STATE OF LOUISIANA
DEPARTMENT OF PUBLIC WORKS

Water Resources
TECHNICAL
REPORT NO. 11

SURFACE-WATER RESOURCES OF THE TANGIPAHOA, TCHEFUNCTA, AND NATALBANY RIVER BASINS, SOUTHEASTERN LOUISIANA

Prepared by
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
In cooperation with
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By

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U.S. Geological Survey

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Multiply English units	By	To obtain SI units
acre-feet (acre-ft)	1233	cubic metres (m^3)
acre-feet per square mile (acre-ft/mi^2)	476.1	cubic metres per square kilometre (m^3/km^2)
cubic feet per second (ft^3/s)	28.32	litres per second (l/s)
	.02832	cubic metres per second (m^3/s)
cubic feet per second per square mile [(ft^3/s)/mi^2]	10.93	litres per second per square kilometre [(l/s)/km^2]
feet (ft)	.3048	metres (m)
inches (in)	2.54	centimetres (cm)
miles (mi)	1.609	kilometres (km)
miles per hour (mi/h)	1.609	kilometres per hour (km/h)
million gallons per day (Mgal/d)	.04381	cubic metres per second (m^3/s)
	43.81	litres per second (l/s)
pounds (lb)	.4536	kilograms (kg)
square miles (mi^2)	2.590	square kilometres (km^2)

(To convert temperature in °C to °F, multiply by 9/5 and add 32.)

SURFACE-WATER RESOURCES OF THE TANGIPAHOA, TCHEFUNCTA, AND NATALBANY RIVER BASINS, SOUTHEASTERN LOUISIANA

By Larry D. Fayard and Dale J. Nyman

ABSTRACT

The Tangipahoa, Tchefuncta, and Natalbany River basins are in southeastern Louisiana, north of Lakes Maurepas and Pontchartrain. The combined average flow of the Tangipahoa, Tchefuncta, and Natalbany Rivers is about 1,400 cubic feet per second, or 900 million gallons per day.

Rivers in the Tangipahoa and Tchefuncta basins have very good connection with the shallow aquifers and, therefore, have high sustained yields during periods of base flow. The lowest flow recorded in Tangipahoa River at Robert (1938-74) was 245 cubic feet per second, which is equivalent to a basin yield of 0.38 cubic foot per second per square mile of drainage area--about 0.25 million gallons per day per square mile. The lowest flow recorded in Tchefuncta River near Folsom (1943-74) was 26 cubic feet per second, equivalent to 0.27 cubic foot per second per square mile (about 0.18 million gallons per day). The quality of the water in both rivers is good, and dissolved solids are generally less than 50 milligrams per litre. These two rivers are good potential sources for municipal and industrial water supplies, with a minimum of treatment required. Fecal coliform bacteria in undesirable amounts (greater than 200 colonies per 100 millilitres) have been detected in the two rivers, indicating periodic pollution by bacterial wastes.

Streams in the Natalbany basin are poorly connected to the shallow aquifer. A 1-day low flow of 1.8 cubic feet per second (1943-74), equivalent to 0.023 cubic foot per second per square mile of drainage area (about 0.015 million gallons per day) was recorded at Baptist. Large withdrawals from these streams would not be feasible because of the large amount of storage that would be required. The water is slightly more mineralized than water from the other basins but is generally of good quality.

INTRODUCTION

The report area consists of three basins that drain a total of 1,440 mi^2 in southeastern Louisiana (pl. 1) in the Gulf Coastal Plain province. The landforms range from rolling uplands in the north to flat marshland in the south, and elevations range from about 360 ft in the northeast corner of the area to near sea level along the shores of Lake Pontchartrain.

The climate in the report area is semitropical. The average temperature is 67°F (19.5°C). The average maximum and minimum temperatures for January are 62°F (16.5°C) and 40°F (4.5°C), respectively. July has an average maximum temperature of 91°F (33.0°C) and an average minimum temperature of 73°F (23.0°C). Annual rainfall, about 59 in, is evenly distributed throughout the year. Generally, July is the wettest month, averaging 6.44 in of rain; and October is the driest month, averaging 2.82 in. The area is in the hurricane belt and has been affected by three recent hurricanes--Hilda (1964), Betsy (1965), and Camille (1969).

The population density of the report area is 76 people per mi^2. About 64 percent of the population live in rural areas, although only 6 percent live on rural farms. About 22 percent of the area is farmland and 65 percent is forest land (Bobo and Charlton, 1974).

There are no State laws regulating the withdrawal of surface waters. Disposal of municipal wastes is governed by the Louisiana Health and Human Resources Administration, Division of Health. Disposal of industrial wastes is regulated by the Louisiana Stream Control Commission.

The Tangipahoa River is the largest river in the report area and is a potential source for municipal or industrial water supplies. The water is low in dissolved solids and has very low concentrations of suspended solids during base-flow periods. No organic or inorganic substances in harmful amounts were detected, and the river is used primarily for recreational purposes. Withdrawals for wash water for sand and gravel dredging is the only major commercial use of water from streams at the present time. There are no known withdrawals for domestic or municipal uses.

The Tchefuncta River is used principally for recreational purposes. In the past, the reach of river below U.S. Highway 190 was a receiving stream for municipal waste, but presently it is unaffected by waste disposal. The quality of water in the reach above Covington is similar to that of the Tangipahoa River, but the reach below Covington is affected by salt-water intrusion from Lake Pontchartrain.

The Natalbany River, a tributary to the Tickfaw River, has a low basin yield and is used only for recreational purposes. The water is slightly more mineralized than water from other streams in the report area. The quality of water from tributaries to the river in the south section of the basin is affected by local waste disposal.

The purpose of this report is to appraise the surface-water resources of the Tangipahoa, Tchefuncta, and Natalbany River basins. Both the quantity and quality of the surface water are considered.

Acknowledgments.--The work was done as part of a continuing program of water-resources investigations in Louisiana in cooperation with the Louisiana Department of Public Works. Some data were provided by the Louisiana Health and Human Resources Administration, Division of Health and the Louisiana Stream Control Commission.

