYTICAL METHODS

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
Water Chemistry Laboratory

Analytical Methods

AutoAnalyzer II Method

Determination	Method	Range	Sensitivity	Detection Limit
Alkalinity	Colorimetric Automated Methyl Orange, Technicon AA II Method #111-71W, modified EPA Method #310.2	0-5.0 meq/l	0.1 meq/l	0.1 meq/l
Ammonia	Colorimetric Automated Phenate, Technicon AA II Method #154-71W, modified EPA Method #350.1	0-0.50 mg/l	0.01 mg/l	0.01 mg/l
Chloride	Colorimetric Automated Ferricyanide, Technicon AA II Method #99-70W, modified EPA Method #325.2	0-200.0 mg/l	2.0 mg/l	4.0 mg/l
Nitrite	Colorimetric Automated Diazotization with and coupling with N-(1 naphthyl) ethylenediamine dihydrochloride, Technicon colorimetric, automated AA II Method #120-70W, modified EPA Method # 353.2	0-0.200 mg/l	0.002 mg/l	0.004 mg/l
Nitrate	Same as nitrite with Cadmium Reduction Column. Technicon AA II Method #100-70W, modified EPA Method #353.2	0-0.200 mg/l	0.002 mg/l	0.004 mg/l
Total Kjeldahl Nitrogen	Colorimetric, Semi-automated Block Digestor, Technicon AA II Method #376-75W, 334-74A, modified EPA Method #351.2	0-10.0 mg/l	0.1 mg/l	0.20 mg/l
Ortho Phosphate	Colorimetric, Automated, Phosphomolybdenum Blue Complex with Ascorbic Acid Reduction, Technicon AA II Method #155-71W, modified EPA Method #365.1	0-0.10 mg/l	0.001 mg/l	0.002 mg/l
Total Phosphate	Colorimetric, Semi-automated Persulfate Digestion followed by same method as Ortho Phosphate Technicon AA II Method #155-71W, modified EPA Method #365.1	0-0.10 mg/l	0.001 mg/l	0.002 mg/l

AutoAnalyzer II Method (Continued)

Determination	Method	Range	Sensitivity	Detection Limit
Silicates	Colorimetric, Automated Ascorbic Acid Reduction of Silicomolybdate Complex, Technicon AA II Method #105-71W	0-20.0 mg/l	0.20 mg/l	0.40 mg/l
Sulfate	Colorimetric, Automated Methylthymol Blue, Technicon AA II Method #118-71W, modified EPA Method #375.2	0-250.0 mg/l	5.0 mg/l	5.0 mg/l
Total Dissolved Iron	Colorimetric, Automated TPTZ Complex with thioglycolic acid pretreatment, Techicon AA II Method #109-71W	0-1.0 mg/l	0.02 mg/l	0.02 mg/l
Total Iron	Colorimetric, Semi-automated, Hydrochloric Acid Digestion modified Standard Methods 13th Ed., pp 192, 1971, followed by Total Dissolved Iron Determination	0-1.0 mg/l	0.02 mg/l	0.02 mg/l

Physical Parameters

Determination	Method	Range	Detection Range
Suspended Solids	Gravimetric Standard Methods Procedure #208D, 14th Ed., pp 94, 1975, EPA Methods #160.1 to 160.4	20-20,000 mg/l	1.0 mg/l or 5% whichever is greater
pH	Electrometric, EPA Method #150.1	0-14 pH	(sensitivity 0.01 pH)
Turbidity	Nephelometric, Standard Methods #214A, 14th Ed., pp 132, 1975, EPA Method #180.1	0-1,000 N.T.U.	2% of scale used
Color	Colorimetric, modified Standard Method #204A, 14th Ed., pp 64, 1975 (modified as per N.C.A.S.I. Technical Bulletin # 253) modified EPA Method #110.2	0-500 mg/l as platinum in platinum-cobalt solution	1.0 mg/l

Physical Parameters (Continued)

Determination	Method	Range	Detection Range
Conductivity	Electrometric, Specific Conductance at 25°C, modified Standard Methods #205, 14th Ed., pp 71, 1975, modified EPA Method #120.1		
Miscellaneous			
Fluoride	Potentiometric, Ion Selective Electrode, Standard Methods #414B, 14th Ed., pp 391, 1975, EPA Method #340.2	0-2.0 mg/l	.04 mg/l

Metals - Major Cation

Atomic Absorportion

Determination	Method	Range	Detection Range
Sodium	Atomic Absorption Direct Aspiration with Dual Capillary System (DCS), EPA Method #273.1	0-150 mg/l	As calculated from absorbance
Potassium	Atomic Absorption Direct Aspiration with Dual Capillary System (DCS), EPA Method #258.1	0-10 mg/l	As calculated from absorbance
Calcium	Atomic Absorption Direct Aspiration with Dual Capillary System (DCS), Samples are treated with LA_2O_3/HCl with DCS, EPA Method #215.1	0-150 mg/l	As calculated from absorbance
Magnesium	Atomic Absorption Direct Aspiration with Dual Capillary System (DCS), Same Treatment as calcium, EPA Method #242.1	0-40 mg/l	As calculated from absorbance

Trace Metals

Determination	Method	Range
Zinc	Atomic Absorption, Direct Aspiration, EPA Method #289.1	0-1.0 mg/l

Trace Metals

Determination	Method	Range
Strontium	Atomic Absorption, Direct Aspiration, Standard Methods #321A, 14th Ed., 1975	0-10.0 mg/l
Lead	Atomic Absorption, Furnace Technique, EPA Method #239.2	0-0.020 mg/l
Cadmium	Atomic Absorption, Furnace Technique, EPA Method #213.2	0-0.002 mg/l
Manganese	Atomic Absorption, Furnace Technique, EPA Method #243.2	0-0.010 mg/l
Cobalt	Atomic Absorption, Furnace Technique, EPA Method #219.2	0-0.020 mg/l
Chromium	Atomic Absorption, Furnace Technique, EPA Method #218.2	0-0.010 mg/l
Nickel	Atomic Absorption, Furnace Technique, EPA Method #249.2	0-0.020 mg/l
Copper	Atomic Absorption, Furnace Technique, EPA Method #220.2	0-0.020 mg/l
Arsenic	Atomic Absorption, Furnace Technique, EPA Method #206.2	0-0.010 mg/l
Mercury	Atomic Absorption, Manual Cold Vapor Technique, Modified EPA Method #245.1	0-0.004 mg/l

APPENDIX B

TWO-TAILED, PAIRED T TEST FOR SELECT SURFACE AND BOTTOM PARAMETERS IN THE CALOOSAHATCHEE

APPENDIX B. TWO-TAILED, PAIRED T TEST* FOR SELECT SURFACE AND BOTTOM PARAMETERS IN THE CALOOSAHATCHEE RIVER 1978

Parameter	Degrees of Freedom	t Value	Critical t Value	Level of Significance	Reject
(Variable X= Total Nitrogen-b					
**(Variable Y= Total Nitrogen	165	1.662	2.846	.005	no
Variable X= Total Phosphorus-b					
Variable Y= Total Phosphorus	165	-0.833	2.846	.005	no
Variable X= Chloride-b					
Variable Y= Chloride	164	2.109	2.846	.005	no
Variable X= Ammonia-b					
Variable Y= Ammonia	165	2.922	1.655	.100	yes

Sign Test for Ammonia N = 137

Number of Positive Differences = 87

(The 30 points where X(I) = Y(I) are excluded from the test)

Yields an approximate standard normal deviation = 3.1611

*H_0: Mu(X) - Mu(Y) = 0.000

** In each case, Variable X = bottom data and Variable Y = surface data

APPENDIX C

QUARTERLY COMPOSITE DATA ACCURACY FOR SELECT PARAMETERS AT STATIONS CR-03.0, CR-22.5, AND CR-40.3 DURING 1979

APPENDIX C. QUARTERLY COMPOSITE DATA ACCURACY FOR SELECT PARAMETERS AT STATION CR-03.0 DURING 1979

	Alkalinity (meq/l)	Ammonia (mg/l)	Ortho-P (mg/l)	Total-P (mg/l)	NO_x (mg/l)	TKN (mg/l)	Sodium (mg/l)	Chloride (mg/l)	TSS (mg/l)	T-Fe (mg/l)
March '79										
Composite	2.54	.017	.009	.048	.051	1.89	48.93	77.1	8.3	.16
Surface	2.51	.02	.008	.042	.050	2.60	49.56	77.1	7.0	.15
Bottom	2.49	.01	.008	.047	.054	1.69	49.56	77.1	7.0	.17
Rel. % Diff.	-1%	-13%	12%	-9%	+2%	+12%	+1%	0%	-18%	0%
June '79										
Composite	2.58	.03	.048	.103	<.008	1.22	44.85	73.7	3.0	.18
Surface	2.58	.04	.047	.093	.025	1.83	45.35	73.7	4.0	.29
Bottom	2.55	.03	.036	.087	<.008	1.94	45.18	73.7	3.0	.18
Rel. % Diff.	-1%	+14%	-14%	-14%	+50%	+35%	+1%	0%	+14%	+25%
Sept. '79										
Composite	3.70	.79	.258	.267	.818	3.70	61.94	106.1	3.0	.18
Surface	3.75	.81	.233	.272	.887	3.58	62.73	107.2	0.0	.20
Bottom	3.81	.84	.263	.270	.887	4.07	62.73	108.3	2.0	.18
Rel. % Diff.	+2%	+4%	-4%	+1%	+8%	+3%	+1%	+2%	-200%	+5%
Dec. '79										
Composite	2.89	.20	.056	.068	.289	2.64	70.37	84.8	2.0	.07
Surface	2.89	.20	.056	.072	.307	2.64	56.38	84.8	5.0	.08
Bottom	2.89	.18	.056	.069	.302	2.17	56.38	84.8	4.7	.11
Rel. % Diff.	0%	+5%	0%	-3%	-5%	+10%	-25%	0%	+59%	+26%
Mean Rel. % Diff.	0%	+2%	-2%	-6%	+14%	+15%	-6%	0%	-36%	+14%

QUARTERLY COMPOSITE DATA ACCURACY FOR SELECT PARAMETERS AT STATION CR-22.5 DURING 1979

	Alkalinity (meq/l)	Ammonia (mg/l)	Ortho-P (mg/l)	Total-P (mg/l)	NO_x (mg/l)	TKN (mg/l)	Sodium (mg/l)	Chloride (mg/l)	TSS (mg/l)	T-Fe (mg/l)
March '79										
Composite	2.62	.05	.030	.070	.086	2.11	49.25	77.5	16.0	.30
Surface	2.59	.03	.015	.053	.081	1.81	49.41	77.3	7.0	.16
Bottom	2.62	.03	.015	.099	.080	1.93	48.46	77.7	31.0	.47
Rel. % Diff.	-0%	-67%	-100%	+8%	-7%	-13%	-1%	0%	+16%	+6%
June '79										
Composite	3.18	.06	.118	.135	.186	.62	33.02	57.7	2.0	2.92
Surface	3.21	.04	.115	.121	.169	.62	33.18	57.1	0.0	.44
Bottom	3.19	.06	.129	.138	.179	1.39	34.33	57.7	3.0	.38
Rel. % Diff.	+1%	-20%	+3%	-4%	-8%	+38%	+2%	0%	-33%	-62%
Sept. '79										
Composite	2.33	.03	.181	.204	.345	1.80	32.58	57.1	3.0	.34
Surface	2.36	.02	.181	.207	.368	1.92	33.37	57.1	1.0	.39
Bottom	2.36	.02	.187	.207	.288	2.72	33.37	57.1	5.0	.44
Rel. % Diff.	+1%	-50%	+2%	+1%	-5%	+22%	+2%	0%	0%	+19%
Dec. '79										
Composite	2.46	.02	.044	.061	.312	2.34	42.45	62.6	6.0	.21
Surface	2.37	.03	.048	.060	.290	2.26	51.19	60.3	0.0	.22
Bottom	2.43	.03	.045	.062	.355	2.00	52.71	61.5	3.0	.12
Rel. % Diff.	-2%	-33%	-4%	0%	-3%	10%	+18%	3%	-200%	-24%
Mean Rel. % Diff.	0%	-42%	-25%	+1%	-6%	+14%	+5%	+1%	+54%	-15.3%

QUARTERLY COMPOSITE DATA ACCURACY FOR SELECT PARAMETERS AT STATION CR-40.3 DURING 1979

	Alkalinity (meq/l)	Ammonia (mg/l)	Ortho-P (mg/l)	Total-P (mg/l)	NO_x (mg/l)	TKN (mg/l)	Sodium (mg/l)	Chloride (mg/l)	TSS (mg/l)	T-Fe (mg/l)
March '79										
Composite	2.58	.04	.019	.058	.136	1.75	47.51	74.0	5.0	.18
Surface	2.58	.07	.028	.054	.141	1.81	47.51	75.0	5.0	.16
Bottom	2.56	.04	.027	.065	.147	1.33	47.67	74.6	6.0	.20
Rel. % Diff.	-0%	+27%	+31%	+3%	+6%	+11%	0%	+1%	+9%	0%
June '79										
Composite	3.46	.05	.085	.112	.122	1.06	38.11	67.3	4.0	.18
Surface	3.26	.02	.080	.119	.108	1.39	38.44	69.2	2.0	.22
Bottom	3.48	.08	.086	.111	.140	0.56	35.48	64.1	1.0	.22
Rel. % Diff.	-3%	0%	-2%	+3%	+2%	-8%	-3%	-1%	-167%	+18%
Sept. '79										
Composite	2.22	.02	.062	.093	.218	1.62	38.93	64.8	1.0	.23
Surface	2.24	.02	.061	.088	.212	1.74	38.93	64.8	1.0	.17
Bottom	2.24	.03	.061	.086	.212	1.74	39.24	64.8	3.0	.19
Rel. % Diff.	+1%	+20%	-2%	-7%	-3%	+7%	+1%	0%	+50%	-28%
Dec. '79										
Composite	3.01	.04	.038	.049	.368	2.40	53.47	72.0	5.0	.07
Surface	3.01	.04	.038	.052	.334	2.15	52.71	72.0	5.0	.07
Bottom	2.95	.04	.038	.050	.334	2.17	49.67	83.7	4.0	.79
Rel. % Diff.	-1%	0%	0%	-4%	+10%	+11%	-4%	-7%	+20%	+84%
Mean Rel. % Diff.	-1%	+12%	+7%	-1%	+4%	+5%	-2%	-2%	-22%	+18%

$$\text{Relative Percent Difference} = \left[\frac{\frac{1}{2}(S+B) - C}{\frac{1}{2}(S+B)}\right] 100$$

Where S = Surface Value
B = Bottom Value
C = Composite Value

APPENDIX D

SUMMARY OF SELECT WATER CHEMISTRY DATA

1978-1979

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-03.0 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/10/78	16.8	7.7	990.	7.60	112.9
2/ 7/78	15.7	8.1	941.	7.75	109.1
3/ 7/78	18.9	8.2	808.	7.62	108.3
4/ 4/78	23.0	4.7	848.	7.30	112.3
4/18/78	25.8	4.5	477.		57.7
5/ 3/78	25.5	7.8	624.	7.49	83.0
5/19/78	26.5	4.5	614.	7.12	76.1
6/ 7/78					
7/12/78	29.0	4.9	640.	7.12	70.5
8/ 9/78	28.6	1.6	300.	6.33	39.3
9/13/78	27.9	0.4	508.	6.52	71.6
10/18/78	24.1	3.8	570.	6.98	74.3
11/ 8/78	24.0	5.0	740.	6.92	108.8
12/14/78	20.9	5.5	685.	7.24	97.5
1/17/79	17.5	6.4	460.	7.10	68.5
2/14/79	15.9	6.4	550.	7.40	75.1
3/14/79	19.7	6.1	591.	7.18	77.1
4/ 4/79	23.1	4.9	349.	6.81	59.6
4/18/79	25.1	4.5	600.	7.07	74.2
5/ 1/79	24.8	7.0	502.	7.52	86.1
5/15/79	27.2	7.2	892.	7.35	123.6
5/29/79	29.2	9.5	722.	7.72	89.4
6/13/79	28.6	7.1	597.	7.33	73.7
6/26/79	30.7	5.6	403.	7.81	58.0
7/11/79	30.9	5.5	551.	7.70	78.8
7/24/79	29.2	4.1	649.	7.44	73.8
8/15/79	30.1	5.4	682.	7.56	85.4
9/12/79	27.8	2.9	846.	7.08	106.1
10/18/79		4.4	557.	7.07	79.6
11/ 7/79	24.4	5.2	835.	7.42	105.7
12/ 5/79	18.9	6.5	674.	7.75	84.8

