

(200)
R290
no. 81-825

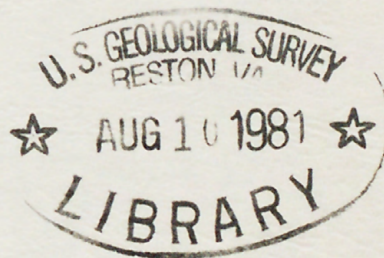
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

QUALITY OF WATER AND TIME OF TRAVEL IN PART OF TILLATOBA CREEK BASIN,
MISSISSIPPI, OCTOBER 1974 TO SEPTEMBER 1980

Open-File Report 81-825

Prepared in cooperation with

U.S. DEPARTMENT OF AGRICULTURE
Soil Conservation Service





UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

QUALITY OF WATER AND TIME OF TRAVEL IN PART OF TILLATOBA CREEK BASIN,
MISSISSIPPI, OCTOBER 1974 TO SEPTEMBER 1980

by Gene A. Bednar

Open-File Report 81-825

Prepared in cooperation with

U.S. DEPARTMENT OF AGRICULTURE
Soil Conservation Service

Open-File Report
United States
Geological Survey

Jackson, Mississippi
1981

315857

✓
✓
MP ✓

UNITED STATES DEPARTMENT OF THE INTERIOR
JAMES G. WATT, Secretary
GEOLOGICAL SURVEY
Doyle G. Frederick, Acting Director

Twelve -

For additional information write to:

U.S. Geological Survey
Water Resources Division
100 West Capitol Street, Suite 710
Jackson, MS 39201

CONTENTS

	Page
Abstract-----	1
Introduction-----	1
Description of the area-----	1
Location-----	1
Cultural features-----	3
Climate-----	3
Geology and topography-----	3
Data Collection-----	4
Data collection sites-----	4
Streamflow-----	4
Suspended sediment-----	5
Chemical, physical, and bacterial quality-----	15
Time of travel-----	19
Selected references-----	30
Hydrologic data-----	31

ILLUSTRATIONS

Figure	1. Map showing study area and hydrologic measurement sites-----	2
Figures 2.-10. Graphs Showing:		
	2. mean monthly discharge at site 3 on Tillatoba Creek and site 11 on South Fork Tillatoba Creek and monthly rainfall at NOAA weather station at Charleston, Miss., October 1974-September 1980-----	6
	3. suspended-sediment concentrations and instantaneous discharge at site 3 on Tillatoba Creek, 1978 water year-----	7
	4. suspended-sediment concentrations and instantaneous discharge at site 3 on Tillatoba Creek, 1979 water year-----	8
	5. suspended-sediment concentrations and instantaneous discharge at site 3 on Tillatoba, 1980 water year----	9
	6. suspended-sediment concentrations and instantaneous discharge at site 3 on Tillatoba Creek, 1978-80 water years-----	10
	7. suspended-sediment concentrations and instantaneous discharge at site 11 on South Fork Tillatoba Creek, 1978 water year-----	11
	8. suspended-sediment concentrations and instantaneous discharge at site 11 on South Fork Tillatoba Creek, 1979 water year-----	12
	9. suspended-sediment concentrations and instantaneous discharge at site 11 on South Fork Tillatoba Creek, 1980 water year-----	13
	10. suspended-sediment concentrations and instantaneous discharge at site 11 on South Fork Tillatoba Creek, 1978-80 water years-----	14

ILLUSTRATIONS--Continued

Figure 11.-23. Graphs showing:	Page
11. dissolved-oxygen concentrations and water temperatures in Tillatoba Creek at sites 3 and 4 and South Fork Tillatoba Creek at sites 10 and 11, August 14-16, 1979-----	16
12. maximum and minimum total nitrogen and phosphorus concentrations at sampling sites on streams in Tillatoba Creek basin, 1975-78-----	17
13. maximum and minimum fecal coliform bacteria densities at sampling sites in Tillatoba Creek basin, 1975-1978-----	18
14. time of travel and average discharge in the 3.5-mile stream reach of Tillatoba Creek from site 1 to site 2-----	20
15. time of travel and average discharge in the 3.5-mile stream reach of Tillatoba Creek from site 2 to site 3-----	21
16. time of travel and average discharge in the 2.3-mile stream reach of Tillatoba Creek from site 3 to site 4-----	22
17. time of travel and average discharge in the 3.8-mile stream reach of Tillatoba Creek from site 3 to junction with South Fork Tillatoba Creek upstream of site 12-----	23
18. time of travel and average discharge in the 1.8-mile stream reach of Davis Creek and South Fork Tillatoba Creek from site 6 to site 7-----	24
19. time of travel and average discharge in the 2.7-mile stream reach of South Fork Tillatoba Creek from site 7 to site 10-----	25
20. time of travel and average discharge in the 2.3-mile stream reach of Simmons Creek from site 8 to site 9-----	26
21. time of travel and average discharge in the 4.2-mile stream reach of Simmons Creek from site 9 to mouth-----	27
22. time of travel and average discharge in the 4.4-mile stream reach of South Fork Tillatoba Creek from site 10 to Junction with Tillatoba Creek upstream of site 12-----	28
23. Time of travel and average discharge in the 5.8-mile stream reach of Tillatoba Creek from site 12 to site 13-----	29

TABLES

	Page
Table 1. Total rainfall at Charleston, Miss., and total runoff at gaging stations on Tillatoba Creek (site 3) and South Fork Tillatoba Creek (site 11), October 1974-September 1980-----	32
2. Description of hydrologic measurement sites in Tillatoba Creek basin-----	33
3. Drainage areas and streamflow information for measurement sites in Tillatoba Creek basin-----	34
4. Mean daily discharge at site 3 on Tillatoba Creek, October 1974-September 1980-----	36
5. Mean daily discharge at site 11 on South Fork Tillatoba Creek, August 1975-September 1980-----	42
6. Suspended-sediment concentrations and instantaneous discharge and suspended-sediment loads at site 3 on Tillatoba Creek, 1975-80-----	48
7. Suspended-sediment concentrations and instantaneous discharge and suspended-sediment loads at site 11 on South Fork Tillatoba Creek, 1977-80-----	54
8. Results of field determinations and 5-day biochemical oxygen demand analyses during short-term studies, 1975-79-----	59
9. Results of laboratory analyses and field determinations, 1975-78-----	75
10. Time of travel data for selected stream reaches, 1975-79-----	87

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM (SI) UNITS

Factors for converting inch-pound units to metric units are shown below to four significant figures. In the text, metric equivalents are shown only to the number of significant figures consistent with the accuracy of analytical determinations or measurement.

Multiply	By	To obtain
inch (in)	25.4	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
square mile (mi ²)	2.590	square kilometer (km ²)
cubic foot per second (ft ³ /s)	0.02832	cubic meter per second (m ³ /s)

Throughout this report water temperatures are reported in degrees Celsius. These temperatures may be converted to the Fahrenheit equivalent with the following formula:

$$^{\circ}\text{F} = 9/5 (^{\circ}\text{C}) + 32$$

QUALITY OF WATER AND TIME OF TRAVEL IN PART OF TILLATOBA CREEK
BASIN, MISSISSIPPI, OCTOBER 1974 TO SEPTEMBER 1980

by Gene A. Bednar

ABSTRACT

A 6-year quality of water and time-of-travel study was conducted during the construction phase of a flood-water protection and flood prevention project in a 118 square mile area of Tillatoba Creek basin in northwest Mississippi. Weekly suspended sediment, daily discharge, time of travel, nutrient, biochemical oxygen demand, bacteria and field data were collected. The study was conducted by the U.S. Geological Survey in cooperation with the U.S. Soil Conservation Service. The results of the study are presented in graphs and tables in this report without interpretation.

INTRODUCTION

The U.S. Soil Conservation Service has underway a project for stream bank protection, channel improvement, and construction of flood-water retarding and grade-stabilization structures in Tillatoba Creek basin. A water-quality study of part of the basin in the project area is being made by the U.S. Geological Survey in cooperation with the U.S. Soil Conservation Service. The main purpose of the study is to document the water quality before and during the construction phase of the work. The results of the study will serve as a baseline for comparison with future water-quality conditions.

This report summarizes the data collected between October 1974 and September 1980 during the first 6-years of the study. The data were collected at 13 sites on streams in the 118 mi² (square miles) drainage system. Data for discharge, suspended sediment, field measurements, nutrient, fecal coliform bacteria, 5-day biochemical oxygen demand, and time of travel are summarized and presented without interpretation.

With the exception of time-of-travel data, all data presented in this report, are published in the U.S. Geological Survey's annual water-data report entitled "Water Resources Data for Mississippi."

DESCRIPTION OF THE AREA

Location

The study area is in the Tillatoba Creek basin in a predominately rural area of northwest Mississippi. The Tillatoba Creek basin is located in northeast Tallahatchie County, southwest Yalobusha County and northern Grenada County. Charleston, the principal town in the study area, is located along Tillatoba Creek at the downstream reach of the study area (fig. 1).

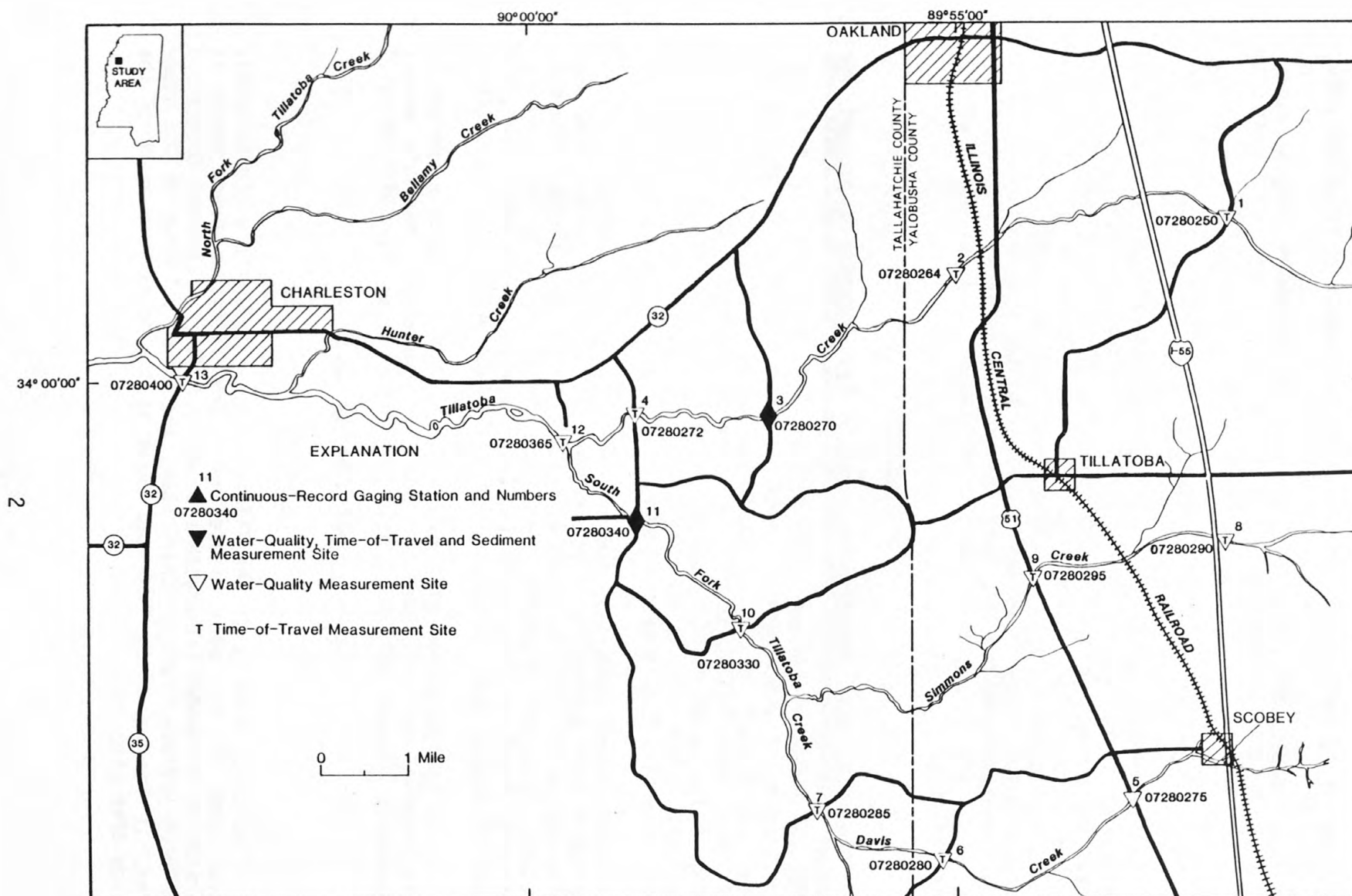


FIGURE 1.--LOCATION OF STUDY AREA AND HYDROLOGIC MEASUREMENT SITES.

Cultural Features

The study area is not densely populated and agriculture and agri-business are important to the economy. Based on U.S. Department of Commerce, Bureau of Census, 1980 preliminary report, the population of Tallahatchie and Yallobusha Counties is 17,014 and 13,133, respectively. The population of Charleston, the county seat of Tallahatchie County, is 2,864. Tillatoba and Scobey are smaller towns that are within the study area in Yalobusha County. Oakland, population of 554, is located along the northern boundary of the study area in Yalobusha County.

Climate

The climate in northwest Mississippi is typical of the humid-subtropical climate of the southeastern United States. The summers are hot and the winters are mild. Temperatures only occasionally exceed 100°F (38°C), or fall below 10°F (-12°C). The mean temperature at the NOAA (National Oceanic and Atmospheric Administration) weather station at Charleston, Mississippi, is 33°F (0.6°C) in January - the coldest month, and 81°F (27°C) in July - the warmest month. The average growing season is about 240 days.

The normal annual rainfall in the study area is 52.4 inches. Average monthly rainfall ranges from a high of 6.3 inches in March to a low of 2.5 inches in October. The total annual rainfall ranged from 37.9 to 72.3 inches during the six water years from October 1974 to September 1980 (table 1).

Geology and Topography

Tillatoba Creek basin study area is in the Bluff Hills physiographic district. The loess-covered bluff hills lie along the eastern edge of the Mississippi Alluvial Plain. The bluffs are capped with 25 to 100 feet of calcareous loess of Pleistocene age. Discontinuous beds of clay, sand, and gravel of Pleistocene age underlie the loess. Sediments of Eocene age lie underneath the Pleistocene sediments (Brown, 1947, p.17).

The topography is characterized by hills and wide alluvial valleys that border the channels of the larger streams in the basin. The hills in the eastern part of the basin rise about 200 feet above the Mississippi Valley Alluvial Plain (Lang and Boswell, 1960, p.18). Most of the streams flow westward from their headwaters toward the Bluff Hills escarpment. Tillatoba Creek debouches from the Bluff Hills escarpment near Charleston.

Topographic maps of the area indicate that the channel gradient of Tillatoba Creek between the junction with South Fork Tillatoba Creek and Charleston is about 6 feet per mile. Upstream from the junction, the average gradient of the channels of Tillatoba Creek and the larger tributaries is about 8 feet per mile.

DATA COLLECTION

Data Collection Sites

Water quality, stream discharge, and time-of-travel data were collected at 6 sites on Tillatoba Creek; at 3 sites on South Fork Tillatoba Creek; at 2 sites on Simmons Creek; and at 2 sites on Davis Creek (figure 1 and table 2). The drainage area, low-flow frequency information and miscellaneous discharge measurements for respective sites are given in table 3. The time-of-travel measurement site located on Simmons Creek about 20 feet upstream of South Fork Tillatoba Creek is not an established water-quality station and therefore it is not included in either table 2 or 3.

Data collected prior to 1980 were transmitted to the Soil Conservation Service using measurement site numbers that are not consistent with the U.S. Geological Survey's sequential downstream numbering system. The site numbers have been revised to conform with the station numbers for convenience of presenting the data in this report. The revised site numbers are shown in figure 1 and are listed below with the previously used site numbers.

Station number	Revised site number	Previous site number
07280250	1	10
07280264	2	7
07280270	3	3
07280272	4	2A
07280275	5	17
07280280	6	16
07280285	7	15
07280290	8	12
07280295	9	13
07280330	10	4
07280340	11	6
07280365	12	2
07280400	13	5

Streamflow

A continuous record discharge gaging station was established to determine discharge and to compute instantaneous suspended-sediment loads at site 3 on Tillatoba Creek and at site 11 on South Fork Tillatoba Creek. The gaging stations were installed downstream of most of the construction and channel improvement work in the basin. Daily discharge records for the 1975-80 water years are given in tables 4 and 5. The operation of the gaging station at site 11 began on July 8, 1975.

A comparison of the rainfall at the NOAA weather station at Charleston, with discharge at sites 3 and 11 may be used as an indication of the hydrologic conditions in the study area (fig. 2). Rainfall was near or above normal much of the time during the period October 1974 to September 1980, but rainfall was below normal 14 of 19 months between April 1976 and October 1977. Except for the months of January, March, and April 1976, streamflow at sites 3 and 11 was correspondingly low during the period of below normal rainfall.

The total annual runoff at the Tillatoba Creek and South Fork Tillatoba Creek gaging stations was highest during the 1980 water year and lowest during the 1977 water year. The volume of runoff in acre-feet was higher at site 11 than at site 3 during the study (table 1). South Fork Tillatoba Creek at site 11 has the larger drainage area (table 3).

Suspended Sediment

Suspended-sediment data were collected at the daily discharge stations (sites 3 and 11). The suspended-sediment samples generally were collected weekly and during selected high-flow periods from February 1978 to September 1980 by a local observer. Intermittent samples were collected by U.S. Geological Survey personnel prior to 1978.

Seventy-seven percent of the total drainage area in the Tillatoba Creek basin is upstream of site 3 on Tillatoba Creek and site 11 on South Fork Tillatoba Creek. The sampling sites are located downstream of construction of the flood-water retarding structures and 2 of the four grade-stabilization structures. Sites 3 and 11 are also downstream of most of the stream reaches that will be improved for flood prevention.

The suspended-sediment concentrations and the instantaneous discharges at site 3 are shown for water years 1978, 1979, and 1980 in figures 3, 4, and 5 respectively. The relation between suspended-sediment concentrations and instantaneous discharge for the three-year period, 1978-1980, is given in figure 6. Similar plots of discharge and suspended-sediment concentrations are shown for site 11 in figures 7-10.

Regression lines and equations defining those lines calculated using standard statistical "least-squares" techniques are shown on figures 3-10. The regression lines and equations show the general relationship between suspended-sediment concentrations and discharge but should be used with extreme care in estimating suspended-sediment concentrations or loads. It should be noted that the data points are scattered about the regression line and that the regressions vary from year to year. The results of suspended-sediment analyses and instantaneous suspended-sediment loads are given for sites 3 and 11 in tables 6 and 7, respectively.

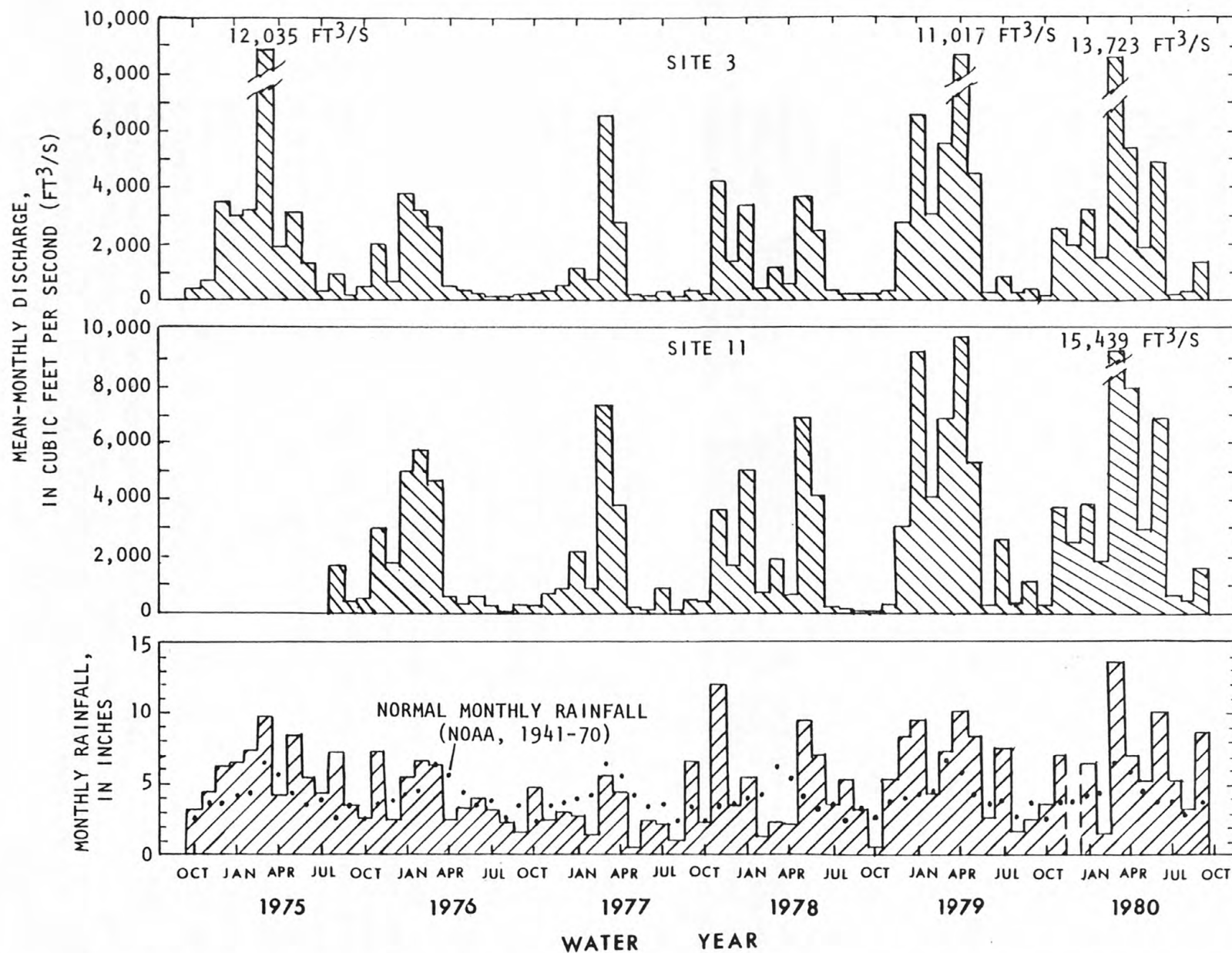


FIGURE 2.--MEAN-MONTHLY DISCHARGE AT SITE 3 ON TILLATOBA CREEK AND SITE 11 ON SOUTH FORK TILLATOBA CREEK AND MONTHLY RAINFALL AT NOAA WEATHER STATION AT CHARLESTON, MISS., OCTOBER 1974-SEPTEMBER 1980.

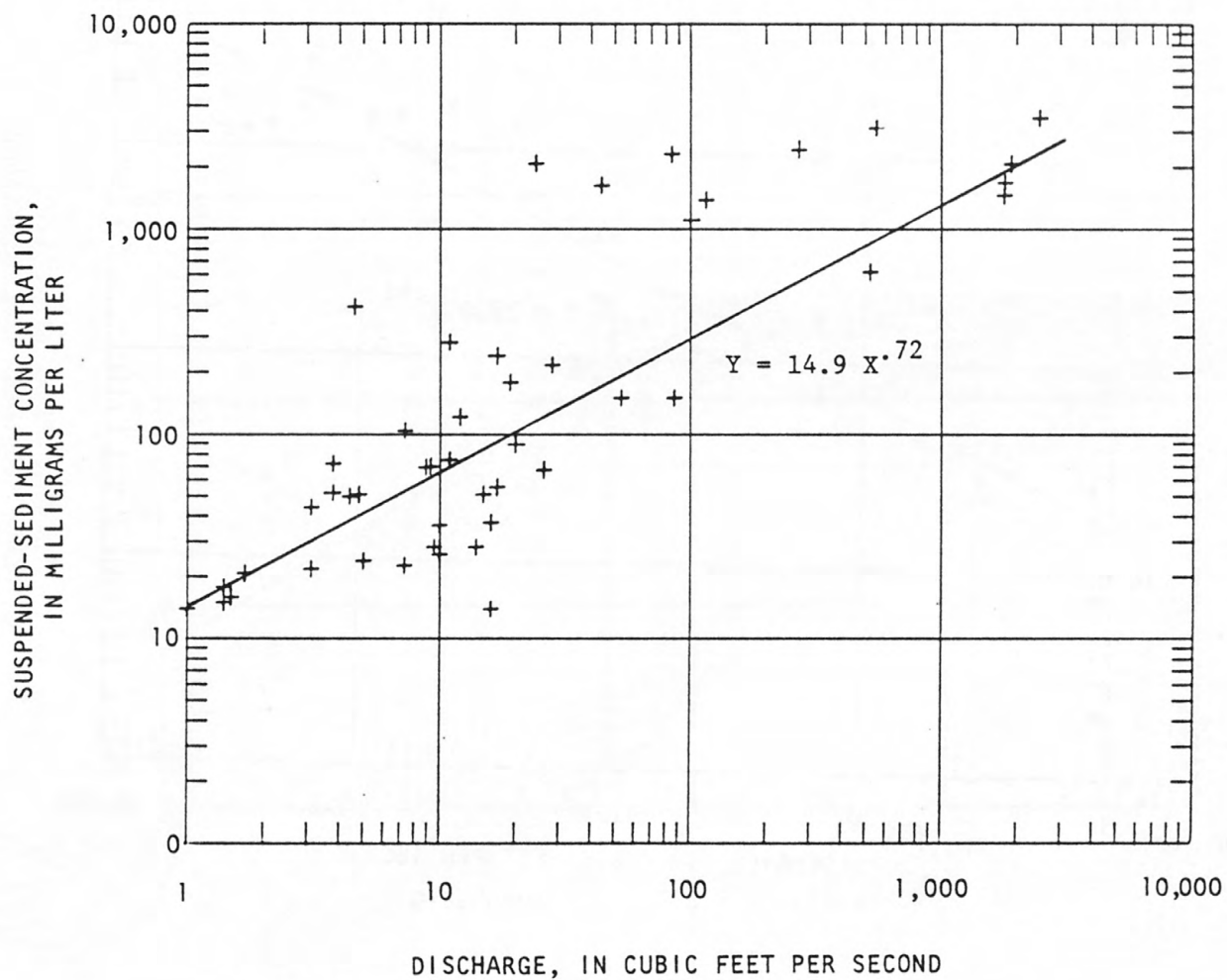


FIGURE 3.--SUSPENDED-SEDIMENT CONCENTRATIONS AND INSTANTANEOUS DISCHARGE AT SITE 3 ON TILLATOBA CREEK, 1978 WATER YEAR.