Previous work.--A detailed appraisal of the water resources of the Lake Pontchartrain area by Cardwell, Forbes, and Gaydos (1967) covers the southern part of the report area. A report by Calandro (1967) describes rainfall-runoff relations in the area, and unit hydrographs for the area are described by Sauer (1967). Sauer (1964) included area basins in a report on the frequency and magnitude of floods in Louisiana, which is currently being revised. An analysis of stream temperatures has been made by Calandro (1973). Basic data on the quantity and quality of streamflow at sites in the area are published in U.S. Geological Survey water-supply papers at 5-year intervals and annually in "Water Resources Data for Louisiana."

QUANTITY OF SURFACE WATER

The Tangipahoa River drains 771 mi^2 of which 554 mi^2 are in Louisiana, and the remainder in Mississippi. The Tchefuncta River drains approximately 450 mi^2, and the Natalbany River approximately 218 mi^2--all in Louisiana. The Tangipahoa and Tchefuncta Rivers drain into Lake Pontchartrain, and the Natalbany River drains into Lake Maurepas via the Tickfaw River. The following table lists the mean flow and the extreme flows for three key discharge stations in the basins.

Station number	Station name	Period of record	Discharge, in ft^3/s (Mgal/d)		
			Maximum	Minimum	Mean
07375000	Tchefuncta River near Folsom--	1943-74	29,200 (18,900)	26 (17)	160 (103)
07375500	Tangipahoa River at Robert----	1938-74	50,500 (32,600)	245 (158)	1,100 (711)
07376500	Natalbany River at Baptist-----	1943-74	9,550 (6,170)	1.8 (1.2)	112 (72)

Flow Duration

The Tangipahoa and Tchefuncta River basins have high sustained yields during periods of base flow because the streams are well incised into the permeable shallow aquifer. In the Natalbany River basin the shallow aquifer is buried more deeply by sediments of low permeability than in the other two basins. Consequently, the Natalbany River and its tributaries cut through clayey deposits and have a very low sustained flow.

The base-flow characteristics of streams in the basins are illustrated by the flow-duration curves in figure 1. These curves were drawn on the basis of long-term data at key sites and data from low-flow stations (pl. 1) so that they can be applied throughout the basins. The curve for the Tangipahoa and Tchefuncta River basins (curve A) has a very low, slowly decreasing slope. This flatness indicates a sustained high yield from the ground-water reservoir. Conversely, the Natalbany River basin (curve B) has a rapidly decreasing slope. This indicates that the stream receives a much smaller contribution from the shallow aquifer.

These curves can be used to estimate the discharge at any site on the main stem of the major rivers and on the lower reaches of large tributaries. For example, from curve A an estimate of the flow that would be equaled or exceeded 95 percent of the time in Tangipahoa River near Amite would be 218 ft^3/s [474 mi^2 1/ times 0.46 $(ft^3/s)/mi^2$]. The curves on the right in figure 1 can be used to estimate flow in small tributaries and in the upper reaches of larger tributaries in the Tangipahoa and Tchefuncta basins. The duration curve for the Natalbany River is applicable to all streams in that basin.

The range of daily flows that have been experienced at selected sites is shown by the flow-duration hydrographs on plate 2. Also shown are the daily flows that can be expected 20, 50, and 80 percent of the time. High base flow for the basins would be represented by a flow of approximately 90-percent duration and reaches a maximum during the month of February. The Natalbany River has had large variations in flow at various times during the year; the Tangipahoa and Tchefuncta Rivers generally have large variations during winter and early spring.

Low-Flow Frequency

Periods of low flow determine the minimum amounts of water available for use without storage; therefore, for planning purposes, knowledge of the occurrence of minimum flows is essential. Based on long-term data, the probable occurrence of low flows for selected periods can be predicted (fig. 2). Flow is expressed in unit yield and is the lowest average flow for the indicated period. These curves apply to the main stems of the rivers and to the lower reaches of their large tributaries. As an example of the use of figure 2, in the Tangipahoa River the lowest average discharge for 7 consecutive days that will occur at an average 2-year interval is approximately 0.55 $(ft^3/s)/mi^2$. Likewise, a minimum average flow of 0.43 $(ft^3/s)/mi^2$ for 7 consecutive days will occur on the average of approximately once in 20 years.

1/Drainage area can be estimated from the report "Drainage Area of Louisiana Streams," by Sloss (1971).