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-03.0 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.96	1.17	0.79	0.04	0.116	0.085
2.04	1.67	0.37	0.08	0.052	0.023
2.22	1.94	0.28	0.08	0.045	0.024
2.45	2.17	0.29	0.11	0.082	0.051
1.12	1.00	0.12	0.09	0.075	0.039
2.43	2.40	0.03	< 0.01	0.054	0.012
2.22	2.01	0.21	0.11	0.104	0.053
2.68	2.62	0.06	0.05	0.066	0.026
1.92	1.79	0.13	0.08	0.113	0.077
1.62	1.54	0.08	0.06	0.076	0.016
2.24	1.75	0.49	0.40	0.096	0.069
1.97	1.88	0.09	0.04	0.039	< 0.002
1.84	1.56	0.28	0.10	0.069	0.052
3.19	2.95	0.24	0.06	0.093	0.048
1.29	1.19	0.10	0.06	0.050	0.005
1.80	1.73	0.07	0.02	0.047	0.008
1.91	1.75	0.16	0.07	0.061	0.039
2.07	1.99	0.08	0.06	0.051	0.014
2.28	2.26	< 0.01	< 0.01	0.052	0.080
2.47	1.92	0.55	0.22	0.119	0.078
1.66	1.51	0.15	0.09	0.063	0.031
1.23	1.19	0.04	0.03	0.103	0.048
1.27	1.22	0.05	0.04	0.079	0.023
1.15	1.13	0.02	0.01	0.049	
2.45	1.90	0.55	0.09	0.069	0.033
1.42	1.38	0.04	0.04	0.034	0.008
4.52	2.91	1.61	0.79	0.267	0.258
2.69	2.52	0.17	0.08	0.076	0.047
2.59	2.11	0.48	0.29	0.068	0.048
2.93	2.44	0.49	0.20	0.068	0.056

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-03.2T CODE DISTON ISLAND CANAL

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/15/79	20.8	4.5	1030.	7.00	102.4
2/13/79	20.8	4.2	1310.	6.90	125.1
3/12/79	22.6	4.1	1310.	6.90	113.0
4/ 2/79	25.9	5.6	954.	7.31	116.7
4/16/79	28.1	8.6	1300.	7.31	126.5
4/30/79	26.2	5.6	730.	7.22	110.5
5/14/79	28.0	4.1	869.	6.98	136.0
5/30/79	27.8	6.2	1290.	7.21	137.7
6/11/79	32.7	3.5	1270.	7.32	143.6
6/26/79	33.4	6.8	821.	7.72	107.8
7/10/79	30.2	3.9	953.	7.23	120.0
7/24/79	28.5	3.1	959.	7.09	98.5
8/15/79	30.0	0.8	1120.	6.94	125.2
9/11/79	27.4	4.0	1190.	7.10	99.6
10/16/79		2.4	1147.	7.14	112.5
11/ 5/79	23.1	4.4	1193.	7.38	126.0
12/ 3/79	17.8	4.7	1158.	7.06	121.1

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-03.2T CODE DISTON ISLAND CANAL

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
7.60	3.08	4.52	4.47	0.324	0.256
6.10	2.99	3.11	3.08	0.233	0.182
6.96	3.40	3.56	3.47	0.262	0.221
5.59	3.20	2.39	1.78	0.179	0.151
7.49	6.41	1.08	0.63	0.219	0.089
2.54	2.17	0.37	0.28	0.094	0.025
4.10	2.87	1.23	1.13	0.200	0.105
3.51	2.52	0.99	0.64	0.170	0.055
1.62	1.06	0.56	0.22	0.076	0.025
2.82	2.60	0.22	0.07	0.057	0.005
3.09	3.06	0.03	0.02		0.012
4.70	3.89	0.81	0.70	0.100	0.019
5.86	4.50	1.36	1.36	0.387	0.175
6.27	3.86	2.41	2.34	0.293	0.281
4.46	2.80	1.66	1.17	0.228	0.138
4.21	2.68	1.53	1.34	0.205	0.168
8.94	3.84	5.10	4.95	0.249	0.192

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-04.3T CODE WHIDDEN CORNER CANAL

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/15/79	19.1	5.6	490.	7.27	55.2
2/12/79	17.8	7.6	625.	7.20	52.8
3/12/79	19.2	6.3	569.	6.92	68.8
4/ 2/79	22.5	7.6	453.	7.52	76.2
4/16/79	26.3	6.8	540.	7.38	68.9
5/ 1/79	26.1	8.9	464.	8.09	77.6
5/14/79	25.7	3.1	668.	6.97	62.5
5/31/79	27.7	5.4	518.	7.21	50.2
6/11/79	26.6	3.4	594.	7.11	80.1
6/25/79	29.0	3.6	484.	7.71	84.3
7/ 9/79	29.5	4.7	461.	7.42	68.2
7/23/79	27.9	2.9	578.	7.34	77.0
8/13/79	28.0	2.9	586.	7.35	80.7
9/10/79	25.9	1.9	653.	7.06	64.8
10/16/79	24.5	5.3	621.	7.36	50.1
11/ 7/79	25.3	5.5	586.	7.54	60.5
12/ 4/79	19.3	7.7	604.	7.70	54.5

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-04.3T CODE WHIDDEN CORNER CANAL

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
2.45	2.10	0.35	0.10	0.181	0.123
1.40	1.06	0.34	0.02	0.062	0.023
1.44	1.34	0.10	0.05	0.077	0.046
1.84	1.75	0.09	0.02	0.066	0.030
2.48	2.45	0.03	0.02	0.071	0.038
2.39	2.36	0.03	0.02	0.075	0.037
2.35	1.49	0.86	0.53	0.223	0.150
1.33	1.31	< 0.01	< 0.01	0.122	0.072
2.52	2.46	0.06	0.03	0.093	0.061
2.23	2.21	0.02	0.01	0.075	0.055
1.95	1.93	0.02	0.01	0.080	0.040
2.12	2.09	0.03	0.02	0.056	0.022
2.56	2.54	0.02	0.02	0.049	0.028
2.67	1.31	1.36	0.85	0.157	0.090
2.07	1.47	0.60	0.48	0.087	0.066
2.40	2.15	0.25	0.13	0.067	0.049
2.82	2.55	0.27	0.09	0.068	0.039

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-04.5 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/17/79	17.6	6.4	461.	7.11	69.8
2/14/79	16.3	6.6	582.		80.3
3/14/79	19.7	6.3	595.	7.18	76.5
4/ 4/79	23.1	5.7		6.98	63.8
4/18/79	25.2	5.3	603.	7.17	74.6
5/ 1/79	24.8	6.9	492.	7.25	80.3
5/15/79	27.3	5.5	655.	7.10	84.5
5/29/79	29.3	9.8	684.	7.73	80.6
6/13/79	28.5	6.8	602.	7.29	72.6
6/26/79	30.8	6.0	393.	7.91	62.1
7/11/79	30.6	4.7	497.	7.50	73.3
7/24/79	29.0	5.1	595.	7.61	73.8
8/15/79	30.1	5.8	669.	7.64	83.1
9/12/79	27.3	2.4	813.	7.09	89.8
10/18/79		4.2	542.	7.07	75.0
11/ 7/79	23.8	5.2	635.	7.38	77.4
12/ 5/79	18.4	7.2	610.	7.68	77.8

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-04.5 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
2.65	2.40	0.25	0.07	0.103	0.051
1.37	1.25	0.12	0.06	0.044	< 0.002
2.42	2.35	0.07	< 0.01	0.042	0.009
1.81	1.62	0.19	0.08	0.068	0.037
1.69	1.63	0.06	0.04	0.054	0.016
2.37	2.33	0.04	0.03	0.063	0.016
1.82	1.53	0.29	0.14	0.137	0.094
0.95	0.78	0.17	0.09	0.096	0.036
2.06	2.03	0.03	0.02	0.092	0.052
1.38	1.24	0.14	0.13	0.087	0.034
1.32	1.30	< 0.01	< 0.01	0.064	0.013
2.84	2.58	0.26	0.01	0.071	0.012
1.66	1.64	0.02	0.02	0.050	0.008
4.19	2.81	1.38	0.57	0.240	0.189
2.23	2.00	0.23	0.13	0.085	0.054
2.09	1.66	0.43	0.23	0.080	0.073
2.47	2.08	0.39	0.15	0.066	0.052

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-04.8T CODE C-19 AT S47D

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/15/79	18.6	5.5	299.	7.00	43.9
2/13/79	17.0	5.9	421.	6.90	53.0
3/12/79	19.6	6.5	528.	6.99	65.5
4/ 2/79	23.6	6.8	120.	6.97	57.5
4/16/79	26.2	6.6	605.	7.19	72.1
4/30/79	25.9	6.2	519.	7.04	91.0
5/14/79	29.9	6.0	502.	7.03	72.0
5/30/79	28.1	5.8	471.	6.95	56.0
6/11/79	29.0	1.5	479.	6.64	54.7
6/26/79	31.9	5.6	432.	7.55	62.1
7/10/79	30.1	4.1	433.	6.91	65.0
7/24/79	30.1	5.1	441.	7.38	53.4
8/15/79	28.9	2.5	620.	7.05	84.2
9/12/79	27.0	1.6	549.	6.80	58.2
10/18/79		2.4	623.	6.84	51.2
11/ 5/79	22.9	3.6	586.	7.11	63.9
12/ 5/79	18.3	6.1	615.		87.2

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-04.8T CODE C-19 AT S47D

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
2.89	2.65	0.24	0.04	0.173	0.125
1.92	1.56	0.36	0.09	0.100	0.078
2.08	1.83	0.25	0.01	0.080	0.044
1.48	1.30	0.18	0.08	0.068	0.036
1.87	1.85	< 0.01	< 0.01	0.062	0.021
1.57	1.50	0.07	0.06	0.054	0.014
2.35	2.10	0.25	0.15	0.203	0.028
0.90	0.76	0.14	0.11	0.125	0.082
4.98	4.88	0.10	0.03	0.094	0.060
1.55	1.52	0.03	0.02	0.075	0.029
1.26	1.20	0.06	0.05	0.131	0.060
2.30	2.28	< 0.01	< 0.01	0.088	0.010
1.49	1.45	0.04	0.03	0.057	0.038
3.19	2.60	0.59	0.41	0.448	0.316
3.37	2.83	0.54	0.54	0.504	0.390
2.42	1.55	0.87	0.59	0.203	0.161
3.04	2.65	0.39	0.19	0.042	0.028

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-06.0 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/10/78	16.5	7.7	740.	7.62	82.4
2/ 7/78	15.6	7.9	840.	7.72	92.9
3/ 7/78	19.0	8.2	792.	7.68	103.8
4/ 4/78	23.1	6.2	764.	7.49	99.1
4/18/78	25.6	5.2	503.		60.6
5/ 3/78	25.3	8.1	568.	7.52	74.0
5/19/78	27.0	4.4	612.	7.16	71.8
6/ 7/78	31.7	9.7	550.	7.60	69.4
7/12/78	28.9	3.2	518.	6.92	51.3
8/ 9/78	28.6	1.8	266.	6.38	34.4
9/13/78	27.9	0.6	480.	6.32	66.4
10/18/78	23.6	4.6	424.	7.01	43.6
11/ 8/78	24.4	6.5	658.	7.09	95.6
12/14/78	20.6	5.6	681.	7.25	91.5
1/17/79	17.7	6.4	460.	7.11	68.5
2/14/79	16.2	7.4	577.		77.1
3/14/79	19.7	6.3	600.	7.15	76.1
4/ 4/79	23.1	6.2		7.09	69.4
4/18/79	25.2	6.1	596.	7.27	72.1
5/ 1/79	24.8	8.0	468.	7.56	74.6
5/15/79	27.2	6.8	656.	7.20	77.6
5/29/79	29.4	10.4	621.	7.82	81.2
6/13/79	28.5	7.5	619.	7.36	73.7
6/26/79	30.9	6.6	397.	8.02	61.0
7/11/79	30.7	5.6	518.	7.70	78.6
7/24/79	29.2	5.8	587.	7.86	75.9
8/15/79	30.0	5.8	657.	7.71	83.1
9/12/79	27.4	2.6	795.	7.10	89.8
10/18/79		4.3	539.	7.08	75.0
11/ 7/79	24.0	5.6	570.	7.39	72.9
12/ 5/79	18.5	6.7	566.		75.5

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES		UNITS
DATE	1/ 1/78	- 12/31/79	MO/DA/YR
DEPTH	0	- 0	METERS
SAMPLE	0.	8.	TYPE

STATION = CR-06.0 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.72	1.19	0.53	0.08	0.126	0.098
2.11	1.88	0.23	0.05	0.062	0.041
1.68	1.43	0.25	0.06	0.069	0.041
2.26	1.97	0.29	0.07	0.099	0.071
1.01	0.81	0.20	0.10	0.091	0.065
2.78	2.77	< 0.01	< 0.01	0.075	0.022
2.30	2.05	0.25	0.13	0.177	0.119
1.46	1.45	< 0.01	< 0.01	0.118	0.063
2.14	1.95	0.19	0.17	0.177	0.112
1.66	1.53	0.13	0.08	0.108	0.073
2.58	2.55	0.03	0.03	0.072	0.010
1.74	1.43	0.31	0.20	0.093	0.066
1.42	1.28	0.14	0.03	0.048	0.013
1.50	1.17	0.33	0.12	0.095	0.079
3.07	2.82	0.25	0.06	0.101	0.051
1.28	1.18	0.10	0.05	0.040	< 0.002
1.40	1.32	0.08	< 0.01	0.040	0.008
2.05	1.87	0.18	0.07	0.062	0.032
1.96	1.90	0.06	0.04	0.057	0.018
2.17	2.11	0.06	0.04	0.066	0.016
2.20	2.04	0.16	0.04	0.145	0.108
1.30	1.21	0.09	0.05	0.081	0.021
2.39	2.36	0.03	0.02	0.099	0.044
1.78	1.68	0.10	0.09	0.082	0.032
1.43	1.40	0.03	0.02	0.066	0.027
2.19	2.01	0.18	0.04	0.062	< 0.002
1.13	1.10	0.03	0.02	0.048	0.008
4.58	3.12	1.46	0.58	0.219	0.167
2.70	2.52	0.18	0.08	0.086	0.058
1.96	1.59	0.37	0.19	0.073	0.068
2.70	2.31	0.40	0.15	0.062	0.057

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-08.9T CODE MEANDERLINE DITCH

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/15/79	19.4	11.0	200.	7.26	29.4
2/13/79	19.9	14.0	382.	7.82	39.4
3/12/79	19.9	7.3	550.	7.00	48.3
4/ 2/79	24.7	8.6	342.	7.14	65.2
4/16/79	26.0	11.0	539.	7.44	53.0
4/30/79	22.1	8.5	469.	7.55	73.7
5/14/79	28.6	6.3	591.	7.02	77.0
5/30/79	27.7	6.1	555.	7.12	60.8
6/11/79	28.2	5.2	609.	7.09	71.1
6/26/79	30.2	8.3	580.	7.52	78.3
7/10/79	29.1	4.2	562.	7.14	68.2
7/24/79	26.2	0.9	499.	7.04	43.8
8/15/79	27.5	1.6	621.	7.01	50.3
9/11/79	27.4	2.1	320.	6.60	32.1
10/16/79		4.8	198.	6.62	21.7
11/ 5/79	22.3	8.4	401.	7.16	35.7
12/ 3/79	15.9	10.1	530.	7.81	55.6

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-08.9T CODE MEANDERLINE DITCH

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
2.61	2.56	0.05	0.01	0.060	0.021
1.48	1.44	0.04	0.03	0.055	0.035
2.00	1.90	0.10	0.09	0.119	0.042
1.61	1.52	0.09	0.07	0.111	0.019
1.19	1.17	0.02	0.01	0.032	0.013
1.01	0.93	0.08	0.07	0.078	0.018
1.74	1.72	< 0.01	< 0.01	0.134	0.065
1.33	1.30	0.03	0.02	0.095	0.046
1.51	1.48	0.03	0.02	0.079	0.028
2.23	2.21	0.02	0.01	0.069	0.021
0.98	0.94	0.04	0.03	0.097	0.061
1.76	1.73	0.03	0.02	0.445	0.294
1.85	1.80	0.05	0.04	0.341	0.181
3.02	2.89	0.13	0.12	0.136	0.061
1.75	1.73	0.02	< 0.01	0.100	0.066
1.82	1.66	0.16	0.09	0.093	0.040
1.95	1.91	0.04	0.03	0.053	0.039