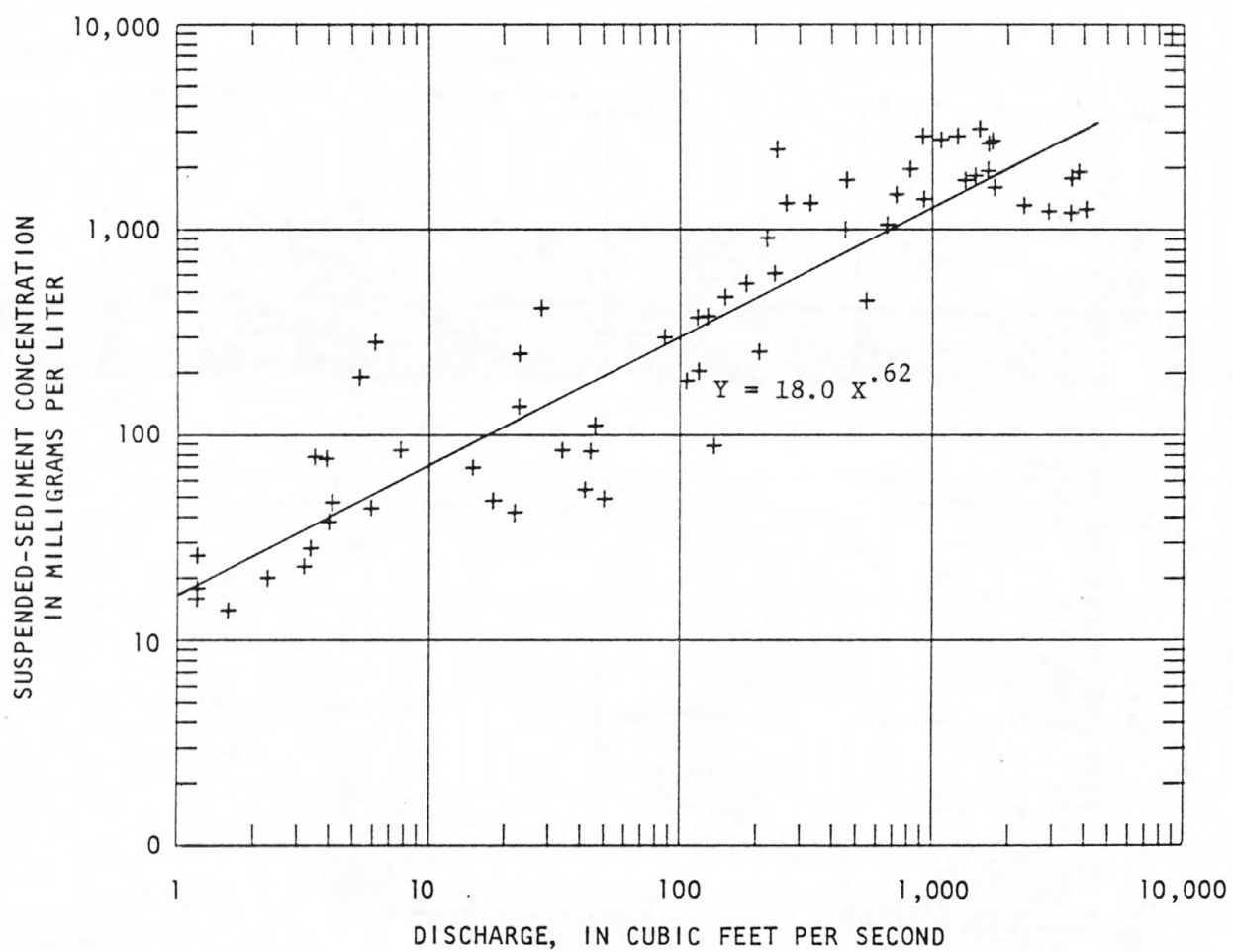


FIGURE 4.--SUSPENDED-SEDIMENT CONCENTRATIONS AND INSTANTANEOUS DISCHARGE AT SITE 3 ON TILLATOBA CREEK, 1979 WATER YEAR.

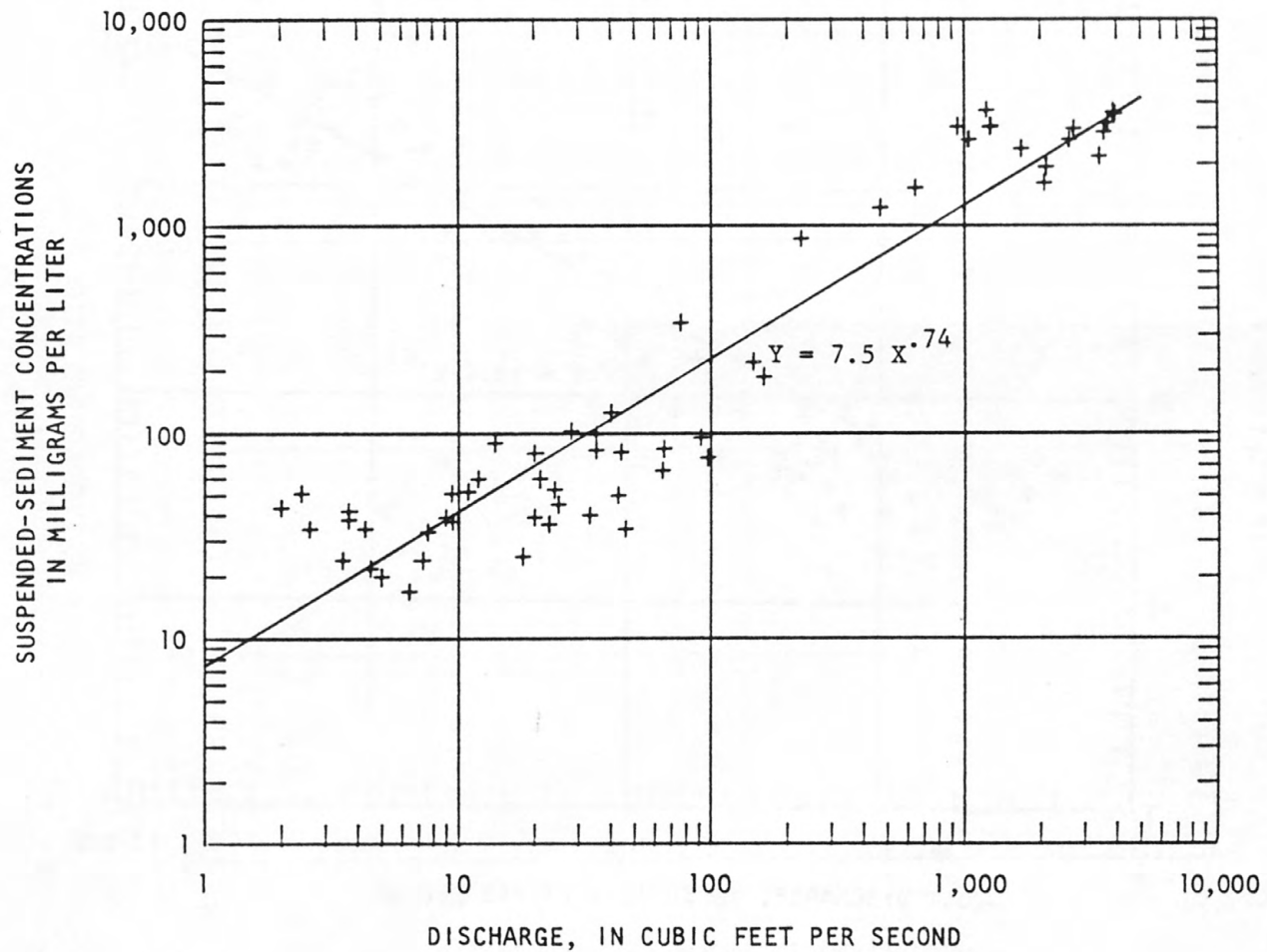


FIGURE 5.--SUSPENDED-SEDIMENT CONCENTRATIONS AND INSTANTANEOUS DISCHARGE AT SITE 3, ON TILLATOBA CREEK, 1980 WATER YEAR.

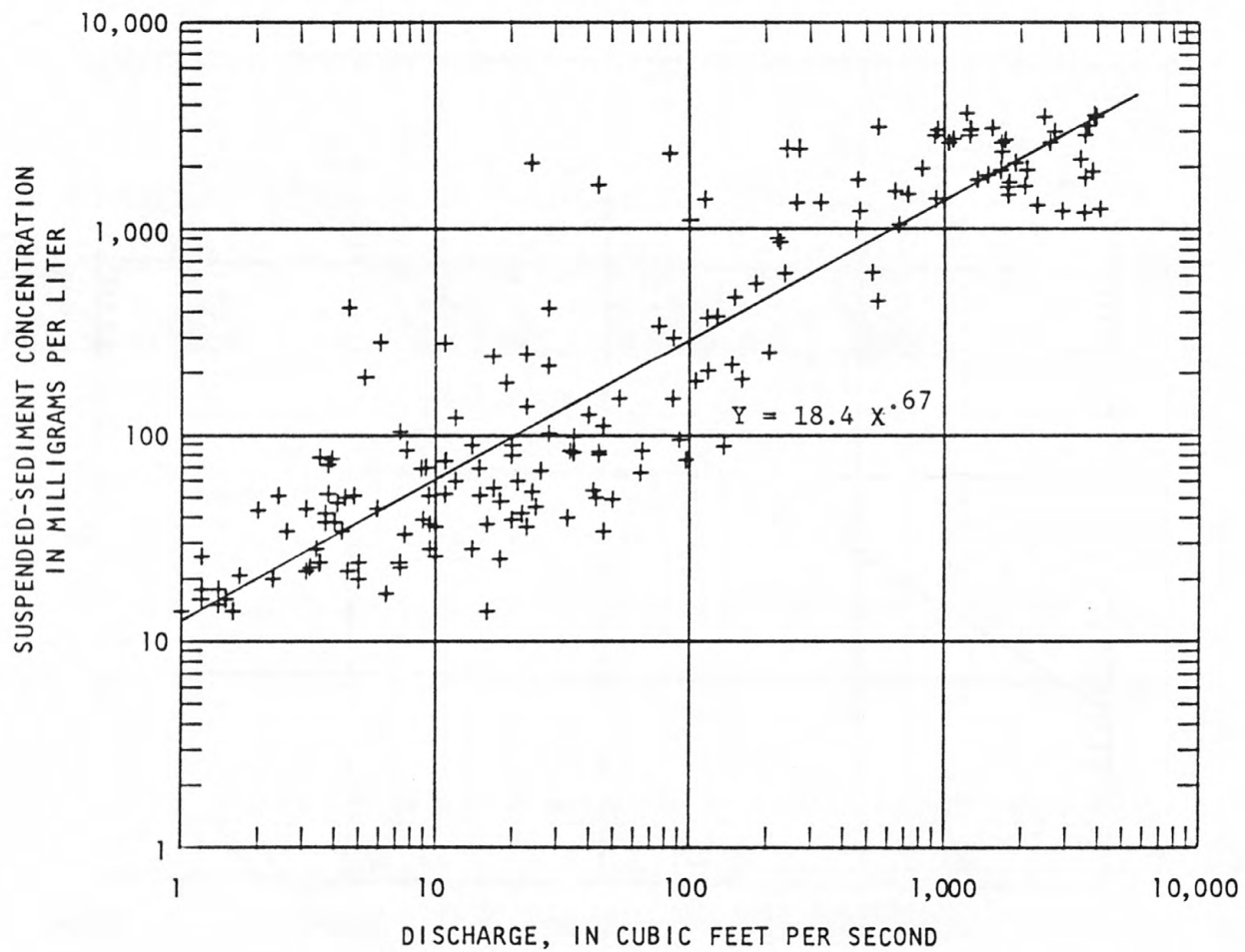


FIGURE 6.--SUSPENDED-SEDIMENT CONCENTRATIONS AND INSTANTANEOUS DISCHARGE AT SITE 3 ON TILLATOBA CREEK, 1978-80 WATER YEARS

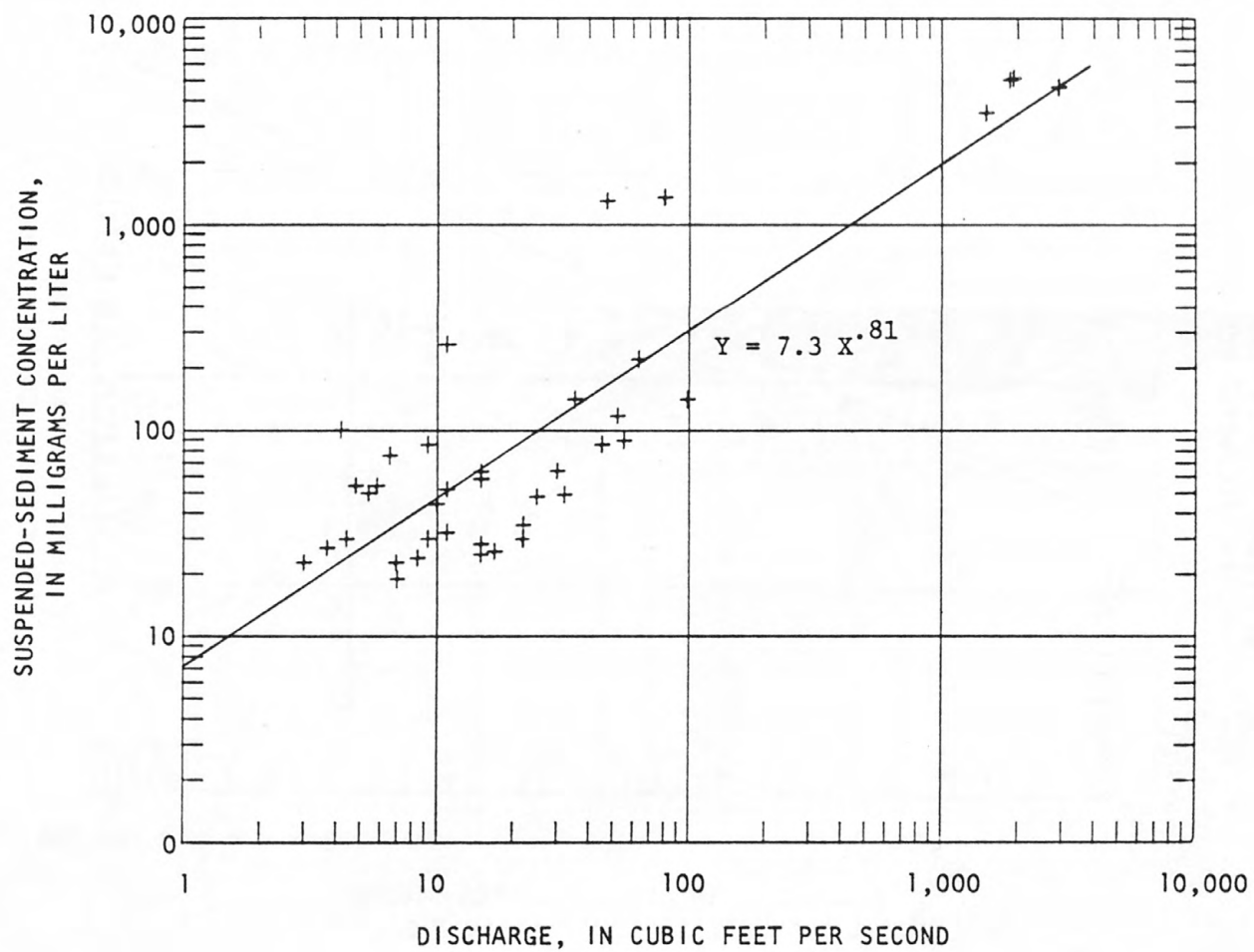


FIGURE 7.--SUSPENDED-SEDIMENT CONCENTRATIONS AND INSTANTANEOUS DISCHARGE AT SITE 11 ON SOUTH FORK TILLATOBA CREEK, 1978 WATER YEAR.

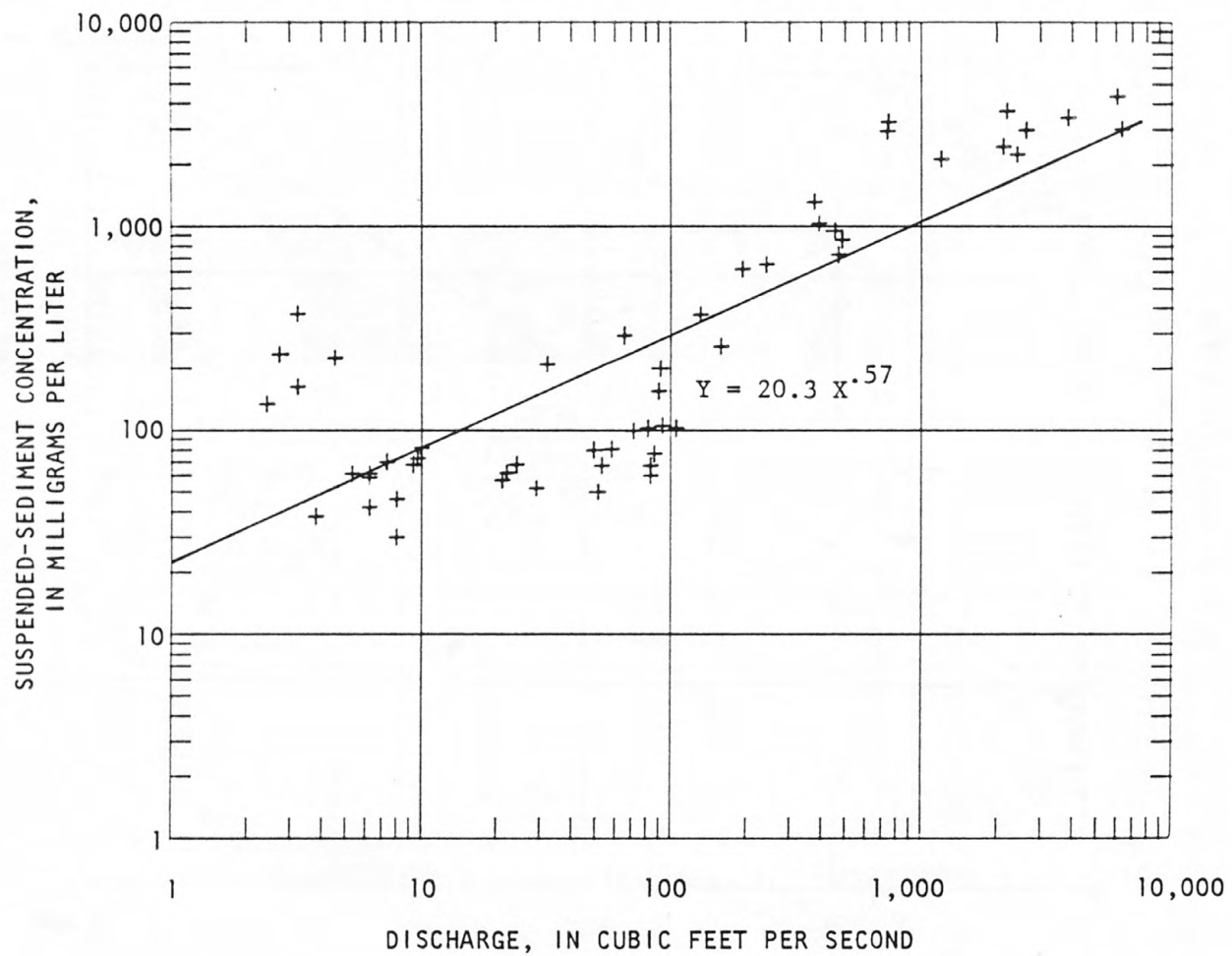


FIGURE 8.--SUSPENDED-SEDIMENT CONCENTRATIONS AND INSTANTANEOUS DISCHARGE AT SITE 11 ON SOUTH FORK TILLATOBA CREEK, 1979 WATER YEAR.

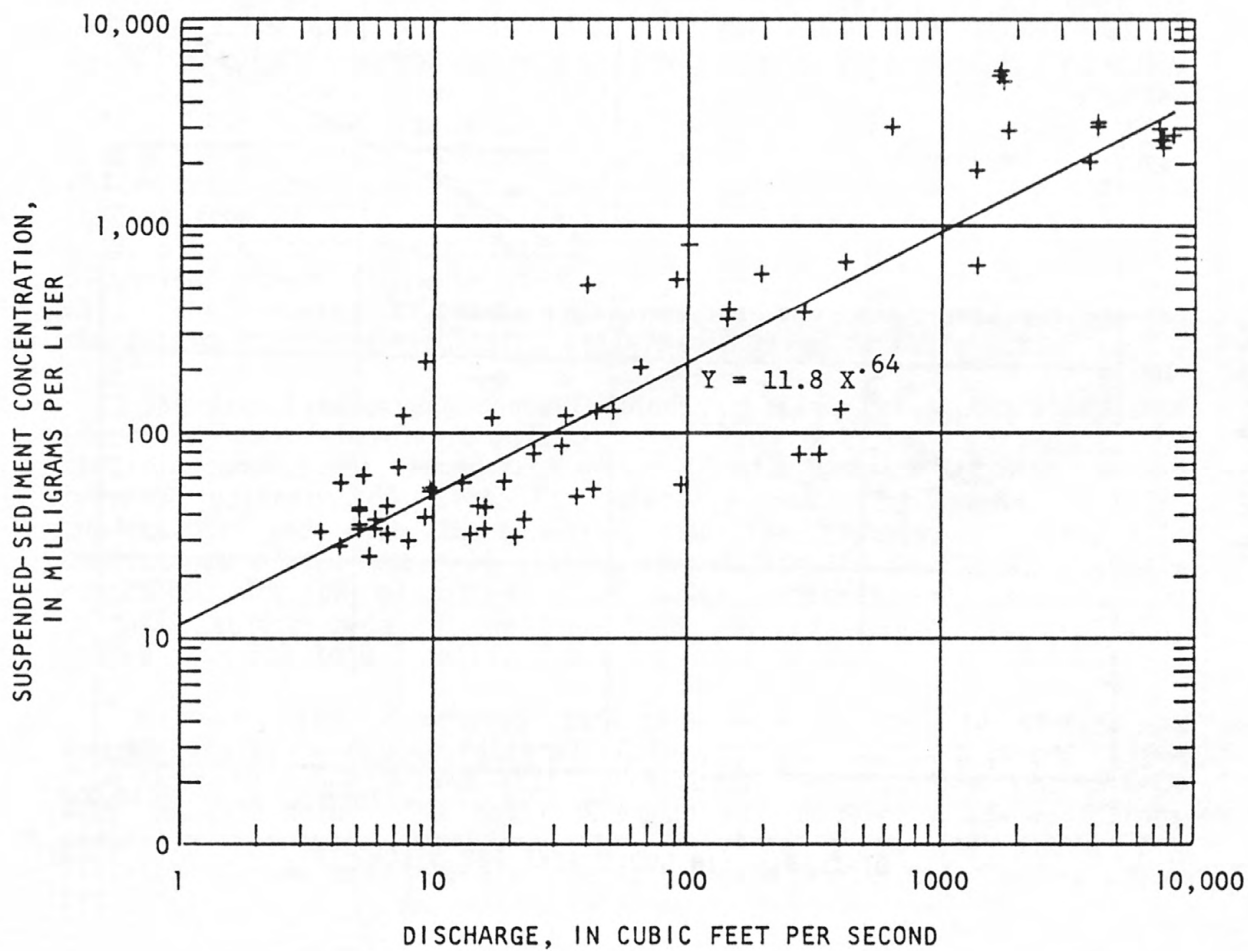


FIGURE 9.--SUSPENDED-SEDIMENT CONCENTRATIONS AND INSTANTANEOUS DISCHARGE AT SITE 11 ON SOUTH FORK TILLATOBA CREEK, 1980 WATER YEAR.

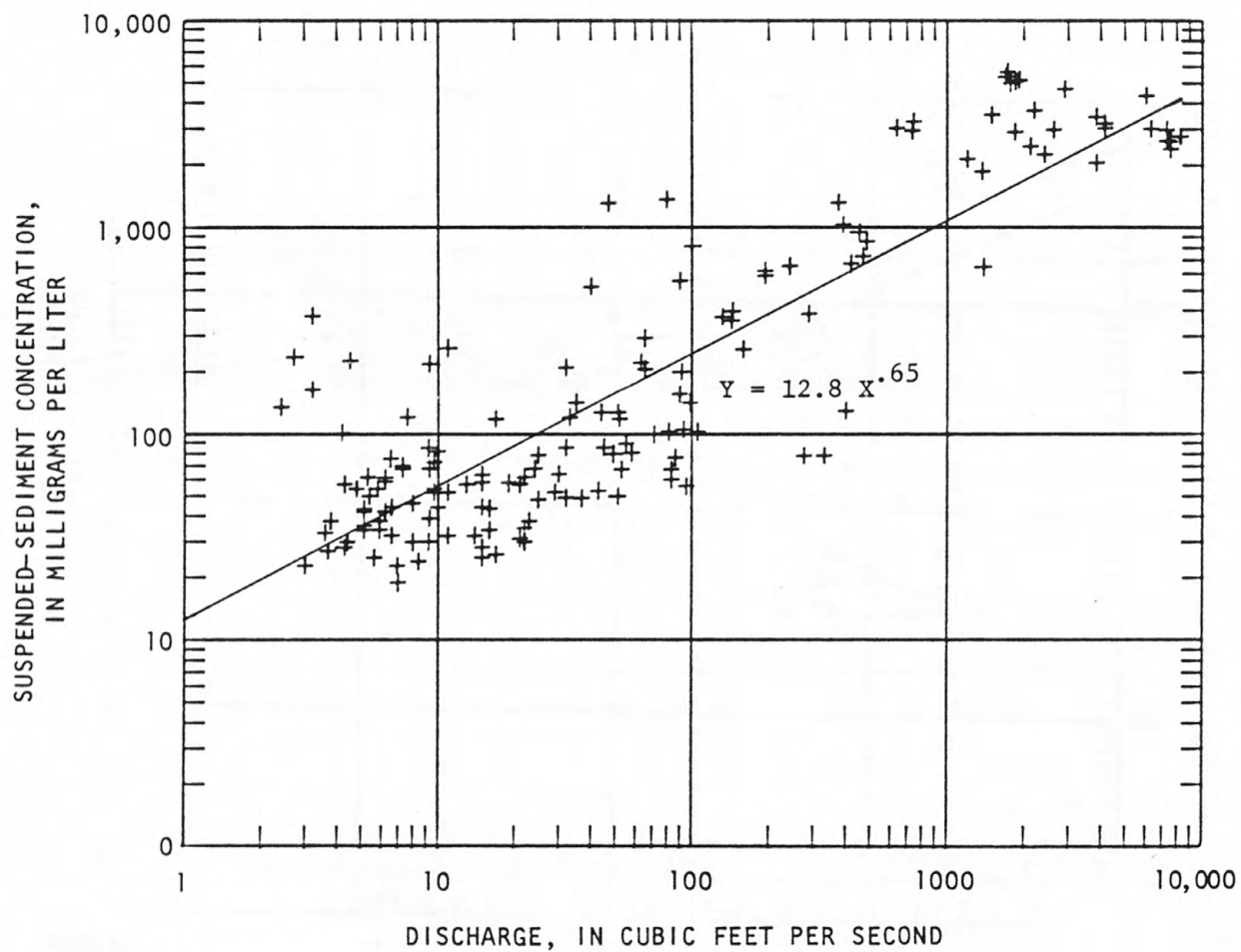


FIGURE 10.--SUSPENDED-SEDIMENT CONCENTRATIONS AND INSTANTANEOUS DISCHARGE AT SITE 11 ON SALT FORK TILLATOBA CREEK, 1978-80 WATER YEARS.