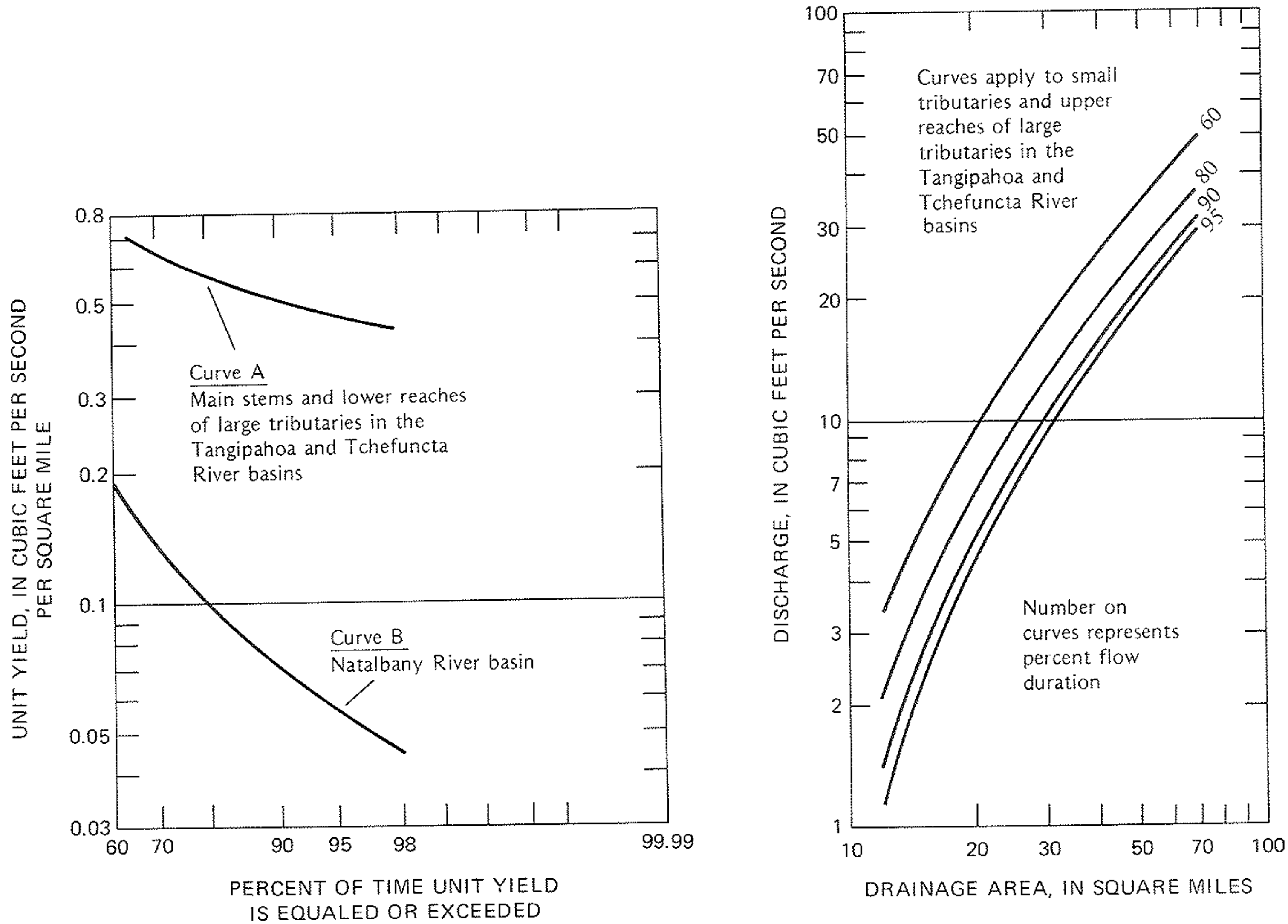

Figure 1.--Partial flow duration (unit yield) of streams in the report area.

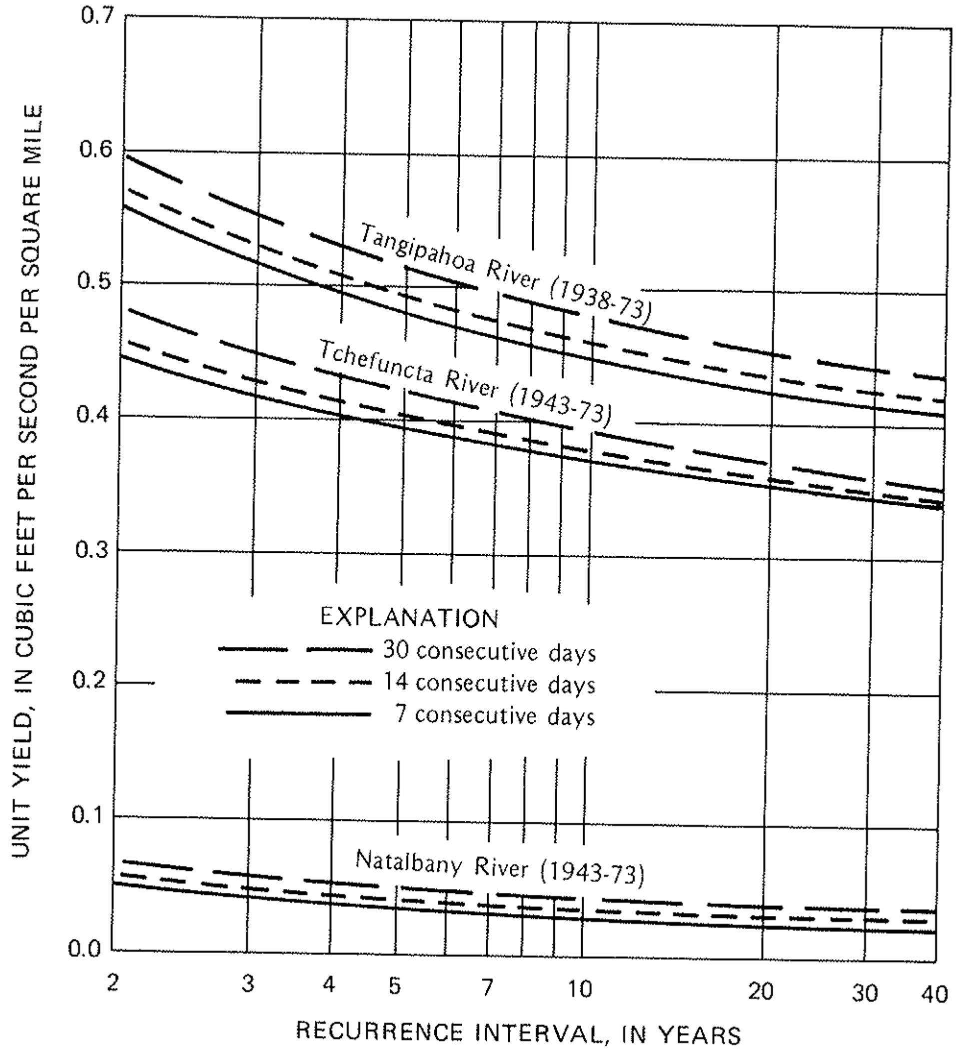

Figure 2.--Low-flow recurrence for selected periods.

The well-sustained flow in the Tangipahoa and Tchefuncta Rivers is also shown by the amount of the 7-day, 20-year flow (table 1). This flow for Tangipahoa River at Robert is 276 ft^3/s (178 Mgal/d), or about 40 times the combined average rate of water use by the cities of Hammond and Slidell. The 7-day, 20-year flow for Tchefuncta River near Covington is 51 ft^3/s (33 Mgal/d). The 7-day, 20-year flow for Natalbany River at Baptist is only 2.3 ft^3/s (1.5 Mgal/d); downstream, below the confluence of the Little Natalbany River, this flow increases to 6.8 ft^3/s (4.4 Mgal/d). It should be noted that the flows given in table 1 represent the total natural flow at the indicated site.