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-09.0 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/17/79	17.5	6.4	459.	7.11	68.7
2/14/79	16.6	8.1	565.		75.7
3/14/79	19.7	6.4	598.	7.13	76.1
4/ 4/79	23.1	7.1	461.	7.34	77.2
4/18/79	25.4	6.7	577.	7.34	69.1
5/ 1/79	25.1	8.2	465.	7.52	75.9
5/15/79	27.9	7.3	676.	7.17	78.7
5/29/79	27.2	7.5	689.	7.51	72.4
6/13/79	28.7	7.1	656.	7.42	74.7
6/26/79	31.3	6.7	465.	8.10	66.4
7/11/79	30.9	5.9	507.	7.78	74.8
7/24/79	29.2	6.4	531.	7.98	68.9
8/15/79	30.1	6.2	633.	7.93	79.6
9/12/79	27.5	3.1	749.	7.10	80.0
10/18/79		4.1	499.	7.03	70.5
11/ 7/79	24.4	5.8	523.	7.39	63.9
12/ 5/79	19.3	6.7	559.		72.0

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-09.0 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
3.64	3.40	0.24	0.06	0.112	0.051
1.13	1.04	0.09	0.05	0.042	< 0.002
1.39	1.32	0.07	0.01	0.045	0.010
1.49	1.32	0.17	0.06	0.055	0.023
1.97	1.91	0.06	0.03	0.055	0.021
3.00	2.92	0.08	0.04	0.062	0.020
2.12	1.93	0.19	0.09	0.154	0.107
1.25	1.09	0.16	0.06	0.090	0.028
2.00	1.97	0.03	0.02	0.070	0.027
2.74	2.67	0.07	0.06	0.069	0.026
1.26	1.23	0.03	0.02	0.092	0.038
2.06	2.04	< 0.01	< 0.01	0.067	0.006
1.30	1.29	0.01	0.01	0.039	0.008
3.37	2.17	1.20	0.49	0.183	0.138
2.31	2.16	0.15	0.07	0.086	0.057
2.57	2.22	0.35	0.11	0.069	0.074
3.14	2.74	0.40	0.07	0.068	0.058

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-11.0 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/10/78	16.8	8.3	693.	7.63	71.0
2/ 7/78	15.2	7.7	820.	7.79	84.1
3/ 7/78	18.6	8.6	770.	7.69	94.5
4/ 4/78	23.0	7.4	706.	7.62	80.2
4/18/78	25.6	5.7	574.		68.6
5/ 3/78	25.5	7.3	514.	7.41	61.5
5/19/78	27.0	4.5	544.	7.10	57.3
6/ 7/78	31.7	9.0	587.	7.70	68.1
7/12/78	29.2	3.3	502.	6.99	48.0
8/ 9/78	28.4	1.0	324.	6.60	38.4
9/13/78	28.4	1.7	474.	6.28	55.2
10/18/78	23.9	4.7	438.	7.01	43.8
11/ 8/78	24.1	6.6	478.	7.06	47.6
12/14/78	20.7	6.6	722.	7.41	93.1
1/17/79	17.8	6.4	460.	7.12	69.6
2/14/79	16.5	8.3	559.		73.0
3/14/79	19.6	6.4	597.	7.13	76.1
4/ 4/79	23.2	7.5		7.42	78.3
4/18/79	25.3	6.7	559.	7.31	65.7
5/ 1/79	25.3	9.2	467.	7.67	76.1
5/15/79	27.9	7.1	660.	7.20	76.4
5/29/79	27.6	6.6	689.	7.35	69.1
6/13/79	28.7	6.7	661.	7.40	73.3
6/26/79	31.5	7.1	508.	8.23	71.2
7/11/79	30.8	6.2	496.	7.86	72.2
7/24/79	29.2	6.3	517.	7.92	63.7
8/15/79	30.3	6.6	626.	7.98	74.9
9/12/79	27.6	3.2	710.	7.09	80.0
10/18/79		3.9	492.	7.02	68.2
11/ 7/79	24.4	6.0	525.	7.41	61.6
12/ 5/79	19.2	7.3	582.		72.0

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-11.0 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.65	1.24	0.41	0.02	0.112	0.087
1.97	1.64	0.33	0.05	0.062	0.044
1.64	1.43	0.21	0.04	0.051	0.030
2.47	2.23	0.24	0.03	0.091	0.062
1.50	1.25	0.25	0.08	0.098	0.076
2.22	2.08	0.14	0.02	0.096	0.070
2.45	2.13	0.32	0.17	0.227	0.174
1.93	1.92	< 0.01	< 0.01	0.198	0.126
2.01	1.83	0.18	0.13	0.185	0.107
1.81	1.63	0.18	0.14	0.111	0.073
1.89	1.71	0.18	0.14	0.103	0.047
1.86	1.52	0.34	0.03	0.094	0.073
1.77	1.42	0.35	< 0.01	0.071	0.044
1.48	1.15	0.33	0.04	0.067	0.052
3.07	2.82	0.25	0.06	0.094	0.041
1.19	1.10	0.09	0.05	0.043	< 0.002
1.35	1.14	0.21	0.07	0.050	0.009
1.36	1.20	0.16	0.06	0.055	0.024
1.86	1.73	0.13	0.05	0.066	0.035
1.73	1.65	0.08	0.04	0.062	0.021
2.06	1.94	0.12	0.02	0.164	0.083
1.44	1.29	0.15	0.09	0.089	0.042
1.25	1.17	0.08	0.05	0.100	0.069
1.72	1.66	0.06	0.05	0.074	0.032
1.83	1.79	0.04	0.03	0.126	0.061
1.45	1.43	< 0.01	< 0.01	0.105	0.036
1.54	1.52	0.02	0.02	0.059	0.016
3.26	2.11	1.15	0.36	0.172	0.134
2.49	2.34	0.15	0.08	0.080	0.052
3.01	2.70	0.31	0.06	0.064	0.062
2.64	2.18	0.46	0.11	0.056	0.046

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-13.5 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/17/79	17.4	6.2	461.	7.10	69.6
2/14/79	16.9	8.5	559.	7.53	74.4
3/14/79	19.8	6.7	605.	7.19	76.1
4/ 4/79	23.3	7.6		7.42	76.0
4/18/79	25.5	6.9	556.	7.31	63.8
5/ 1/79	25.5	8.3	467.	7.50	75.4
5/15/79	27.8	7.1	658.	7.07	77.6
5/29/79	29.1	6.0	675.	7.34	65.2
6/13/79	29.0	5.7	628.	7.22	67.3
6/26/79	32.7	7.7	529.	8.46	71.2
7/11/79	31.4	6.6	495.	7.99	70.8
7/24/79	29.3	6.2	496.	7.75	67.4
8/15/79	30.7	7.5	620.	8.19	72.5
9/12/79	27.7	3.3	669.	7.09	72.4
10/18/79		3.7	496.	7.01	68.2
11/ 7/79	24.6	6.2	514.	7.41	48.1
12/ 5/79	19.0	7.3	595.		73.2

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-13.5 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
2.99	2.75	0.24	0.06	0.104	0.044
0.90	0.81	0.09	0.05	0.047	0.005
1.75	1.68	0.07	0.01	0.049	0.009
1.36	1.21	0.15	0.05	0.100	0.039
1.78	1.60	0.18	0.07	0.085	0.048
1.71	1.54	0.17	0.10	0.087	0.045
2.11	1.99	0.12	0.03	0.157	0.103
2.04	1.87	0.17	0.12	0.141	0.086
1.36	1.22	0.14	0.06	0.143	0.095
2.40	2.34	0.06	0.05	0.103	0.050
1.15	1.12	0.03	0.02	0.103	0.067
1.76	1.74	0.02	0.01	0.176	0.113
1.48	1.47	0.01	0.01	0.078	0.024
2.86	1.92	0.94	0.19	0.166	0.132
3.35	3.20	0.15	0.09	0.081	0.049
2.60	2.27	0.33	0.06	0.082	0.086
2.31	1.94	0.37	0.06	0.071	0.058

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-14.0T CODE LONG HAMMOCK CANAL

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/15/79	17.3	4.9	321.	7.20	30.6
2/12/79	15.1	5.0	489.	6.99	35.6
3/12/79	19.2	6.0	570.	6.80	69.4
4/ 2/79	21.9	7.1	454.	7.30	75.2
4/16/79	24.7	6.7	535.	7.25	65.7
5/ 1/79	26.6	6.3	481.	7.17	72.2
5/14/79	26.0	3.7	596.	7.08	70.8
5/31/79	27.6	3.2	629.	7.12	59.7
6/11/79	25.8	3.8	511.	7.01	49.2
6/25/79	29.4	4.1	529.	7.56	68.6
7/ 9/79	30.6	5.8	526.	7.59	70.3
7/23/79	27.9	3.4	449.	7.34	45.9
8/13/79	27.1	2.1	402.	7.09	36.2
9/10/79	26.8	2.0	309.	6.74	26.7
10/16/79	24.9	3.2	299.	6.95	11.5
11/ 7/79	24.8	6.5	456.	7.57	43.6
12/ 4/79	19.5	6.7	571.	7.52	41.6

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-14.0T CODE LONG HAMMOCK CANAL

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
2.48	2.36	0.12	0.03	0.090	0.050
0.35	0.18	0.17	0.15	0.075	0.046
2.13	2.09	0.04	0.02	0.066	0.034
1.45	1.32	0.13	0.06	0.070	0.032
2.04	1.90	0.14	0.02	0.084	0.046
1.95	1.87	0.08	0.05	0.075	0.028
1.04	1.01	0.03	0.02	0.050	0.005
1.72	1.68	0.04	0.03	0.066	0.029
1.40	1.33	0.07	0.06	0.087	0.037
2.99	2.90	0.09	0.06	0.112	0.060
2.01	1.99	< 0.01	< 0.01	0.106	0.024
1.88	1.80	0.08	0.07	0.069	0.028
1.48	1.30	0.18	0.12	0.435	0.301
2.78	2.66	0.12	0.11	0.575	0.549
1.59	1.39	0.20	0.19	0.240	0.165
2.44	2.17	0.27	0.08	0.123	0.094
2.30	2.16	0.14	0.13	0.068	0.040

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-14.9T CODE GOODNO CANAL

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/15/79	18.0	7.4	352.	7.30	35.7
2/12/79	17.5	4.2	474.	6.99	31.2
3/12/79	17.8	5.0	510.	6.80	42.5
4/ 2/79	22.9	4.5	451.	7.05	59.0
4/16/79	25.5	6.9	550.	7.33	60.4
5/ 1/79	26.8	8.6	421.	7.70	66.1
5/14/79	27.7	3.1	521.	7.01	64.8
5/31/79	26.8	2.7	514.	7.01	43.4
6/11/79	26.6	3.9	492.	6.99	40.7
6/25/79	28.3	3.2	470.	7.49	44.9
7/ 9/79	28.7	4.2	417.	7.14	38.0
7/23/79	28.1	4.1	355.	7.31	32.4
8/13/79	28.2	1.6	389.	6.98	39.7
9/10/79	27.6	1.3	323.	6.79	26.7
10/16/79		2.7	278.	6.94	11.5
11/ 7/79	25.2	7.1	291.	7.14	24.4
12/ 4/79	21.0	9.0	418.	7.57	29.9

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-14.9T CODE GOODNO CANAL

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
2.32	2.06	0.26	0.03	0.067	0.047
0.49	0.29	0.20	0.10	0.047	0.028
2.05	1.83	0.22	0.04	0.038	0.027
1.08	1.04	0.04	0.02	0.037	0.012
1.50	1.48	0.02	< 0.01	0.045	0.016
1.74	1.67	0.07	0.06	0.043	0.007
1.57	1.41	0.16	0.03	0.079	0.048
1.22	1.19	0.03	0.02	0.099	0.072
1.25	1.21	0.04	0.01	0.074	0.040
1.38	1.35	0.03	0.02	0.066	0.047
1.09	1.07	0.02	0.01	0.034	0.017
1.63	1.61	< 0.01	< 0.01	0.024	< 0.002
1.72	1.62	0.10	0.04	0.383	0.296
2.34	2.33	< 0.01	< 0.01	0.320	0.254
0.86	0.82	0.04	0.01	0.064	0.065
		0.08	0.05	0.037	0.022
2.78	2.61	0.17	0.05	0.040	0.027

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-16.0 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/10/78	17.0	8.3	669.	7.62	63.3
2/ 7/78	16.6	7.6	724.	7.69	67.6
3/ 7/78	19.0	9.2	698.	7.65	79.3
4/ 4/78	23.1	6.5	640.	7.40	67.8
4/18/78	25.5	6.7	741.		83.1
5/ 3/78	26.1	7.7	524.	7.41	63.1
5/17/78	30.4	7.5	518.	7.29	53.9
6/ 7/78	31.1	5.7	560.	7.30	63.0
7/12/78	29.9	5.1	520.	7.06	51.3
8/ 9/78	28.5	3.6	478.	6.89	43.3
9/13/78	28.4	4.3	402.	6.42	41.4
10/18/78	23.7	5.5	336.	6.81	29.6
11/ 8/78	24.5	6.8	416.	6.88	39.6
12/14/78	21.6	7.1	651.	7.42	73.9
1/17/79	17.7	7.3	478.	7.17	71.6
2/14/79	16.8	8.8	561.	7.40	71.9
3/14/79	19.6	7.2	588.	7.16	75.9
4/ 4/79	23.4	6.9	456.	7.32	72.3
4/18/79	25.6	6.8	593.	7.28	67.8
5/ 1/79	25.9	8.0	443.	7.41	70.1
5/15/79	28.1	6.4	636.	7.08	76.0
5/29/79	27.8	5.4	592.	7.22	58.6
6/13/79	28.3	4.4	611.	7.08	62.0
6/26/79	32.2	5.6	554.	8.00	69.2
7/11/79	31.5	5.1	506.	7.45	74.6
7/24/79	29.4	4.9	471.	7.49	56.0
8/15/79	31.4	6.4	554.	7.68	58.5
9/12/79	27.6	4.3	591.	7.00	66.9
10/18/79		5.0	503.	7.03	68.2
11/ 7/79	24.7	7.0	472.	7.37	53.7
12/ 5/79	19.4	7.6	593.		72.0

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-16.0 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.18	0.82	0.36	0.04	0.110	0.085
2.16	1.83	0.33	0.04	0.089	0.070
1.46	1.25	0.21	0.05	0.087	0.063
2.31	2.07	0.24	0.03	0.097	0.068
1.72	1.48	0.24	0.03	0.093	0.079
2.64	2.40	0.24	0.02	0.138	0.103
2.42	2.24	0.18	0.06	0.194	0.142
2.02	1.90	0.12	0.05	0.248	0.199
1.79	1.69	0.10	0.05	0.144	0.089
1.79	1.54	0.25	0.08	0.141	0.082
1.83	1.68	0.15	0.11	0.144	0.072
1.53	1.29	0.24	0.04	0.140	0.098
1.51	1.17	0.34	0.04	0.073	0.104
1.70	1.31	0.39	0.09	0.101	0.076
4.03	3.79	0.24	0.06	0.098	0.035
1.25	1.16	0.09	0.04	0.051	0.008
1.88	1.80	0.08	0.01	0.053	0.016
1.21	1.01	0.20	0.08	0.088	0.048
1.44	1.22	0.22	0.06	0.097	0.056
1.97	1.76	0.21	0.06	0.107	0.059
1.83	1.67	0.16	0.06	0.151	0.107
1.96	1.76	0.20	0.12	0.143	0.092
1.50	1.24	0.26	0.09	0.138	0.113
1.27	1.16	0.11	0.04	0.102	0.067
1.23	1.14	0.09	0.06	0.166	0.143
1.75	1.67	0.08	0.02	0.143	0.118
1.66	1.62	0.04	0.04	0.157	0.081
2.91	2.23	0.68	0.06	0.207	0.159
2.82	2.65	0.17	0.10	0.087	0.057
1.80	1.50	0.30	0.02	0.084	0.088
2.15	1.80	0.35	0.08	0.062	0.038

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-19.0 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/17/79	17.7	7.3	469.	7.18	69.6
2/14/79	16.9	8.7	572.	7.59	73.0
3/14/79	19.7	7.4	590.	7.32	76.1
4/ 4/79	24.0	7.5	461.	7.42	72.3
4/18/79	25.8	8.1	611.	7.60	69.9
5/ 1/79	26.0	9.9	448.	7.87	69.1
5/15/79	28.8	7.1	590.	7.11	64.6
5/29/79	28.1	5.6	599.	7.17	55.5
6/13/79	28.4	4.8	598.	7.12	58.3
6/26/79	31.9	6.0	576.	8.03	67.5
7/11/79	31.5	5.3	552.	7.71	71.0
7/24/79	30.1	6.1	478.	7.67	56.4
8/15/79	30.8	6.2	500.	7.43	53.8
9/12/79					
10/18/79		5.0	496.	7.04	67.1
11/ 7/79	24.6	6.6	458.	7.30	53.7
12/ 5/79	19.7	7.8	593.		73.2