A few samples collected during the study were lost in shipment or destroyed during laboratory analysis. Some samples were not analyzed because of an inordinate amount of algae growth in the sample. The algae problem was evident only in a few of the samples collected in warmer months during a low flow period.

Chemical, Physical, Bacterial Quality

Short-term water-quality studies were conducted under low-flow conditions when the dissolved constituents commonly are more concentrated in stream waters and the streams reaeration capacity is the lowest. Samples for 5-day biochemical oxygen demand (BOD_5) analyses were collected at sites 3 and 4 on Tillatoba Creek and sites 10 and 11 on South Fork Tillatoba Creek in 1979 during short-term studies only. The BOD_5 at these sites ranged from 0.2 to 2.5 mg/L (milligrams per liter).⁵ During the August 13-16, 1979 study the dissolved-oxygen ranged from 5.6 to 11.0 mg/L at sites 3 and 4 and from 6.5 to 8.7 mg/L at sites 10 and 11. The water temperatures were about the same at the sites, ranging from 22.0 to 31.5°C (Celsius) in Tillatoba Creek and from 23.0 to 31.5°C in South Fork Tillatoba Creek. During August 14-16, 1979, the dissolved oxygen and water temperature exhibited a diel change (fig. 11). The results of field measurements and BOD_5 analyses during short-term studies during 1975, 1977-79 are given in table 8.

The dissolved-oxygen concentrations at all sites in the study area generally were above 6.0 mg/L ranging from 4.2 to 11.0 mg/L. The specific conductance ranged from 64 to 135 micromhos/cm at 25°C. Stream reaches upstream of site 12 generally had the lowest specific conductance and site 13 generally had the highest. The specific conductance of the water at site 13 ranged from 105 to 135 micromhos/cm at 25°C. The pH measurements of water indicate that streams are slightly acidic much of the time. The pH measurements at all sites ranged from 5.7 to 8.7 units.

Nitrogen and phosphorus generally were present in streams in comparatively low concentrations. Total nitrogen concentrations ranged from 0.18 to 1.6 mg/L and total phosphorus concentrations ranged from 0.03 to 0.32 mg/L. The total nitrogen and phosphorus concentrations generally increased downstream in Tillatoba Creek and South Fork Tillatoba Creek and decreased downstream in Davis and Simmons Creek (fig. 12).

The fecal coliform bacteria colony count was 100 col/100 mL (colonies per 100 milliliters) or greater at all sites. The greatest fecal coliform densities (6,000 to 16,800 col/100 mL) were observed at site 5 on Davis Creek, at site 8 on Simmons Creek, and along the downstream reach of Tillatoba Creek at sites 3 and 13 (fig. 13). A count of greater than 30,000 col/100 mL observed at site 5 on June 3, 1975, is not shown in figure 13. A "greater than" value is an estimate of a coliform colony count too numerous to count (Greeson, 1977, p. 32).

The results of laboratory analyses and field measurements at all sites from April 1975 to September 1979 are given in table 9. The two columns for fecal coliform densities given in the table denotes a change in the method of sample filtration after 1975.

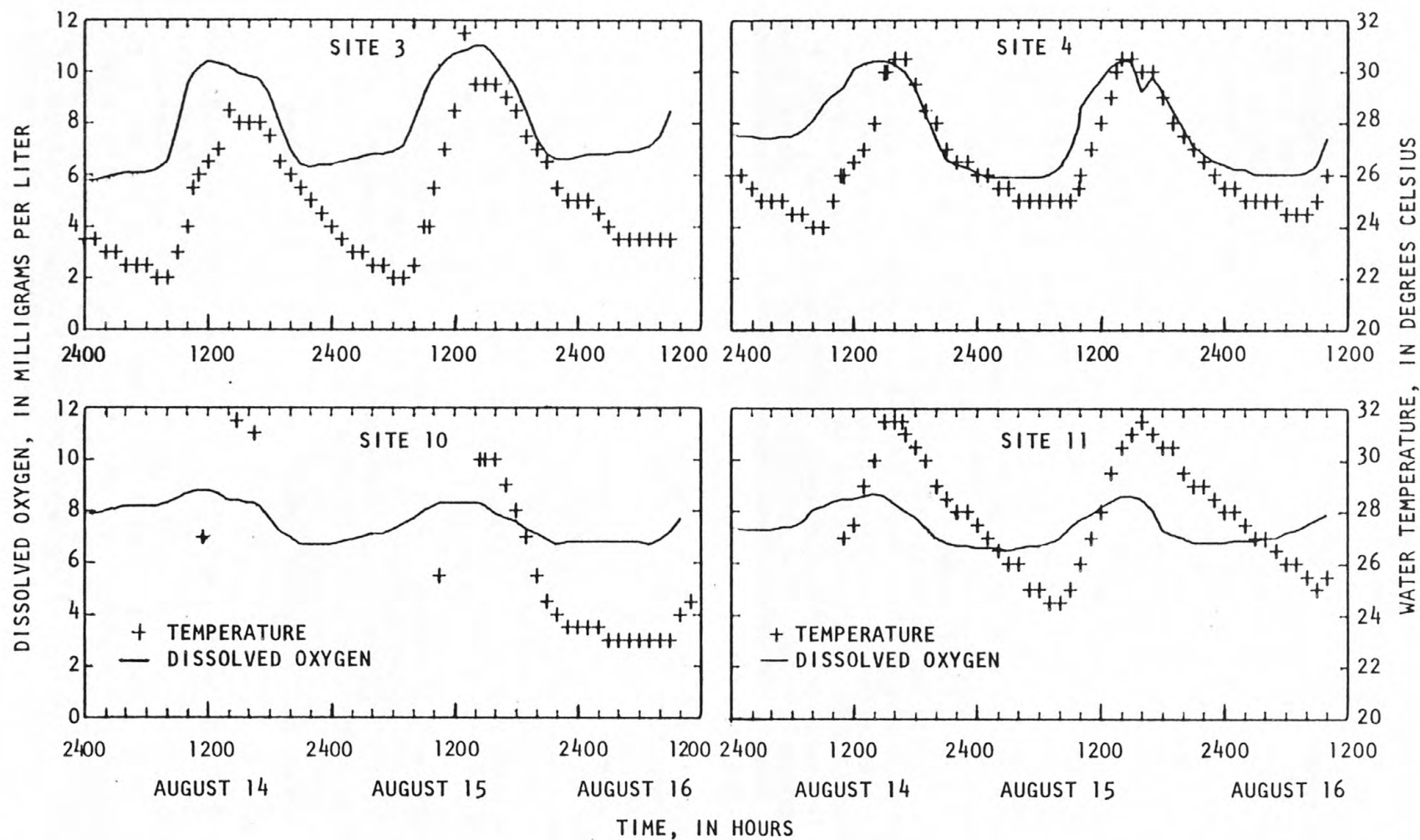


FIGURE 11.--DISSOLVED OXYGEN CONCENTRATIONS AND WATER TEMPERATURES IN TILLATOBA CREEK AT SITES 3 AND 4 AND SOUTH FORK TILLATOBA CREEK AT SITES 10 AND 11, AUGUST 14-16, 1979.

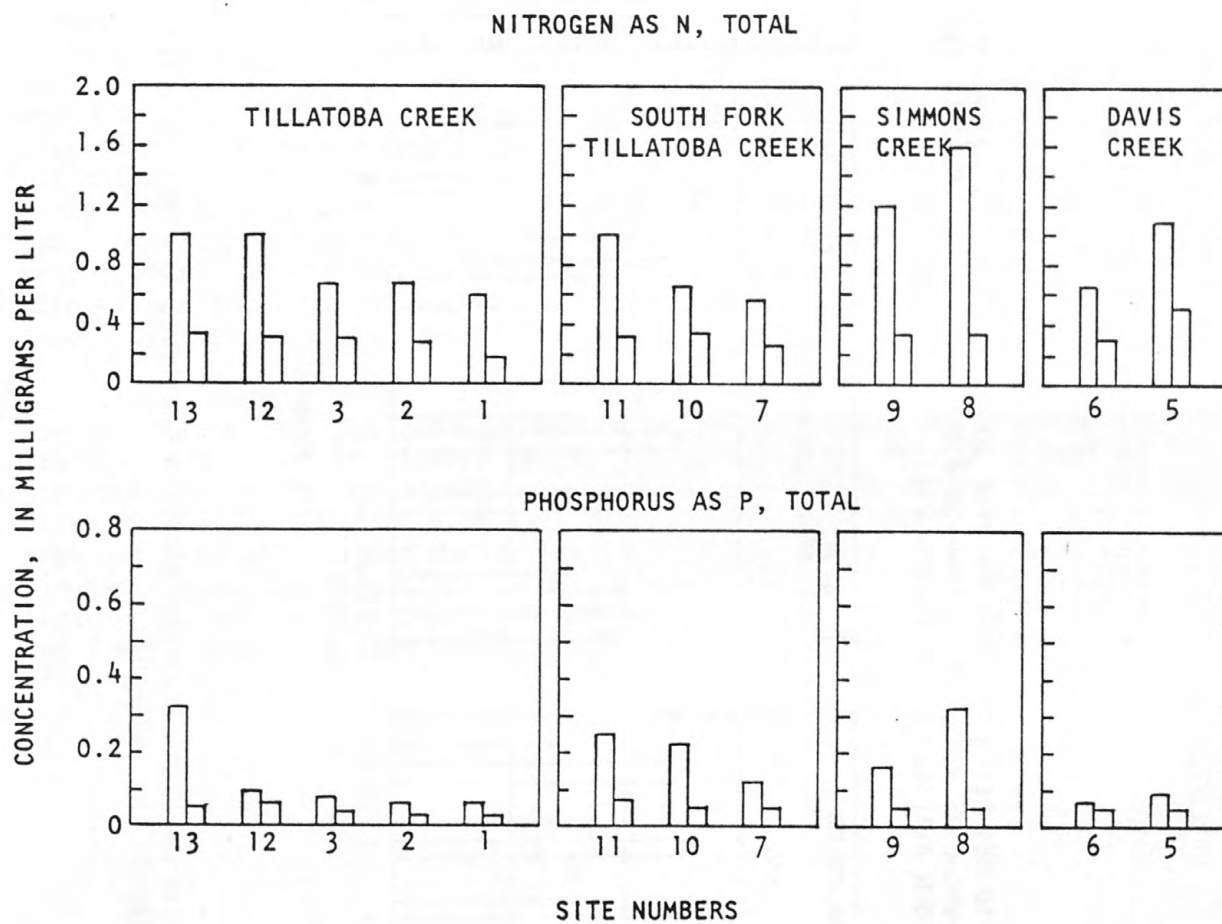


FIGURE 12.--MAXIMUM AND MINIMUM TOTAL NITROGEN AND PHOSPHORUS CONCENTRATIONS AT SAMPLING SITES ON STREAMS IN TILLATOBA CREEK BASIN, 1975-78.

NOTE: THE FIGURES BELOW INCLUDE NONIDEAL COLONY COUNTS, BUT NOT A GREATER-THAN-VALUE AS EITHER A MAXIMUM OR MINIMUM VALUE. RESULTS OF FECAL COLIFORM ANALYSES GIVEN IN TABLE 9.

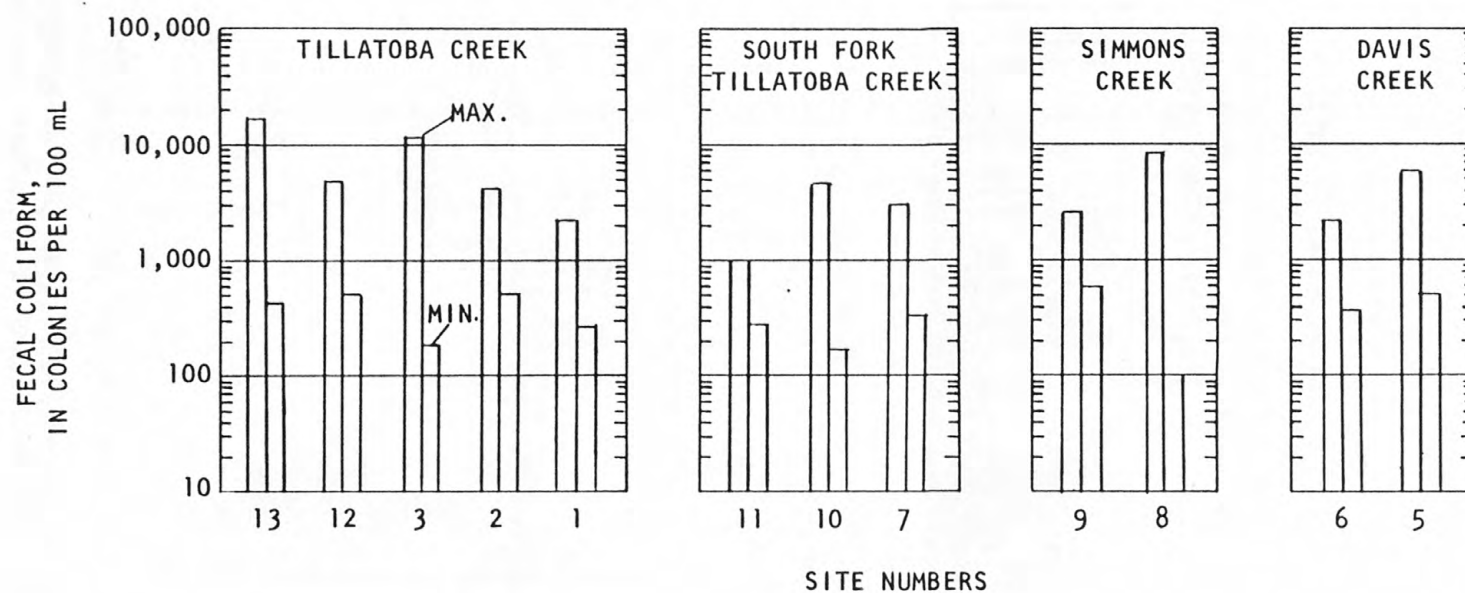


FIGURE 13.--MAXIMUM AND MINIMUM FECAL COLIFORM BACTERIA DENSITIES AT SAMPLING SITES IN TILLATOBA CREEK BASIN, 1975-1978.

Time of Travel

Time-of-travel studies were conducted during generally low-flow periods in April 1975, August 1976, and August 1979. Rhodamine WT dye was used to approximate solute travel in selected stream reaches. The dye was injected into stream segments in lengths ranging from 1.8 to 5.8 miles. The dye travel time was measured in the comparatively short stream reaches because of the generally low stream velocities at lower stages.

The elapsed travel time of the leading edge, peak concentration, and trailing edge of dye between measurement sites, together with the average streamflow in the stream reach are given in table 10. The estimated elapsed travel times given in the table were computed using stream velocities when the dye travel time was extremely slow or when dye concentrations were below levels for an acceptable analytical measurement. An estimated average discharge is given for a stream reach when either the upstream or downstream discharge measurement section had a poor channel control.

The elapsed travel time of the leading edge and peak dye concentrations and the average discharge in the stream reach given in table 10 are shown in figures 14-23. In general, the rate of travel of the dye clouds in the stream reaches was more rapid during the 1975 study than either the 1976 or 1979 studies. The discharge in the study area was generally higher during the 1975 study. The rate of travel was slowest during the 1976 study except between sites 6 and 7. The elapsed travel time of the dye cloud and the average discharge between sites 6 and 7 were about the same during the August 1976 and August 1979 studies (fig. 18).

NOTE: THE PAIRED TICK MARKS REPRESENT THE TRAVEL TIME OF PEAK DYE CONCENTRATIONS (TCP) AND LEADING DYE EDGE (BOTTOM), SEE TABLE 10.

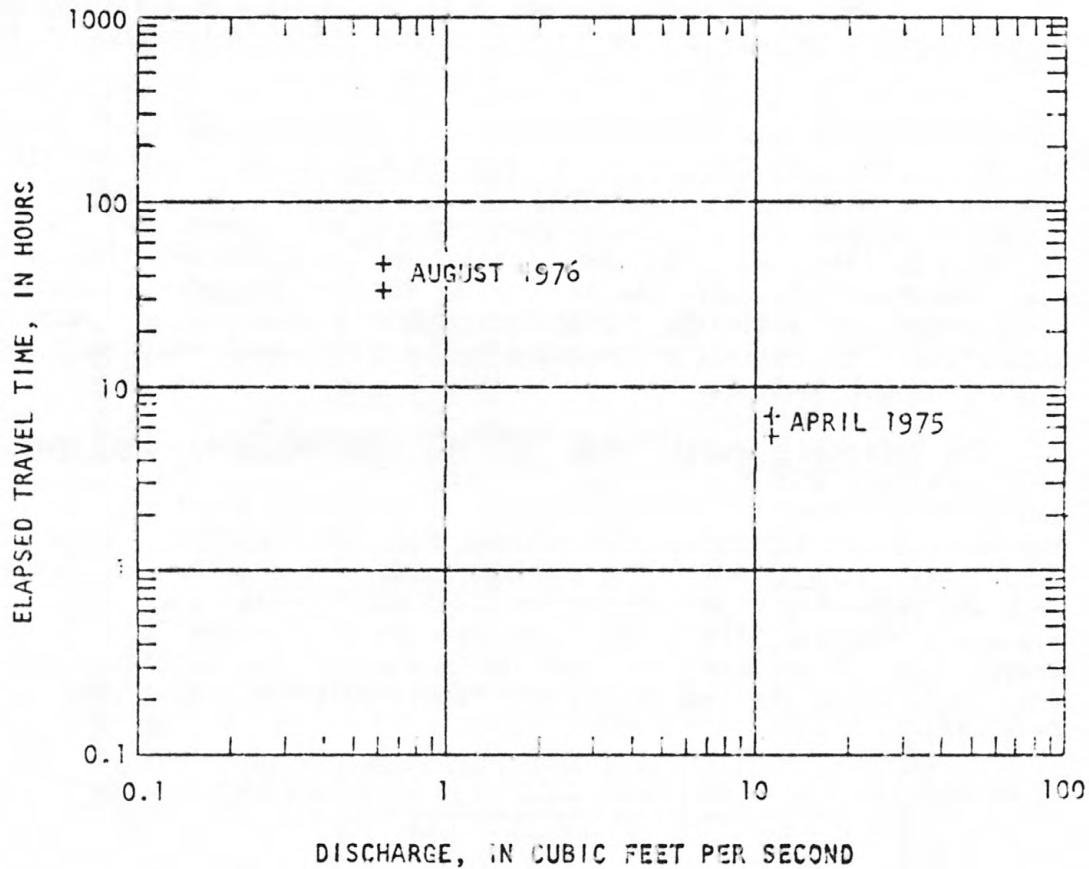


FIGURE 14.--TIME OF TRAVEL AND AVERAGE DISCHARGE IN THE 3.5-MILE STREAM REACH OF TILLATOBA CREEK FROM SITE 1 TO SITE 2.

NOTE: THE PAIRED TICK MARKS PRESENT THE TRAVEL TIME OF PEAK DYE CONCENTRATIONS (TOP) AND LEADING DYE EDGE (BOTTOM). SEE TABLE 10.

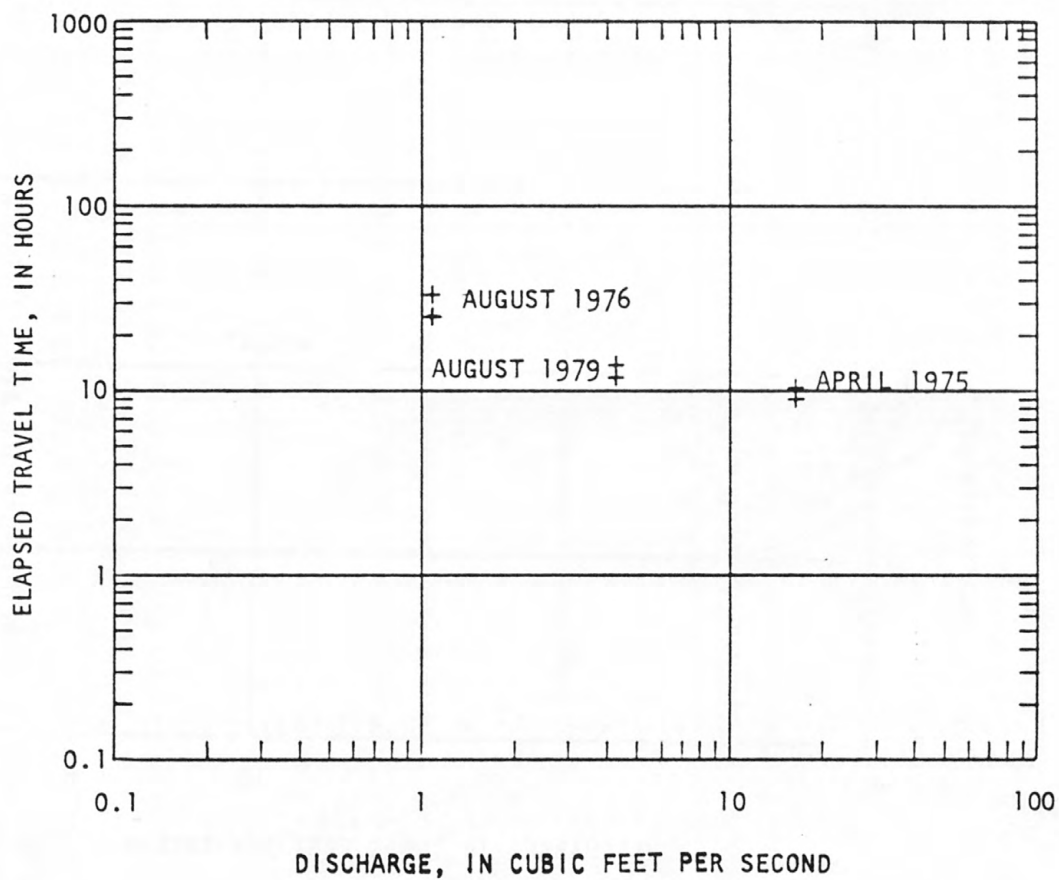


FIGURE 15.--TIME OF TRAVEL AND AVERAGE DISCHARGE IN THE 3.5-MILE STREAM REACH OF TILLATOBA CREEK FROM SITE 2 TO SITE 3.

NOTE: THE PAIRED TICK MARKS REPRESENT THE TRAVEL TIME OF PEAK DYE CONCENTRATIONS (TOP) AND LEADING DYE EDGE (BOTTOM), SEE TABLE 10.

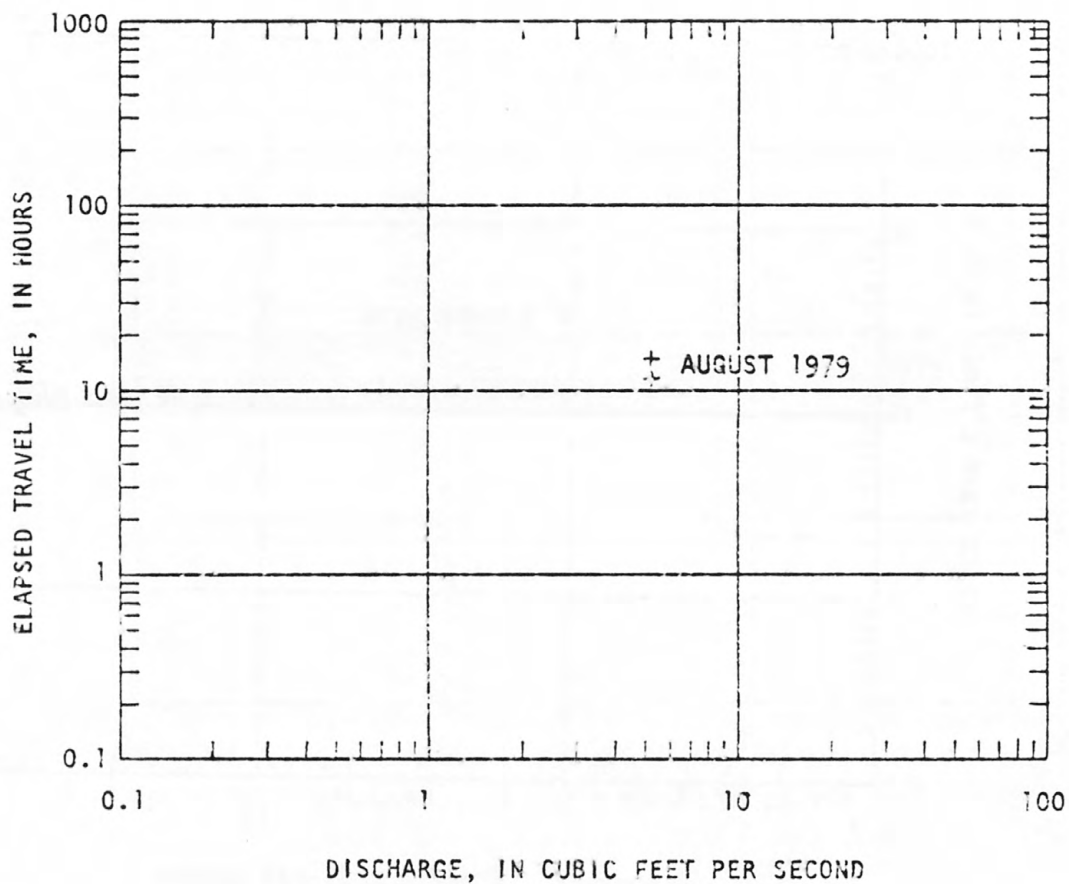


FIGURE 16.--TIME OF TRAVEL AND AVERAGE DISCHARGE IN THE 2.3-MILE STREAM REACH OF TILLATCBA CREEK FROM SITE 3 TO SITE 4.

NOTE: THE PAIRED TICK MARKS REPRESENT THE TRAVEL TIME OF PEAK DYE CONCENTRATIONS (TOP) AND LEADING DYE EDGE (BOTTOM), SEE TABLE 10.