Draft Storage

If the demand for water from streams in the area should approach or exceed minimum flow, it might become necessary or desirable to create and utilize storage facilities. The amount of storage required is

Table 1. --Low-flow frequency for sites in the Tangipahoa, Tchefuncta, and Natalbany River basins

Station	Period of flow, in days	Minimum average discharge, in cubic feet per second (million gallons per day), for the indicated period			
Recurrence interval, in years-------------------		2	5	10	20
Tangipahoa River near Kentwood	7	132 (85)	113 (73)	107 (69)	101 (65)
(1956-73; drainage area, 237 mi^2)---	14	135 (87)	116 (75)	110 (71)	104 (67)
Tangipahoa River at Robert	7	358 (231)	310 (200)	291 (188)	276 (178)
(1938-73; drainage area, 646 mi^2)---	14	367 (237)	317 (205)	297 (192)	283 (183)
Tchefuncta River near Folsom	7	42 (27)	36 (23)	33 (21)	31 (20)
(1943-73; drainage area, 95.5 mi^2)--	14	43 (28)	37 (24)	34 (22)	31 (20)
Tchefuncta River near Covington	7	65 (42)	57 (37)	53 (34)	51 (33)
(1963-67; drainage area, 145 mi^2)---	14	66 (43)	59 (38)	54 (35)	51 (33)
Natalbany River at Baptist	7	4.3 (2.8)	3.3 (2.1)	2.6 (1.7)	2.3 (1.5)
(1943-73; drainage area, 79.5 mi^2)--	14	4.6 (3.0)	3.4 (2.2)	2.9 (1.9)	2.5 (1.6)

dependent upon (1) the draft rate, (2) the low flow and frequency of low flow, and (3) the chance of failure that can be tolerated. The 7-day, 2-year flow is generally used as a basis for design of storage facilities. The storage needed for selected draft rates at two reliability levels is shown in figure 3. The solid curves represent volumes of storage that have a 10-percent chance of being depleted in any given year. Likewise, the dashed curves represent storage volumes that have a 5-percent chance of being depleted. These curves are constructed on a regional basis and apply to all streams in the basin except those that have no flow for periods of 7 or more consecutive days at average intervals of 2 years. Values for the 95-percent flow duration and the 7-day, 2-year flow are almost identical for streams in this part of the State, and either value can be used. The 95-percent flow duration for basins in the area that are larger than 15 mi^2 can be obtained from figure 1, and an estimate of the drainage area can be obtained from the report "Drainage Area of Louisiana Streams" (Sloss, 1971).

The storage requirements are for the streams in their present, essentially undeveloped, state. If the streams are subjected to withdrawals upstream from the desired site, then the 7-day, 2-year discharge must be adjusted downward to compensate for the diminished flow.

The following example illustrates the use of the draft-storage curves. A selected site has a drainage area of 50 mi^2 and a 7-day, 2-year flow of 0.38 $(ft^3/s)/mi^2$. The storage required to maintain a constant draft rate of 25 ft^3/s [0.5 $(ft^3/s)/mi^2$] with a 10-percent chance of failure is 31 acre-ft/mi^2 of drainage area times 50 mi^2, or 1,550 acre-ft. This figure should be adjusted for loss of water by seepage, evaporation and transpiration, and the reduction of reservoir capacity by siltation. These are variable factors that must be considered in computing storage requirements for specific sites but were not considered in preparing figure 3.

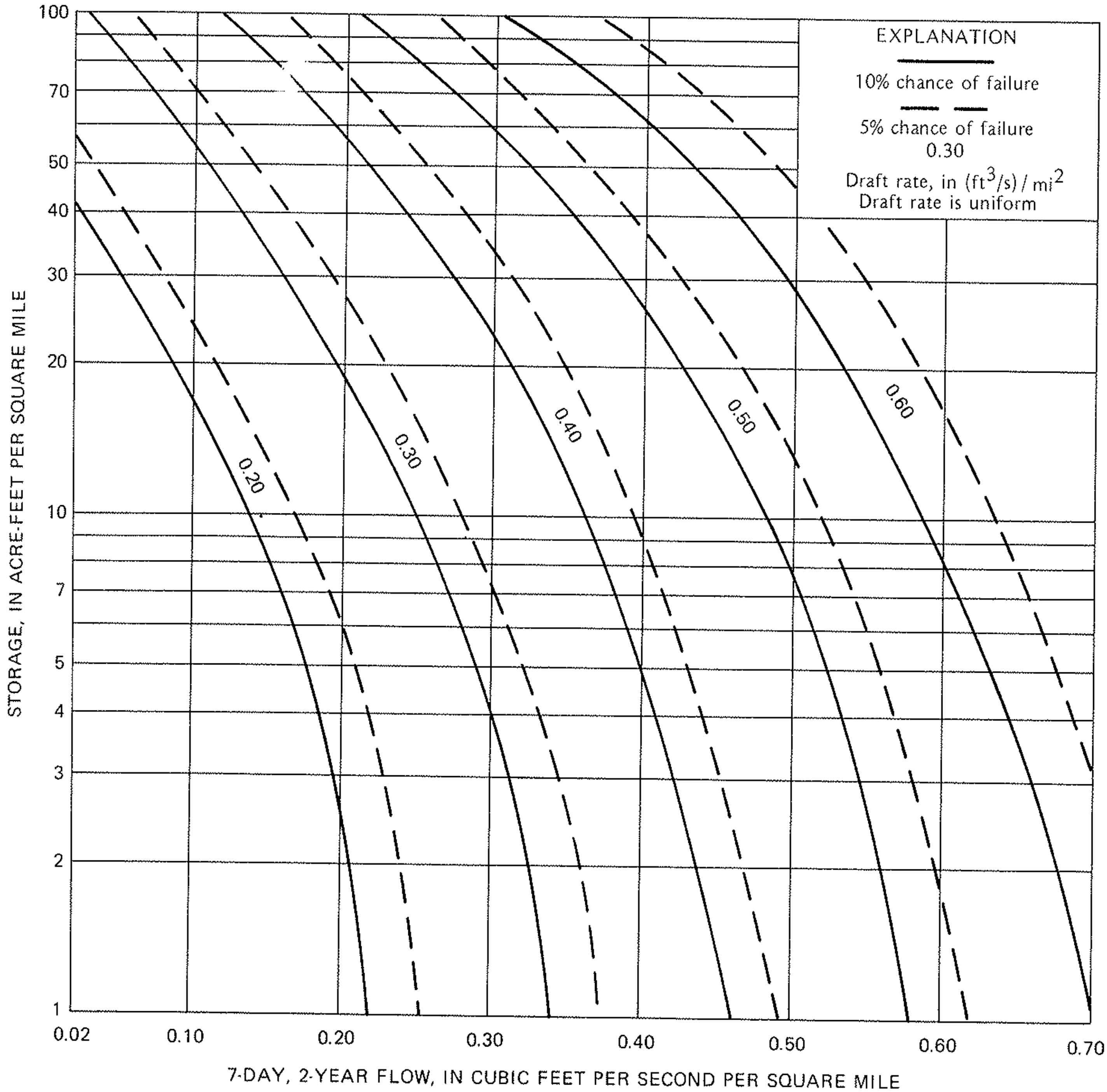

Figure 3.--Relation of within-year storage requirements for selected draft rates to the 7-day, 2-year flow.