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-19.0 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
3.14	2.91	0.23	0.06	0.100	0.035
1.68	1.58	0.10	0.05	0.049	0.006
2.13	2.03	0.10	0.02	0.059	0.017
1.44	1.21	0.23	0.08	0.068	0.035
1.12	0.98	0.14	0.02	0.084	0.043
2.34	2.16	0.18	0.03	0.106	0.045
1.41	1.27	0.14	0.05	0.151	0.097
2.15	1.93	0.22	0.12	0.131	0.089
1.38	1.14	0.24	0.05	0.121	0.110
1.62	1.42	0.20	0.06	0.106	0.077
1.06	0.93	0.13	0.04	0.125	0.080
1.34	1.24	0.10	0.02	0.182	0.142
1.61	1.57	0.04	0.03	0.191	0.094
2.32	2.16	0.16	0.10	0.086	0.060
2.48	2.14	0.34	< 0.01	0.128	0.102
2.86	2.58	0.28	0.06	0.048	0.056

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

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PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-22.0T CODE OKALOACOOCHEE BRANCH

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/11/78	16.7	11.8	662.	7.72	26.1
1/20/78					23.7
2/ 8/78	15.9	7.8	720.	7.61	26.6
3/ 8/78	25.0	11.0	640.	7.72	26.2
4/ 5/78	28.9	9.2	660.	7.58	29.3
4/19/78	30.2	10.4	600.		27.7
5/ 3/78	31.5	13.0	438.	7.70	31.0
5/17/78	28.8	10.6	628.	7.48	28.6
6/ 8/78	32.4	13.9	495.	7.50	28.3
7/12/78	31.7	12.2	536.	7.52	26.8
8/ 9/78	30.5	11.0	542.	7.59	24.6
9/13/78	29.7	8.2	378.	7.50	24.6
10/17/78	23.5	7.8	296.	7.39	17.2
11/ 6/78	20.8	8.9	564.	7.59	27.8
12/13/78	20.2	13.4	618.	7.41	24.4
1/15/79	17.8	9.2	389.	7.57	27.1
2/12/79	16.2	9.1	559.	7.22	25.8
3/12/79	18.4	8.5	598.	6.99	32.9
4/ 2/79	23.2	5.8	500.	7.32	27.5
4/16/79	23.7	3.2	595.	7.11	29.7
5/ 1/79	26.8	10.1	354.	7.38	18.0
5/14/79	26.9	5.7	582.	7.32	26.9
5/31/79	27.3	6.1	576.	7.27	25.2
6/11/79	27.3	5.2	615.	7.25	27.0
6/25/79	28.8	4.5	527.	7.73	28.5
7/ 9/79	29.3	5.1	574.	7.47	41.8
7/23/79	28.7	5.4	546.	7.61	25.3
8/13/79	27.9	5.0	563.	7.45	26.8
9/10/79	27.0	2.8	410.	6.95	21.2
10/16/79		5.7	380.	7.22	6.9
11/ 6/79	24.4	8.1	469.	7.56	24.4
12/ 3/79	16.4	10.6	556.	8.02	28.8

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-22.0T CODE OKALOACOOCHEE BRANCH

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
0.46	0.42	0.04	0.02	0.025	< 0.002
0.58	0.43	0.15	0.10	0.027	< 0.002
1.30	1.25	0.05	0.03	0.019	0.002
0.72	0.70	0.02	0.01	0.017	< 0.002
1.24	1.21	0.03	0.03	0.021	< 0.002
0.64	0.63	< 0.01	< 0.01	0.018	< 0.002
1.24	1.22	0.02	0.02	0.011	< 0.002
1.17	1.16	0.01	0.01	0.013	< 0.002
1.14	1.13	0.01	0.01	0.020	< 0.002
2.15	2.14	< 0.01	< 0.01	0.014	< 0.002
0.77	0.75	0.02	< 0.01	0.035	0.004
0.98	0.96	0.02	< 0.01	0.025	0.007
1.35	1.32	0.03	0.02	0.025	< 0.002
1.32	1.30	< 0.01	< 0.01	0.060	0.002
2.67	2.54	0.13	0.12	0.013	0.003
1.91	1.87	0.04	0.01	0.056	0.031
0.53	0.50	0.03	0.03	0.034	0.012
3.06	3.04	0.02	0.01	0.023	0.015
0.36	0.33	0.03	0.02	0.033	0.002
< 0.10	< 0.10	< 0.01	< 0.01	0.034	0.009
0.77	0.68	0.09	0.07	0.034	0.006
1.17	1.09	0.08	0.05	0.022	< 0.002
1.05	1.03	< 0.01	< 0.01	0.023	0.007
1.18	1.16	0.02	0.01	0.026	< 0.002
1.66	1.64	0.02	0.01	0.025	0.002
0.63	0.61	< 0.01	< 0.01	0.022	0.003
1.03	1.01	< 0.01	< 0.01	0.021	< 0.002
0.84	0.74	0.10	0.02	0.026	0.022
1.86	1.76	0.10	0.09	0.222	0.165
0.59	0.50	0.09	0.06	0.069	0.051
2.03	1.89	0.14	< 0.01	0.034	0.014
1.41	1.33	0.09	0.03	0.019	0.020

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-22.5 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/10/78	16.6	8.6	590.	7.60	59.5
2/ 7/78	16.6	6.6	671.	7.71	61.4
3/ 7/78	19.0	8.5	676.	7.66	71.2
4/ 4/78	23.0	6.8	634.	7.50	67.2
4/18/78	25.5	6.6	701.		71.4
5/ 3/78	26.5	7.8	676.	7.69	76.9
5/17/78	29.4	8.6	540.	7.49	58.9
6/ 7/78	30.6	6.6	552.	7.50	61.0
7/12/78	29.7	6.1	552.	7.29	54.3
8/ 9/78	28.9	3.8	422.	6.82	36.6
9/13/78	28.9	5.3	358.	6.42	33.5
10/18/78	24.2	5.5	362.	6.97	31.4
11/ 8/78	24.3	6.6	406.	6.99	33.9
12/14/78	21.9	7.1	570.	7.49	50.4
1/17/79	17.9	7.1	479.	7.14	69.0
2/13/79	16.0	8.6	544.	7.31	70.2
3/13/79	19.4	7.0	578.	7.13	77.5
4/ 3/79	23.1	7.2	462.	7.40	70.6
4/17/79	26.2	9.4	619.	7.81	66.8
5/ 2/79	25.3	8.5	457.	7.62	68.0
5/16/79	27.5	5.8	545.	7.06	91.5
5/30/79	28.5	6.2	562.	7.26	55.3
6/12/79	28.6	5.6	568.	7.23	57.7
6/27/79	29.7	5.7	564.	7.94	57.8
7/11/79					
7/24/79	29.5	5.0	510.	7.61	58.8
8/15/79	31.1	7.6	491.	7.72	56.1
9/12/79	27.8	3.8	530.	6.94	57.1
10/17/79		4.8	477.	7.03	64.8
11/ 6/79	24.6	6.0	392.	7.25	37.9
12/ 4/79	19.7	7.0	540.	7.52	62.6

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-22.5 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L		NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.58	1.21	0.37		0.02	0.124	0.098
1.62	1.29	0.33		0.07	0.084	0.063
1.91	1.64	0.27		0.06	0.082	0.060
2.27	2.05	0.22		0.02	0.077	0.053
2.44	2.17	0.27		0.02	0.081	0.066
3.41	3.19	0.22	<	0.01	0.101	0.090
2.32	2.23	0.09		0.02	0.118	0.066
1.80	1.63	0.17	<	0.01	0.197	0.149
2.42	2.39	0.03	<	0.01	0.105	0.078
2.31	2.07	0.24		0.10	0.146	0.104
1.88	1.78	0.10		0.06	0.138	0.067
1.58	1.30	0.28		0.03	0.126	0.098
1.38	1.05	0.33		0.02	0.161	0.075
2.19	1.71	0.48		0.03	0.102	0.083
2.99	2.76	0.23		0.05	0.092	0.029
2.79	2.67	0.12		0.05	0.075	0.014
2.20	2.06	0.14		0.05	0.070	0.030
1.52	1.34	0.18		0.07	0.072	0.070
0.84	0.76	0.08		0.02	0.068	0.024
1.74	1.60	0.14	<	0.01	0.089	0.037
1.80	1.62	0.18		0.05	0.137	0.092
1.17	0.96	0.21		0.08	0.119	0.080
0.81	0.56	0.25		0.06	0.135	0.118
1.68	1.47	0.21	<	0.01	0.118	0.079
	1.47			0.03	0.146	0.131
1.40	1.34	0.06		0.02	0.145	0.016
2.14	1.77	0.38		0.03	0.204	0.181
2.55	2.38	0.17		0.10	0.092	0.065
2.01	1.65	0.36		0.03	0.083	0.067
2.65	2.32	0.33		0.02	0.061	0.044

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-26.0 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/10/78	17.5	7.3	620.	7.49	62.1
2/ 7/78	16.2	6.5	662.	7.68	62.8
3/ 7/78	21.0	9.4	672.	7.70	69.1
4/ 4/78	23.5	6.8	624.	7.47	69.8
4/18/78	26.0	6.9	700.		71.8
5/ 3/78	27.2	8.4	700.	7.70	78.1
5/16/78	27.0	5.8	560.	7.20	66.6
6/ 6/78	32.0	7.6	560.	7.50	72.5
7/11/78	30.3	5.3	564.	7.27	56.3
8/ 8/78	29.1	3.7	456.	6.90	42.5
9/12/78	29.7	3.7	344.	6.58	32.0
10/18/78	24.4	5.3	378.	6.99	33.1
11/ 7/78	23.6	5.7	404.	7.21	35.1
12/14/78	21.4	6.6	539.	7.40	41.0
1/16/79	17.9	7.1	510.	7.19	78.4
2/13/79	16.4	8.4	560.	7.33	73.0
3/13/79	19.9	6.7	598.	7.04	76.7
4/ 3/79	23.6	8.1	456.	7.59	76.2
4/17/79	25.6	7.8	632.	7.54	71.0
5/ 2/79	25.4	8.7	482.	7.60	73.3
5/16/79	27.1	5.5	608.	7.10	73.1
5/30/79	29.4	6.1	556.	7.24	80.6
6/12/79	28.9	5.0	582.	7.15	64.7
6/27/79	30.2	6.0	558.	7.98	66.0
7/10/79	31.7	5.4	573.	7.73	68.2
7/25/79	30.1	4.8	518.	7.57	56.4
8/14/79	30.3	6.0	501.	7.50	53.8
9/11/79	27.9	3.3	509.	6.92	56.0
10/17/79		4.6	481.	7.04	63.7
11/ 6/79	24.9	5.5	472.	7.28	51.5
12/ 4/79	19.6	7.0	584.	7.57	73.2

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES		UNITS
DATE	1/ 1/78 -	12/31/79	MO/DA/YR
DEPTH	0 -	0	METERS
SAMPLE	0.	8.	TYPE

STATION = CR-26.0 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L		NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.61	1.22	0.39		0.07	0.142	0.111
1.69	1.40	0.29		0.03	0.101	0.084
1.65	1.37	0.28		0.05	0.080	0.066
2.28	2.05	0.23		0.02	0.083	0.057
1.80	1.50	0.30		0.01	0.070	0.053
2.15	1.98	0.17		0.02	0.073	0.051
1.99	1.80	0.19		0.04	0.104	0.074
1.36	1.26	0.10		0.02	0.146	0.102
1.81	1.74	0.07	<	0.01	0.156	0.111
1.80	1.59	0.21		0.03	0.187	0.140
1.83	1.68	0.15		0.07	0.149	0.100
1.65	1.36	0.29		0.02	0.115	0.093
1.37	1.03	0.34		0.01	0.113	0.090
1.76	1.30	0.46	<	0.01	0.085	0.061
2.47	2.21	0.26		0.07	0.081	0.025
1.44	1.32	0.12		0.04	0.060	0.012
2.40	2.28	0.12		0.02	0.069	0.017
1.82	1.70	0.12		0.03	0.062	0.023
1.34	1.20	0.14		0.04	0.069	0.034
1.96	1.77	0.19		0.07	0.090	0.042
2.29	2.13	0.16		0.06	0.119	0.086
1.00	0.77	0.23		0.05	0.124	0.102
1.15	0.91	0.24		0.04	0.149	0.122
1.46	1.25	0.21	<	0.01	0.117	0.083
1.89	1.63	0.26		0.08	0.160	0.148
1.69	1.54	0.15		0.02	0.140	0.126
1.36	1.32	0.04		0.04	0.160	0.099
2.45	2.06	0.39		0.03	0.178	0.117
1.77	1.59	0.18		0.09	0.098	0.067
2.18	1.81	0.37	<	0.01	0.080	0.077
2.47	2.08	0.39		0.03	0.059	0.045

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-26.2T CODE CRAWFORD CANAL

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
4/19/78	26.2	6.0	732.		77.6
5/ 3/78	27.1	8.1	718.	7.34	81.6
5/17/78	25.8	6.2	726.	7.18	71.0
6/ 8/78	29.0	5.1	582.	7.10	70.3
7/12/78	28.5	6.1	680.	7.19	71.5
8/ 9/78	29.9	5.7	688.	7.19	63.2
9/13/78	28.4	6.1	598.	7.31	60.4
10/17/78	24.0	8.6	618.	7.32	58.7
11/ 6/78	21.1	6.4	534.	7.30	52.2
12/13/78	19.2	7.2	659.	7.28	57.6
1/15/79	18.4	6.7	509.	7.30	54.2
2/12/79	17.0	8.7	692.	7.15	62.1
3/12/79	18.0	7.2	690.	7.00	65.9
4/ 2/79	23.2	6.9	522.	7.08	73.3
4/16/79	24.7	6.0	680.	7.19	77.6
4/30/79	24.8	6.3	544.	7.14	80.8
5/14/79	26.1	4.3	680.	7.05	78.0
5/31/79	26.2	4.6	655.	7.10	66.3
6/11/79	26.0	4.9	718.	7.07	69.4
6/25/79	28.5	4.8	599.	7.55	71.2
7/ 9/79	28.5	7.4	624.	7.33	68.2
7/23/79	28.2	4.1	611.	7.39	57.5
8/13/79	28.6	5.2	662.	7.31	77.2
9/10/79	27.4	4.8	632.	7.13	63.7
10/16/79		5.7	647.	7.20	61.4
11/ 5/79	24.0	7.3	542.	7.45	58.3
12/ 3/79	18.1	7.9	518.	7.59	54.5

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-26.2T CODE CRAWFORD CANAL

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L		NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.68	1.61	0.07	<	0.01	0.028	0.011
1.70	1.63	0.07		0.02	0.023	0.010
2.04	1.82	0.22		0.03	0.029	0.009
1.53	1.32	0.21		0.02	0.084	0.045
1.43	0.95	0.48	<	0.01	0.034	0.024
2.28	1.68	0.60		0.04	0.107	0.063
1.26	1.16	0.10		0.02	0.077	0.054
1.69	1.60	0.09		0.01	0.041	0.023
1.34	1.28	0.06		0.02	0.039	0.017
1.02	0.91	0.11		0.02	0.025	0.014
2.68	2.17	0.51		0.03	0.063	0.048
1.19	0.62	0.57		0.05	0.023	0.011
3.63	3.12	0.51		0.02	0.030	0.023
0.90	0.80	0.10		0.03	0.030	0.009
0.89	0.86	0.03	<	0.01	0.031	0.012
0.85	0.76	0.09		0.05	0.036	0.008
1.51	1.29	0.22		0.03	0.049	0.028
1.63	1.52	0.11		0.02	0.038	0.022
1.67	1.58	0.09		0.03	0.034	0.014
1.47	1.41	0.06		0.02	0.035	0.023
1.06	0.99	0.07		0.03	0.045	0.027
1.54	1.44	0.10		0.06	0.070	0.022
1.12	1.09	0.03		0.03	0.045	0.038
1.50	1.34	0.16		0.02	0.048	0.029
1.29	0.97	0.32		0.02	0.053	0.052
1.72	1.66	0.06		0.01	0.051	0.035
2.35	2.13	0.22		0.04	0.029	0.023