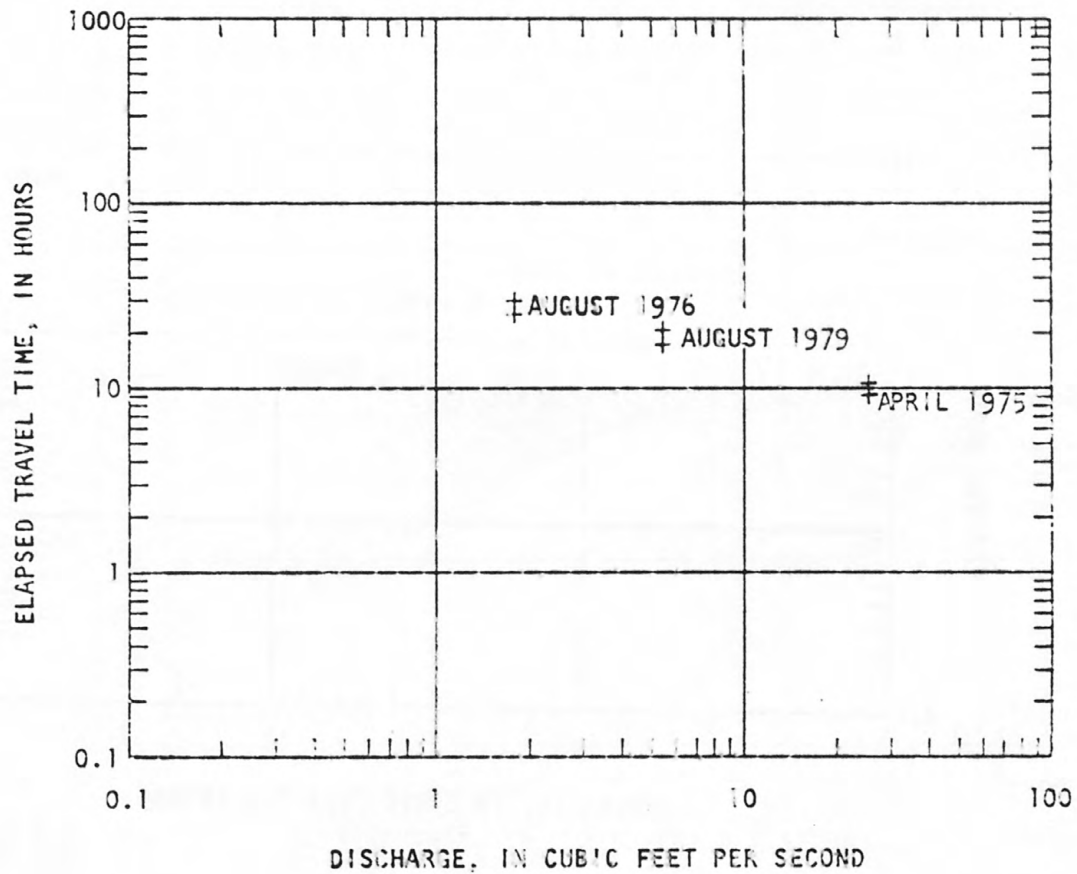


FIGURE 17.--TIME OF TRAVEL AND AVERAGE DISCHARGE IN THE 3.8-MILE STREAM REACH OF TILLATOBA CREEK FROM SITE 3 TO JUNCTION WITH SOUTH FORK TILLATOBA CREEK UPSTREAM OF SITE 12.

NOTE: THE PAIRED TICK MARKS REPRESENT THE TRAVEL TIME OF PEAK DYE CONCENTRATIONS (TOP) AND LEADING DYE EDGE (BOTTOM), SEE TABLE 10.

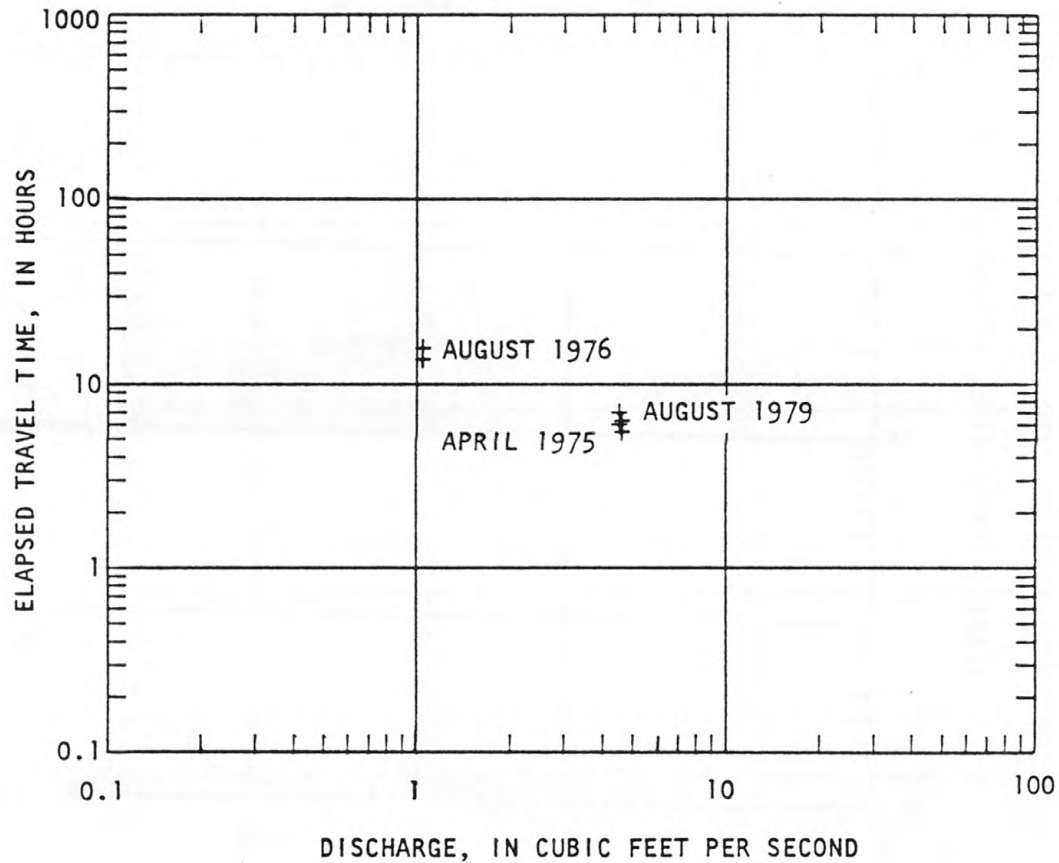


FIGURE 18.--TIME OF TRAVEL AND AVERAGE DISCHARGE IN THE 1.8-MILE STREAM REACH OF DAVIS CREEK AND SOUTH FORK TILLATOBA CREEK FROM SITE 6 TO SITE 7.

NOTE: THE PAIRED TICK MARKS REPRESENT THE TRAVEL TIME OF PEAK DYE CONCENTRATIONS (TOP) AND LEADING DYE EDGE (BOTTOM), SEE TABLE 10.

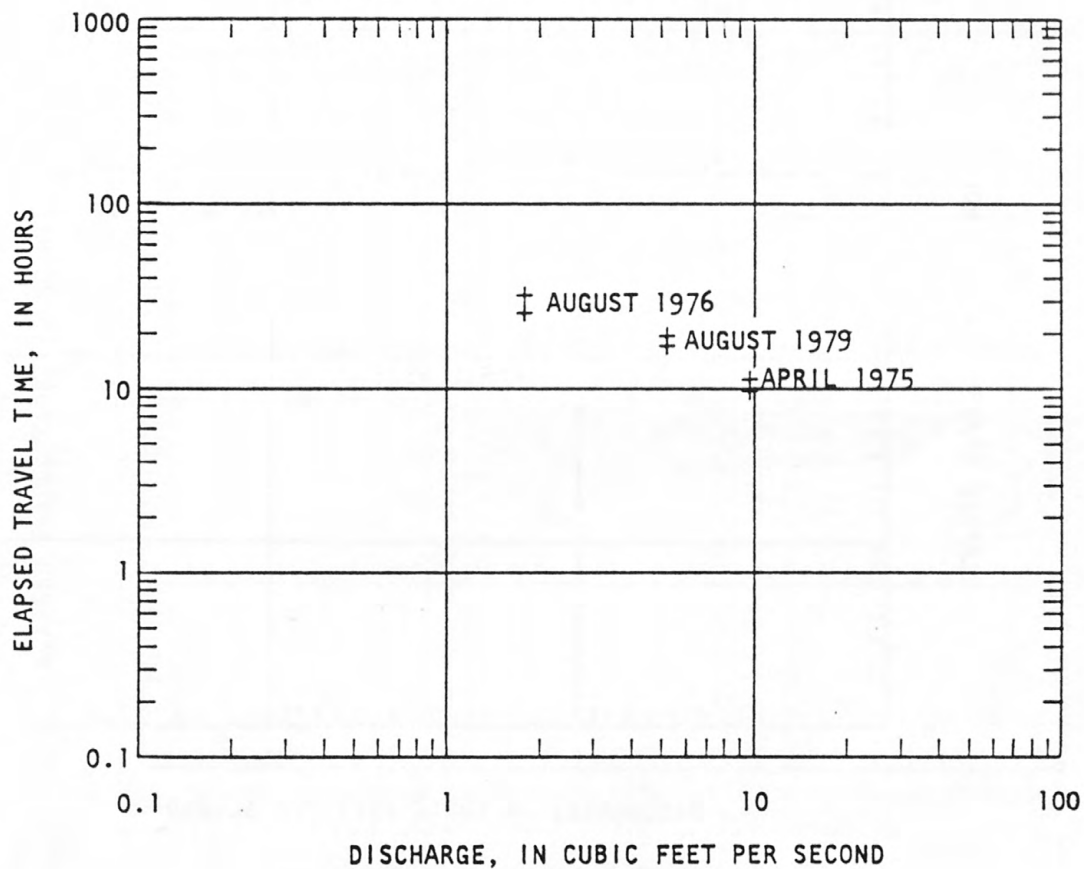


FIGURE 19.--TIME OF TRAVEL AND AVERAGE DISCHARGE IN THE 2.7-MILE STREAM REACH OF SOUTH FORK TILLATOBA CREEK FROM SITE 7 TO SITE 10.

NOTE: THE PAIRED TICK MARKS PRESENT THE TRAVEL TIME OF
PEAK DYE CONCENTRATIONS (TOP) AND LEADING DYE
EDGE (BOTTOM), SEE TABLE 10.

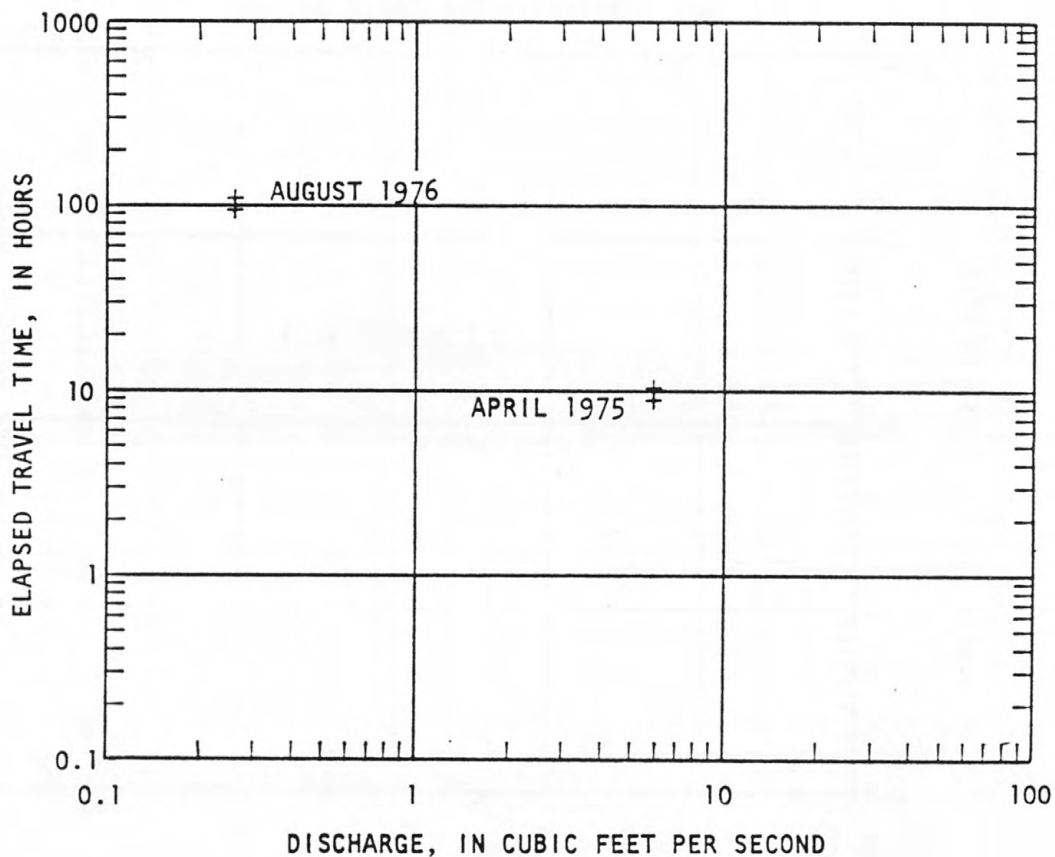


FIGURE 20.--TIME OF TRAVEL AND AVERAGE DISCHARGE IN THE 2.3-MILE STREAM
REACH OF SIMMONS CREEK FROM SITE 8 TO SITE 9.

NOTE: THE PAIRED TICK MARKS REPRESENT THE TRAVEL TIME OF PEAK DYE CONCENTRATIONS (TOP) AND LEADING DYE EDGE (BOTTOM), SEE TABLE 10.

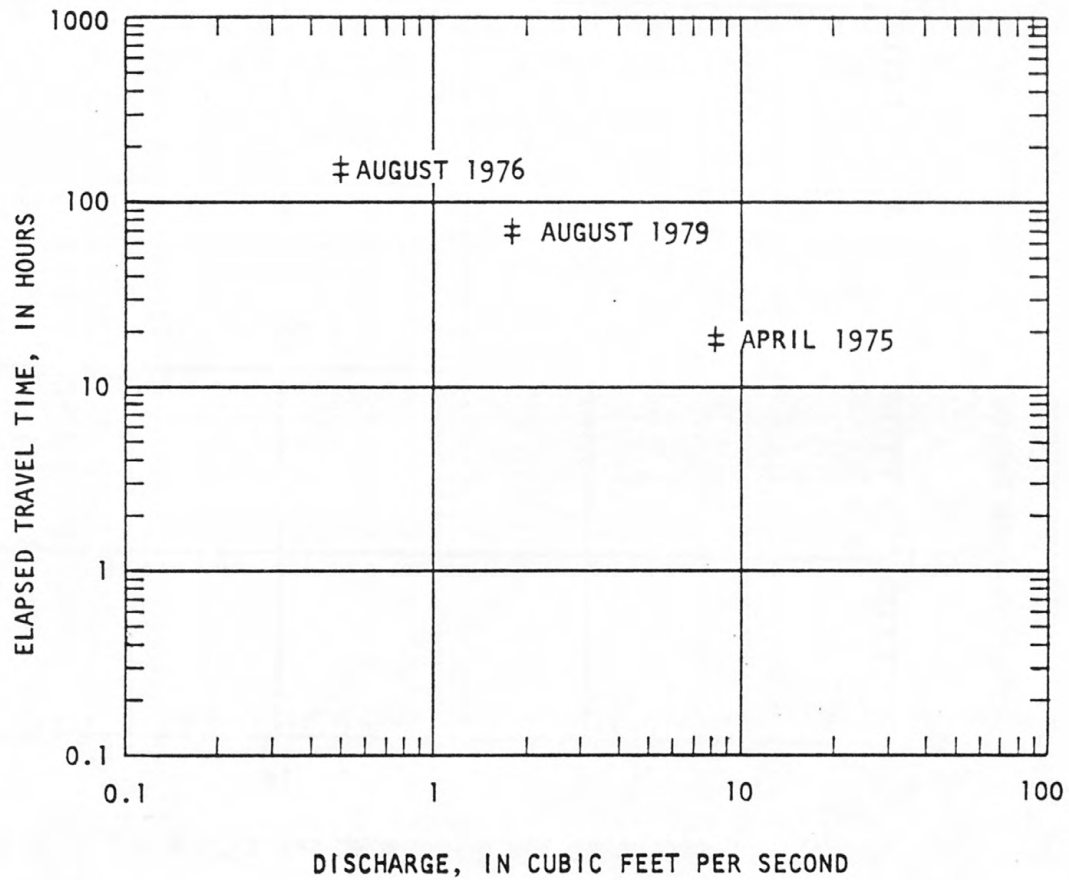


FIGURE 21.--TIME OF TRAVEL AND AVERAGE DISCHARGE IN THE 4.2-MILE STREAM REACH OF SIMMONS CREEK FROM SITE 9 TO MOUTH.

NOTE: THE PAIRED TICK MARKS REPRESENT THE TRAVEL TIME OF PEAK DYE CONCENTRATIONS (TOP) AND LEADING DYE EDGE (BOTTOM), SEE TABLE 10.

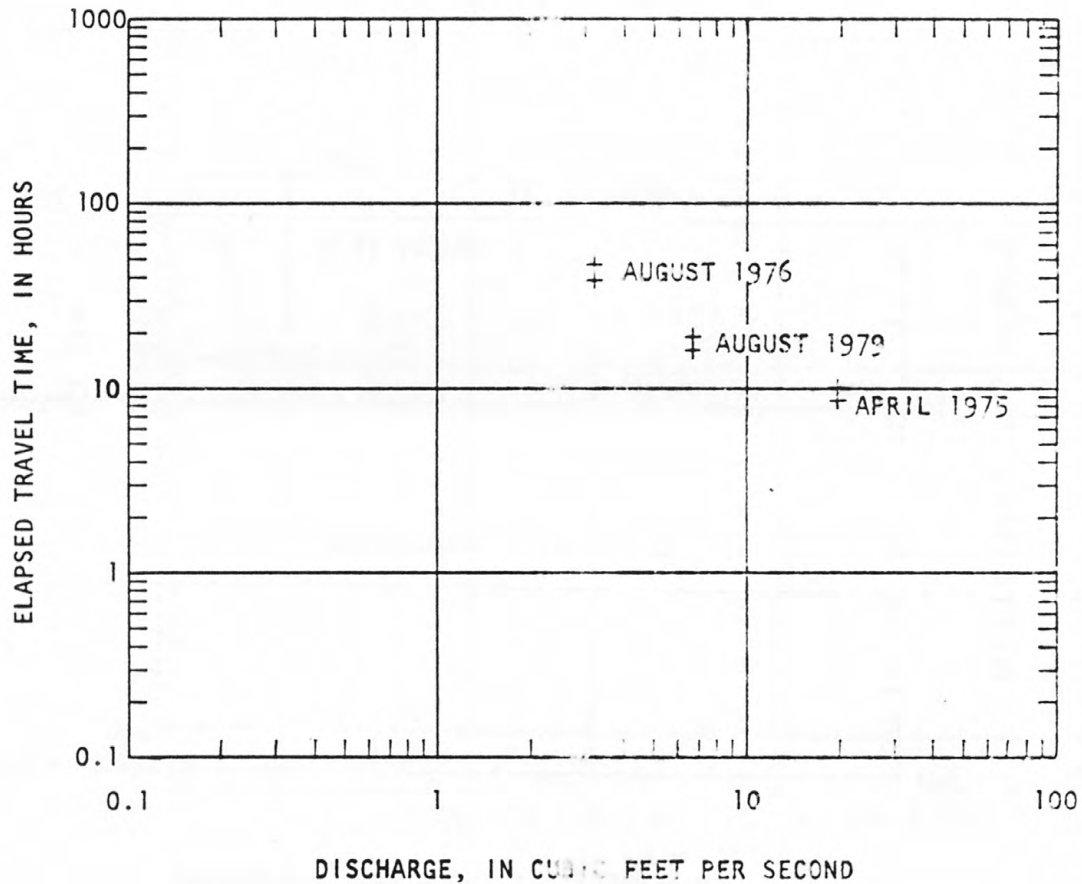


FIGURE 22.--TIME OF TRAVEL AND AVERAGE DISCHARGE IN THE 4.4-MILE STREAM REACH OF SOUTH FORK TILLATOBA CREEK FROM SITE 10 TO JUNCTION WITH TILLATOBA CREEK UPSTREAM OF SITE 12.

NOTE: THE PAIRED TICK MARKS REPRESENT THE TRAVEL TIME OF PEAK DYE CONCENTRATIONS (TOP) AND LEADING DYE EDGE (BOTTOM), SEE TABLE 10.

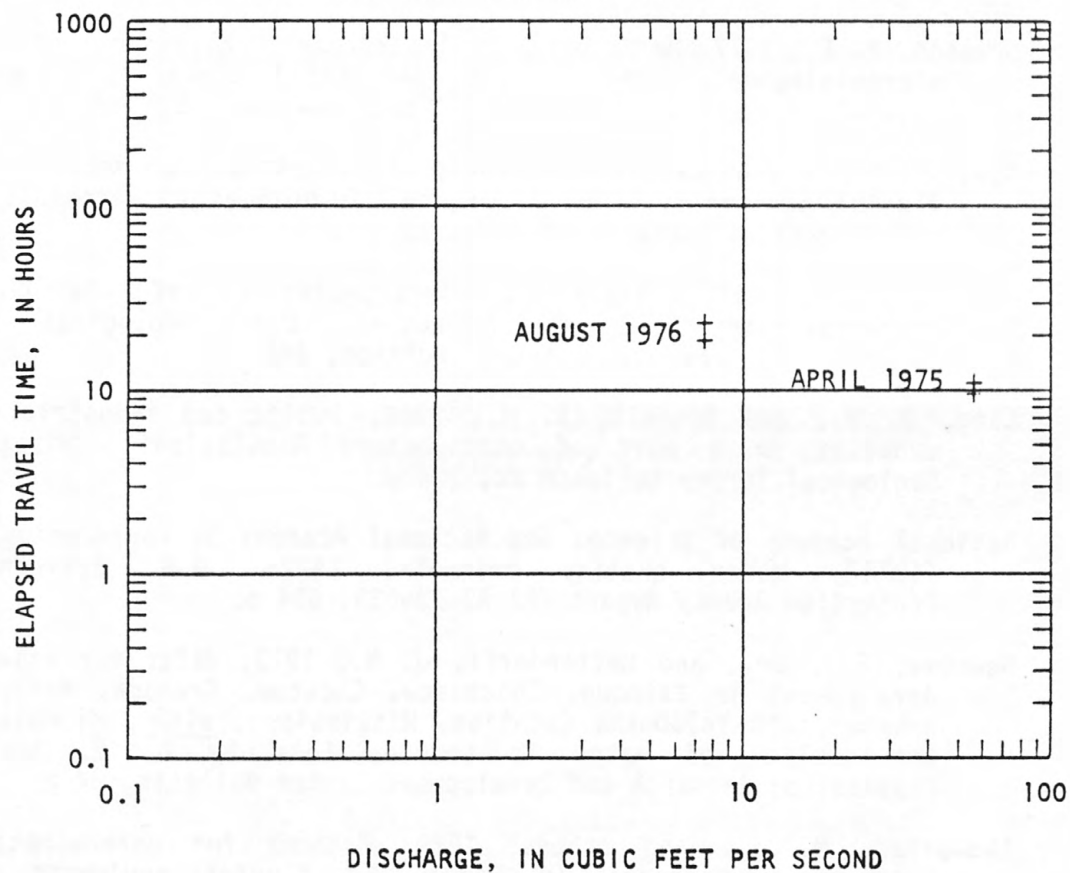


FIGURE 23.--TIME OF TRAVEL AND AVERAGE DISCHARGE IN THE 5.8-MILE STREAM REACH OF TILLATOBA CREEK FROM SITE 12 TO SITE 13.

SELECTED REFERENCES

- Brown, G. F., 1947, Geology and artesian water of the Alluvial Plain in Northwestern Mississippi: Mississippi State Geological Survey Bulletin 65, 424 p.
- Dalsin, G. J., 1978, Water for industrial and agricultural development, Bolivar, Carroll, Leflore, Sunflower, and Tallahatchie Counties, Mississippi: Mississippi Research and Development Center Bulletin, 67 p.
- Greeson, P. E., 1977, Methods for collection and analysis of aquatic and microbiological samples: U.S. Geological Survey Techniques of Water-Resources Investigations, Chapter A4, Book 5, 332 p.
- Guy, H. P., and Norman, V. W., 1970, Field methods for measurement of fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations, Chapter C2, Book 3, 59 p.
- Hem, J. D., 1970, Study and interpretations of the chemical characteristics of natural water: U.S. Geological Survey Water-Supply Paper 1473, second edition, 363 p.
- Lang, J. W., and Boswell, E. H., 1960, Public and industrial water supplies in a part of northwestern Mississippi: Mississippi Geological Survey Bulletin 60, 104 p.
- National Academy of Sciences and National Academy of Engineering, 1973 [1974], Water quality criteria, 1972: U.S. Environmental Protection Agency Report EPA R3-73-033, 594 p.
- Newcome, Roy, Jr., and Bettendorff, J. M., 1973, Water for industrial development in Calhoun, Chickasaw, Choctaw, Grenada, Montgomery, Webster, and Yalobusha Counties, Mississippi, with a discussion on the quality of water in Grenada Lake by D. E. Shattles: Mississippi Research and Development Center Bulletin, 64 p.
- Skougstad, M. J., and others, 1979, Methods for determination of inorganic substances in water and fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations, Chapter A1, Book 5, 626 p.
- Wilson, J. F., Jr., 1968, Fluorometric procedures for dye tracing: U.S. Geological Survey Techniques of Water-Resources Investigations, Chapter A12, Book 3, 31 p.

HYDROLOGIC DATA

Table 1.--Total rainfall at Charleston, Miss., and total runoff at gaging station on Tillatoba Creek (Site 3) and South Fork Tillatoba Creek (Site 11), October 1974 - September 1980

Water Year	Total rainfall (inches)	Site 3		Site 11	
		Total Runoff		Total Runoff	
		(inches)	(acre-feet)	(inches)	(acre-feet)
1975	71.38	30.55	60,440	--	--
1976	49.08	14.35	28,380	15.93	45,780
1977	37.92	13.27	26,250	12.87	37,000
1978	58.22	18.07	35,740	17.84	51,270
1979	68.84	35.33	69,890	29.78	85,580
1980	72.29 ⁽¹⁾	37.11	73,400	33.06	95,030

(1) December 1980 rainfall was not reported by the NOAA Weather Station at Charleston. The December rainfall (4.31 inches) reported by the Batesville Station was included in the total.