Flood Frequency

It is essential that persons planning construction or other development on the flood plains of rivers have some knowledge of the occurrence of flooding. It is important to know the frequency of flood events as well as the magnitude.

Floods on streams in the Natalbany and Tangipahoa River basins have similar characteristics. Assuming the same frequency and size of drainage area, the streams in the Tchefuncta River basin will have floods of about 30-percent greater magnitude than streams in the Tangipahoa River basin. The southeast section of the study area is flat and swampy, and streams such as Bayou Liberty, Bayou Lacombe, and Bayou Bonfouca will have floods of about 40-percent less magnitude than will comparable streams in the Tangipahoa River basin.

The frequency and the magnitude of flood peaks for various drainage areas in the basin can be determined from figure 4, which is based on the work by Sauer (1964). The discharge for a selected drainage area and recurrence interval must be multiplied by the correction factor for that particular basin (fig. 4) in order to obtain the appropriate peak discharge. For example, the peak discharge for a 50-year flood from a 100-mi^2 area in the Natalbany and Tangipahoa River basins is 10,800 ft^3/s (1.00x10,800 ft^3/s); whereas the peak discharge in the Tchefuncta River basin, using the same criteria, is about 14,000 ft^3/s (1.30x10,800 ft^3/s).

Flood-Prone Areas

Peak water-surface elevations during flood conditions are of interest to persons having or planning structures or activities on the flood plains of major streams. The profile of a 50-year flood of the Tangipahoa River is shown in figure 5. A flood of this magnitude will occur, on the average, once in 50 years. The 50-year flood is one criterion used for design purposes, although 100- or 200-year floods may be used to improve the safety factor. Peak elevations between sites shown can be estimated only roughly because of the varying channel and flood-plain configuration. However, use of these elevations in conjunction with a topographic map of the area will give the user a general picture of the areal extent and approximate depth of overbank flow. A more accurate prediction of peak water-surface elevations at specific sites would necessitate a more thorough study. Historical data for peak water-surface elevations and discharge for other streams in the area can be obtained from the report "Floods in Louisiana, Magnitude and Frequency," second edition (Sauer, 1964).

Flood-prone areas near the Tangipahoa and Tchefuncta Rivers have been delineated to show approximate areas that are occasionally flooded (pl. 3). The perimeter of the occasionally flooded area is based on the highest water-surface elevations that are known, and the area mapped represents susceptibility to localized flooding rather than a single basinwide flood. Maps of flood-prone areas in these basins are available in the Louisiana District office. These maps are drawn to a scale of 1:62,500 or 1:24,000. The flood-prone areas are delineated on a basis of either a 50-year or a 100-year flood.