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-30.3T CODE JACK'S BRANCH

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
2/ 8/78	14.0	7.2	540.	6.91	29.6
3/ 8/78	19.7	7.1	202.	6.89	26.6
4/ 5/78	20.7	4.4	644.	6.96	41.5
4/19/78	23.2	5.3	792.		47.8
5/ 3/78	23.7	5.5	732.	7.10	50.6
5/17/78	22.5	4.7	840.	7.00	47.1
6/ 8/78	24.6	4.3	741.	7.00	48.7
7/12/78	25.5	5.8	98.	6.53	9.8
8/ 9/78	26.0	5.2	252.	6.61	25.7
9/13/78	26.2	5.4	168.	6.72	20.8
10/17/78	21.0	6.3	272.	6.78	24.3
11/ 6/78	21.2	4.3	714.	7.11	42.3
12/13/78	19.9	5.3	739.	7.02	45.4
1/15/79	16.3	8.4	107.	6.40	24.7
2/12/79	17.5	7.2	209.	6.88	21.6
3/12/79	16.6	8.2	230.	6.89	30.0
4/ 2/79	21.6	3.8	541.	7.00	46.1
4/16/79	22.9	4.0	743.	7.01	45.6
4/30/79	22.4	3.9	582.	6.98	49.9
5/14/79	23.4	5.7	383.	6.79	31.4
5/30/79	23.8	5.0	742.	7.02	48.7
6/11/79	23.7	4.1	766.	6.97	51.3
6/25/79	25.2	5.1	646.	7.30	55.0
7/ 9/79	25.9	4.9	700.	6.73	58.7
7/23/79	25.6	4.5	723.	7.20	48.1
8/13/79	25.8	3.8	768.	7.02	58.5
9/10/79	26.3	5.4	209.	6.54	31.0
10/16/79	25.1	6.0	164.	6.71	20.6
11/ 5/79	22.4	7.2	177.	6.84	15.4
12/ 3/79	19.2	6.6	542.	7.27	38.1

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-30.3T CODE JACK'S BRANCH

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.55	1.49	0.06	< 0.01	0.013	0.003
1.16	1.14	0.02	< 0.01	0.015	< 0.002
1.49	1.20	0.29	0.04	0.018	0.009
1.47	1.19	0.28	< 0.01	0.016	0.007
0.93	0.68	0.25	0.02	0.010	0.005
1.25	0.99	0.26	< 0.01	0.013	0.005
1.37	1.08	0.29	< 0.01	0.014	0.010
1.61	1.57	0.04	< 0.01	0.022	0.004
1.22	1.10	0.12	< 0.01	0.022	0.008
1.16	1.10	0.06	0.02	0.022	0.005
1.24	1.19	0.05	< 0.01	0.013	0.002
0.66	0.47	0.19	0.03	0.020	0.013
0.85	0.49	0.36	0.02	0.014	0.008
1.94	1.92	< 0.01	< 0.01	0.026	< 0.002
0.71	0.66	0.05	0.01	0.010	< 0.002
2.01	1.98	0.03	< 0.01	0.016	0.007
0.56	< 0.10	0.39	0.03	0.018	0.006
0.45	< 0.10	0.26	0.01	0.019	0.008
0.48	0.20	0.28	0.06	0.015	0.009
0.91	0.77	0.14	0.02	0.024	0.006
0.96	0.69	0.27	0.02	0.012	0.009
1.39	1.21	0.18	< 0.01	0.010	0.007
1.19	0.82	0.37	0.04	0.015	0.003
0.47	< 0.10	0.30	0.03	0.022	0.013
0.98	0.40	0.58	< 0.01	0.013	< 0.002
0.58	< 0.10	0.39	0.01	0.012	0.011
2.72	2.69	0.03	0.02	0.028	< 0.002
1.05	1.02	0.03	< 0.01	0.025	< 0.002
1.61	1.40	0.21	0.04	0.021	0.004
1.26	1.04	0.22	0.03	0.016	0.013

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-30.4 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/11/78	16.8	7.5	602.	7.52	66.2
2/ 8/78	15.7	7.5	664.	7.60	65.6
3/ 8/78	19.7	8.2	658.	7.68	72.2
4/ 5/78	22.7	6.3	632.	7.40	72.3
4/19/78	25.4	6.0	720.		75.7
5/ 2/78	25.6	7.0	698.	7.60	79.0
5/16/78	27.0	6.0	560.	7.22	67.7
6/ 7/78	29.2	5.7	570.	7.40	69.2
7/11/78	30.6	5.2	578.	7.57	58.4
8/ 8/78	29.1	3.7	458.	6.90	43.7
9/12/78	29.8	3.7	398.	6.61	41.2
10/19/78	24.3	5.3	416.	7.05	39.6
11/ 7/78	24.1	6.1	424.	7.31	42.1
12/14/78	21.4	6.5	529.	7.40	41.4
1/16/79	17.9	7.2	512.	7.17	77.8
2/13/79	16.3	8.3	551.	7.31	73.0
3/13/79	20.0	6.6	598.	7.03	76.1
4/ 3/79	23.2	7.3	480.	7.41	79.3
4/17/79	25.4	7.0	668.	7.40	76.3
5/ 2/79	25.5	7.8	519.	7.46	80.8
5/ 2/79	25.5	7.8	519.	7.46	80.1
5/16/79	27.1	6.1	612.	7.19	76.0
5/30/79	28.5	6.2	591.	7.24	54.9
6/12/79	29.8	5.9	600.	7.21	66.9
6/27/79	30.8	6.6	566.	8.08	69.7
7/10/79	31.5	5.6	584.	7.76	72.4
7/25/79	30.3	4.6	523.	7.55	61.1
8/14/79	30.8	6.1	560.	7.68	58.5
9/11/79	27.9	3.4	461.	6.99	56.0
10/17/79		4.3	492.	7.03	63.7
11/ 6/79	24.7	5.2	487.	7.22	58.3
12/ 4/79	19.7	6.6	589.	7.49	76.7

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES		UNITS
DATE	1/ 1/78 -	12/31/79	MO/DA/YR
DEPTH	0 -	0	METERS
SAMPLE	0.	8.	TYPE

STATION = CR-30.4 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.22	0.92	0.30	0.02	0.110	0.078
1.52	1.25	0.27	0.02	0.075	0.061
1.51	1.22	0.29	0.04	0.074	0.048
2.31	2.08	0.23	0.02	0.071	0.047
2.13	1.89	0.24	0.03	0.063	0.048
2.23	1.99	0.24	0.03	0.070	0.052
1.77	1.55	0.22	0.02	0.103	0.077
1.34	1.22	0.12	0.03	0.117	0.096
1.66	1.65	< 0.01	< 0.01	0.141	0.100
1.79	1.54	0.25	0.02	0.178	0.137
1.56	1.41	0.15	0.06	0.128	0.086
1.53	1.22	0.32	< 0.01	0.105	0.086
1.67	1.33	0.34	0.01	0.093	0.078
1.19	0.81	0.38	< 0.01	0.072	0.052
2.82	2.57	0.25	0.06	0.067	0.027
1.31	1.20	0.11	0.05	0.054	0.014
3.41	3.30	0.11	0.02	0.043	0.018
1.24	1.05	0.19	0.07	0.051	0.013
1.05	0.89	0.16	0.04	0.068	0.039
1.58	1.39	0.19	0.05	0.080	0.045
1.10	0.93	0.17	0.03	0.080	0.038
1.69	1.57	0.12	0.04	0.108	0.070
1.85	1.59	0.26	0.06	0.131	0.104
1.15	0.92	0.23	0.03	0.160	0.109
1.65	1.47	0.18	0.01	0.114	0.085
0.98	0.74	0.24	0.05	0.125	0.111
2.24	2.03	0.21	0.02	0.140	0.131
1.19	1.14	0.05	0.04	0.160	0.104
2.39	2.06	0.33	0.03	0.133	0.109
2.11	1.87	0.24	0.12	0.093	0.074
2.04	1.67	0.37	< 0.01	0.083	0.083
2.08	1.72	0.36	0.04	0.048	0.038

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-30.4T CODE BANANA BRANCH AT ROBERTS CANAL

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/11/78	14.0	7.8	681.	7.72	80.4
2/ 8/78	15.0	8.9	735.	7.89	85.7
3/ 8/78	22.1	8.9	702.	7.80	75.0
4/ 5/78	24.5	8.1	700.	7.68	81.4
4/19/78	26.5	7.2	800.		96.5
5/ 3/78	27.8	9.0	748.	7.71	90.6
5/17/78	25.9	7.7	600.	7.50	83.8
6/ 8/78	30.1	6.9	581.	7.30	69.1
7/12/78	28.0	5.5	742.	7.31	80.6
8/ 9/78	29.3	6.3	764.	7.30	74.9
9/13/78	29.9	7.4	428.	7.21	50.5
10/17/78	24.1	7.9	360.	7.22	41.6
11/ 6/78	21.2	7.6	480.	7.50	51.6
12/13/78	18.1	8.8	625.	7.49	71.5
1/15/79	19.9	8.0	500.	7.40	64.4
2/12/79	15.1	6.5	600.	7.55	75.1
3/12/79	18.9	7.7	688.	6.91	79.4
4/ 2/79	22.6	7.7	571.	7.41	76.2
4/16/79	24.3	8.2	738.	7.53	97.1
4/30/79	24.5	7.0	568.	7.29	86.1
5/14/79	26.4	1.6	761.	7.09	90.5
5/31/79	26.1	4.2	708.	7.19	75.3
6/11/79	26.1	5.4	782.	7.22	86.7
6/25/79	28.5	5.9	624.	7.75	81.5
7/ 9/79	28.9	6.8	635.	7.56	70.3
7/23/79	28.1	4.9	596.	7.51	56.6
8/13/79	28.3	5.1	644.	7.45	77.2
9/10/79	27.1	4.3	653.	7.18	81.1
10/16/79		5.1	384.	6.99	45.5
11/ 5/79	24.4	6.6	427.	7.32	47.0
12/ 3/79	16.6	8.6	448.	7.46	52.1

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-30.4T CODE BANANA BRANCH AT ROBERTS CANAL

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
0.90	0.76	0.14	0.01	0.040	0.006
1.29	1.21	0.08	0.03	0.035	0.017
1.26	1.19	0.07	0.02	0.018	< 0.002
1.83	1.76	0.07	0.02	0.020	0.005
1.36	1.32	0.04	< 0.01	0.033	0.017
1.44	1.42	0.02	0.01	0.023	0.006
1.86	1.84	0.02	< 0.01	0.020	0.004
1.37	1.33	0.04	0.02	0.057	0.024
1.20	1.11	0.09	0.02	0.044	0.028
2.43	1.76	0.67	0.10	0.097	0.058
1.84	1.71	0.13	0.05	0.096	0.060
1.82	1.76	0.06	0.02	0.037	0.013
1.29	1.23	0.06	0.03	0.028	0.011
1.20	1.14	0.06	0.03	0.022	0.009
2.45	2.03	0.42	0.06	0.074	0.046
1.26	1.10	0.16	0.07	0.060	0.034
1.59	1.51	0.08	0.03	0.139	0.101
1.01	0.97	0.04	0.03	0.042	0.013
2.20	2.18	< 0.01	< 0.01	0.032	0.010
1.28	1.21	0.07	0.06	0.084	0.015
0.86	0.83	0.03	0.02	0.259	0.191
1.18	1.07	0.11	0.03	0.067	0.044
1.47	1.37	0.10	0.02	0.059	0.031
1.27	1.24	0.03	0.02	0.030	0.021
1.37	1.06	0.31	0.02	0.070	0.050
1.80	1.68	0.12	< 0.01	0.057	0.027
0.90	0.85	0.05	0.03	0.039	0.034
1.83	1.59	0.24	0.02	0.097	0.071
1.31	1.14	0.17	0.13	0.168	0.127
2.32	2.12	0.20	0.13	0.077	0.059
2.43	2.19	0.24	0.10	0.058	0.042

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-31.0T CODE FT. SIMMONS BRANCH

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/11/78	14.2	7.7	650.	7.59	83.0
2/ 8/78	15.0	7.6	1300.	7.42	188.3
3/ 8/78	23.0	7.2	2680.	7.40	614.0
4/ 5/78	24.4	7.2	870.	7.50	127.4
4/19/78	27.6	8.0	2060.		462.2
5/ 3/78	28.6	7.8	908.	7.62	138.8
5/17/78	26.4	7.5	778.	7.47	113.7
6/ 8/78	30.1	8.1	722.	7.50	108.9
7/12/78	28.4	9.2	1586.	7.55	334.2
8/ 9/78	29.6	8.8	1160.	7.48	209.2
9/13/78	27.5	8.6	1422.	7.71	298.3
10/17/78	23.4	7.9	1398.	7.49	267.2
11/ 6/78	20.5	7.3	760.	7.49	113.9
12/13/78	18.9	8.5	1410.	7.47	253.8
1/15/79	18.1	6.6	671.	7.39	104.8
2/12/79	15.6	7.2	1300.	7.30	241.5
3/12/79	17.4	8.2	1610.	7.10	295.2
4/ 2/79	23.5	6.7	916.	7.22	190.9
4/16/79	24.7	6.6	937.	7.27	150.5
4/30/79	23.3	6.3	706.	7.20	132.9
5/14/79	25.4	5.5	1050.	7.17	166.0
5/31/79	24.7	5.2	816.	7.27	168.9
6/11/79	25.3	5.9	992.	7.22	152.5
6/25/79	28.0	5.8	829.	7.69	135.0
7/ 9/79	28.3	6.2	953.	7.54	156.4
7/23/79	27.7	5.4	880.	7.59	135.0
8/13/79	28.5	5.4	742.	7.50	104.2
9/10/79	26.9	5.6	1100.	7.33	168.2
10/16/79		6.0	777.	7.42	97.8
11/ 5/79	24.0	7.8	675.	7.71	92.1
12/ 3/79	17.7	9.3	1408.	7.96	278.6

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-31.0T CODE FT. SIMMONS BRANCH

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L		NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
0.90	0.74	0.16	<	0.01	0.036	0.005
1.54	1.31	0.23		0.01	0.021	0.008
2.11	1.61	0.50		0.04	0.028	0.010
1.98	1.67	0.31		0.11	0.037	0.012
1.19	1.12	0.07		0.02	0.028	0.010
1.40	1.34	0.06		0.04	0.036	0.016
2.29	2.22	0.07		0.03	0.044	0.022
1.77	1.71	0.06		0.02	0.045	0.027
1.43	1.28	0.15		0.02	0.045	0.028
2.36	1.38	0.98		0.06	0.077	0.042
0.91	0.85	0.06		0.01	0.069	0.048
1.63	1.48	0.15		0.02	0.046	0.031
1.17	1.08	0.09		0.02	0.034	0.011
1.02	0.95	0.07		0.02	0.021	0.010
3.23	2.03	1.20		0.06	0.074	0.062
2.63	0.55	2.08		0.06	0.039	0.010
1.76	1.56	0.20		0.01	0.040	0.028
1.10	1.02	0.08		0.04	0.039	0.015
1.21	1.17	0.04	<	0.01	0.048	0.026
1.11	0.88	0.23		0.07	0.054	0.030
0.75	0.60	0.15		0.02	0.057	0.033
0.73	0.56	0.17		0.04	0.069	0.046
1.19	1.09	0.10		0.02	0.063	0.034
1.04	0.94	0.10		0.03	0.092	0.049
1.17	0.87	0.30		0.04	0.078	0.056
1.77	1.51	0.26		0.05	0.115	0.058
1.41	1.33	0.08		0.03	0.071	0.047
1.56	1.29	0.27		0.07	0.087	0.052
1.11	0.84	0.27		0.06	0.152	0.100
2.37	2.06	0.31	<	0.01	0.064	0.046
2.07	1.91	0.16		0.03	0.049	0.046

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION * CR-32.0 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/11/78	16.6	7.2	609.	7.50	68.8
2/ 8/78	15.9	7.7	682.	7.60	69.3
3/ 8/78	18.6	7.8	640.	7.62	72.2
4/ 5/78	23.0	6.5	634.	7.41	74.9
4/19/78	25.7	6.5	720.		75.3
5/ 2/78	25.4	7.0	704.	7.59	82.5
5/16/78	26.7	6.1	560.	7.24	68.1
6/ 7/78	28.9	5.6	575.	7.40	71.1
7/11/78	31.3	5.4	582.	7.49	58.8
8/ 8/78	28.9	3.6	446.	6.90	43.7
9/12/78	29.7	4.9	416.	6.72	42.9
10/19/78	24.5	5.2	422.	7.10	39.6
11/ 7/78	24.1	6.0	440.	7.30	45.3
12/14/78	21.9	6.3	551.	7.35	48.0
1/16/79	18.2	7.2	521.	7.16	79.8
2/13/79	16.6	8.3	553.	7.32	73.0
3/13/79	20.1	6.7	591.	7.06	75.5
4/ 3/79	23.5	7.4	482.	7.40	84.5
4/17/79	25.3	7.8	670.	7.52	79.5
5/ 2/79	25.4	7.4	531.	7.46	83.9
5/16/79	27.4	6.2	616.	7.21	81.1
5/30/79	27.6	5.6	590.	7.20	61.9
6/12/79	30.0	5.5	608.	7.22	67.1
6/27/79	30.2	6.2	573.	8.01	71.8
7/10/79	31.6	5.4	579.	7.75	72.4
7/25/79	29.9	4.4	556.	7.57	62.4
8/14/79	30.5	5.9	588.	7.69	65.5
9/11/79	27.8	3.8	459.	7.00	59.3
10/17/79		4.4	494.	7.05	63.7
11/ 6/79	25.0	5.3	482.	7.23	58.3
12/ 4/79	19.9	6.5	598.	7.54	79.0