Table 2.--Description of hydrologic measurement sites in Tillatoba Creek basin

Site no.	Station name	Station location	Latitude	Longitude
1	Tillatoba Cr. SE of Tillatoba, Miss.	Bridge on county rd in NE $\frac{1}{4}$ sec.22, T. 25 N, R. 4 E, 3.4 mi NE of Tillatoba	34°01'35"	89°51'54"
2	Tillatoba Cr. near Tillatoba, Miss.	Bridge on county rd in SW $\frac{1}{4}$ sec.19, T. 25 N, R.4 E, 3.0 mi NW of Tillatoba	34°01'04"	89°55'00"
3	Tillatoba Cr. below Oakland, Miss.	Bridge on county rd in NE $\frac{1}{4}$ sec.35, T. 25 N, R.3 E, 4.6 mi SW of Oakland at USGS gaging station	33°59'40"	89°57'12"
4	Tillatoba Cr. E of Charleston, Miss.	Bridge on county rd in NE $\frac{1}{4}$ sec.33, T. 25 N, R.8 E, 4.6 mi E of Charleston	33°59'49"	89°58'44"
5	Davis Cr. near Scobey, Miss.	Bridge on U.S. Hwy.51 in SE $\frac{1}{4}$ sec.21, T.24 N, R.4 E, 1.5 mi SW of Scobey	33°56'00"	89°52'48"
6	Davis Cr. near Tillatoba, Miss.	Bridge on county rd in NW $\frac{1}{4}$ sec.30, T. 25 N, R.3 E, 4.5 mi S of Tillatoba.	33°55'26"	89°55'12"
7	South Fork Tillatoba Cr. SW of Tillatoba, Miss.	Bridge on county rd in SE $\frac{1}{4}$ sec.23, T. 24 N, R.3 E, 4.5 mi SW of Tillatoba	33°55'55"	89°56'40"
8	Simmons Cr. near Tillatoba, Miss.	Bridge on county rd in SE $\frac{1}{4}$ sec.3, T. 24 N, R.4 E, 2.0 mi SE of Tillatoba	33°58'30"	89°51'54"
9	Simmons Cr. at Tillatoba, Miss.	Bridge on U.S. Hwy. 51 in NW $\frac{1}{4}$ sec.8 T.24 N, R.4 E, 1.0 mi S of Tillatoba	33°58'05"	89°54'09"
10	South Fork Tillatoba Cr. near Tillatoba, Miss.	Bridge on county rd in SW $\frac{1}{4}$ sec.11, T. 24 N, R.4 E, 4.0 mi SW of Tillatoba	33°57'35"	89°57'36"
11	South Fork Tillatoba Cr. near Charleston, Miss.	Bridge on county rd in NE $\frac{1}{4}$ sec.4, T. 24 N, R.3 E, 4.8 mi E-SE of Charleston at USGS gaging station	33°58'42"	89°58'45"
12	Tillatoba Cr. near Charleston, Miss.	In SW $\frac{1}{4}$ sec.33, T.25 N, R.3 E, 0.7 mi S of St. Hwy. 32, 4.0 mi E of Charleston	33°59'22"	89°59'38"
13	Tillatoba Cr. at Charleston, Miss.	Bridge on St. Hwy.32, in NW $\frac{1}{4}$ sec.35, T.25 N, R.2 E, 0.12 mi S of city limits of Charleston	33°59'59"	89°03'55"

Table 3.--Drainage areas and streamflow information for measurement sites in Tillatoba Creek basin

Site no.	Station name	Drainage area (mi ²)	7-day Q ₂ (ft ³ /s)	7-day Q ₁₀ (ft ³ /s)	Discharge measurements during studies	
					Date	(ft ³ /s)
1	Tillatoba Cr. SE. of Tillatoba, Miss.	13.4	0	0	4-21-75	8.70
					6- 3-75	4.68
					8-17-76	0.28
					5-25-77	0.78
					8-23-78	4.69
2	Tillatoba Cr. near Tillatoba, Miss.	23.2	0.3	0.2	4- 1-75	14.3
					6- 2-75	8.42
					8-17-76	0.97
					5-25-77	2.32
					8- 9-78	1.95
					9-22-78	1.23
					8-14-79	3.26
3	Tillatoba Cr. below Oakland, Miss.	37.1	0.4	0.2		(1)
4	Tillatoba Cr. E. of Charleston, Miss.	40.8	0.4 ⁽²⁾	0.2 ⁽²⁾	8-14-79	5.20
5	Davis Cr. near Scobey, Miss.	2.9	0	0	4-21-75	0.91
					6- 3-75	0.50
					5-25-77	2.32
					8- 9-78	1.05
					8-22-78	0.68
6	Davis Cr. near Tillatoba, Miss.	10.1	0.6	0.4	11- 4-74	5.10
					4-22-75	4.42
					6- 3-75	2.77
					8-16-76	0.81
					5-25-75	0.86
					8- 9-78	1.05
					8-22-78	0.66
					8-15-79	4.56
7	South Fork Tillatoba Cr. SW of Tillatoba, Miss.	17.1	0.3	0.2	4-22-75	6.43
					6- 3-75	4.76
					8-16-76	1.27
					5-25-77	1.60
					8- 9-78	1.84
					9-22-78	1.23
					8-14-79	2.43
8	Simmons Cr. near Tillatoba, Miss.	11.9	0	0	4-21-75	5.29
					6- 3-75	1.75
					8-17-76	0.09
					5-25-77	0.25
					3- 9-78	0.19
					9-22-78	0.32

Table 3.--Drainage areas and streamflow information for measurements sites in Tillatoba Creek basin - Continued--

Site no.	Station name	Drainage area (mi ²)	7-day Q ₂ (ft ³ /s)	7-day Q ₁₀ (ft ³ /s)	Discharge measurements during studies	
					Date	(ft ³ /s)
9	Simmons Cr. at Tillatoba, Miss.	17.3	0	0	4-21-75	7.99
					6- 3-75	2.90
					8-16-76	0.44
					5-25-77	0.39
					8- 9-78	0.45
					9-22-78	0.29
					8-13-79	1.63
10	South Fork Tillatoba Cr. near Tillatoba, Miss.	49.2	0.7	0.4	11- 6-74	11.6
					4-22-75	15.9
					6- 3-75	11.0
					4-22-75	51.3
					6- 3-75	30.5
					8-17-76	2.38
					5-25-75	3.68
					8- 9-78	3.88
					9-22-78	2.54
					8-13-79	5.62
					9-19-79	6.60
11	South Fork Tillatoba Cr. near Charleston, Miss.	53.9	0.7	0.4		(3)
12	Tillatoba Cr. near Charleston, Miss.	97.2	1.2	0.7	4-22-75	51.3
					6- 3-75	30.5
					8-16-76	6.43
					5-25-75	8.81
					8- 9-78	7.90
					9-22-78	5.42
13	Tillatoba Cr. at Charleston, Miss.	118.2	2.8	1.6	8-14-79	13.4
					4- 2-75	61.8
					6- 3-75	41.0
					8-18-76	8.53
					5-25-77	11.2
					8- 9-78	15.4
					9-22-78	8.49

(1) Continuous record discharge station began 10/1/74.

(2) Estimate, based on ratios of drainage area and 7-day Q₂, Q₁₀ at Station No. 07280270.

(3) Continuous record discharge station began 7/8/75.

Table 4.--Mean daily discharge at site 3 on Tillatoba Creek, October 1974-September 1980

07280270 Tillatoba Creek at site 3

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	8.6	13	53	95	24	67	40	19	8.2	164	2.1
2	6.9	8.6	13	37	395	17	70	24	12	8.0	30	2.5
3	6.7	8.2	12	61	541	14	54	271	10	8.2	49	2.2
4	6.9	76	11	53	361	13	43	58	9.6	8.2	573	2.1
5	7.3	42	11	32	87	12	37	27	4.3	8.0	58	5.8
6	6.9	13	13	27	44	12	33	19	35	7.8	13	31
7	6.7	11	112	25	28	15	30	199	17	10	6.7	5.8
8	7.1	11	27	29	23	12	34	48	12	9.3	4.7	4.7
9	6.5	10	16	23	22	10	631	102	38	8.2	4.3	15
10	6.9	11	14	1000	19	108	83	67	589	25	4.0	7.8
11	6.7	50	73	131	21	419	41	482	98	17	3.7	3.7
12	6.5	16	37	72	17	614	27	457	53	9.8	3.6	13
13	6.5	12	20	49	14	3590	24	38	17	8.6	3.3	6.1
14	6.5	11	17	41	14	293	98	187	20	7.8	3.6	3.9
15	59	11	480	40	15	95	49	590	46	7.8	4.1	3.4
16	37	11	47	32	454	73	33	174	17	7.6	3.3	3.4
17	12	20	23	26	60	61	27	78	13	7.1	3.7	3.9
18	9.3	16	17	89	64	92	26	36	10	7.3	4.1	3.9
19	7.3	73	16	688	33	75	61	22	9.1	8.0	4.0	3.6
20	7.8	32	15	156	23	45	33	17	8.8	8.0	3.3	16
21	6.5	16	13	62	19	37	23	16	37	7.6	3.1	4.7
22	6.9	14	12	46	134	32	20	14	23	6.9	2.9	3.4
23	6.5	12	12	38	474	73	18	12	10	6.9	2.7	3.3
24	6.5	13	655	37	54	946	18	12	8.4	6.7	3.2	3.6
25	7.6	22	135	42	27	59	48	11	8.6	12	2.9	3.3
26	7.6	15	27	32	19	38	24	11	9.3	30	2.7	3.2
27	7.6	13	212	29	158	31	18	13	9.6	16	2.6	3.1
28	7.1	12	73	27	35	28	56	11	9.6	11	2.7	2.9
29	21	12	786	26	---	4160	46	36	9.1	9.6	5.6	2.9
30	12	14	401	25	---	915	151	17	8.2	8.6	2.8	2.8
31	8.6	---	120	28	---	122	---	102	---	8.8	2.5	---
TOTAL	325.5	594.4	3433	3056	3250	12035	1943	3193	1175.6	314.0	977.1	173.1
MEAN	10.5	19.8	111	98.6	116	368	64.8	103	39.2	10.1	31.5	5.77
MAX	59	76	786	1000	541	4160	631	590	589	30	573	31
MIN	6.5	8.2	11	23	14	10	18	11	8.2	6.7	2.5	2.1

WTR YR 1975 TOTAL 30469.7 MEAN 83.5 MAX 4160 MIN 2.1

Table 4.--Continued

07280270 Tillatoba Creek at site 3

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	5.6	44	7.8	19	24	41	9.9	14	4.8	3.7	1.5
2	14	5.6	22	1300	17	24	27	8.0	12	4.2	2.7	2.2
3	7.3	5.8	16	800	16	24	22	6.7	8.8	4.2	2.2	30
4	6.1	133	14	75	16	24	20	5.9	7.5	6.9	2.7	4.0
5	5.2	90	13	50	365	347	17	5.3	6.7	5.4	3.1	2.9
6	5.2	1020	81	43	642	97	16	6.4	6.4	4.5	4.2	2.2
7	5.2	94	35	45	58	46	15	6.9	5.6	4.0	2.9	2.9
8	5.2	33	19	34	37	540	14	6.1	5.3	3.7	2.9	40
9	5.1	25	16	28	27	230	12	5.3	5.1	3.7	2.9	6.4
10	4.7	26	13	26	25	83	12	5.1	4.8	3.7	3.3	3.3
11	4.7	19	13	47	22	47	12	7.5	4.5	3.5	2.9	2.2
12	4.7	16	13	35	20	116	12	5.9	4.2	3.3	2.7	1.8
13	4.7	13	12	42	19	48	12	5.9	4.2	4.2	2.9	1.6
14	4.6	11	11	41	18	36	12	153	3.7	3.3	6.7	1.6
15	4.7	11	15	25	20	37	11	27	3.5	3.3	2.9	1.6
16	8.0	11	19	24	17	38	9.9	18	66	7.8	1.5	1.6
17	44	10	13	19	77	27	9.1	13	15	12	1.4	1.8
18	9.1	9.6	11	17	786	25	8.6	11	26	4.0	1.1	1.6
19	6.5	9.8	0.3	17	70	24	8.3	9.4	20	3.1	1.2	2.0
20	6.0	18	9.8	16	37	24	8.3	9.1	9.7	2.7	1.2	3.7
21	5.6	14	9.1	17	493	48	9.7	8.3	7.5	2.4	1.2	2.2
22	5.6	11	8.6	16	170	24	10	7.5	6.4	2.4	1.1	1.5
23	5.8	10	8.6	17	80	20	8.0	7.2	5.9	2.2	1.1	1.4
24	5.6	10	8.4	20	45	19	39	7.2	5.6	2.0	1.1	1.2
25	12	9.9	114	695	35	20	84	7.5	4.8	4.2	1.0	1.2
26	21	164	55	143	31	38	15	7.2	4.8	5.3	1.1	1.4
27	8.0	69	16	48	29	265	11	12	19	2.9	1.1	1.5
28	6.7	23	11	31	27	43	8.8	44	27	2.2	5.6	1.5
29	6.1	17	9.8	25	26	41	7.8	22	6.9	2.2	5.9	2.2
30	5.8	110	11	22	---	63	8.8	12	5.6	6.7	3.1	2.0
31	5.8	---	11	21	---	157	---	8.6	---	4.0	1.6	---
TOTAL	414.2	2004.2	661.6	3748.8	3244	2599	501.3	468.9	326.5	129.3	79.0	131.0
MEAN	13.4	66.8	21.3	121	112	83.8	16.7	15.1	10.9	4.17	2.55	4.37
MAX	171	1020	114	1300	786	540	84	153	66	12	6.7	40
MIN	4.6	5.6	8.4	7.6	16	19	7.8	5.1	3.5	2.0	1.0	1.2

WTR YR 1976 TOTAL 14307.8 MEAN 39.1 MAX 1300 MIN 1.0

Table 4.--Continued

07280270 Tillatoba Creek at site 3

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	4.5	8.6	30	12	15	18	3.9	2.2	2.1	3.3	.10
2	1.5	3.5	7.8	31	9.7	12	18	4.6	2.1	2.7	3.3	.08
3	1.1	3.1	6.9	30	9.1	1440	137	43	1.9	2.1	1.9	.08
4	.76	2.9	6.4	23	11	1730	1050	73	1.7	2.1	1.4	.08
5	1.6	2.7	5.9	18	25	238	1050	25	2.1	1.6	1.2	.31
6	4.0	2.7	14	41	35	162	311	15	2.2	3.3	.97	1.4
7	2.2	3.1	39	49	10	122	38	12	2.2	3.5	.81	.81
8	1.4	2.9	9.7	21	9.1	130	26	9.4	2.2	3.1	.65	.42
9	1.6	3.1	5.3	169	8.6	87	17	17	2.2	13	.57	.42
10	1.2	3.3	4.0	64	6.9	63	14	7.3	2.2	63	.65	.42
11	1.1	4.0	4.5	39	7.5	76	13	5.8	2.1	8.7	.49	.13
12	1.5	6.4	7.2	39	14	1220	10	4.8	2.1	4.6	.42	.13
13	2.2	6.1	6.1	33	12	111	9.1	4.6	3.1	3.5	.31	.57
14	2.7	4.8	4.2	210	9.7	58	8.0	4.8	4.6	3.3	.23	2.1
15	1.4	5.1	4.0	63	8.6	44	7.0	4.1	4.6	3.1	3.1	3.7
16	1.2	4.2	3.5	29	7.5	35	5.5	3.9	4.3	10	1.9	1.5
17	1.5	3.7	3.3	25	4.0	29	4.8	4.3	19	3.7	13	.81
18	1.6	3.5	3.1	25	3.5	29	14	3.7	4.8	3.3	1.2	.65
19	1.5	4.0	3.3	24	3.0	26	19	3.3	3.5	3.9	.73	54
20	4.2	6.4	32	18	10	35	12	3.3	3.9	3.1	.57	19
21	2.4	7.8	12	11	5.0	27	18	3.3	3.5	2.9	.57	4.6
22	2.0	4.8	8.6	8.8	2.5	23	27	3.1	2.7	2.1	.57	2.2
23	2.0	4.2	9.4	6.1	3.0	20	17	2.7	2.1	15	.65	1.6
24	2.7	4.5	6.9	18	15	20	13	2.7	1.8	20	.89	37
25	54	4.8	151	12	50	19	10	2.9	1.6	27	.81	32
26	11	27	53	12	183	18	8.0	2.9	1.6	2.1	.89	2.4
27	3.3	23	22	33	89	17	6.7	3.3	1.7	1.8	.31	5.0
28	2.4	77	17	9.1	29	84	6.1	3.3	1.5	.16	.23	2.9
29	2.4	24	14	5.9	---	40	5.8	2.9	1.7	33	.16	279
30	22	10	13	5.3	---	573	4.6	2.5	2.1	8.0	.16	34
31	8.3	---	29	20	---	20	---	2.4	---	3.5	.13	---
TOTAL	148.26	267.1	514.7	1122.2	592.7	6523	2897.6	284.8	93.3	259.26	42.07	487.41
MEAN	4.78	8.90	16.6	36.2	21.2	210	96.6	9.19	3.11	8.36	1.36	16.2
MAX	54	77	151	210	183	1730	1050	73	19	63	13	279
MIN	.76	2.7	3.1	5.3	2.5	12	4.6	2.4	1.5	.16	.13	.08
WTR YR 1977 TOTAL	13232.40			MEAN 36.3		MAX 1730	MIN .08					

Table 4.--Continued

07280270 Tillatoba Creek at site 3

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	1.6	394	13	24	20	15	993	12	16	2.1	2.2
2	5.0	1.9	132	11	22	100	10	92	66	8.3	1.7	2.0
3	3.1	6.0	70	10	19	60	9.2	88	17	11	1.6	2.0
4	2.9	3.5	44	9.0	17	30	8.6	302	13	9.0	1.5	1.7
5	2.1	4.5	26	8.4	13	15	8.8	63	10	7.4	2.6	1.4
6	2.2	3.5	20	8.0	12	13	8.5	33	9.0	7.2	1.4	1.5
7	1.9	4.0	17	7.8	16	14	7.9	25	903	36	1.1	1.2
8	48	3.5	16	130	12	17	7.4	1220	688	30	1.2	1.5
9	15	3.9	15	35	11	14	6.8	211	150	9.0	1.4	1.2
10	4.1	3.3	14	17	11	20	8.3	86	96	6.6	1.5	1.4
11	2.5	2.2	13	13	10	15	231	49	69	5.6	1.9	7.3
12	1.9	2.1	12	26	10	11	26	32	49	5.0	2.9	3.5
13	1.7	1.9	103	30	40	30	17	24	37	4.5	2.1	4.0
14	1.7	1.8	134	24	20	384	12	20	27	8.8	1.5	4.5
15	1.6	1.9	32	20	15	53	11	18	15	7.0	1.1	3.3
16	1.4	169	27	260	13	30	9.5	17	9.9	4.5	1.0	2.7
17	1.3	54	102	342	12	22	9.0	17	9.2	3.7	.85	2.4
18	1.5	22	34	104	11	19	12	16	8.8	3.3	1.5	2.1
19	1.6	41	22	70	10	17	9.5	121	97	3.1	1.6	1.9
20	1.5	35	17	42	10	16	8.1	34	33	2.7	1.4	1.6
21	1.5	1510	16	35	13	15	7.2	19	19	4.4	1.2	1.5
22	15	173	13	36	10	14	6.8	15	15	2.9	1.1	1.4
23	7.0	60	13	40	10	16	7.9	12	11	3.1	1.0	1.4
24	18	35	13	970	9.6	28	7.5	9.7	9.5	3.3	1.0	1.1
25	51	19	10	713	9.4	21	6.7	8.3	8.3	2.7	.93	1.0
26	10	9.8	9.2	151	9.2	12	6.2	7.0	7.5	3.1	.85	.93
27	4.1	7.7	8.6	64	9.0	11	5.9	6.1	7.0	3.8	.71	2.7
28	2.9	20	8.2	45	50	11	5.6	5.9	6.7	3.2	.71	3.5
29	1.9	1320	8.0	35	---	10	5.4	35	6.5	2.4	8.2	2.5
30	1.8	1090	56	30	---	12	22	71	6.5	2.1	4.4	2.3
31	1.7	---	20	22	---	24	---	13	---	1.9	2.7	---
TOTAL	225.3	4611.1	1419.0	3321.2	428.2	1074	516.8	3663.0	2415.9	221.6	54.75	67.73
MEAN	7.27	154	45.8	107	15.3	34.6	17.2	118	80.5	7.15	1.77	2.26
MAX	51	1510	394	970	50	384	231	1220	903	36	8.2	7.3
MIN	1.3	1.6	8.0	7.8	9.0	10	5.4	5.9	6.5	1.9	.71	.93

WTR YR 1978 TOTAL 18018.58 MEAN 49.4 MAX 1510 MIN .71

Table 4.--Continued

07280270 Tillatoba Creek at site 3

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.4	6.2	1650	16	175	267	41	33	5.6	7.3	3.2
2	1.7	1.6	5.6	294	14	57	1900	296	25	5.0	6.6	3.7
3	1.4	1.3	484	129	24	1950	662	294	35	4.7	6.4	6.5
4	1.2	1.5	512	68	18	417	503	1680	23	4.6	5.8	5.9
5	1.3	1.5	48	51	14	212	282	338	18	4.4	5.3	4.2
6	1.1	1.8	22	432	278	137	216	183	16	4.7	5.0	3.8
7	.93	2.5	16	949	448	100	201	124	15	42	4.5	3.5
8	.89	2.5	465	182	84	80	770	95	13	23	4.2	3.5
9	.92	2.0	129	84	44	64	687	76	12	31	4.3	3.4
10	.95	2.0	29	48	32	136	258	61	11	21	4.6	3.2
11	1.3	2.0	18	37	27	80	659	50	9.8	224	10	3.0
12	1.0	2.1	14	30	25	62	1650	65	9.0	470	10	3.0
13	1.3	2.2	12	27	20	51	604	42	8.3	55	5.4	3.4
14	1.6	2.7	11	21	18	42	324	31	7.7	28	4.6	4.0
15	1.3	4.0	10	15	18	35	223	24	7.1	19	4.2	3.4
16	1.1	19	11	14	14	31	180	20	6.7	17	4.0	3.0
17	.91	11	9.6	20	14	27	155	18	6.3	15	3.7	3.1
18	.97	5.3	8.8	27	18	25	118	16	6.0	13	3.6	4.7
19	1.1	3.5	8.1	59	21	22	87	14	5.7	18	3.7	4.4
20	1.1	3.0	7.6	1090	20	21	76	12	5.3	13	3.8	62
21	1.1	2.6	18	411	335	50	67	11	5.6	28	3.7	132
22	1.1	3.1	11	115	60	170	72	10	6.3	17	3.6	11
23	1.1	4.5	10	278	183	725	475	35	6.0	12	3.4	5.6
24	1.3	3.5	9.3	185	383	129	187	16	32	10	29	4.0
25	1.2	3.0	8.7	56	447	71	115	12	13	12	19	3.3
26	1.4	68	8.2	51	94	52	80	10	7.0	11	5.0	2.9
27	1.5	26	7.7	63	56	41	61	15	6.0	13	3.8	2.8
28	1.5	8.3	7.4	32	224	34	50	172	5.7	10	6.3	2.4
29	1.4	8.2	7.1	23	---	29	45	478	6.9	18	6.0	2.4
30	1.3	7.5	45	19	---	25	43	97	12	23	3.5	2.3
31	1.6	---	689	16	---	371	---	60	---	8.7	3.1	---
TOTAL	36.57	207.6	2648.3	6476	2949	5421	11017	4396	373.4	1210.7	193.4	303.6
MEAN	1.24	6.92	85.4	209	105	175	367	142	12.4	39.1	6.24	10.1
MAX	2.0	68	689	1650	448	1950	1900	1680	35	470	29	132
MIN	.89	1.3	5.6	14	14	21	43	10	5.3	4.4	3.1	2.3

WTR YR 1979 TOTAL 35234.57 MEAN 96.5 MAX 1950 MIN .89

Table 4.--Continued

07280270 Tillatoba Creek at site 3

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	4.9	8.3	12	60	18	113	44	14	14	3.7	2.1
2	2.1	4.2	6.2	9.9	45	18	88	41	12	12	4.5	1.9
3	2.1	4.0	5.1	28	40	18	75	38	11	12	16	1.9
4	37	3.9	4.6	72	35	19	67	44	10	11	140	1.8
5	7.7	4.0	4.5	27	30	23	58	35	9.4	9.1	27	1.6
6	4.8	3.8	4.3	16	35	19	50	32	8.8	7.9	10	2.0
7	3.6	3.8	4.1	57	30	2200	45	29	8.2	7.6	7.0	1.7
8	3.1	3.9	3.9	34	291	347	40	24	7.7	7.2	5.0	1.7
9	2.8	167	3.8	21	285	172	37	22	7.3	12	4.5	1.6
10	3.3	65	3.9	198	90	135	35	20	7.0	7.6	4.0	1.5
11	3.3	15	4.1	936	60	104	210	19	6.6	6.0	3.5	1.4
12	2.9	10	149	180	50	883	1080	18	6.2	5.5	4.0	1.4
13	2.5	6.4	207	90	40	183	1430	18	6.0	4.5	6.0	1.3
14	2.4	5.2	50	50	35	111	321	17	5.8	4.1	4.5	1.3
15	2.3	4.6	23	40	35	80	173	18	5.6	4.1	7.0	1.3
16	2.3	4.0	17	35	50	609	133	96	7.0	3.9	6.0	1.2
17	2.4	3.8	10	37	40	1890	110	32	11	3.9	5.0	1.1
18	2.4	3.6	7.6	60	35	253	157	22	7.3	5.2	4.5	1.4
19	2.4	3.5	6.7	45	30	197	115	22	29	4.7	4.3	1.8
20	2.4	3.5	6.1	35	27	2080	78	25	10	3.7	4.0	1.8
21	2.3	3.3	5.0	70	24	426	60	19	7.0	6.6	3.6	2.2
22	3.8	174	6.1	492	23	191	50	459	6.0	20	3.2	1.7
23	5.6	1030	489	187	20	171	45	86	5.0	61	2.9	1.7
24	3.9	152	593	80	18	480	40	46	3620	6.9	2.8	1.6
25	3.4	540	111	50	18	156	251	361	701	4.5	2.5	3.8
26	3.3	142	57	40	17	124	270	62	159	6.0	2.5	4.3
27	3.2	63	32	35	17	114	78	34	68	6.0	2.5	2.4
28	4.1	38	30	30	17	484	57	38	33	5.0	2.5	914
29	7.9	20	21	30	17	1470	49	34	19	4.5	2.7	335
30	4.9	12	20	100	---	470	45	24	16	4.0	2.3	140
31	4.9	---	15	132	---	278	---	17	---	3.8	2.2	---
TOTAL	141.4	2498.4	1908.3	3228.9	1514	13723	5360	1796	4823.9	274.3	300.2	1438.5
MEAN	4.56	83.3	61.6	104	52.2	443	179	57.9	161	8.85	9.68	48.0
MAX	37	1030	593	936	291	2200	1430	459	3620	61	140	914
MIN	2.1	3.3	3.8	9.9	17	18	35	17	5.0	3.7	2.2	1.1

WTR YR 1980 TOTAL 37006.9 MEAN 101 MAX 3620 MIN 1.1

Table 5.--Mean daily discharge at site 11 on South Fork Tillatoba Creek, August 1975-September 1980

07280340 South Fork Tillatoba Creek at site 11

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1											719	5.5
2											151	5.0
3											92	4.9
4											309	4.7
5											31	4.7
6											40	139
7											31	15
8											22	11
9											32	55
10											27	73
11											22	14
12											20	19
13											24	16
14											13	9.9
15											12	8.3
16											11	5.4
17											10	4.9
18											14	4.9
19											14	4.9
20											11	20
21											9.0	10
22											7.6	6.0
23											6.4	5.0
24											5.5	4.5
25											4.7	4.0
26											6.8	4.0
27											5.5	3.8
28											5.4	3.8
29											8.3	3.5
30											6.8	5.0
31											6.1	---
TOTAL											1677.1	474.7
MEAN											54.1	15.8
MAX											719	139
MIN											4.7	3.5