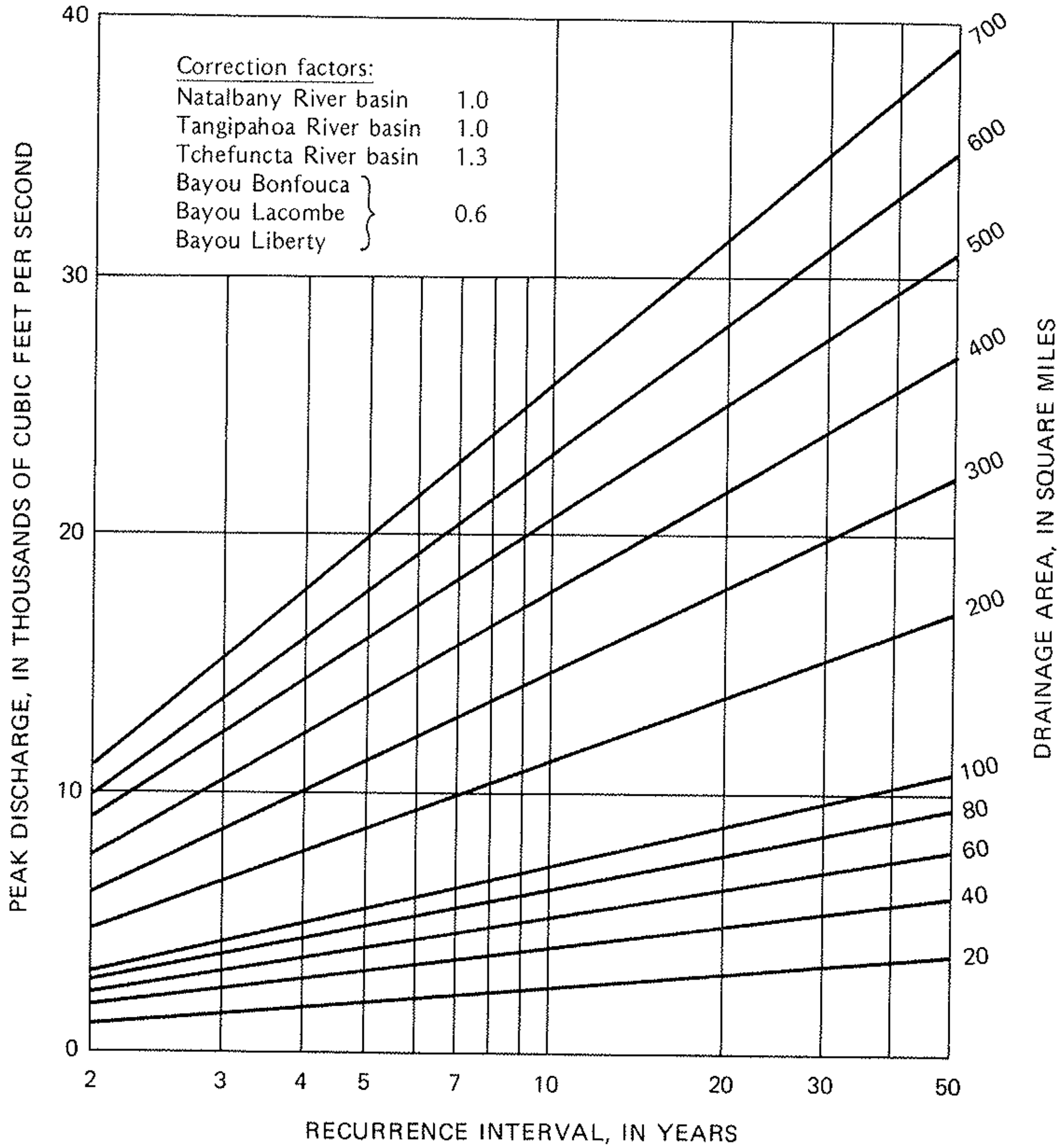

Figure 4.--Frequency and magnitude of floods for selected drainage areas.

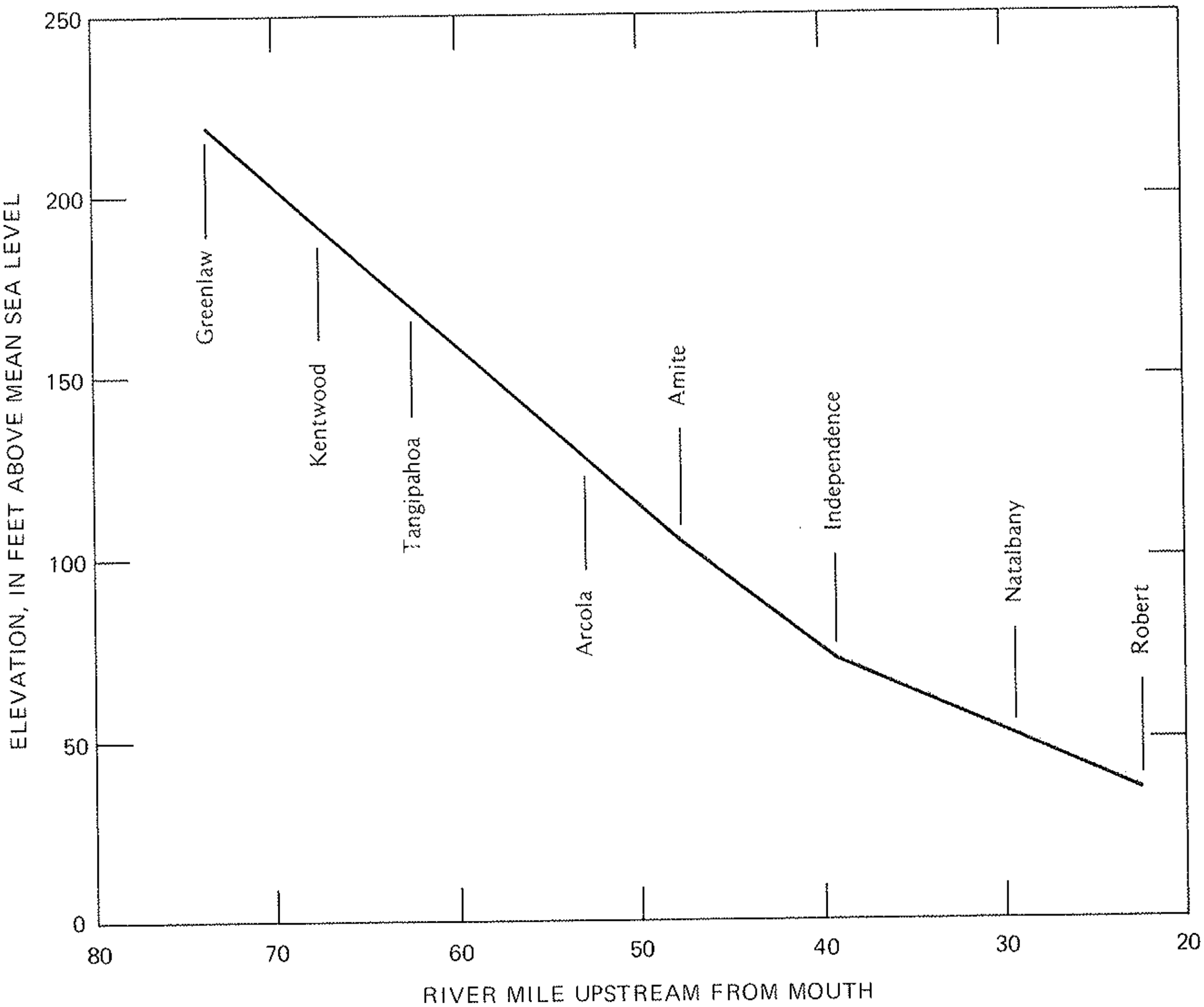

Figure 5.--Profile of peak water-surface elevation for 50-year flood, Tangipahoa River.

Time of Travel, Tangipahoa River

In order to determine time of travel and dispersion characteristics of the Tangipahoa River, dye-tracing studies (Wilson, 1968) were made from Greenlaw (mile 73.6) to Ponchatoula (mile 15.2) at two flow rates--320 and 630 ft^3/s--measured at Robert (mile 22.6). These flows represent a discharge that will be equaled or exceeded 97 and 50 percent of the time, respectively. A third study was made from Natalbany (mile 29.5) to Lees Landing (mile 8.6) when the discharge was 800 ft^3/s at Robert. Data downstream from Ponchatoula are valid only when flow at Robert is 800 ft^3/s or greater because tides have an appreciable effect on the river velocity in this lower reach. Locations of the injection points and sampling sites used in the studies are shown in figure 6.