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-32.0 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.18	0.78	0.40	0.04	0.097	0.073
2.03	1.73	0.30	0.02	0.078	0.066
1.39	1.13	0.26	0.02	0.063	0.049
2.13	1.90	0.23	0.02	0.069	0.045
1.22	1.00	0.22	0.02	0.060	0.042
2.28	2.02	0.26	0.03	0.068	0.050
1.90	1.65	0.25	0.02	0.101	0.084
0.98	0.84	0.14	0.04	0.110	0.089
1.45	1.44	< 0.01	< 0.01	0.141	0.083
1.75	1.48	0.27	0.03	0.178	0.135
1.44	1.34	0.10	0.03	0.113	0.069
1.64	1.27	0.37	0.04	0.105	0.091
1.50	1.17	0.33	< 0.01	0.097	0.079
1.07	0.71	0.36	< 0.01	0.072	0.054
2.69	2.42	0.27	0.06	0.074	0.032
0.99	0.87	0.12	0.06	0.052	0.014
3.44	3.30	0.14	0.02	0.050	0.019
1.00	0.82	0.18	0.06	0.070	0.029
1.11	0.94	0.17	0.05	0.067	0.040
1.16	1.03	0.14	0.01	0.074	0.040
1.82	1.68	0.14	0.05	0.104	0.068
1.72	1.43	0.29	0.06	0.143	0.134
1.02	0.81	0.21	0.03	0.121	0.101
1.37	1.18	0.20	0.02	0.120	0.089
1.05	0.76	0.29	0.09	0.146	0.125
1.70	1.48	0.22	0.02	0.140	0.107
1.49	1.39	0.10	0.03	0.177	0.109
2.61	2.32	0.29	0.02	0.127	0.095
1.10	0.87	0.23	0.12	0.168	0.057
2.27	1.91	0.36	< 0.01	0.082	0.078
2.64	2.19	0.45	0.04	0.046	0.033

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-33.5T CODE TOWNSEND CANAL

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/11/78	17.1	6.6	621.	7.49	71.4
2/ 8/78	16.0	8.0	686.	7.61	70.5
3/ 8/78	21.2	6.4	758.	7.40	78.8
4/ 5/78	23.4	6.5	632.	7.41	72.3
4/19/78	26.3	6.6	719.		75.9
5/ 3/78	26.1	7.3	702.	7.64	85.8
5/17/78	27.1	6.9	518.	7.40	69.4
6/ 8/78	28.1	7.1	550.	7.20	61.4
7/12/78	29.6	5.0	618.	7.10	59.6
8/ 9/78	29.9	4.7	624.	7.09	57.5
9/13/78	28.6	2.7	522.	7.10	52.0
10/17/78	24.5	6.3	560.	7.21	56.8
11/ 6/78	23.8	6.2	460.	7.40	47.6
12/13/78	22.4	7.1	554.	7.46	52.4
1/15/79	19.0	7.6	498.	7.58	57.9
2/12/79	18.9	7.8	651.	7.20	73.0
3/12/79	20.1	6.8	666.	7.00	65.7
4/ 2/79	22.6	7.1	488.	7.41	82.8
4/16/79	25.7	8.0	661.	7.59	81.4
4/30/79	25.6	7.3	548.	7.44	86.7
5/14/79	27.1	5.1	660.	7.08	67.3
5/31/79	27.0	4.5	622.	7.18	68.5
6/11/79	28.8	5.1	607.	7.22	66.4
6/25/79	30.2	5.2	590.	7.88	78.9
7/ 9/79	30.1	5.2	584.	7.31	67.6
7/23/79	27.2	4.5	536.	7.49	52.6
8/13/79	30.0	5.7	666.	7.57	76.0
9/10/79	28.5	5.3	652.	7.14	70.2
10/16/79		5.3	624.	7.29	68.2
11/ 5/79	25.3	5.3	497.	7.34	62.8
12/ 3/79	18.8	6.4	648.	7.63	68.5

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-33.5T CODE TOWNSEND CANAL

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.34	1.00	0.34	0.03	0.109	0.071
1.02	0.70	0.32	< 0.01	0.088	0.058
1.74	1.20	0.54	0.06	0.038	0.018
1.73	1.20	0.53	0.30	0.064	0.041
2.04	1.63	0.41	0.02	0.059	0.040
1.72	1.47	0.25	0.02	0.064	0.051
2.79	2.57	0.22	0.02	0.099	0.074
1.01	0.91	0.10	0.03	0.109	0.082
1.59	1.51	0.08	< 0.01	0.077	0.061
1.28	1.03	0.25	0.03	0.098	0.064
0.98	0.82	0.16	0.04	0.178	0.104
1.54	1.41	0.13	0.03	0.094	0.073
1.49	1.13	0.36	0.03	0.093	0.071
1.36	0.97	0.39	0.01	0.068	0.051
2.73	1.93	0.80	0.08	0.163	0.126
1.88	0.91	0.97	0.04	0.031	0.024
1.29	0.99	0.30	0.04	0.074	0.058
1.64	1.40	0.24	0.10	0.064	0.033
1.67	1.53	0.14	0.02	0.073	0.040
1.80	1.54	0.26	0.07	0.075	0.046
0.96	0.77	0.19	0.08	0.051	0.026
0.90	0.67	0.23	0.04	0.125	0.093
1.56	1.33	0.23	0.06	0.120	0.093
1.58	1.51	0.07	0.03	< 0.002	0.129
1.44	1.17	0.27	0.08		
2.33	2.26	0.07	0.03	0.115	0.089
0.88	0.79	0.09	0.03	0.067	0.064
1.99	1.73	0.26	0.06	0.102	0.076
1.54	1.30	0.24	0.07	0.153	0.109
2.26	1.92	0.34	0.03	0.096	0.093
2.36	2.17	0.19	0.06	0.068	0.053

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES		UNITS
DATE	1/ 1/78 -	12/31/79	MO/DA/YR
DEPTH	0 -	0	METERS
SAMPLE	0.	8.	TYPE

STATION = CR-36.0 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/11/78	16.6	7.2	418.	7.49	69.8
2/ 8/78	15.9	7.5	694.	7.59	71.7
3/ 8/78	19.0	8.0	658.	7.68	74.4
4/ 3/78					66.5
4/ 4/78					68.5
4/ 5/78	23.4	6.7	640.	7.49	71.9
4/ 5/78					69.3
4/ 6/78					69.7
4/ 7/78					70.1
4/ 8/78					70.5
4/ 9/78					70.5
4/10/78					70.5
4/11/78					74.7
4/12/78					72.9
4/13/78					73.9
4/14/78					74.9
4/15/78					74.9
4/16/78					74.5
4/17/78					75.3
4/18/78					
4/19/78	26.0	6.5	728.		76.2
4/19/78					
4/20/78					
4/21/78					
4/22/78					
4/23/78					
4/24/78					
4/25/78					78.6
4/26/78					82.6
4/27/78					82.0
4/28/78					82.2
4/29/78					82.4
4/30/78					82.8
5/ 1/78					82.8
5/ 2/78	26.6	7.9	718.	7.68	86.6
5/ 2/78					81.7
5/ 3/78					82.7
5/ 4/78					82.7
5/ 5/78					80.7
5/ 6/78					77.7

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-36.0 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
5/ 7/78					74.7
5/ 8/78					72.7
5/ 9/78					75.4
5/10/78					76.4
5/11/78					71.4
5/12/78					67.4
5/13/78					69.4
5/14/78					71.8
5/15/78					73.0
5/16/78	27.6	7.4	620.	7.51	74.7
5/16/78					78.7
5/17/78					63.3
5/18/78					71.4
5/19/78					78.1
5/20/78					68.3
5/21/78					68.5
5/22/78					69.6
5/23/78					72.7
5/24/78					76.3
5/25/78					73.7
5/26/78					82.6
5/27/78					91.3
5/28/78					95.1
5/29/78					75.9
5/30/78					85.4
5/31/78					83.0
6/ 1/78					90.0
6/ 2/78					84.2
6/ 3/78					95.4
6/ 4/78					90.6
6/ 5/78					90.4
6/ 6/78					83.3
6/ 7/78	29.1	5.8	590.	7.40	81.0
6/ 7/78					144.6
6/ 8/78					148.8
6/ 9/78					126.6
6/10/78					89.6
6/11/78					108.2
6/12/78					118.7
7/11/78	30.9	7.8	550.	7.65	56.3

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-36.0 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
8/ 8/78	29.3	3.7	480.	6.92	46.5
9/12/78	29.4	3.7	440.	6.69	48.7
10/19/78	24.7	4.9	460.	7.10	42.6
11/ 7/78	24.7	6.7	500.	7.49	49.0
12/14/78	21.7	6.0	632.	7.39	71.5
1/16/79	17.9	6.8	519.	7.11	79.2
2/13/79	16.6	7.9	570.	7.29	75.5
3/13/79	20.1	6.6	585.	7.09	75.3
4/ 3/79	22.8	7.4	504.	7.41	82.4
4/17/79	25.5	7.7	700.	7.60	83.1
5/ 2/79	25.3	7.3	536.	7.41	85.0
5/16/79	27.6	5.7	672.	7.31	85.3
5/30/79	28.0	6.1	631.	7.31	68.3
6/12/79	30.1	6.1	630.	7.31	68.4
6/27/79	30.9	6.8	578.	8.20	74.0
7/10/79	31.4	5.8	562.	7.84	69.5
7/25/79	29.7	4.8	588.	7.70	60.9
8/14/79	30.4	5.6	635.	7.67	78.4
9/11/79	27.9	4.3	509.	7.11	65.8
10/17/79		4.3	482.	7.05	63.7
11/ 6/79	25.8	5.0	518.	7.28	65.0
12/ 4/79	20.1	6.6	651.	7.63	86.0

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES		UNITS
DATE	1/ 1/78	- 12/31/79	MO/DA/YR
DEPTH	0	- 0	METERS
SAMPLE	0.	8.	TYPE

STATION = CR-36.0 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L		NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.55	1.19	0.36		0.05	0.100	0.077
1.81	1.46	0.35		0.03	0.079	0.068
1.35	1.06	0.29		0.03	0.061	0.045
1.46	1.27	0.19	<	0.01	0.056	0.032
1.92	1.75	0.17	<	0.01	0.043	0.027
2.16	1.89	0.27		0.03	0.065	0.057
1.60	1.49	0.11	<	0.01	0.051	0.015
1.75	1.58	0.17	<	0.01	0.036	0.023
2.05	1.90	0.15	<	0.01	0.033	0.022
1.47	1.31	0.16	<	0.01	0.041	0.029
1.49	1.34	0.15		0.01	0.051	0.031
1.66	1.49	0.17		0.03	0.055	0.031
1.35	1.26	0.09	<	0.01	0.045	0.013
2.16	2.01	0.15	<	0.01	0.046	0.027
1.70	1.46	0.24	<	0.01	0.047	0.037
1.84	1.66	0.18	<	0.01	0.047	0.035
0.75	0.55	0.20	<	0.01	0.047	0.038
0.90	0.71	0.19		0.01	0.058	0.040
0.96	0.82	0.14		0.02	0.052	0.041
1.67	1.51	0.16	<	0.01	0.054	0.009
1.42	1.05	0.37		0.04	0.079	0.061
1.71	1.45	0.26	<	0.01	0.043	0.008
1.59	1.32	0.27	<	0.01	0.051	0.034
1.46	1.19	0.27	<	0.01	0.053	0.033
1.43	1.18	0.25	<	0.01	0.050	0.032
1.64	1.39	0.25		0.02	0.062	0.043
2.17	1.94	0.23	<	0.01	0.076	0.023
1.67	1.41	0.26	<	0.01	0.046	0.038
1.95	1.71	0.24		0.01	0.048	0.046
1.69	1.47	0.22	<	0.01	0.048	0.041
1.83	1.62	0.21	<	0.01	0.048	0.040
1.95	1.73	0.22		0.02	0.056	0.044
1.88	1.66	0.22		0.02	0.060	0.048
1.83	1.57	0.26		0.02	0.072	0.054
1.74	1.32	0.42		0.03	0.085	0.070
2.54	2.25	0.29	<	0.01	0.066	0.046
1.30	1.10	0.20	<	0.01	0.050	0.032
1.33	1.10	0.23	<	0.01	0.054	0.040
1.50	1.28	0.22	<	0.01	0.052	0.036
1.50	1.30	0.20	<	0.01	0.055	0.042

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES		UNITS
DATE	1/ 1/78	- 12/31/79	MO/DA/YR
DEPTH	0	- 0	METERS
SAMPLE	0.	8.	TYPE

STATION = CR-36.0 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
2.98	2.78	0.20	0.02	0.068	0.050
1.47	1.27	0.20	0.02	0.086	0.061
2.16	1.97	0.19	< 0.01	0.067	0.047
2.16	1.95	0.21	< 0.01	0.075	0.060
2.22	2.04	0.18	< 0.01	0.087	0.067
2.10	1.95	0.15	< 0.01	0.086	0.067
1.99	1.83	0.16	0.01	0.085	0.063
1.94	1.77	0.17	0.01	0.088	0.068
2.08	1.89	0.19	0.02	0.093	0.071
1.91	1.67	0.23	< 0.01	0.108	0.084
2.16	2.01	0.15	< 0.01	0.077	0.059
2.11	2.00	0.11	< 0.01	0.076	0.060
2.27	2.11	0.16	0.04	0.079	0.065
2.18	2.01	0.17	0.03	0.075	0.063
2.13	1.95	0.18	0.03	0.085	0.063
1.93	1.75	0.18	0.05	0.093	0.069
2.48	2.35	0.13	0.02	0.090	0.069
2.17	2.03	0.14	< 0.01	0.075	0.043
1.53	1.41	0.12	0.02	0.067	0.039
2.14	1.93	0.21	0.15	0.066	0.032
1.98	1.76	0.22	0.16	0.065	0.035
2.17	1.92	0.25	0.16	0.091	0.063
1.36	1.17	0.19	0.10	0.093	0.063
1.36	1.19	0.17	0.07	0.102	0.053
1.31	1.12	0.19	0.09	0.100	0.059
1.70	1.55	0.15	0.07	0.084	0.057
1.82	1.70	0.12	0.02	0.085	0.054
2.04	1.92	0.12	0.02	0.079	0.058
2.47	2.29	0.18	0.05	0.110	0.063
4.13	3.93	0.20	< 0.01	0.105	0.055
2.32	2.13	0.19	0.01	0.099	0.052
1.96	1.77	0.19	0.04	0.083	0.050
1.35	1.18	0.17	0.04	0.109	0.088
1.60	1.49	0.11	0.04	0.088	0.062
3.19	3.01	0.19	0.09	0.227	0.056
1.85	1.65	0.20	0.06	0.129	0.093
2.17	1.95	0.22	0.07	0.127	0.104
1.92	1.72	0.20	0.07	0.126	0.099
1.44	1.33	0.11	0.02	0.130	0.082
2.06	2.05	< 0.01	< 0.01	0.133	0.093

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-36.0 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L		NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.64	1.33	0.31	<	0.01	0.165	0.122
1.56	1.42	0.14		0.02	0.120	0.085
1.62	1.30	0.32	<	0.01	0.107	0.091
1.75	1.39	0.36		0.02	0.092	0.071
1.00	0.65	0.35	<	0.01	0.070	0.053
2.87	2.62	0.25		0.05	0.067	0.028
1.26	1.12	0.14		0.08	0.049	0.011
2.27	2.12	0.15		0.02	0.060	0.023
1.03	0.72	0.31		0.11	0.074	0.043
2.40	2.03	0.37		0.07	0.092	0.063
1.50	1.32	0.18	<	0.01	0.087	0.051
1.47	1.37	0.10		0.01	0.091	0.052
1.76	1.54	0.22		0.06	0.116	0.093
0.96	0.75	0.21		0.03	0.121	0.098
1.82	1.57	0.25		0.03	0.123	0.100
1.12	0.84	0.28		0.07	0.149	0.120
1.31	1.12	0.19		0.02	0.128	0.121
1.13	1.03	0.10		0.03	0.132	0.096
2.38	2.14	0.24		0.02	0.102	0.077
0.59	0.44	0.15		0.06	0.115	0.062
2.27	1.88	0.39	<	0.01	0.096	0.090
2.27	1.96	0.31		0.04	0.043	0.030