Table 5.--Continued

07280340 South Fork Tillatoba Creek at site 11

DISCHARGE, IN CURIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	250	7.0	188	25	21	20	68	11	10	8.3	5.0	3.5
2	40	7.0	67	1760	19	19	40	10	15	6.1	4.0	3.6
3	10	8.0	40	1450	18	18	30	8.7	13	6.1	3.8	4.2
4	8.0	180	28	153	17	18	24	7.6	12	8.3	3.7	5.5
5	7.0	130	22	89	710	863	22	7.2	8.3	9.4	3.7	4.3
6	6.5	1500	250	71	1410	166	20	7.6	6.8	6.8	5.0	4.0
7	6.5	60	145	67	122	72	18	7.2	5.5	5.7	4.7	3.8
8	6.2	35	61	59	81	939	17	7.2	5.4	5.2	3.9	124
9	6.2	25	40	44	54	939	16	6.8	5.2	5.0	3.7	21
10	6.1	25	28	32	40	122	15	6.8	5.0	4.5	3.5	11
11	6.0	20	22	58	33	76	14	10	4.7	4.5	3.4	6.4
12	6.0	17	18	66	28	160	15	11	4.5	4.3	3.4	5.0
13	5.8	15	16	52	26	67	15	9.4	4.5	4.3	3.4	4.0
14	5.8	14	15	66	23	44	15	93	4.3	4.2	3.4	3.7
15	5.8	13	16	35	21	40	14	32	4.2	4.2	3.4	3.7
16	15	13	34	30	20	46	13	17	65	6.1	3.4	3.7
17	60	12	21	24	29	33	12	13	21	164	3.3	3.7
18	12	12	15	19	1190	28	11	9.9	29	18	3.3	3.7
19	8.0	11	13	18	188	27	11	7.9	49	9.4	3.2	3.8
20	7.5	12	12	17	89	27	10	7.2	12	6.4	3.0	3.9
21	7.0	21	12	17	1050	76	9.9	6.4	8.3	5.2	2.9	4.0
22	7.0	14	12	17	240	35	9.4	6.1	7.2	4.7	3.1	3.7
23	7.0	14	11	17	89	27	9.0	6.1	6.8	4.3	3.2	3.7
24	6.8	14	11	17	55	24	12	6.1	6.1	4.2	3.1	3.6
25	15	12	188	369	41	24	42	6.4	6.1	5.7	3.1	3.5
26	30	233	230	276	34	35	14	6.1	5.7	7.9	3.2	3.5
27	10	306	67	60	28	276	11	8.7	6.8	14	3.3	3.6
28	9.0	62	40	38	24	65	9.4	58	176	4.5	5.4	4.5
29	8.0	36	30	31	22	50	7.2	39	19	3.9	4.3	4.5
30	7.5	278	37	26	---	85	8.3	14	11	4.3	4.0	5.4
31	7.0	---	37	23	---	230	---	9.0	---	3.9	3.7	---
TOTAL	592.7	3106.0	1726	5026	5722	4651	532.2	456.4	537.4	353.4	113.5	266.5
MEAN	19.1	104	55.7	162	197	150	17.7	14.7	17.9	11.4	3.66	8.88
MAX	250	1500	250	1760	1410	939	68	93	176	164	5.4	124
MIN	5.8	7.0	11	17	17	18	7.2	6.1	4.2	3.9	2.9	3.5

WTR YR 1976 TOTAL 23083.1 MEAN 63.1 MAX 1760 MIN 2.9

Table 5.--Continued

07280340 South Fork Tillatoba Creek at site 11

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	14	17	24	35	24	22	12	4.5	2.9	12	2.4
2	4.5	11	15	25	30	16	24	11	4.2	6.4	6.1	2.3
3	4.2	9.9	14	31	28	1850	281	14	4.2	3.4	3.6	2.1
4	3.9	9.0	12	28	35	2780	2520	40	4.0	3.0	3.3	2.1
5	4.9	8.7	11	26	130	168	240	18	4.0	2.9	3.1	2.0
6	13	11	17	24	100	75	75	13	4.0	2.9	2.9	6.8
7	7.0	9.9	45	23	40	100	52	9.4	3.9	3.0	2.8	3.5
8	5.0	7.9	12	34	20	86	39	9.0	3.8	2.9	2.8	2.7
9	4.7	8.7	10	130	15	82	26	7.9	3.8	21	2.6	2.6
10	4.9	12	8.3	310	12	78	21	6.4	3.8	196	2.6	2.6
11	3.9	12	8.3	76	11	131	17	6.1	3.8	11	2.6	2.5
12	4.5	17	36	64	35	1420	16	5.7	3.8	5.0	2.5	2.2
13	6.0	13	9.8	58	25	144	15	5.4	3.9	3.8	2.5	2.5
14	9.0	9.9	9.3	420	18	95	14	5.4	4.8	3.3	2.5	4.3
15	5.0	15	14	300	15	78	13	5.4	24	3.6	2.5	3.2
16	4.3	12	15	130	12	71	11	5.4	11	3.6	2.5	2.5
17	4.7	9.0	11	30	10	64	11	5.2	30	11	24	2.4
18	4.5	8.7	9.0	21	9.0	47	36	5.2	4.5	16	15	2.9
19	4.5	8.3	8.7	110	8.0	41	54	5.0	4.3	4.7	3.7	72
20	7.2	20	56	30	50	47	28	5.0	3.9	6.4	3.3	14
21	6.1	27	34	20	20	31	38	5.0	5.2	12	3.1	4.3
22	5.2	19	20	17	12	27	70	5.0	3.3	6.8	2.9	3.8
23	4.9	12	18	50	10	22	42	5.0	3.0	68	2.8	3.8
24	4.9	9.0	15	78	44	20	34	5.0	2.9	68	2.9	14
25	38	9.0	300	21	13	20	27	4.8	2.8	140	28	32
26	17	28	91	19	10	20	19	4.8	3.9	11	9.0	8.7
27	12	51	42	110	86	20	16	4.8	3.6	7.6	3.5	8.3
28	8.7	110	28	30	114	110	15	4.8	3.0	182	2.8	5.2
29	8.7	68	24	20	---	52	14	4.8	2.9	81	2.8	194
30	30	27	22	17	---	32	13	4.8	2.9	30	2.6	48
31	24	---	32	50	---	24	---	5.0	---	19	2.5	---
TOTAL	269.9	587.0	964.4	2326	947.0	7775	3803	248.3	167.7	938.2	165.8	459.7
MEAN	8.71	19.6	31.1	75.0	33.8	251	127	8.01	5.59	30.3	5.35	15.3
MAX	38	110	300	420	130	2780	2520	40	30	196	28	194
MIN	3.9	7.9	8.3	17	8.0	16	11	4.8	2.8	2.9	2.5	2.0

WTR YR 1977 TOTAL 18652.0 MEAN 51.1 MAX 2780 MIN 2.0

Table 5.--Continued

07280340 South Fork Tillatoba Creek at site 11

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	5.0	455	23	29	47	25	572	13	15	6.0	4.1
2	9.0	5.4	75	21	28	261	20	56	92	11	4.3	4.1
3	8.0	18	54	20	26	191	16	214	22	14	4.6	4.3
4	8.0	5.5	49	19	24	47	15	1000	15	12	4.1	4.1
5	7.0	8.7	47	19	23	32	15	42	12	11	4.1	3.8
6	6.0	7.2	43	18	22	29	14	29	10	10	4.0	3.7
7	6.0	8.3	40	20	22	31	14	2940	2350	15	4.3	3.6
8	100	5.0	41	150	22	33	13	1220	1230	20	6.1	3.7
9	25	6.4	53	50	22	28	13	155	53	11	6.5	3.7
10	10	7.9	43	30	21	50	15	37	31	9.0	8.9	4.9
11	7.0	5.7	42	25	21	39	146	27	26	8.0	11	11
12	5.0	5.4	42	35	21	32	50	181	23	7.0	6.3	4.7
13	4.5	5.2	108	50	66	48	25	50	20	6.4	4.6	6.5
14	4.0	5.2	162	35	32	572	20	26	18	30	3.7	4.7
15	4.0	5.4	46	35	25	56	15	20	17	14	3.4	5.2
16	3.5	221	36	350	23	41	14	18	16	10	3.4	3.8
17	3.5	145	73	600	21	34	13	17	16	8.0	3.3	3.3
18	4.0	24	44	200	21	28	17	19	13	6.0	3.2	3.2
19	5.0	14	34	100	19	24	15	82	19	5.0	3.0	3.2
20	4.0	76	31	60	19	23	13	55	18	4.5	2.9	2.9
21	3.5	1210	29	50	19	23	12	13	15	7.0	2.7	2.7
22	10	284	26	45	18	25	11	21	12	5.0	2.4	2.7
23	7.0	44	25	50	19	30	13	13	11	4.5	2.5	2.7
24	8.0	24	25	1500	18	50	11	12	10	5.0	2.3	2.7
25	135	17	24	1000	18	30	10	10	9.4	4.5	2.5	2.8
26	20	14	23	300	17	20	9.6	9.2	9.0	4.0	3.8	2.8
27	9.4	13	23	100	16	17	9.4	8.5	8.6	9.0	3.2	8.5
28	6.8	17	23	60	138	16	9.2	8.5	8.4	8.0	2.9	4.9
29	5.7	680	28	40	---	15	9.0	18	8.2	7.0	9.6	4.1
30	5.4	772	27	35	---	17	10	36	8.0	5.0	6.9	4.1
31	5.2	---	25	30	---	30	---	9.4	---	4.0	4.6	---
TOTAL	454.5	3659.3	1796	5070	770	1919	592.2	6918.6	4113.6	289.9	141.1	126.5
MEAN	14.7	122	57.9	164	27.5	61.9	19.7	223	137	9.35	4.55	4.22
MAX	135	1210	455	1500	138	572	146	2940	2350	30	11	11
MIN	3.5	5.0	23	18	16	15	9.0	8.5	8.0	4.0	2.3	2.7

WTR YR 1978 TOTAL 25850.7 MEAN 70.8 MAX 2940 MIN 2.3

Table 5.--Continued

07280340 South Fork Tillatoba Creek at site 11

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	3.0	7.3	2250	22	321	406	13	31	6.7	11	5.2
2	4.1	3.1	6.3	184	21	84	2600	289	30	6.4	9.9	126
3	4.1	3.0	523	33	51	2870	391	342	71	6.1	8.1	138
4	3.4	2.9	678	11	40	464	291	2540	28	6.0	7.1	18
5	2.8	3.1	35	20	25	110	112	406	19	5.9	6.9	8.6
6	2.6	3.6	17	239	318	64	65	162	17	26	6.1	7.3
7	2.6	3.8	13	1600	747	63	50	126	17	43	6.6	6.4
8	2.9	3.6	465	520	108	57	659	78	13	28	6.6	6.0
9	3.2	3.6	235	74	69	44	313	39	12	58	10	5.7
10	3.0	3.6	51	62	49	136	117	25	13	18	9.0	5.4
11	2.7	3.6	24	48	42	87	612	18	12	250	15	5.3
12	2.7	3.8	15	51	38	48	2090	28	9.4	724	8.8	5.2
13	8.4	3.8	12	46	32	40	405	18	8.4	70	7.0	5.2
14	15	4.1	9.7	29	31	33	163	14	7.8	34	6.9	5.5
15	3.9	9.3	12	21	27	29	102	12	7.5	35	8.5	5.7
16	3.4	44	14	16	22	26	81	10	6.9	26	7.1	5.2
17	3.2	22	15	18	19	24	63	8.8	6.8	23	6.2	5.1
18	3.1	12	9.3	40	43	22	53	8.1	6.5	20	6.0	17
19	3.0	6.6	8.0	76	28	21	47	7.8	6.4	16	5.8	9.3
20	3.0	5.3	9.7	2040	30	20	62	8.7	6.4	87	5.9	195
21	2.9	5.1	37	576	237	19	56	8.0	23	601	6.9	420
22	2.9	5.1	17	110	86	115	48	13	13	54	13	37
23	2.8	6.6	12	281	235	1450	404	54	8.5	27	6.6	17
24	2.8	6.6	12	296	542	121	157	8.9	7.2	25	105	14
25	2.8	5.1	11	74	867	66	67	9.2	9.6	56	132	8.8
26	2.9	48	8.8	69	113	49	36	8.4	7.5	21	13	6.9
27	3.4	54	8.8	137	59	39	27	9.3	6.8	28	11	6.0
28	3.2	10	11	71	236	31	21	254	7.3	65	8.2	5.5
29	3.0	9.0	12	42	---	26	17	595	7.2	125	7.3	5.2
30	3.0	9.2	72	34	---	23	15	99	7.7	153	5.6	5.0
31	2.9	---	708	30	---	438	---	64	---	20	5.3	---
TOTAL	114.2	306.5	3068.9	9098	4137	6940	9530	5276.2	426.9	2664.1	472.4	1110.5
MEAN	3.68	10.2	99.0	293	148	224	318	170	14.2	85.9	15.2	37.0
MAX	15	54	708	2250	867	2870	2600	2540	71	724	132	420
MIN	2.6	2.9	6.3	11	19	19	15	7.8	6.4	5.9	5.3	5.0

WTR YR 1979 TOTAL 43144.7 MEAN 118 MAX 2870 MIN 2.6

Table 5.--Continued

07280340 South Fork Tillatoba Creek at site 11

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	8.4	7.3	6.9	51	24	93	33	14	17	4.8	4.8
2	4.5	7.3	6.2	6.2	33	16	67	29	12	13	4.1	4.3
3	4.3	7.3	5.9	15	31	15	51	26	10	9.7	71	4.1
4	21	6.9	5.6	40	26	18	41	21	9.3	8.0	90	4.1
5	11	6.9	5.6	13	25	29	37	19	8.4	7.3	9.7	4.1
6	8.8	6.9	5.6	9.7	28	24	38	17	7.6	6.9	6.6	4.1
7	7.6	6.6	5.6	44	22	1130	32	15	7.6	6.6	5.6	4.1
8	6.6	7.3	4.8	8.8	231	407	28	13	6.9	5.9	22	4.1
9	6.8	189	4.8	7.3	584	156	24	12	6.2	5.6	19	4.1
10	16	126	5.1	97	221	125	21	12	6.2	5.1	112	4.1
11	10	32	5.1	1360	85	91	198	11	5.9	5.1	17	3.4
12	8.4	8.4	17	178	58	1140	1630	11	5.9	4.8	12	3.6
13	7.6	6.6	300	74	48	239	2320	11	5.9	4.8	11	3.6
14	7.0	6.0	53	34	40	93	626	13	5.9	4.3	11	3.6
15	6.8	5.6	13	21	37	49	190	12	5.9	3.6	8.0	3.6
16	6.6	5.2	7.6	17	38	822	128	213	5.9	3.4	8.0	3.6
17	6.6	5.0	5.9	38	31	2610	105	61	24	3.4	8.0	3.4
18	5.9	4.7	5.6	71	29	292	219	24	55	5.6	8.0	3.4
19	5.9	5.0	5.1	27	31	169	245	27	76	5.6	5.1	3.4
20	5.9	4.7	5.1	18	29	2810	72	41	71	4.1	5.1	3.4
21	5.9	4.5	4.8	67	27	727	43	16	17	8.0	5.1	4.1
22	6.9	63	5.1	770	26	190	29	862	13	57	5.1	3.6
23	8.8	1600	680	304	24	167	22	211	11	267	4.8	3.4
24	7.3	280	1000	90	21	758	18	80	5500	36	4.8	3.4
25	6.6	930	240	53	20	205	518	663	521	11	5.1	7.3
26	6.6	290	51	71	13	143	829	194	162	8.4	6.6	13
27	6.6	49	14	69	14	265	164	71	106	7.3	4.8	4.3
28	8.8	20	9.3	34	21	1580	85	49	62	6.9	4.8	623
29	12	11	8.4	28	21	407	53	135	32	5.9	5.1	609
30	8.4	8.8	8.0	105	---	564	43	33	22	4.8	5.1	183
31	8.4	---	7.3	174	---	174	---	20	---	4.8	5.1	---
TOTAL	248.4	3712.1	2501.8	3850.9	1865	15439	7969	2955	6795.6	546.9	494.4	1531.0
MEAN	8.01	124	80.7	124	64.3	498	266	95.3	227	17.6	15.9	51.0
MAX	21	1600	1000	1360	584	2810	2320	862	5500	267	112	623
MIN	4.3	4.5	4.8	6.2	13	15	18	11	5.9	3.4	4.1	3.4
WTR YR 1980	TOTAL	47909.1	MEAN	131	MAX	5500	MIN	3.4				

Table 6.--Suspended-sediment concentrations and instantaneous discharge and suspended-sediment loads at site 3, 1975-80

07280270 - Tillatoba Creek at site 3

	DATE	TIME	STREAM-	SEDI-	SFDI-	DATE	TIME	STREAM-	SEDI-	SFDI-
			FLOW,	MENT,	MENT			FLOW,	MENT,	MENT
			INSTAN-	SUS-	DIS-			INSTAN-	SUS-	DIS-
			TANEOUS	PENDED	CHARGE,			TANEOUS	PENDED	CHARGE,
			(CFS)	(MG/L)	(T/DAY)			(CFS)	(MG/L)	(T/DAY)
48	AUG , 1975					MAR , 1978				
	01...	1030	60	1540	249	15...	1310	53	150	21
	01...	1110	85	1560	358	22...	1300	14	28	1.1
	01...	1130	129	1135	395	29...	1315	10	26	.70
	01...	1145	174	966	454	APR				
	01...	1200	238	1104	709	05...	1600	8.8	69	1.6
	01...	1225	318	3569	3060	10...	2045	11	282	8.4
	01...	1240	394	4058	4320	10...	2145	17	240	11
	01...	1300	438	3248	3840	10...	2343	44	1630	194
	01...	1320	480	2620	3400	11...	0025	115	1390	432
	01...	1445	480	2132	4780	11...	0100	270	2440	1780
MAR , 1977					11...	0145	550	3130	4650	
	03...	1500	458	563	696	11...	0210	84	2310	524
	03...	1520	548	3620	5360	11...	2045	4.6	418	5.2
	03...	1600	1250	2760	9320	12...	1255	26	67	4.7
	03...	1605	1380	3160	11800	19...	1610	9.5	28	.72
FEB , 1978					26...	1521	16	14	.60	
	08...	1315	11	75	2.2	MAY				
	15...	1305	15	51	2.1	03...	1449	100	1110	300
	22...	1400	10	36	.97					
MAR										
	01...	1310	20	89	4.8					
	08...	1300	17	55	2.5					

Table 6.--Continued

07280270 - Tillatoba at site 3

49

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
MAY , 1978					AUG , 1978				
08...	1104	1910	2100	10800	16...	1915	7.3	23	.45
08...	1245	1780	1460	7020	23...	1600	1.0	14	.04
08...	1345	1800	1690	8210	30...	1715	3.8	72	.74
10...	1730	86	150	35	SEP				
17...	1345	16	37	1.6	06...	2055	1.5	16	.06
24...	2027	9.2	70	1.7	13...	1730	3.8	52	.53
31...	1553	12	122	4.0	20...	2100	1.4	15	.06
JUN					27...	1850	4.4	50	.59
01...	2245	24	2090	135	OCT				
07...	2330	2470	3490	23300	04...	1224	1.2	26	.08
08...	0840	522	618	871	11...	1545	1.6	14	.06
14...	2115	28	218	16	18...	2022	1.2	18	.06
21...	2105	19	179	9.2	25...	1735	1.2	16	.05
28...	1520	4.8	51	.66	NOV				
JUL					01...	1230	3.4	28	.26
05...	1345	7.3	104	2.0	08...	1900	2.3	20	.12
12...	1630	5.0	24	.32	15...	0823	3.2	23	.20
19...	2125	3.1	44	.37	22...	1542	4.0	38	.41
26...	1625	3.1	22	.18					
AUG									
02...	1715	1.7	21	.10					
09...	2020	1.4	18	.07					

Table 6.--Continued

07280270 - Tillatoba Creek at site 3

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
NOV , 1978				
30....	1540	5.9	44	.70
DEC				
06....	1345	23	138	8.6
27....	0928	7.7	84	1.7
JAN , 1979				
03....	1700	136	88	32
10....	2030	44	83	9.9
17....	1454	15	69	2.8
20....	1050	1350	1730	6310
20....	1551	821	1960	4350
24....	1505	129	379	132
31....	1425	18	48	2.3
FEB				
06....	1638	329	1350	1200
07....	1528	237	614	393
14....	1537	22	42	2.5
21....	1654	183	549	271
23....	0859	151	468	191
25....	0750	450	996	1210
28....	1300	46	111	14

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
MAR , 1979				
03....	1618	4090	1250	13800
03....	1700	3550	1200	11500
03....	1746	2890	1230	9600
07....	2004	118	205	65
14....	1440	42	54	6.1
21....	1635	50	49	6.6
23....	0400	242	2450	1600
23....	1037	662	1050	1880
28....	1439	34	84	7.7
APR				
02....	0728	3820	1900	19600
02....	0810	3570	1780	17200
02....	1150	2310	1310	8170
02....	1320	1770	1600	7650
02....	1410	1480	1830	7310
03....	0045	723	1480	2890
03....	0215	928	1400	3510
04....	1020	549	451	669
08....	0730	221	914	545

Table 6.--Continued

07280270 - Tillatoba Creek at site 3

51

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
APR , 1979					AUG , 1979				
08...	0810	459	1730	2140	22...	1749	3.5	78	.74
08...	0905	920	2840	7060	SEP				
08...	0917	1090	2740	8060	05...	1624	4.1	47	.52
08...	0929	1260	2850	9700	19...	2127	3.9	77	.81
08...	1000	1540	3090	12800	OCT				
08...	1035	1680	2630	11900	03...	2030	2.0	43	.23
08...	1055	1740	2700	12700	10...	1910	3.7	38	.38
08...	1215	1660	1930	8650	DEC				
11...	1604	205	254	141	05...	1920	4.3	34	.39
18...	1230	117	374	118	12...	2000	644	1520	2640
25...	1650	106	182	52	19...	1925	6.4	17	.29
MAY					JAN , 1980				
02...	1651	264	1340	955	02...	1900	9.4	51	1.3
23...	1612	23	249	15	09...	1650	21	60	3.4
30...	1641	87	298	70	16...	1745	35	98	9.3
JUN					23...	1850	147	220	.87
20...	1730	5.3	190	2.7	30...	1935	227	870	533
27...	1745	6.1	285	4.7	FEB				
JUL					06...	1450	35	82	7.7
11...	1800	28	416	31					

Table 6.--Continued

07280270 - Tillatoba Creek at site 3

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDEd (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDEd (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDEd (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDEd (T/DAY)
FEB , 1980					APR , 1980				
08...	1940	947	3010	7700	26...	1330	161	187	81
13...	1440	40	125	13	MAY				
23...	1750	20	39	2.1	01...	1545	44	81	9.6
MAR					03...	1030	28	102	7.7
02...	0835	18	25	1.2	05...	1600	33	40	3.6
07...	1820	3950	3570	37300	07...	1630	25	45	3.0
07...	1830	3880	3160	31600	11...	1400	20	80	4.3
07...	1845	3700	2850	27400	16...	1700	91	95	23
07...	1900	3560	2360	10700	19...	1545	24	53	3.4
12...	1620	1680	3620	11900	26...	1720	65	84	15
16...	1515	1220	3010	10200	28...	1730	43	50	5.8
16...	1525	1260	3020	10400	JUN				
16...	1535	1270	2960	21700	02...	1630	12	60	1.9
20...	1700	2710	2620	18300	06...	1635	9.0	39	.95
20...	1730	2590			09...	1710	7.3	24	.47
APR					19...	1620	76	340	70
01...	1640	97	76	20	24...	1700	3410	2180	20100
04...	1715	64	66	11	24...	1730	2110	1920	10900
12...	1330	467	1230	1550	JUL				
13...	1630	2070	1620	9050	01...	1630	14	89	3.4
25...	2330	1040	2610	7330					

Table 6.--Continued

07280270 - Tillatoba Creek at site 3

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
JUL , 1980				
04...	1300	11	52	1.5
07...	1630	7.6	33	.68
18...	1800	3.7	42	.42
21...	1600	9.5	37	.95
23...	1730	23	36	2.2
28...	1700	5.0	20	.27

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
AUG , 1980				
04...	1815	46	34	4.2
11...	1630	3.5	24	.23
14...	1620	4.5	22	.27
25...	1715	2.4	51	.33
29...	1815	2.6	34	.24

Table 7.--Suspended-sediment concentrations and instantaneous discharge and suspended-sediment loads at site 11, 1977-80

07280340 - South Fork Tillatoba Creek at site 11

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDEd (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDEd (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDEd (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDEd (T/DAY)
MAR , 1977					APR , 1978				
03...	1530	1620	4400	19200	05...	1540	15	25	1.0
03...	1535	1960	5040	26700	11...	0004	47	1300	165
03...	1635	3500	1690	16000	11...	0120	80	1360	294
03...	1645	3560	2190	21100	12...	1245	55	89	13
03...	1900	4330	5660	66200	19...	1555	15	63	2.6
03...	2110	5820	3670	57700	26...	1532	9.2	30	.75
03...	2120	6030	7950	129000	MAY				
03...	2200	6180	6110	102000	03...	1430	63	222	38
04...	0600	4950	3910	52300	08...	1125	1860	5030	25300
04...	0630	4840	3840	50200	08...	1306	1920	5120	26500
FEB , 1978					10...	1718	98	141	37
08...	1300	22	30	1.8	17...	1415	35	142	13
15...	1300	25	48	3.2	24...	2000	11	52	1.5
22...	1405	17	26	1.2	31...	1610	9.2	86	2.1
MAR					JUN				
01...	1250	45	86	10	07...	2000	2900	4640	36300
08...	1245	32	49	4.2	08...	0815	1500	3490	14100
15...	1300	52	118	17	14...	2130	30	64	5.2
22...	1245	22	35	2.1	21...	2045	15	58	2.3
29...	1301	15	28	1.1					

Table 7.--Continued

07280340 - South Fork Tillatoba Creek at site 11

55

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
JUN , 1978					OCT , 1978				
28...	1445	8.4	24	.54	25...	1756	2.7	236	1.7
JUL					NOV				
05...	1330	11	32	.95	01...	1300	4.5	227	2.8
12...	1610	7.0	19	.36	08...	1930	29	52	4.1
19...	2145	10	44	1.2	15...	0805	65	292	51
26...	1600	6.9	23	.43	22...	1455	81	102	22
AUG					30...	1550	8.0	46	.99
02...	1700	4.4	30	.36	DEC				
09...	2137	4.8	54	.70	06...	1400	10	82	2.2
16...	1930	3.7	27	.27	27...	0908	83	67	15
23...	1620	3.0	23	.19	JAN , 1979				
30...	1730	6.5	76	1.3	03...	1715	53	67	9.6
SEP					10...	2100	58	81	13
06...	2125	5.4	50	.73	17...	1510	83	60	13
13...	1800	5.8	54	.85	20...	1041	2630	2960	21000
20...	2130	4.2	101	1.1	20...	1525	2190	3650	21600
27...	1905	11	262	7.8	24...	1434	159	260	112
OCT					31...	1410	51	50	6.9
04...	1209	3.2	163	1.4	31...	1425	132	372	133
11...	1600	2.4	135	.87					
18...	2038	3.2	373	3.2					