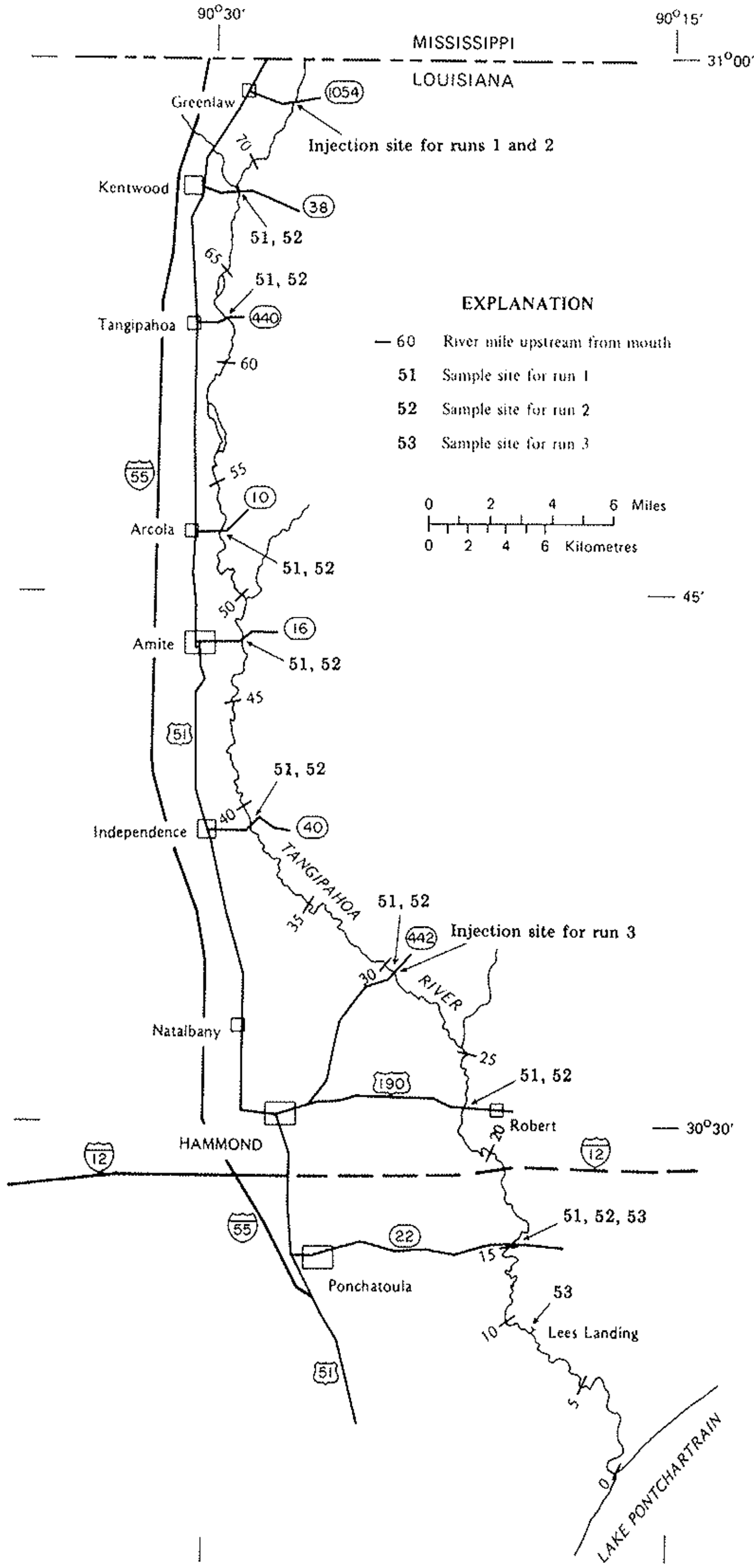

Figure 6.--Location of injection and sampling sites for Tangipahoa River dye-tracing studies.

The data obtained can be used to predict the travel and dispersion of pollutants that may be spilled in the river. Predictions can be made for (1) traveltime for the leading edge, the peak, and the trailing edge[2/] of the dye cloud;[3/] (2) traveltime or average velocity between sites; and (3) the average length of the dye cloud (in hours or miles) at any station on the river (fig. 7). Because channel characteristics are not uniform between sampling sites, shorter reaches may have higher or lower velocities than the average velocity between sampling sites.

The longitudinal-dispersion capability of a river is a function of the channel characteristics and the residence time (length of time in water) of a solute and is measured in terms of unit concentration (quantity of solute per quantity of water). The unit concentration of a solute in the Tangipahoa River is related to residence time in the river and discharge at Robert (fig. 8). The discharge at various sites during periods of base flow can be estimated using figure 9. The conservative peak concentration[4/] can be calculated using the equation

$$C_p = \frac{C_u x W}{Q},$$

where C_p is the conservative peak concentration (micrograms per litre), C_u is the unit concentration, Q is the discharge (cubic feet per second) at the selected site, and W is the weight (pounds of solute. For example, assume the discharge at Robert, La., to be 500 ft^3/s; 1,000 lb of a pollutant is spilled at Tangipahoa, La. (mile 62.4); and the sampling site is Natalbany, La. (mile 29.5). Using figure 7, the leading edge will pass the Natalbany crossing 36 hours, the peak 38 hours, and the trailing edge 43 hours after the spill. Elapsed time for the cloud to pass is 7 hours. The distance traveled is 32.9 mi, and the average velocity for the peak is 0.9 mi/h. Using the traveltime for the peak (38 hours) and referring to figure 8, the unit concentration at Natalbany, La., for a discharge of 500 ft^3/s at the index station is 820 $\left(\frac{\mu g/l^{5/} \times ft^3/s}{lb}\right)$. The discharge at Natalbany is 90 percent of the discharge at the index station (fig. 9), or 450 ft^3/s. Thus, the highest concentration of pollutant that can be expected at Natalbany is about 1,800 µg/l.

2/ The trailing edge is defined as the point on the upstream end of the dye cloud at which the concentration is 5 percent of the peak.

3/ The dye cloud is the volume of water in the river that contains measurable concentrations of dye.

4/ The conservative peak concentration is defined as the highest concentration of solute that will occur at a selected site, assuming no losses of solute by adsorption, absorption, or other means.

5/ Micrograms per litre.