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-36.2T CODE BEDMAN CREEK

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/11/78	14.0	7.3	870.	7.70	99.0
2/ 8/78	13.7	8.0	780.	7.60	88.7
3/ 8/78	20.7	6.7	758.	7.60	71.6
4/ 5/78	22.8	6.2	818.	7.40	82.9
4/19/78	25.7	5.7	867.		84.2
5/ 3/78	26.3	7.3	840.	7.50	101.0
5/17/78	26.2	6.0	746.	7.50	75.0
6/ 8/78	27.8	4.9	839.	7.20	120.2
7/12/78	27.6	5.5	704.	7.29	47.6
8/ 9/78	27.4	5.2	680.	7.19	43.3
9/13/78	27.7	5.8	676.	7.39	44.9
10/17/78	22.4	6.9	702.	7.42	56.8
11/ 6/78	20.4	7.1	744.	7.54	64.9
12/13/78	17.9	8.1	882.	7.59	98.3
1/15/79	17.9	7.8	581.	7.59	56.0
2/12/79	18.8	8.8	750.	7.43	57.2
3/12/79	18.5	7.6	810.	7.30	79.0
4/ 2/79	23.4	6.3	721.	7.49	114.6
4/16/79	24.6	5.0	930.	7.32	118.7
4/30/79	24.7	6.3	751.	7.43	120.7
5/14/79	26.7	6.0	678.	7.38	65.0
5/31/79	26.7	6.2	701.	7.48	56.4
6/11/79	26.3	5.9	763.	7.41	65.2
6/25/79	28.6	5.1	684.	7.88	89.7
7/ 9/79	28.5	6.1	605.	6.55	46.0
7/23/79	28.6	6.0	603.	7.76	41.2
8/13/79	28.3	5.6	711.	7.61	63.2
9/10/79	27.2	5.2	690.	7.32	51.7
10/16/79	25.3	5.9	697.	7.38	54.6
11/ 5/79	23.3	7.0	743.	7.49	49.2
12/ 3/79	17.0	9.1	719.	7.76	70.8

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-36.2T CODE BEDMAN CREEK

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
0.35	0.27	0.08	< 0.01	0.007	< 0.002
1.06	1.01	0.05	< 0.01	0.005	< 0.002
0.75	0.71	0.04	< 0.01	0.005	< 0.002
1.39	1.32	0.07	< 0.01	0.009	0.004
0.95	0.89	0.06	< 0.01	0.006	< 0.002
0.93	0.86	0.07	0.02	0.010	< 0.002
1.93	1.90	0.03	< 0.01	0.006	< 0.002
0.50	0.45	0.06	< 0.01	0.008	< 0.002
1.40	1.37	0.03	< 0.01	< 0.002	< 0.002
0.92	0.85	0.07	< 0.01	0.013	< 0.002
0.66	0.61	0.05	< 0.01	0.006	< 0.002
0.92	0.85	0.07	0.02	0.006	< 0.002
0.61	0.54	0.07	0.01	0.005	< 0.002
0.76	0.54	0.22	0.02	0.005	0.004
2.34	2.10	0.24	0.01	0.015	< 0.002
0.29	0.18	0.11	0.04	0.010	< 0.002
0.85	0.77	0.08	< 0.01	0.006	0.005
0.56	0.49	0.07	0.04	0.009	< 0.002
1.09	1.04	0.05	< 0.01	0.013	< 0.002
1.07	0.98	0.09	0.06	0.013	0.007
0.53	0.49	0.04	< 0.01	0.008	< 0.002
0.21	< 0.10	0.02	< 0.01	0.008	0.003
0.86	0.83	0.03	0.01	0.008	< 0.002
1.15	1.13	0.02	0.01	0.013	< 0.002
0.25	0.21	0.04	0.01	0.016	0.002
0.75	0.71	0.04	< 0.01	0.010	< 0.002
0.24	0.20	0.04	0.02	0.008	0.004
1.10	1.03	0.07	0.02	0.007	0.003
1.46	1.32	0.14	< 0.01	0.009	0.012
0.31	0.24	0.07	< 0.01	0.012	< 0.002
1.05	0.99	0.06	0.02	0.009	0.007

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-37.0 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/11/78	16.6	7.3	600.	7.49	67.6
2/ 8/78	15.7	7.6	689.	7.59	72.3
3/ 8/78	19.1	8.1	656.	7.69	75.0
4/ 5/78	23.3	6.7	642.	7.50	70.0
4/19/78	26.0	6.4	734.		75.9
5/ 2/78	27.7	7.8	720.	7.65	88.6
5/16/78	27.9	7.6	638.	7.52	76.7
6/ 7/78	28.9	5.5	597.	7.40	77.2
7/11/78	30.6	7.7	554.	7.61	56.1
8/ 8/78	29.6	3.7	484.	6.97	46.5
9/12/78	29.6	4.0	460.	6.70	49.7
10/19/78	24.7	4.8	458.	7.09	42.6
11/ 7/78	23.9	6.3	500.	7.48	49.2
12/14/78	21.7	6.3	630.	7.42	71.9
1/16/79	18.0	6.8	521.	7.14	79.8
2/13/79	16.7	8.0	568.	7.27	75.5
3/13/79	20.1	6.6	582.	7.09	75.0
4/ 3/79	22.5	7.0	506.	7.39	82.4
4/17/79	25.1	7.7	688.	7.56	81.6
5/ 2/79	25.3	6.9	547.	7.42	88.2
5/16/79	27.4	6.5	628.	7.35	83.6
5/30/79	27.8	6.2	638.	7.35	69.6
6/12/79	30.7	6.2	642.	7.33	67.3
6/27/79					74.2
7/10/79	31.9	5.8	568.	7.84	66.1
7/25/79	29.6	4.8	587.	7.71	62.0
8/14/79	31.1	6.4	646.	7.82	79.6
9/11/79	27.9	4.4	512.	7.12	65.8
10/17/79		4.4	481.	7.05	63.7
11/ 6/79	25.6	5.2	531.	7.31	65.0
12/ 4/79	20.0	6.8	662.	7.69	86.0

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-37.0 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.47	0.88	0.59	0.05	0.116	0.093
1.84	1.39	0.45	0.03	0.093	0.078
1.38	1.06	0.32	0.02	0.068	0.051
2.26	1.95	0.31	0.03	0.074	0.052
1.72	1.31	0.41	0.04	0.071	0.063
1.75	1.23	0.52	0.03	0.093	0.076
1.92	1.67	0.25	< 0.01	0.116	0.086
1.39	1.19	0.20	0.02	0.112	0.094
1.25	1.24	< 0.01	< 0.01	0.126	0.092
1.76	1.45	0.31	< 0.01	0.162	0.119
1.53	1.38	0.15	0.01	0.128	0.087
1.59	1.24	0.34	0.02	0.118	0.103
1.17	0.99	0.18	0.06	0.109	0.092
1.11	0.61	0.50	0.05	0.091	0.067
2.60	2.35	0.25	0.06	0.061	0.028
0.83	0.71	0.12	0.06	0.046	0.013
2.89	2.73	0.16	0.02	0.073	0.024
1.17	0.78	0.39	0.15	0.088	0.058
2.71	2.43	0.28	0.10	0.109	0.081
2.01	1.77	0.24	< 0.01	0.095	0.051
1.47	1.36	0.11	0.02	0.085	0.055
1.42	1.21	0.21	0.05	0.119	0.097
0.49	0.24	0.25	0.05	0.118	0.097
1.61	1.34	0.27	0.03	0.131	0.102
1.39	1.01	0.38	0.13	0.158	0.129
1.35	1.12	0.23	0.02	0.140	0.126
0.96	0.85	0.11	0.03	0.153	0.083
2.24	2.01	0.23	0.02	0.104	0.078
2.20	2.04	0.16	0.07	0.098	0.064
2.81	2.46	0.35	< 0.01	0.093	0.088
2.33	1.96	0.37	0.04	0.049	0.040

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES		UNITS
DATE	1/ 1/78 -	12/31/79	MO/DA/YR
DEPTH	0 -	0	METERS
SAMPLE	0.	8.	TYPE

STATION = CR-38.2T CODE CYPRESS CREEK

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/11/78	15.0	5.9	748.	7.31	78.2
2/ 8/78	15.1	6.2	882.	7.20	98.7
3/ 8/78	20.3	5.5	480.	7.04	59.9
4/ 5/78	21.3	4.7	870.	7.07	106.1
4/19/78	23.5	4.8	969.		119.9
5/ 3/78	23.8	4.1	840.	7.09	113.3
5/17/78	22.9	5.2	880.	7.08	106.1
6/ 6/78	24.7	3.3	600.	6.90	78.1
7/12/78	25.0	3.5	658.	6.89	85.5
8/ 9/78	26.6	4.6	280.	6.69	39.5
9/13/78	25.8	3.9	644.	7.00	81.6
10/17/78	22.2	4.8	830.	7.10	107.8
11/ 6/78	18.9	3.5	814.	7.23	101.9
12/13/78	18.4	4.5	840.	7.17	105.5
1/15/79	15.5	7.8	150.	6.91	29.8
2/12/79	19.0	6.3	630.	7.00	76.1
3/12/79	18.0	6.1	600.	6.82	73.6
4/ 2/79	21.7	5.3	761.	7.06	94.9
4/16/79	23.2	3.6	861.	7.16	98.3
4/30/79	23.1	5.0	674.	7.11	104.6
5/14/79	23.9	4.3	895.	7.01	130.8
5/30/79	23.6	4.3	895.	7.07	116.2
6/11/79	25.1	5.3	897.	7.04	104.6
6/25/79	25.9	4.9	763.	7.49	107.4
7/ 9/79	27.2	5.0	725.	7.34	88.3
7/23/79	26.4	4.2	609.	7.35	68.4
8/13/79	27.3	4.5	194.	6.79	31.5
9/10/79	26.4	5.0	150.	6.59	16.9
10/16/79		5.8	180.	6.82	41.0
11/ 5/79	22.9	6.2	349.	7.01	37.9
12/ 3/79	19.0	6.0	726.	7.35	75.5

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-38.2T CODE CYPRESS CREEK

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
0.70	0.58	0.12	0.01	0.026	0.010
1.37	1.25	0.12	< 0.01	0.016	0.003
1.32	1.27	0.05	0.01	0.015	0.002
1.20	1.03	0.17	0.03	0.024	0.009
0.91	0.78	0.13	< 0.01	0.022	0.009
1.05	0.91	0.14	0.04	0.024	0.012
1.33	1.22	0.11	< 0.01	0.018	0.013
1.16	1.01	0.15	0.02	0.032	0.019
1.45	1.34	0.11	0.02	0.031	0.023
1.24	1.16	0.08	0.05	0.025	0.007
0.70	0.54	0.16	0.02	0.022	0.011
1.15	0.98	0.17	0.01	0.022	0.015
1.04	0.91	0.13	< 0.01	0.025	0.015
1.01	0.84	0.17	0.03	0.026	0.020
2.26	2.24	< 0.01	< 0.01	0.016	< 0.002
0.32	< 0.10	0.13	0.01	0.012	0.003
2.20	2.10	0.10	< 0.01	0.016	0.016
0.37	0.21	0.16	0.03	0.021	0.007
1.12	0.98	0.14	< 0.01	0.025	0.007
1.11	0.93	0.18	0.07	0.015	0.007
1.07	0.95	0.12	0.02	0.023	0.004
0.99	0.85	0.14	0.02	0.021	0.010
0.30	< 0.10	0.11	< 0.01	0.017	< 0.002
0.87	0.79	0.08	0.01	0.015	0.012
0.68	0.56	0.12	< 0.01	0.027	0.009
0.99	0.89	0.10	< 0.01	0.026	0.008
1.18	1.16	0.02	0.02	0.020	0.004
1.49	1.46	0.03	0.02	0.012	0.003
0.39	0.37	0.02	< 0.01	0.013	< 0.002
0.72	0.66	0.06	< 0.01	0.012	< 0.002
0.98	0.74	0.24	0.04	0.026	0.024

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-39.0 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/11/78	16.5	7.3	599.	7.41	68.8
2/ 8/78	15.6	7.7	683.	7.60	71.7
3/ 8/78	19.2	8.1	658.	7.68	75.0
4/ 5/78	23.5	7.0	644.	7.51	70.6
4/19/78	26.1	6.4	740.		77.6
5/ 2/78	25.3	7.0	724.	7.60	90.7
5/16/78	27.8	7.1	658.	7.51	76.9
6/ 7/78	29.1	5.8	609.	7.40	81.4
7/11/78	32.0	8.1	544.	7.60	56.5
8/ 8/78	29.4	3.6	502.	7.00	46.7
9/12/78	28.9	4.1	478.	6.78	49.7
10/19/78	24.9	4.8	446.	7.07	43.6
11/ 7/78	24.0	6.5	514.	7.51	51.4
12/14/78	21.7	6.4	651.	7.45	78.1
1/16/79	18.1	6.9	520.	7.18	80.8
2/13/79	16.9	8.0	568.	7.30	76.7
3/13/79	19.9	6.6	572.	7.08	75.7
4/ 3/79	22.9	7.7	502.	7.42	79.3
4/17/79	24.9	7.8	688.	7.54	79.7
5/ 2/79	25.5	7.3	548.	7.46	88.4
5/16/79	27.4	6.1	634.	7.31	82.4
5/30/79	27.9	6.5	658.	7.44	69.6
6/12/79	30.7	7.0	651.	7.45	68.4
6/27/79					72.9
7/10/79	31.3	5.7	576.	7.82	69.3
7/25/79	29.5	4.7	586.	7.71	62.0
8/14/79	30.7	6.5	646.	7.83	79.6
9/11/79	28.0	4.7	509.	7.13	65.8
10/17/79		4.4	469.	7.06	51.2
11/ 6/79	25.5	5.2	544.	7.33	67.3
12/ 4/79	19.9	7.0	669.	7.76	86.0

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-39.0 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L		NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.15	0.75	0.40		0.05	0.089	0.072
1.82	1.38	0.44		0.03	0.087	0.074
1.38	1.02	0.36		0.03	0.070	0.053
2.21	1.88	0.33		0.04	0.079	0.051
1.37	0.98	0.39		0.04	0.081	0.057
1.62	1.24	0.38		0.03	0.084	0.070
2.06	1.84	0.22	<	0.01	0.099	0.079
1.77	1.15	0.62		0.06	0.167	0.140
1.05	1.02	0.03	<	0.01	0.151	0.095
1.74	1.40	0.34		0.01	0.150	0.113
1.75	1.58	0.17		0.02	0.125	.
1.42	1.08	0.34	<	0.01	0.117	0.103
1.34	0.86	0.48		0.08	0.103	0.081
0.99	0.52	0.47		0.04	0.083	0.064
2.91	2.66	0.25		0.06	0.060	0.034
1.08	0.93	0.15		0.07	0.048	0.018
1.89	1.70	0.19		0.05	0.062	0.025
1.25	0.92	0.33		0.13	0.079	0.048
2.50	2.21	0.29		0.08	0.099	0.066
2.21	1.79	0.42		0.02	0.115	0.061
1.32	1.17	0.15		0.03	0.094	0.058
0.94	0.30	0.64		0.52	0.110	0.085
0.46	0.25	0.21		0.04	0.118	0.087
2.00	1.78	0.22		0.04	0.120	0.105
1.23	0.96	0.27		0.06	0.109	0.090
1.82	1.53	0.29		0.03	0.155	0.142
0.95	0.85	0.10		0.03	0.150	0.099
2.38	2.14	0.24		0.02	0.095	0.071
1.99	1.85	0.14		0.07	0.087	0.068
1.77	1.55	0.22	<	0.01	0.094	0.083
2.33	1.96	0.37		0.04	0.052	0.039