Table 7.--Continued

07280340 - South Fork Tillatoba Creek at site 11

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
FEB , 1979				
06...	1653	374	1320	1330
07...	1513	390	1030	1090
14...	1519	21	57	3.2
21...	1635	194	620	325
25...	0734	1200	2140	6930
28...	1242	49	80	11
MAR				
03...	1638	6070	4300	70500
03...	1720	6290	2990	50800
07...	1945	71	99	19
14...	1424	24	68	4.4
21...	1619	3.8	38	.39
23...	1024	2130	2450	14100
28...	1500	22	62	3.7
APR				
02...	0750	3850	3420	35600
02...	1345	2400	2250	14600
03...	0010	450	946	1150
03...	0105	484	861	1130
04...	1050	468	728	920
08...	0745	241	648	422

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
APR , 1979				
08...	1011	742	3260	6530
11...	1551	105	102	29
18...	1702	86	77	18
25...	1242	93	105	26
MAY				
02...	1706	735	2940	5830
16...	1629	9.3	68	1.7
23...	1624	32	211	18
30...	1656	91	200	49
JUN				
13...	1724	7.3	70	1.4
20...	1744	5.3	61	.87
27...	1800	6.2	61	1.0
JUL				
11...	1800	90	156	38
SEP				
05...	1640	9.7	73	1.9
12...	0806	6.2	42	.70
19...	2111	6.2	59	.99

Table 7.--Continued

07280340 - South Fork Tillatoba Creek at site 11

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
SEP , 1979					FEB , 1980				
26...	2059	8.0	30	.65	23...	1710	23	38	2.4
OCT					MAR				
03...	2005	4.3	57	.66	02...	0910	19	58	3.0
10...	1925	16	43	1.9	07...	1715	7250	2630	51500
17...	1900	6.6	32	.57	07...	1725	7290	2950	58100
NOV					07...	1745	7400	2620	52300
29...	1935	9.7	52	1.4	07...	1800	7510	2580	52300
DEC					12...	1610	1840	2910	14500
05...	1930	5.3	62	.89	16...	1655	1700	5380	24700
12...	2025	330	78	69	16...	1705	1730	5650	26400
26...	2125	33	120	11	16...	1715	1770	5000	23900
JAN , 1980					20...	1655	4140	3010	33600
02...	1920	5.9	38	.61	20...	1745	4160	3180	35700
09...	1635	7.3	68	1.3	APR				
16...	1730	17	118	5.4	01...	1630	95	56	14
23...	1835	145	396	155	04...	1810	43	53	6.2
30...	1945	287	384	298	12...	1300	1380	1860	6930
FEB					13...	1600	3950	2050	21300
06...	1435	32	86	7.4	25...	1720	1390	643	2410
08...	1925	634	3020	5170					
13...	1430	44	126	15					

Table 7.--Continued

07280340 - South Fork Tillatoba Creek at site 11

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
APR , 1980				
26...	1315	420	671	761
MAY				
01...	1730	37	49	4.9
03...	1020	25	79	5.3
05...	1615	16	34	1.5
07...	1600	14	32	1.2
16...	1630	402	129	140
19...	1600	51	126	17
26...	1710	143	355	137
28...	1710	40	520	56
JUN				
02...	1600	9.3	221	5.5
06...	1605	7.6	120	2.5
09...	1730	6.6	44	.78
12...	1830	5.9	34	.54
19...	1740	100	816	220
24...	1530	8240	2750	61200
24...	1600	7540	2380	48500

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
JUL , 1980				
01...	1600	21	31	1.8
04...	1530	9.3	39	.98
07...	1600	5.6	25	.38
11...	1700	5.1	43	.59
14...	1700	4.3	28	.33
18...	1720	3.6	33	.32
21...	1730	15	44	1.8
23...	1800	276	78	58
28...	1815	65	206	36
AUG				
04...	1900	90	553	134
08...	1800	194	586	307
11...	1700	13	57	2.0
14...	1700	9.7	54	1.4
18...	1600	8.0	30	.65
22...	1700	5.1	34	.47
25...	1600	5.1	36	.50
29...	1700	5.1	42	.58

Table 8.--Results of field determinations and 5-day biochemical oxygen demand analyses during short-term studies, 1975-79

07280270 Tillatoba Creek at site 3

DATE	TIME	STREAM- FLOW, INSTAN- TANFOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
APR , 1975							
21...	1400	22	19.0	77	9.5	--	--
21...	1500	22	19.0	77	9.5	--	--
21...	1600	22	19.0	77	9.4	--	--
21...	1700	22	19.0	77	9.2	--	--
21...	1800	21	19.0	77	9.0	--	--
21...	1900	21	18.5	77	8.8	--	--
21...	2000	22	18.5	78	8.6	--	--
21...	2100	21	18.0	78	8.4	--	--
21...	2200	21	18.0	78	8.4	--	--
21...	2300	20	18.0	78	8.4	--	--
21...	2400	20	18.0	78	8.3	--	--
22...	0100	20	17.5	78	8.2	--	--
22...	0200	20	17.5	78	8.2	--	--
22...	0300	20	17.5	78	8.2	--	--
22...	0400	20	17.0	78	8.2	--	--
22...	0500	19	17.0	79	8.4	--	--
22...	0600	19	16.5	80	8.4	--	--
22...	0700	19	16.0	80	8.6	--	--
22...	0800	19	16.0	80	8.8	--	--
22...	0900	19	16.5	80	8.8	--	--
22...	1000	19	17.0	80	9.0	--	--
22...	1100	19	18.0	80	9.2	6.6	--
22...	1200	19	18.5	80	9.3	--	--
22...	1300	20	19.0	80	9.4	--	--
22...	1400	20	20.0	80	9.4	--	--
22...	1500	20	21.0	80	9.3	--	--
22...	1600	20	21.0	80	9.2	--	--
22...	1700	20	20.5	80	9.0	--	--
22...	1800	20	20.0	80	8.8	--	--
22...	1900	20	19.5	80	8.6	--	--
JUN							
02...	1600	12	--	85	--	--	--
02...	1700	12	--	85	--	--	--
02...	1800	12	--	85	--	--	--
02...	1900	12	--	85	--	--	--
02...	2000	11	--	85	--	--	--
02...	2100	11	--	85	--	--	--
02...	2200	11	--	85	--	--	--
02...	2300	11	--	85	--	--	--
02...	2400	11	--	85	--	--	--

Table 8.--Continued

07280270 Tillatoba Creek at site 3

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM MINIHIR 5 DAY (MG/L)
JUN , 1975							
03...	0100	10	--	86	--	--	--
03...	0200	11	--	86	--	--	--
03...	0300	10	--	86	--	--	--
03...	0400	10	--	86	--	--	--
03...	0500	10	--	86	--	--	--
03...	0600	10	--	87	--	--	--
03...	0700	10	--	88	--	--	--
03...	0800	10	--	90	--	--	--
03...	0900	10	22.0	91	7.1	6.5	--
03...	1000	10	--	92	--	--	--
03...	1100	10	--	92	--	--	--
03...	1200	10	--	92	--	--	--
03...	1300	10	--	93	--	--	--
03...	1400	10	--	93	--	--	--
03...	1500	10	--	93	--	--	--
03...	1600	10	--	94	--	--	--
03...	1700	10	--	94	--	--	--
03...	1800	10	--	95	--	--	--
03...	1900	10	--	95	--	--	--
03...	2000	10	--	95	--	--	--
03...	2100	10	--	95	--	--	--
03...	2200	10	--	95	--	--	--
03...	2300	9.0	--	95	--	--	--
03...	2400	9.0	--	95	--	--	--
04...	0100	9.0	--	95	--	--	--
04...	0200	10	--	95	--	--	--
04...	0300	9.0	--	95	--	--	--
04...	0400	9.0	--	95	--	--	--
04...	0500	10	--	95	--	--	--
04...	0600	10	--	95	--	--	--
04...	0700	10	--	95	--	--	--
04...	0800	10	--	95	--	--	--
04...	0900	10	--	96	--	--	--
04...	1000	9.0	--	96	--	--	--
MAY , 1977							
24...	1600	2.7	30.0	123	--	--	--
24...	1700	2.7	29.0	123	--	--	--
24...	1800	2.7	28.5	123	--	--	--
24...	1900	2.7	27.5	123	--	--	--
24...	2000	2.7	26.5	123	--	--	--

Table 8.--Continued

07280270 Tillatoba Creek at site 3

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM UNTINHR 5 DAY (MG/L)
MAY , 1977							
24...	2100	2.8	26.0	124	--	--	--
24...	2200	2.7	25.5	124	--	--	--
24...	2300	2.8	24.5	125	--	--	--
24...	2400	2.7	24.0	125	--	--	--
25...	0100	2.7	23.5	125	--	--	--
25...	0200	2.6	23.0	125	--	--	--
25...	0300	2.7	23.0	125	--	--	--
25...	0400	2.7	22.5	125	--	--	--
25...	0500	2.7	22.0	126	--	--	--
25...	0600	2.7	21.0	126	--	--	--
25...	0700	2.7	21.0	126	--	--	--
25...	0800	2.8	22.0	126	--	--	--
25...	0900	2.8	23.0	125	--	--	--
25...	1000	3.0	25.0	124	--	--	--
25...	1100	3.0	26.0	123	7.2	6.7	--
25...	1200	2.8	28.0	123	--	--	--
25...	1300	2.8	30.0	123	--	--	--
25...	1400	2.8	29.5	122	--	--	--
25...	1500	2.7	30.0	122	--	--	--
25...	1600	2.7	29.5	123	--	--	--
25...	1700	2.8	28.0	123	--	--	--
25...	1800	2.8	27.0	123	--	--	--
25...	1900	2.8	26.5	123	--	--	--
25...	2000	2.8	25.5	124	--	--	--
25...	2100	2.7	25.0	125	--	--	--
25...	2200	2.7	24.0	125	--	--	--
25...	2300	2.8	24.0	126	--	--	--
25...	2400	3.0	24.0	126	--	--	--
26...	0100	3.0	23.5	126	--	--	--
26...	0200	3.0	23.0	126	--	--	--
26...	0300	3.0	22.5	127	--	--	--
26...	0400	3.0	22.0	127	--	--	--
26...	0500	3.0	21.5	127	--	--	--
26...	0600	3.0	21.0	127	--	--	--
26...	0700	3.0	21.0	126	--	--	--
26...	0800	3.0	22.0	125	--	--	--
AUG , 1978							
08...	1500	1.7	25.0	112	7.8	--	--
08...	1600	1.7	26.0	110	8.2	--	--
08...	1700	1.7	27.0	112	8.5	--	--

Table 8.--Continued

07280270 Tillatoba Creek at site 3

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHQS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
AUG , 1978							
08...	1800	1.7	28.0	112	7.9	--	--
08...	1900	1.7	27.0	115	7.6	--	--
08...	2000	1.7	26.0	116	6.4	--	--
08...	2100	1.6	25.0	118	5.6	--	--
08...	2200	1.6	25.5	118	5.3	--	--
08...	2300	1.6	25.5	118	5.3	--	--
08...	2400	1.6	25.5	118	5.2	--	--
09...	0100	1.6	25.0	118	5.2	--	--
09...	0200	1.6	24.5	118	5.2	--	--
09...	0300	1.6	24.0	118	5.2	--	--
09...	0400	1.5	23.5	118	5.2	--	--
09...	0500	1.5	23.5	118	5.2	--	--
09...	0600	1.5	23.5	118	5.2	--	--
09...	0700	1.5	23.5	120	5.3	--	--
09...	0800	1.5	23.5	120	5.9	--	--
09...	0900	1.5	24.5	120	7.5	--	--
09...	1000	1.5	27.5	118	8.2	--	--
09...	1100	1.5	29.0	110	8.3	8.0	--
09...	1200	1.5	29.5	112	8.9	--	--
09...	1300	1.5	30.5	112	9.2	--	--
09...	1400	1.5	30.0	112	8.5	--	--
09...	1500	1.5	29.5	112	8.9	--	--
09...	1600	1.5	29.0	112	9.0	--	--
09...	1700	1.5	29.0	112	8.8	--	--
09...	1800	1.5	29.0	114	8.2	--	--
09...	1900	1.5	28.0	116	7.4	--	--
09...	2000	1.5	27.5	118	6.0	--	--
09...	2100	1.4	27.0	122	5.6	--	--
09...	2200	1.4	26.0	122	5.4	--	--
09...	2300	1.4	25.0	120	5.3	--	--
09...	2400	1.4	24.5	122	5.3	--	--
10...	0100	1.4	24.5	120	5.3	--	--
10...	0200	1.4	24.0	120	5.2	--	--
10...	0300	1.4	24.0	120	5.2	--	--
10...	0400	1.4	24.0	120	5.3	--	--
10...	0500	1.4	23.5	120	5.3	--	--
10...	0600	1.4	23.5	120	5.4	--	--
10...	0700	1.4	23.5	120	5.5	--	--
10...	0800	1.4	23.5	120	5.8	--	--

Table 8.--Continued

07280270 Tillatoba Creek at site 3

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM UNTINHTR 5 DAY (MG/L)
SEP , 1978							
21...	1800	1.6	28.0	108	6.8	--	--
21...	1900	1.7	25.5	108	6.0	--	--
21...	2000	1.7	24.5	108	5.7	--	--
21...	2100	1.7	24.0	108	5.5	--	--
21...	2200	1.7	23.5	108	5.5	--	--
21...	2300	1.6	23.0	108	5.5	--	--
21...	2400	1.6	22.0	110	5.6	--	--
22...	0100	1.5	21.5	110	5.7	--	--
22...	0200	1.5	21.5	110	5.7	--	--
22...	0300	1.5	21.5	110	5.7	--	--
22...	0400	1.4	21.0	110	5.6	--	--
22...	0500	1.4	21.0	112	5.6	--	--
22...	0600	1.4	20.5	112	5.6	--	--
22...	0700	1.4	20.5	112	5.7	--	--
22...	0800	1.5	20.0	112	6.2	7.3	--
22...	0900	1.5	21.0	112	7.0	--	--
22...	1000	1.5	21.5	112	7.6	--	--
22...	1100	1.5	22.0	110	8.4	--	--
22...	1200	1.5	22.0	108	8.8	--	--
22...	1300	1.6	22.5	108	9.2	--	--
22...	1400	1.6	24.0	108	9.2	--	--
22...	1500	1.6	25.5	108	9.3	--	--
22...	1600	1.6	27.0	108	9.3	--	--
AUG , 1979							
13...	1630	5.2	28.5	92	10.1	8.7	--
13...	1700	5.2	27.5	--	9.7	--	--
13...	1800	5.2	26.5	--	8.7	--	--
13...	1900	5.2	25.5	--	7.3	--	--
13...	2000	5.2	24.5	--	6.3	--	--
13...	2100	5.2	23.5	--	5.7	--	--
13...	2200	5.2	23.5	--	5.6	--	--
13...	2300	5.2	23.5	--	5.7	--	--
13...	2400	5.2	23.5	--	5.8	--	--
14...	0100	5.2	23.5	--	5.8	--	--
14...	0200	5.1	23.0	--	5.9	--	--
14...	0300	5.1	23.0	--	6.0	--	--
14...	0400	5.1	22.5	--	6.1	--	--
14...	0500	5.1	22.5	--	6.1	--	--
14...	0600	5.1	22.5	--	6.1	--	--
14...	0700	5.1	22.0	--	6.2	--	--

Table 8.--Continued

07280270 Tillatoba Creek at site 3

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
AUG , 1979							
14...	0800	5.1	22.0	--	6.5	--	--
14...	0900	5.0	23.0	--	7.9	--	--
14...	1000	5.0	24.0	--	9.5	--	--
14...	1030	5.0	25.5	92	9.9	7.9	--
14...	1100	5.0	26.0	--	10.1	--	--
14...	1200	5.0	26.5	--	10.4	--	--
14...	1300	5.1	27.0	--	10.3	--	--
14...	1400	5.1	28.5	--	10.2	--	--
14...	1500	5.1	28.0	--	9.9	--	--
14...	1600	5.1	28.0	--	9.8	--	--
14...	1700	5.2	28.0	--	9.7	--	--
14...	1800	5.2	27.5	--	9.1	--	--
14...	1900	5.2	26.5	--	8.0	--	--
14...	2000	5.2	26.0	--	7.0	--	--
14...	2100	5.2	25.5	--	6.4	--	--
14...	2200	5.2	25.0	--	6.3	--	--
14...	2300	5.2	24.5	--	6.4	--	--
14...	2400	5.2	24.0	--	6.4	--	--
15...	0100	5.1	23.5	--	6.5	--	--
15...	0200	5.1	23.0	--	6.6	--	--
15...	0300	5.1	23.0	--	6.7	--	--
15...	0400	5.1	22.5	--	6.8	--	--
15...	0500	5.1	22.5	--	6.8	--	--
15...	0600	5.1	22.0	--	6.9	--	--
15...	0700	5.0	22.0	--	7.1	--	--
15...	0800	5.0	22.5	--	8.1	--	--
15...	0900	5.0	24.0	--	9.1	--	--
15...	0930	5.0	24.0	90	9.6	7.5	--
15...	1000	5.0	25.5	--	9.9	--	--
15...	1100	5.0	27.0	--	10.4	--	--
15...	1200	5.0	28.5	--	10.7	--	--
15...	1300	4.9	31.5	80	10.8	8.6	--
15...	1400	4.9	29.5	--	11.0	--	--
15...	1500	4.9	29.5	--	11.0	--	--
15...	1600	4.9	29.5	--	10.6	--	--
15...	1700	4.9	29.0	--	10.0	--	--
15...	1800	4.9	28.5	--	9.4	--	--
15...	1900	4.9	27.5	--	8.5	--	--
15...	2000	4.9	27.0	--	7.4	--	--

Table 8.--Continued

07280270 Tillatoba Creek at site 3

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
AUG , 1979							
15...	2100	5.0	26.5	--	6.8	--	--
15...	2200	5.0	25.5	--	6.6	--	--
15...	2300	5.0	25.0	--	6.6	--	--
15...	2400	5.0	25.0	--	6.7	--	--
16...	0100	5.0	25.0	--	6.8	--	--
16...	0200	5.0	24.5	--	6.8	--	--
16...	0300	5.0	24.0	--	6.8	--	--
16...	0400	5.1	23.5	--	6.9	--	--
16...	0500	5.1	23.5	--	6.9	--	--
16...	0600	5.1	23.5	--	7.0	--	--
16...	0700	5.1	23.5	--	7.1	--	--
16...	0800	5.1	23.5	--	7.5	--	--
16...	0900	5.1	23.5	90	8.5	7.5	2.1
SEP							
18...	1530	5.4	25.0	--	8.2	--	--
18...	1600	5.4	25.0	--	8.1	--	--
18...	1700	5.4	25.0	--	7.8	--	--
18...	1800	5.2	25.0	--	7.5	--	--
18...	1900	5.2	25.0	--	7.1	--	--
18...	2000	5.2	24.5	--	6.6	--	--
18...	2100	5.2	24.5	--	6.5	--	--
18...	2200	5.2	24.5	--	6.5	--	--
18...	2300	5.1	24.5	--	6.5	--	--
18...	2400	5.1	24.5	--	6.6	--	--
19...	0100	5.1	24.5	--	6.7	--	--
19...	0200	5.1	24.5	--	6.7	--	--
19...	0300	5.1	24.0	--	6.8	--	--
19...	0400	5.1	24.0	--	6.8	--	--
19...	0500	4.9	24.0	--	6.9	--	--
19...	0600	4.9	24.0	--	6.9	--	--
19...	0700	4.9	24.0	--	7.0	--	--
19...	0800	4.9	24.0	--	7.2	--	--
19...	0900	4.9	24.0	--	7.8	--	--
19...	1000	4.9	24.0	--	8.0	--	--
19...	1100	4.9	24.5	--	8.4	--	--
19...	1200	4.9	24.5	--	8.6	--	--
19...	1300	4.9	25.0	--	8.6	--	--
19...	1400	4.9	25.5	--	8.6	--	--
19...	1500	4.9	25.5	--	8.4	--	--
19...	1600	4.9	25.5	--	8.1	--	--
19...	1700	4.9	25.5	--	7.6	--	--
19...	1730	4.9	25.0	--	7.0	--	.2

Table 8.--Continued

07280272 Tillatoba Creek at site 4

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHQS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, RINCHEN UNINHTR 5 DAY (MG/L)
AUG , 1979							
13...	1830	5.0	28.0	102	10.9	7.8	--
13...	1900	5.1	28.0	--	10.3	--	--
13...	2000	5.2	27.0	--	9.1	--	--
13...	2100	5.2	27.0	--	8.5	--	--
13...	2200	5.2	26.0	--	8.1	--	--
13...	2300	5.2	26.0	--	7.8	--	--
13...	2400	5.2	26.0	--	7.6	--	--
14...	0100	5.2	26.0	--	7.5	--	--
14...	0200	5.2	25.5	--	7.5	--	--
14...	0300	5.2	25.0	--	7.4	--	--
14...	0400	5.2	25.0	--	7.4	--	--
14...	0500	5.2	25.0	--	7.5	--	--
14...	0600	5.2	24.5	--	7.5	--	--
14...	0700	5.2	24.5	--	7.7	--	--
14...	0800	5.2	24.0	--	8.1	--	--
14...	0900	5.2	24.0	--	8.7	--	--
14...	1000	5.2	25.0	--	9.1	--	--
14...	1045	5.2	26.0	100	9.3	7.3	--
14...	1100	5.2	26.0	--	9.4	--	--
14...	1200	5.2	26.5	--	10.1	--	--
14...	1300	5.2	27.0	--	10.3	--	--
14...	1400	5.2	28.0	--	10.4	--	--
14...	1500	5.3	30.0	--	10.4	--	--
14...	1515	5.3	30.0	100	10.4	7.8	--
14...	1600	5.3	30.5	--	10.3	--	--
14...	1700	5.2	30.5	100	10.0	7.7	--
14...	1800	5.2	29.5	--	9.4	--	--
14...	1900	5.2	28.5	--	8.4	--	--
14...	2000	5.2	28.0	--	7.4	--	--
14...	2100	5.2	27.0	--	6.6	--	--
14...	2200	5.2	26.5	--	6.4	--	--
14...	2300	5.2	26.5	--	6.3	--	--
14...	2400	5.3	26.0	--	6.1	--	--
15...	0100	5.3	26.0	--	5.9	--	--
15...	0200	5.3	25.5	--	5.9	--	--
15...	0300	5.3	25.5	--	5.9	--	--
15...	0400	5.3	25.0	--	5.9	--	--
15...	0500	5.3	25.0	--	5.9	--	--
15...	0600	5.3	25.0	--	5.9	--	--

Table 8.--Continued

07280272 Tillatoba Creek at site 4

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM INHIB 5 DAY (MG/L)
AUG , 1979							
15...	0700	5.3	25.0	--	6.0	--	--
15...	0800	5.3	25.0	--	6.3	--	--
15...	0900	5.3	25.0	--	7.0	--	--
15...	0950	5.3	25.5	100	7.9	7.1	--
15...	1000	5.3	26.0	--	8.6	--	--
15...	1100	5.3	27.0	--	9.2	--	--
15...	1200	5.3	28.0	--	9.7	--	--
15...	1300	5.2	29.0	--	10.2	--	--
15...	1330	5.2	30.0	100	10.3	7.7	--
15...	1400	5.2	30.5	--	10.4	--	--
15...	1500	5.2	30.5	--	10.4	--	--
15...	1600	5.2	30.0	--	9.2	--	--
15...	1700	5.2	30.0	--	9.8	--	--
15...	1800	5.2	29.0	--	9.2	--	--
15...	1900	5.2	28.0	--	8.5	--	--
15...	2000	5.2	27.5	--	7.8	--	--
15...	2100	5.3	27.0	--	7.1	--	--
15...	2200	5.4	26.5	--	6.8	--	--
15...	2300	5.4	26.0	--	6.5	--	--
15...	2400	5.4	25.5	--	6.4	--	--
16...	0100	5.4	25.5	--	6.2	--	--
16...	0200	5.4	25.0	--	6.2	--	--
16...	0300	5.4	25.0	--	6.0	--	--
16...	0400	5.4	25.0	--	6.0	--	--
16...	0500	5.4	25.0	--	6.0	--	--
16...	0600	5.4	24.5	--	6.0	--	--
16...	0700	5.4	24.5	--	6.0	--	--
16...	0800	5.4	24.5	--	6.1	--	--
16...	0900	5.4	25.0	--	6.4	--	--
16...	1000	5.4	26.0	90	7.4	7.3	2.5
SEP							
18...	1700	5.5	23.0	--	7.1	--	--
18...	1800	5.5	23.0	--	6.7	--	--
18...	1900	5.5	23.0	--	6.4	--	--
18...	2000	5.5	23.0	--	6.2	--	--
18...	2100	5.5	23.0	--	6.1	--	--
18...	2200	5.6	23.0	--	6.0	--	--
18...	2300	5.6	23.0	--	6.0	--	--
18...	2400	5.6	23.0	--	6.0	--	--
19...	0100	5.6	23.0	--	6.1	--	--

Table 8.--Continued

07280272 Tillatoba Creek at site 4

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
SEP , 1979							
19...	0200	5.6	23.0	--	6.1	--	--
19...	0300	5.6	23.0	--	6.1	--	--
19...	0400	5.6	23.0	--	6.2	--	--
19...	0500	5.7	23.0	--	6.2	--	--
19...	0600	5.7	23.0	--	6.3	--	--
19...	0700	5.7	23.0	--	6.4	--	--
19...	0800	5.7	23.0	--	6.7	--	--
19...	0900	5.7	23.0	--	7.1	--	--
19...	0945	5.7	23.0	--	7.5	--	--
19...	1000	5.7	23.0	--	7.6	--	--
19...	1100	5.6	23.5	--	7.9	--	--
19...	1200	5.6	24.0	--	8.5	--	--
19...	1300	5.6	24.5	--	9.2	--	--
19...	1400	5.5	25.0	--	9.7	--	--
19...	1500	5.5	25.0	--	9.9	--	--
19...	1600	5.5	25.0	--	10.0	--	--
19...	1700	5.4	24.5	--	9.8	--	--
19...	1800	5.4	24.0	--	9.5	--	.7

Table 8.--Continued

07280330 South Fork Tillatoba Creek at site 10

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
APR , 1975							
22...	1310	15	19.0	72	9.3	6.2	--
JUN							
03...	1400	11	26.0	90	7.3	6.4	--
MAY , 1977							
25...	1300	3.7	27.5	108	7.4	7.1	--
AUG , 1978							
09...	1130	3.9	25.5	83	6.6	7.0	--
SEP							
22...	1100	2.5	23.0	98	7.6	7.0	--
AUG , 1979							
13...	2145	5.8	28.0	93	8.0	7.1	--
13...	2200	5.8	--	--	7.9	--	--
13...	2300	5.8	--	--	7.9	--	--
13...	2400	5.8	--	--	7.9	--	--
14...	0100	5.8	--	--	7.9	--	--
14...	0200	5.8	--	--	8.0	--	--
14...	0300	5.8	--	--	8.1	--	--
14...	0400	5.8	--	--	8.2	--	--
14...	0500	5.8	--	--	8.2	--	--
14...	0600	5.6	--	--	8.2	--	--
14...	0700	5.6	--	--	8.2	--	--
14...	0800	5.6	--	--	8.3	--	--
14...	0900	5.6	--	--	8.5	--	--
14...	1000	5.6	--	--	8.7	--	--
14...	1100	5.6	--	--	8.8	--	--
14...	1130	5.6	27.0	80	8.8	7.3	--
14...	1200	5.6	--	--	8.8	--	--
14...	1300	5.4	--	--	8.7	--	--
14...	1400	5.4	--	--	8.4	--	--
14...	1445	5.4	31.5	80	8.4	7.3	--
14...	1500	5.4	--	--	8.4	--	--
14...	1600	5.4	--	--	8.3	--	--
14...	1630	5.4	31.0	80	8.3	7.2	--
14...	1700	5.4	--	--	8.2	--	--
14...	1800	5.4	--	--	7.7	--	--
14...	1900	5.4	--	--	7.2	--	--
14...	2000	5.4	--	--	7.0	--	--
14...	2100	5.4	--	--	6.7	--	--
14...	2200	5.4	--	--	6.7	--	--
14...	2300	5.4	--	--	6.7	--	--

Table 8.--Continued

07280330 South Fork Tillatoba Creek at site 10

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
AUG , 1979							
14...	2400	5.4	--	--	6.7	--	--
15...	0100	5.4	--	--	6.8	--	--
15...	0200	5.4	--	--	6.9	--	--
15...	0300	5.4	--	--	7.0	--	--
15...	0400	5.4	--	--	7.1	--	--
15...	0500	5.6	--	--	7.1	--	--
15...	0600	5.8	--	--	7.3	--	--
15...	0700	6.1	--	--	7.5	--	--
15...	0800	6.5	--	--	7.7	--	--
15...	0900	6.9	--	--	8.0	--	--
15...	1000	6.9	--	--	8.2	--	--
15...	1035	7.6	25.5	80	8.3	7.2	--
15...	1100	7.2	--	--	8.3	--	--
15...	1200	6.9	--	--	8.3	--	--
15...	1300	6.9	--	--	8.3	--	--
15...	1400	6.9	--	--	8.3	--	--
15...	1430	6.9	30.0	80	8.3	7.2	--
15...	1500	6.7	30.0	--	8.2	--	--
15...	1600	6.7	30.0	--	7.9	--	--
15...	1700	6.7	29.0	--	7.7	--	--
15...	1800	6.5	28.0	--	7.6	--	--
15...	1900	6.5	27.0	--	7.3	--	--
15...	2000	6.5	25.5	--	7.1	--	--
15...	2100	6.5	24.5	--	6.9	--	--
15...	2200	6.3	24.0	--	6.7	--	--
15...	2300	6.3	23.5	--	6.8	--	--
15...	2400	6.3	23.5	--	6.8	--	--
16...	0100	6.3	23.5	--	6.8	--	--
16...	0200	6.1	23.5	--	6.8	--	--
16...	0300	6.1	23.0	--	6.8	--	--
16...	0400	6.1	23.0	--	6.8	--	--
16...	0500	5.8	23.0	--	6.8	--	--
16...	0600	5.8	23.0	--	6.8	--	--
16...	0700	5.8	23.0	--	6.7	--	--
16...	0800	5.6	23.0	--	6.9	--	--
16...	0900	5.4	23.0	--	7.2	--	--
16...	1000	5.2	24.0	--	7.7	--	--
16...	1100	5.0	24.5	80	8.2	7.2	2.5
SEP							
18...	1830	8.1	22.0	--	6.9	--	--

Table 8.--Continued

07280330 South Fork Tillatoba Creek at site 10

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHQS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
SEP , 1979							
18...	1900	8.1	--	--	6.9	--	--
18...	2000	8.1	--	--	6.9	--	--
18...	2100	7.9	--	--	6.8	--	--
18...	2200	7.8	--	--	6.8	--	--
18...	2300	7.7	--	--	6.7	--	--
18...	2400	7.6	--	--	6.7	--	--
19...	0100	7.5	--	--	6.6	--	--
19...	0200	7.4	--	--	6.5	--	--
19...	0300	7.3	--	--	6.5	--	--
19...	0400	7.2	--	--	6.5	--	--
19...	0500	7.1	--	--	6.6	--	--
19...	0600	7.0	--	--	6.6	--	--
19...	0700	6.9	--	--	6.7	--	--
19...	0800	6.8	--	--	6.9	--	--
19...	0900	6.7	--	--	7.2	--	--
19...	1000	6.6	--	--	7.6	--	--
19...	1030	6.6	22.5	--	7.9	--	--
19...	1100	6.6	--	--	7.9	--	--
19...	1200	6.6	--	--	7.9	--	--
19...	1300	6.5	--	--	7.9	--	--
19...	1400	6.5	--	--	8.1	--	--
19...	1500	6.5	--	--	8.0	--	--
19...	1600	6.5	--	--	7.8	--	--
19...	1700	6.4	--	--	7.4	--	--
19...	1800	6.4	--	--	6.9	--	--
19...	1845	6.4	23.0	--	6.5	--	1.1

Table 8.--Continued

07280340 South Fork Tillatoba Creek at site 11

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
MAY , 1977							
25...	1430	4.9	30.0	114	7.0	7.1	--
AUG , 1978							
09...	1145	5.6	27.5	85	8.0	7.2	--
SEP							
22...	1230	2.7	25.0	103	7.1	7.1	--
AUG , 1979							
13...	1945	7.1	27.5	95	8.2	7.2	--
13...	2000	7.1	--	--	8.1	--	--
13...	2100	7.1	--	--	7.8	--	--
13...	2200	7.1	--	--	7.7	--	--
13...	2300	7.1	--	--	7.5	--	--
13...	2400	7.1	--	--	7.4	--	--
14...	0100	7.1	--	--	7.3	--	--
14...	0200	7.1	--	--	7.3	--	--
14...	0300	7.1	--	--	7.3	--	--
14...	0400	7.1	--	--	7.3	--	--
14...	0500	7.2	--	--	7.4	--	--
14...	0600	7.2	--	--	7.4	--	--
14...	0700	7.2	--	--	7.6	--	--
14...	0800	7.2	--	--	8.1	--	--
14...	0900	7.2	--	--	8.2	--	--
14...	1000	7.2	--	--	8.4	--	--
14...	1100	7.2	27.0	90	8.5	7.2	--
14...	1200	7.1	27.5	--	8.5	--	--
14...	1300	7.1	29.0	--	8.6	--	--
14...	1400	7.1	30.0	--	8.7	--	--
14...	1500	7.1	31.5	90	8.6	7.1	--
14...	1600	7.2	31.5	--	8.3	--	--
14...	1640	7.2	31.5	90	8.1	7.2	--
14...	1700	7.2	31.0	--	8.0	--	--
14...	1800	7.2	30.5	--	7.8	--	--
14...	1900	7.2	30.0	--	7.4	--	--
14...	2000	7.2	29.0	--	7.0	--	--
14...	2100	7.2	28.5	--	6.8	--	--
14...	2200	7.2	28.0	--	6.7	--	--
14...	2300	7.2	28.0	--	6.7	--	--
14...	2400	7.3	27.5	--	6.6	--	--
15...	0100	7.3	27.0	--	6.6	--	--
15...	0200	7.3	26.5	--	6.6	--	--
15...	0300	7.3	26.0	--	6.5	--	--

Table 8.--Continued

07280340 South Fork Tillatoba Creek at site 11

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)
AUG , 1979							
15...	0400	7.4	26.0	--	6.6	--	--
15...	0500	7.4	25.0	--	6.7	--	--
15...	0600	7.4	25.0	--	6.7	--	--
15...	0700	7.4	24.5	--	6.8	--	--
15...	0800	7.4	24.5	--	7.0	--	--
15...	0900	7.4	25.0	--	7.4	--	--
15...	1000	7.4	26.0	--	7.7	--	--
15...	1010	7.4	26.0	90	7.8	7.2	--
15...	1100	7.4	27.0	--	7.9	--	--
15...	1200	7.4	28.0	--	8.2	--	--
15...	1300	7.4	29.5	--	8.4	--	--
15...	1355	7.4	30.5	90	8.6	7.6	--
15...	1400	7.4	30.5	--	8.6	--	--
15...	1500	7.4	31.0	--	8.6	--	--
15...	1600	7.4	31.5	--	8.5	--	--
15...	1700	7.4	31.0	--	8.1	--	--
15...	1800	7.4	30.5	--	7.3	--	--
15...	1900	7.4	30.5	--	7.1	--	--
15...	2000	7.4	29.5	--	7.0	--	--
15...	2100	7.4	29.0	--	6.8	--	--
15...	2200	7.4	29.0	--	6.8	--	--
15...	2300	7.4	28.5	--	6.8	--	--
15...	2400	7.4	28.0	--	6.8	--	--
16...	0100	7.4	28.0	--	6.9	--	--
16...	0200	7.4	27.5	--	6.9	--	--
16...	0300	7.4	27.0	--	6.9	--	--
16...	0400	7.4	27.0	--	7.0	--	--
16...	0500	7.4	26.5	--	7.0	--	--
16...	0600	7.4	26.0	--	7.2	--	--
16...	0700	7.4	26.0	--	7.3	--	--
16...	0800	7.4	25.5	--	7.5	--	--
16...	0900	7.4	25.0	--	7.7	--	--
16...	1000	7.4	25.5	--	7.9	--	--
16...	1030	7.4	25.5	80	8.0	--	2.2
SEP							
18...	1700	16	23.5	--	7.4	--	--
18...	1800	15	23.5	--	7.4	--	--
18...	1900	15	23.5	--	7.4	--	--
18...	2000	15	23.0	--	7.4	--	--
18...	2100	14	23.0	--	7.3	--	--

Table 8.--Continued

07280340 South Fork Tillatoba Creek at site 11

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)
SEP , 1979							
18...	2200	14	23.0	--	7.3	--	--
18...	2300	13	22.5	--	7.3	--	--
18...	2400	13	22.5	--	7.3	--	--
19...	0100	12	22.0	--	7.3	--	--
19...	0200	12	22.0	--	7.3	--	--
19...	0300	12	22.0	--	7.3	--	--
19...	0400	11	22.0	--	7.3	--	--
19...	0500	11	22.0	--	7.2	--	--
19...	0600	11	22.0	--	7.2	--	--
19...	0700	10	21.5	--	7.1	--	--
19...	0800	10	21.5	--	7.1	--	--
19...	0900	9.6	22.0	--	7.2	--	--
19...	1000	9.3	22.0	--	7.2	--	--
19...	1100	9.1	22.5	--	7.3	--	--
19...	1200	8.9	23.0	--	7.3	--	--
19...	1300	8.8	24.0	--	7.4	--	--
19...	1400	8.6	24.0	--	7.4	--	--
19...	1500	8.4	24.0	--	7.4	--	--
19...	1600	8.2	24.0	--	7.3	--	--
19...	1700	8.0	24.0	--	7.3	--	--
19...	1800	8.0	23.5	--	7.2	--	--
19...	1830	8.0	23.5	--	7.2	--	.2

Table 9.--Results of laboratory analyses and field determinations, 1975-78

07280250 Tillatoba Creek at site 1

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	TUR- BID- ITY (NTU)	COLOR (PLAT- INUM COBALT UNITS)	NITRO- GEN, TOTAL (MG/L AS NO3)	
APR , 1975										
22...	0930	8.8	16.0	70	9.6	6.4	20	55	.80	
JUN										
03...	1230	4.6	25.0	75	8.9	6.6	20	65	2.0	
MAY , 1977										
25...	0800	.79	22.5	130	7.8	6.7	4.0	5	2.6	
AUG , 1978										
09...	0830	.23	24.0	130	6.3	7.0	25	70	2.2	
SEP										
22...	1300	.39	23.0	96	9.4	7.1	20	60	1.5	
DATE		NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)
APR , 1975										
22...	.17	.00	.17	.01	.18	.00	.030	--	500	
JUN										
03...	.38	.01	.39	.06	.45	.01	.050	--	2200	
MAY , 1977										
25...	.45	.13	.58	.01	.59	.00	.050	430	--	
AUG , 1978										
09...	.40	.04	.44	.06	.50	.02	.060	*260	--	
SEP										
22...	.34	.00	.34	.00	.34	.00	.050	>600	--	

* NONIDEAL COLONY COUNT

Table 9.--Continued

07280264 Tillatoba Creek at site 2

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	TUR- BID- ITY (NTU)	COLOR (PLAT- INUM COBALT UNITS)	NITRO- GEN, TOTAL (MG/L AS NO3)
APR , 1975									
22...	1030	14	16.0	83	9.5	6.5	15	55	1.3
JUN									
03...	1100	8.4	23.5	93	8.0	6.7	15	55	1.9
MAY , 1977									
25...	0930	2.3	22.0	130	7.5	6.6	5.0	5	2.2
AUG , 1978									
09...	0945	2.0	24.0	127	8.3	7.4	6.0	30	2.5
SEP									
22...	1100	1.2	21.5	100	9.4	7.3	7.0	40	3.1

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, ORTHOPH- OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P)	COLI- FORM, FECAL, 0.7 IUM-MF (COLS./ 100 ML)	COLI- FORM, FECAL, 0.45 IUM-MF (COLS./ 100 ML)
APR , 1975									
22...	.23	.01	.24	.05	.29	.02	.040	--	500
JUN									
03...	.27	.03	.30	.13	.43	.02	.060	--	4000
MAY , 1977									
25...	.28	.13	.41	.09	.50	.01	.040	2600	--
AUG , 1978									
09...	.50	.01	.51	.05	.56	.01	.040	680	--
SEP									
22...	.63	.01	.64	.05	.69	.02	.030	>600	--

Table 9.--Continued

07280270 Tillatoba Creek at site 3

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	TUR- BID- ITY (NTU)	COLOR (PLAT- INUM COBALT UNITS)	NITRO- GEN, TOTAL (MG/L AS NO3)
APR , 1975									
22...	1100	19	18.0	80	9.2	6.6	15	48	1.3
JUN									
03...	0900	10	22.0	91	7.1	6.5	20	60	1.9
MAY , 1977									
25...	1100	3.0	26.0	123	7.2	6.7	5.0	5	3.0
AUG , 1978									
09...	1100	1.5	29.0	110	8.3	8.0	4.0	30	2.0
SEP									
22...	0800	1.5	20.0	112	6.2	7.3	8.0	50	3.0

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)
APR , 1975									
22...	.30	.00	.30	.00	.30	.03	.050	--	700
JUN									
03...	.23	.05	.28	.14	.42	.03	.080	--	*10900
MAY , 1977									
25...	.43	.16	.59	.09	.68	.01	.060	4600	--
AUG , 1978									
09...	.43	.01	.44	.01	.45	.01	.050	180	--
SEP									
22...	.63	.01	.64	.03	.67	.02	.040	1100	--

* NONIDEAL COLONY COUNT

Table 9.--Continued

07280275 Davis Creek at site 5

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	TUR- BID- ITY (NTU)	COLOR (PLAT- JNUM COBALT UNITS)	NITRO- GEN, TOTAL (MG/L AS NO3)
APR , 1975									
22...	0940	.91	15.0	70	9.1	5.7	15	40	3.7
JUN									
03...	0800	.50	20.0	75	6.3	6.5	40	100	4.7
MAY , 1977									
25...	1015	.10	21.0	88	5.4	6.6	4.0	5	2.3
AUG , 1978									
09...	0930	.12	23.0	85	4.2	6.9	10	20	2.9
SEP									
22...	0845	.06	22.0	94	5.2	6.8	9.0	70	4.1

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)
APR , 1975									
22...	.58	.11	.69	.15	.84	.01	.050	--	>6000
JUN									
03...	.61	.09	.70	.37	1.1	.03	.090	--	>30000
MAY , 1977									
25...	.20	.10	.30	.22	.52	.01	.060	500	--
AUG , 1978									
09...	.58	.04	.62	.03	.65	.01	.070	6000	--
SEP									
22...	.78	.08	.86	.07	.93	.06	.080	500	--

Table 9.--Continued

07280280 Davis Creek at site 6

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	TUR- BID- ITY (NTU)	COLOR (PLAT- INUM COBALT UNITS)	NITRO- GEN, TOTAL (MG/L AS NO3)
APR , 1975									
22...	1015	4.4	14.7	66	10.0	5.8	45	90	1.4
JUN									
03...	1500	2.7	23.0	75	8.0	6.6	30	65	2.9
MAY , 1977									
25...	1115	.86	21.5	71	6.9	7.2	10	5	1.6
AUG , 1978									
09...	1015	1.0	23.0	68	8.1	7.1	15	50	2.9
SEP									
22...	0930	.66	21.0	72	7.4	7.0	25	70	1.7

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)
APR , 1975									
22...	.29	.01	.30	.01	.31	.01	.060	--	900
JUN									
03...	.43	.03	.46	.19	.65	.02	.060	--	*2560
MAY , 1977									
25...	.22	.02	.24	.12	.36	.01	.050	390	--
AUG , 1978									
09...	.59	.01	.60	.06	.66	.01	.070	680	--
SEP									
22...	.27	.00	.27	.12	.39	.03	.060	520	--

* NONIDEAL COLONY COUNT

Table 9.--Continued

07280285 South Fork Tillatoba Creek at site 7

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	TUR- BID- ITY (NTU)	COLOR (PLAT- INUM COBALT UNITS)	NITRO- GEN, TOTAL (MG/L AS NO3)
APR , 1975									
22...	1120	5.5	16.0	70	10.8	6.1	30	75	1.2
JUN									
03...	1430	4.6	25.0	83	7.6	6.6	30	100	1.6
MAY , 1977									
25...	1200	1.6	25.5	82	6.6	6.8	20	60	1.2
AUG , 1978									
09...	1100	1.8	25.0	64	7.8	6.9	20	75	2.5
SEP									
22...	1015	1.2	22.5	84	7.7	6.8	37	140	2.2

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)
APR , 1975									
22...	.23	.01	.24	.04	.28	.01	.050	--	666
JUN									
03...	.14	.06	.20	.15	.35	.03	.060	--	3000
MAY , 1977									
25...	.12	.07	.19	.07	.26	.03	.080	330	--
AUG , 1978									
09...	.45	.06	.51	.06	.57	.03	.090	*1100	--
SEP									
22...	.44	.03	.47	.02	.49	.10	.120	620	--

* NONIDEAL COLONY COUNT

Table 9.--Continued

07280290 Simmons Creek at site 8

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	TUR- BID- ITY (NTU)	COLOR (PLAT- INUM COBALT UNITS)	NITRO- GEN, TOTAL (MG/L AS NO3)
APR , 1975									
22...	0835	5.3	15.5	67	9.4	6.0	25	85	1.5
JUN									
03...	1130	1.7	25.0	75	9.1	6.8	20	85	1.8
MAY , 1977									
25...	0800	.25	20.5	106	6.2	6.7	7.0	5	1.5
AUG , 1978									
09...	0730	.19	23.0	90	5.4	6.8	70	160	4.4
SEP									
22...	0830	.32	22.0	75	7.1	7.0	95	350	7.3

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)
APR , 1975									
22...	.25	.04	.29	.04	.33	.03	.060	--	500
JUN									
03...	.33	.03	.36	.05	.41	.01	.060	--	*100
MAY , 1977									
25...	.27	.05	.32	.01	.33	.01	.050	*8500	--
AUG , 1978									
09...	.95	.03	.98	.02	1.0	.06	.090	2200	--
SEP									
22...	1.6	.05	1.6	.04	1.6	.03	.320	--	--

* NONIDEAL COLONY COUNT

Table 9.--Continued

07280295 Simmons Creek at site 9

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	TUR- BID- ITY (NTU)	COLOR (PLAT- INUM COBALT UNITS)	NITRO- GEN, TOTAL (MG/L AS NO3)
APR , 1975									
22...	0915	8.1	16.0	77	9.3	6.1	25	75	1.6
JUN									
03...	1530	2.9	27.0	97	7.5	6.6	30	100	1.9
MAY , 1977									
25...	0915	.39	22.0	123	5.7	7.0	7.0	5	1.5
AUG , 1978									
09...	0830	.45	24.0	100	6.6	6.9	45	120	4.5
SEP									
22...	0800	.29	24.0	92	7.0	6.6	35	130	5.1

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)
APR , 1975									
22...	.30	.02	.32	.04	.36	.03	.050	--	583
JUN									
03...	.32	.03	.35	.08	.43	.02	.060	--	2700
MAY , 1977									
25...	.22	.08	.30	.03	.33	.01	.060	2400	--
AUG , 1978									
09...	.93	.04	.97	.05	1.0	.03	.130	*770	--
SEP									
22...	1.1	.03	1.1	.06	1.2	.04	.160	1200	--

*NONIDEAL COLONY COUNT

Table 9.--Continued

07280330 South Fork Tillatoba Creek at site 10

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	TUR- BID- ITY (NTU)	COLOR (PLAT- INUM COBALT UNITS)	NITRO- GEN, TOTAL (MG/L AS NO3)
APR , 1975									
22...	1310	15	19.0	72	9.3	6.2	25	90	1.5
JUN									
03...	1400	11	26.0	90	7.3	6.4	30	100	1.8
MAY , 1977									
25...	1300	3.7	27.5	108	7.4	7.1	9.0	5	1.8
AUG , 1978									
09...	1130	3.9	25.5	83	6.6	7.0	40	400	--
SEPT									
22...	1100	2.5	23.0	98	7.6	7.0	56	120	2.9

83

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)
APR , 1975									
22...	.30	.02	.32	.02	.34	.01	.050	--	600
JUN									
03...	.20	.07	.27	.13	.40	.04	.080	--	4600
MAY , 1977									
25...	.28	.07	.35	.06	.41	.02	.090	* 170	--
AUG , 1978									
09...	.90	.02	.92	--	--	.04	.160	640	--
SEPT									
22...	.58	.03	.61	.04	.65	.05	.220	1200	--

*NONIDEAL COLONY COUNT

Table 9.--Continued

07280340 South Fork Tillatoba Creek at site 11

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	TUR- BID- ITY (NTU)	COLOR (PLAT- INUM COBALT UNITS)	NITRO- GEN, TOTAL (MG/L AS NO3)
MAY , 1977									
25...	1430	4.9	30.0	114	7.0	7.1	10	5	1.4
AUG , 1978									
09...	1145	5.6	27.5	85	8.0	7.2	40	80	2.5
SEP									
22...	1230	2.7	25.0	103	7.1	7.1	69	300	4.4

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)
MAY , 1977									
25...	.24	.08	.32	.00	.32	.01	.070	410	--
AUG , 1978									
09...	.50	.03	.53	.03	.56	.04	.160	1000	--
SEP									
22...	.93	.01	.94	.06	1.0	.02	.250	280	--

Table 9.--Continued

07280365 Tillatoba Creek at site 12

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	TUR- BID- ITY (NTU)	COLOR (PLAT- INUM COBALT UNITS)	NITRO- GEN, TOTAL (MG/L AS NO3)
APR , 1975									
22...	1230	51	21.0	90	9.4	6.6	20	55	1.4
JUN									
03...	0945	31	22.5	93	7.9	6.8	20	65	1.8
MAY , 1977									
25...	1300	8.8	29.0	110	6.4	6.8	4.0	5	4.3
AUG , 1978									
09...	1330	7.9	29.0	119	7.3	7.7	15	40	4.5
SEP									
22...	1000	5.4	23.5	110	--	7.3	20	55	3.3

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, ORTHOPH- OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)
APR , 1975									
22...	.28	.00	.28	.03	.31	.03	.060	--	1100
JUN									
03...	.23	.02	.25	.15	.40	.03	.070	--	4800
MAY , 1977									
25...	.73	.22	.95	.01	.96	.01	.070	*4800	--
AUG , 1978									
09...	1.0	.00	1.0	.01	1.0	.02	.090	620	--
SEP									
22...	.70	.02	.72	.02	.74	.08	.070	500	--

* NONIDEAL COLONY COUNT

Table 9.--Continued

07280400 Tillatoba Creek at site 13

DATE	TIME	SIDEAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	OXYGEN, DIS- SOLVED (MG/L)	PH (UNITS)	TUR- BID- ITY (NTU)	COLOR (PLAT- INUM CORAL UNITS)	NITRO- GEN, TOTAL (MG/L AS NO3)
APR , 1975									
22...	1430	61	21.0	105	8.3	6.3	20	60	1.5
JUN									
03...	1030	41	24.5	120	6.8	6.6	25	70	1.9
MAY , 1977									
25...	1500	11	31.0	135	6.2	7.1	4.0	5	2.5
AUG , 1978									
09...	1430	15	29.0	115	7.4	7.3	95	160	4.5
SEP									
22...	1500	8.5	26.5	135	7.9	7.4	32	60	3.2

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, ORTHOPH- OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML)
APR , 1975									
22...	.32	.00	.32	.02	.34	.04	.050	--	416
JUN									
03...	.18	.07	.25	.19	.44	.04	.110	--	*16800
MAY , 1977									
25...	.43	.13	.56	.00	.56	.01	.070	3400	--
AUG , 1978									
09...	.88	.06	.94	.08	1.0	.06	.320	4500	--
SEP									
22...	.68	.02	.70	.03	.73	.03	.120	>600	--

* NONIDEAL COLONY COUNT

Table. 10.--Time-of-Travel data for selected stream reaches,
1975-79

Date	Stream reach			Elapsed travel time of dye, in hours		
	Site numbers	Distance, in miles	Average Discharge, in ft ³ /s	Leading edge	Peak	Trailing edge
4/23/75 8/17/76	1 to 2	3.5	11.2 .62	5.4 33.0	6.9 46.4	12.9 e80
4/22/75 8/17/76 8/14/79	2 to 3	3.5	16.4 1.1 4.2	9.0 25.1 11.8	10.4 33.0 13.8	16.2 e50 20.0
8/13/79	3 to 4	2.3	5.2	11.5	14.8	21.8
4/21/75 8/16/76 8/14/79	3 to 12	3.8	25.5 1.8 5.2	9.1 25.2 17.2	10.6 30.0 20.8	14.4 e41 30.0
4/22/75 8/16/76 8/15/79	6 to 7	1.8	4.6 1.0 e4.5	5.5 13.6 6.0	6.3 15.6 7.0	11.0 e27 13.0
4/21/75 8/16/76 8/14/79	7 to 10	2.7	9.6 1.8 e5.2	9.7 25.6 17.0	11.2 31.9 19.2	21.7 e50 24.0
4/13/75 8/17/76	8 to 9	2.3	5.9 .26	8.9 e94	10.4 e110	16.0 e170
4/23/75 8/14/76 8/15/79	9 to mouth	4.2	8.2 .50 e1.8	16.9 e142 66.2	19.1 e160 77.2	25.5 e213 e 95
4/22/75 8/16/76 8/14/79	10 to 12	4.4	19.6 3.2 6.6	8.6 38.5 16.0	10.0 46.6 19.0	14.8 e70 25.5
4/21/75 8/17/76	12 to 13	5.8	56.5 7.5	9.6 18.7	11.0 23.3	15.9 e34

e = Estimated

USGS LIBRARY-RESTON



3 1818 00071546 4