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-39.6T CODE HICKEY CREEK

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/11/78	17.4	7.2	671.	7.62	69.0
2/ 8/78	15.4	6.9	780.	7.60	65.6
3/ 8/78	20.9	7.0	952.	7.59	83.4
4/ 5/78	25.0	7.2	860.	7.49	57.2
4/19/78	27.0	7.8	858.		33.3
5/ 3/78	27.3	7.4	858.	7.61	73.2
5/17/78	26.9	7.1	820.	7.38	56.1
6/ 6/78	28.9	6.2	780.	7.40	52.8
7/12/78	29.4	5.3	796.	7.28	44.2
8/ 9/78	27.6	4.3	700.	7.10	47.8
9/13/78	29.4	5.7	656.	7.32	46.6
10/17/78	24.0	6.5	808.	7.40	47.3
11/ 6/78	22.7	7.0	696.	7.59	44.3
12/13/78	21.5	7.6	720.	7.50	57.4
1/15/79	19.4	6.8	600.	7.42	54.2
2/12/79	19.9	7.3	820.	7.47	40.7
3/12/79	20.0	5.4	819.	7.13	53.9
4/ 2/79	23.2	6.3	648.	7.35	38.9
4/16/79	26.2	5.9	799.	7.40	36.4
4/30/79	25.5	6.5	664.	7.40	37.1
5/14/79	27.8	5.0	725.	7.24	49.0
5/31/79	26.9	6.2	792.	7.38	37.7
6/11/79	29.6	6.7	818.	7.33	36.4
6/25/79	30.4	6.1	715.	7.84	39.7
7/ 9/79	31.5	6.0	653.	7.60	35.9
7/23/79	29.8	6.3	648.	7.68	32.6
8/13/79	29.3	5.2	686.	7.50	31.5
9/10/79	28.5	4.6	774.	7.20	36.5
10/16/79		6.0	805.	7.44	42.4
11/ 5/79	25.0	6.4	806.	7.60	37.9
12/ 3/79	19.9	7.7	725.	7.83	59.1

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES		UNITS
DATE	1/ 1/78	- 12/31/79	MO/DA/YR
DEPTH	0	- 0	METERS
SAMPLE	0.	8.	TYPE

STATION = CR-39.6T CODE HICKEY CREEK

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L	NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.20	0.90	0.30	0.01	0.084	0.053
2.26	2.07	0.19	< 0.01	0.051	0.033
0.71	0.68	0.03	0.02	0.013	< 0.002
1.27	1.22	0.05	< 0.01	0.045	0.008
1.05	1.04	< 0.01	< 0.01	0.012	< 0.002
0.85	0.83	0.02	0.02	0.028	0.012
1.46	1.45	< 0.01	< 0.01	0.023	0.009
0.21	< 0.10	0.02	< 0.01	0.023	0.012
0.82	0.80	0.02	< 0.01	0.011	0.008
0.79	0.76	0.03	< 0.01	0.079	0.052
0.86	0.80	0.06	< 0.01	0.039	0.018
0.60	0.58	0.02	< 0.01	0.014	0.006
0.90	0.80	0.10	< 0.01	0.039	0.024
1.28	1.12	0.16	< 0.01	0.044	0.032
1.54	1.49	0.05	0.02	0.059	0.042
< 0.10	< 0.10	0.03	0.03	0.016	< 0.002
1.76	1.70	0.06	0.03	0.027	0.015
< 0.10	< 0.10	< 0.01	< 0.01	0.016	0.003
0.69	0.67	< 0.01	< 0.01	0.023	0.004
1.05	0.98	0.07	0.06	0.021	0.006
0.86	0.84	0.02	< 0.01	0.071	0.041
0.83	0.80	0.03	0.02	0.017	0.010
1.18	1.16	< 0.01	< 0.01	0.019	< 0.002
1.10	1.08	0.02	0.01	0.021	0.003
0.24	0.20	0.04	0.02	0.040	0.020
0.42	0.40	< 0.01	< 0.01	0.017	< 0.002
0.34	0.33	< 0.01	< 0.01	0.008	0.005
1.26	1.21	0.05	0.03	0.013	0.005
0.66	0.61	0.05	< 0.01	0.010	0.012
< 0.10	< 0.10	< 0.01	< 0.01	0.009	< 0.002
2.58	2.38	0.20	0.02	0.027	0.020

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-40.3 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
1/11/78	17.0	7.6	640.	7.59	75.8
2/ 8/78	15.6	7.8	679.	7.61	71.7
3/ 8/78	19.3	8.2	660.	7.70	76.4
4/ 5/78	24.4	7.4	642.	7.60	69.4
4/ 5/78					66.9
4/ 5/78	26.0				66.9
4/ 6/78	26.5				66.9
4/ 7/78	27.0				67.5
4/ 8/78					67.9
4/ 9/78					68.3
4/10/78					67.5
4/11/78	27.5				71.8
4/12/78	27.5				72.9
4/13/78	26.5				73.7
4/14/78	27.5				78.4
4/15/78	27.0				73.9
4/16/78	27.5				75.9
4/17/78	27.0				77.4
4/18/78	27.0				
4/19/78	26.1	6.3	769.		83.1
4/19/78	27.0				
4/20/78	27.0				
4/21/78	27.5				
4/22/78					
4/23/78					
4/24/78	26.0				
4/25/78	29.0				101.7
4/26/78	25.0				105.1
4/27/78	25.5				110.2
4/28/78	27.0				90.1
4/29/78					88.9
4/30/78					85.9
5/ 1/78	25.5				87.9
5/ 2/78	27.0	8.0	752.	7.70	96.5
5/ 2/78	27.5				90.2
5/ 3/78	27.0				91.6
5/ 4/78	26.5				90.6
5/ 5/78	25.5				88.4
5/ 6/78					85.4
5/ 7/78					82.5

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-40.3 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
5/ 8/78	27.5				78.9
5/ 9/78	28.0				78.0
5/10/78					77.6
5/11/78	28.5				77.0
5/12/78	29.0				77.0
5/13/78					77.0
5/14/78					76.8
5/15/78	28.0				77.0
5/16/78	28.4	7.3	662.	7.52	78.0
5/16/78	28.0				76.4
5/17/78	29.0				75.0
5/18/78	28.0				75.4
5/19/78	29.5				75.6
5/20/78					63.7
5/21/78					71.4
5/22/78	30.0				71.0
5/23/78	30.0				75.7
5/24/78	31.5				77.3
5/25/78	32.5				76.9
5/26/78	31.0				73.9
5/27/78					76.9
5/28/78					82.0
5/29/78					90.1
5/30/78	31.0				92.1
5/31/78	32.0				97.4
6/ 1/78	33.0				103.4
6/ 2/78	32.0				93.7
6/ 3/78					98.2
6/ 4/78					96.4
6/ 5/78	31.0				98.0
6/ 6/78	31.0				93.0
6/ 7/78	29.2	5.7	625.	7.40	88.0
6/ 7/78	31.0				90.4
6/ 8/78	30.0				134.9
6/ 9/78	30.0				87.8
6/10/78					68.8
6/11/78	32.5				93.0
6/12/78	33.0				86.8
7/11/78	31.4	7.9	544.	7.62	56.7
8/ 8/78	29.2	3.6	486.	6.98	46.7

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-40.3 CODE

DATE MO/DA/YR	TEMP CENT	D.O. MG/L	SP COND UMHOS/CM	PH	CL MG/L
9/12/78	29.2	4.2	480.	6.79	49.7
10/19/78	25.0	4.9	456.	7.07	42.6
11/ 7/78	23.9	6.5	530.	7.52	56.1
12/14/78	21.6	6.6	658.	7.56	81.5
1/16/79	18.2	6.9	522.	7.18	80.0
2/13/79	18.0	7.7	557.	7.30	75.1
3/13/79	19.9	6.6	568.	7.10	74.0
4/ 3/79	22.8	7.2	497.	7.47	77.2
4/17/79	25.1	8.0	675.	7.71	77.4
5/ 2/79	25.6	7.5	549.	7.48	88.4
5/16/79	27.5	5.8	618.	7.30	81.1
5/30/79	28.2	6.1	662.	7.41	74.2
6/12/79	30.6	7.0	661.	7.49	67.3
6/27/79					72.5
7/10/79	30.5	5.0	584.	7.72	66.1
7/25/79	29.5	4.9	591.	7.73	64.1
8/14/79	31.0	7.1	645.	7.97	65.5
9/11/79	28.0	4.9	542.	7.12	64.8
10/17/79		4.5	473.	7.06	66.0
11/ 6/79	25.7	5.2	550.	7.38	65.0
12/ 4/79	19.6	7.0	665.	7.82	72.0

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-40.3 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L		NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
1.40	1.03	0.37		0.02	0.098	0.066
1.72	1.36	0.36		0.02	0.079	0.064
1.24	0.89	0.35		0.03	0.071	0.053
1.90	1.63	0.27		0.03	0.078	0.049
1.63	1.41	0.22		0.03	0.060	0.038
1.97	1.75	0.22		0.03	0.064	0.046
1.56	1.35	0.21		0.02	0.066	0.042
1.41	1.20	0.21		0.02	0.087	0.049
1.51	1.30	0.21		0.02	0.071	0.043
1.50	1.28	0.22		0.03	0.066	0.043
1.75	1.53	0.22		0.04	0.067	0.046
0.86	0.60	0.26		0.04	0.072	0.047
1.07	0.83	0.24		0.04	0.063	0.043
1.05	0.78	0.27		0.04	0.061	0.046
1.12	0.86	0.26		0.04	0.061	0.043
1.26	0.95	0.31	<	0.01	0.094	0.048
1.07	0.82	0.25		0.01	0.077	0.053
1.17	0.87	0.30		0.04	0.076	0.060
2.24	1.91	0.33		0.05	0.078	0.057
1.85	1.55	0.30		0.04	0.070	0.053
2.46	2.13	0.33		0.05	0.074	0.052
1.83	1.49	0.34		0.04	0.077	0.057
2.26	1.93	0.33		0.03	0.078	0.059
1.72	1.41	0.31		0.02	0.079	0.059
1.77	1.41	0.36		0.05	0.080	0.062
1.89	1.54	0.35		0.03	0.089	0.066
1.65	1.30	0.35		0.03	0.078	0.060
2.01	1.66	0.35		0.03	0.088	0.064
1.99	1.64	0.35		0.03	0.083	0.068
2.22	1.83	0.39		0.03	0.091	0.075
2.32	1.95	0.37		0.02	0.087	0.073
1.98	1.62	0.36		0.02	0.082	0.067
1.84	1.50	0.34		0.01	0.083	0.067
1.63	1.29	0.34		0.03	0.081	0.065
1.63	1.32	0.31		0.01	0.092	0.062
2.40	2.08	0.32	<	0.01	0.092	0.066
1.63	1.33	0.30	<	0.01	0.088	0.058
1.76	1.43	0.33		0.03	0.083	0.058
2.27	1.62	0.65		0.04	0.122	0.090
2.07	1.80	0.27	<	0.01	0.126	0.067

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-40.3 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L		NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
2.02	1.75	0.27		0.01	0.090	0.066
1.94	1.65	0.29		0.03	0.089	0.070
2.16	1.89	0.27		0.02	0.100	0.070
2.49	2.23	0.26	<	0.01	0.098	0.078
1.99	1.73	0.26		0.01	0.102	0.079
1.95	1.78	0.17		0.02	0.107	0.066
1.81	1.62	0.19	<	0.01	0.112	0.069
1.97	1.75	0.22	<	0.01	0.104	0.079
1.86	1.63	0.23	<	0.01	0.093	0.078
2.55	2.32	0.23		0.02	0.103	0.074
2.12	1.89	0.23		0.02	0.110	0.077
2.72	2.48	0.24		0.03	0.099	0.081
2.00	1.76	0.24		0.04	0.102	0.084
2.17	1.95	0.22		0.03	0.118	0.089
2.18	1.94	0.24		0.04	0.105	0.085
2.20	1.97	0.23		0.03	0.098	0.085
1.83	1.53	0.30		0.11	0.107	0.084
2.93	2.67	0.26		0.07	0.111	0.080
1.23	0.96	0.27		0.09	0.104	0.078
1.09	0.85	0.24		0.07	0.102	0.082
1.55	1.31	0.24		0.05	0.106	0.085
1.81	1.63	0.18		0.02	0.114	0.082
0.89	0.68	0.21		0.04	0.112	0.089
0.88	0.67	0.21		0.04	0.111	0.090
1.93	1.74	0.19		0.03	0.119	0.088
1.65	1.48	0.17		0.02	0.125	0.079
1.76	1.59	0.17		0.03	0.112	0.084
1.64	1.47	0.17		0.04	0.112	0.086
3.54	3.40	0.14		0.03	0.125	0.083
1.92	1.64	0.28		0.04	0.134	0.097
1.79	1.30	0.49		0.05	0.149	0.110
1.97	1.46	0.51		0.05	0.151	0.125
1.57	1.19	0.38		0.04	0.135	0.099
1.71	1.29	0.42		0.07	0.155	0.112
1.36	1.08	0.28		0.03	0.138	0.093
1.24	1.05	0.19	<	0.01	0.136	0.090
1.23	1.10	0.13		0.01	0.139	0.089
1.79	1.73	0.06		0.05	0.136	0.100
2.19	2.17	0.02	<	0.01	0.141	0.103
1.93	1.61	0.32	<	0.01	0.145	0.106

CALOOSAHATCHEE RIVER WATER QUALITY DATA 1978-1979

PROJECT CR DATE OF PRINTING 10/16/80

PARAMETER	RANGE OF VALUES			UNITS
DATE	1/ 1/78	-	12/31/79	MO/DA/YR
DEPTH	0	-	0	METERS
SAMPLE	0.		8.	TYPE

STATION = CR-40.3 CODE

TOTAL N MG N/L	TKN-NH4 MG N/L	NOX+NH4 MG N/L		NH4 MG N/L	TPO4 MG P/L	OPO4 MG P/L
2.35	2.20	0.15		0.01	0.115	0.076
1.74	1.42	0.32	<	0.01	0.110	0.097
1.45	1.10	0.35	<	0.01	0.098	0.070
1.17	0.75	0.42		0.02	0.084	0.066
2.40	2.14	0.26		0.06	0.062	0.024
1.33	1.18	0.15		0.07	0.047	0.014
1.89	1.71	0.18		0.04	0.058	0.019
1.68	1.49	0.19		0.05	0.081	0.039
0.86	0.51	0.35		0.05	0.088	0.053
1.70	0.99	0.71		0.11	0.128	0.090
1.17	0.99	0.18		0.04	0.089	0.064
1.15	0.96	0.19		0.08	0.110	0.070
1.18	1.01	0.17		0.05	0.112	0.085
1.43	1.23	0.20		0.03	0.113	0.091
0.98	0.75	0.23		0.04	0.097	0.104
1.39	1.13	0.26	<	0.01	0.146	0.139
1.07	1.04	0.03		0.02	0.116	0.083
1.84	1.60	0.24		0.02	0.093	0.062
2.45	2.28	0.17		0.08	0.089	0.064
1.95	1.58	0.37	<	0.01	0.094	0.075
2.77	2.36	0.41		0.04	0.049	0.038

APPENDIX E

SUMMARY OF SEDIMENT DATA

1977-1979

SEDIMENT DATA FOR THE CALOOSAHATCHEE RIVER - NOVEMBER 1977 and JANUARY 1979

River Station	Year	lab pH	TKN	TEP*	K	Ca	Mg	TFe	Organic Matter	Carbonates	Texture
					% Concentration						
ECB:											
CR-00.5	1977	7.37	.17	.047	.09	1.42	.05	.31	3.5		loamy sand
CR-03.0	1979	7.30		.041					5.7	16.2	sandy clay loam
CR-04.5	1979	7.53		.031					1.8	21.9	loamy sand
CR-06.0	1979	7.20		.084					13.8	34.5	clay loam
CR-09.0	1979	7.54		.103					2.0	44.1	sandy clay loam
CR-11.0	1979	7.47		.231					4.6	46.7	light clay
CR-13.5	1979	7.24		.094					1.7	5.7	loamy sand
WCB:											
CR-16.0	1977	7.44	.66	.122	.24	4.70	.14	1.42	9.7		sandy clay loam
"	1979	7.21		.062					8.7	44.9	sandy clay loam
CR-19.0	1979	7.15		.165					13.1	36.8	sandy clay loam
CR-22.5	1979	7.32		.234					8.6	36.1	medium clay
CR-26.0	1977	7.64	.08	.125	.40	4.69	.15	.68	3.7		sandy clay loam
"	1979	7.52		.193					5.7	62.6	medium clay
CR-30.4	1979	7.30		.178					11.4	47.0	medium clay
CR-32.0	1979	7.28		.162					13.8	46.3	medium clay
CR-36.0	1977	7.65	.14	.294	.34	5.04	.78	1.25	4.3		clay
"	1979	7.43		.550					6.8	44.5	sandy clay loam
CR-37.0	1979	7.41		.364					6.4	51.6	medium clay
CR-39.0	1979	7.53		.125					6.0	60.8	light clay
CR-40.3	1977	7.65	.22	.314	.30	4.97	1.27	1.53	9.0		clay
"	1979	7.92		.125					11.2	64.4	silty clay loam

*TEP