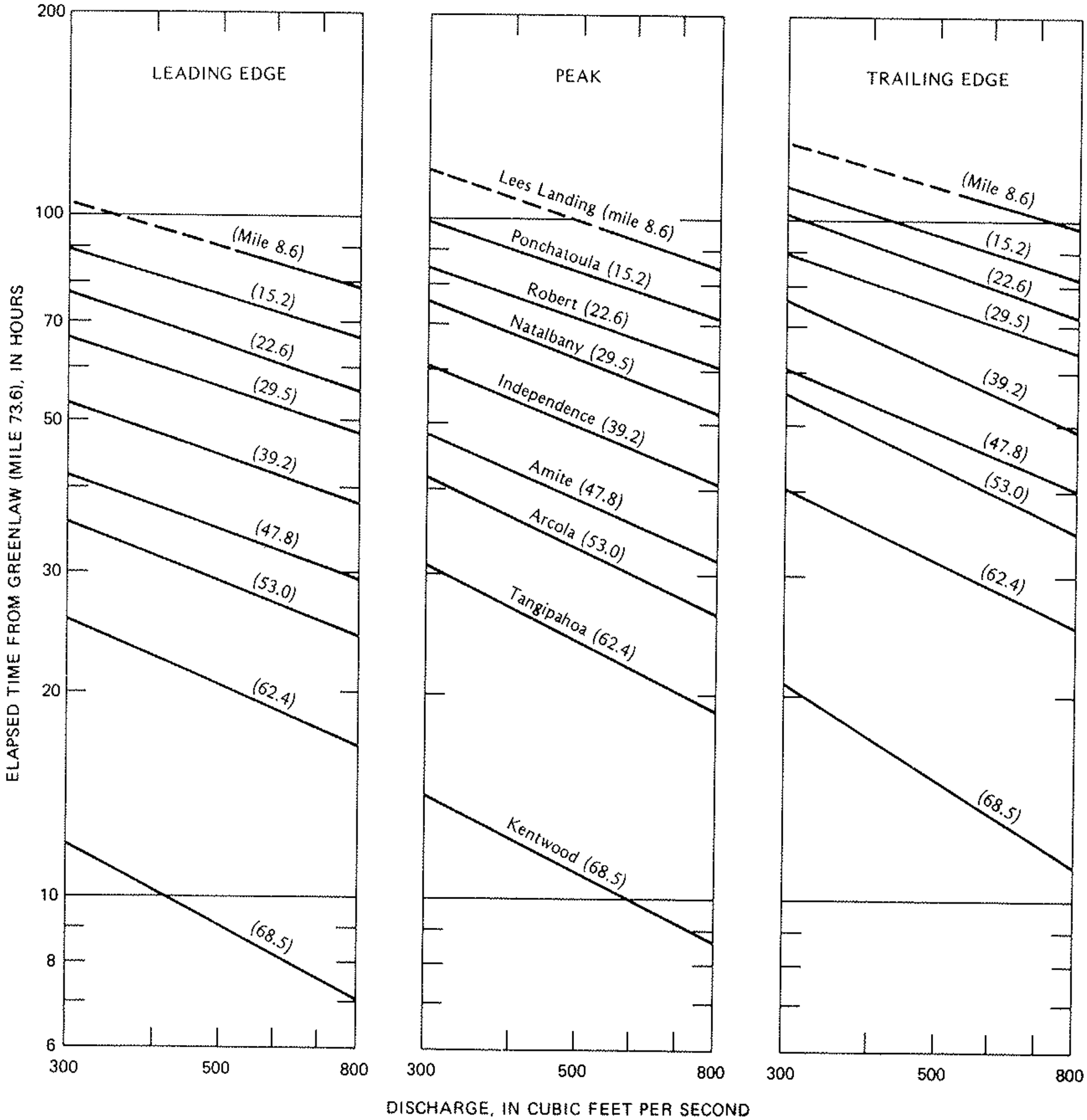

Figure 7.--Relation of time of travel in the Tangipahoa River to discharge at Robert.

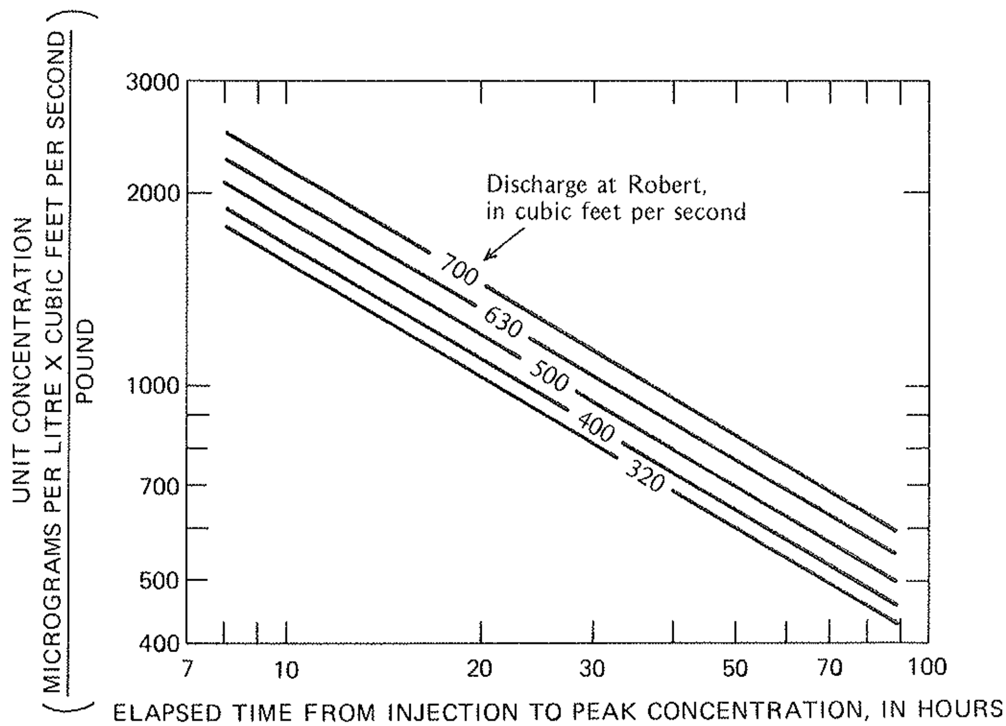

Figure 8.--Relation of unit concentration of a solute to its residence time in the Tangipahoa River.

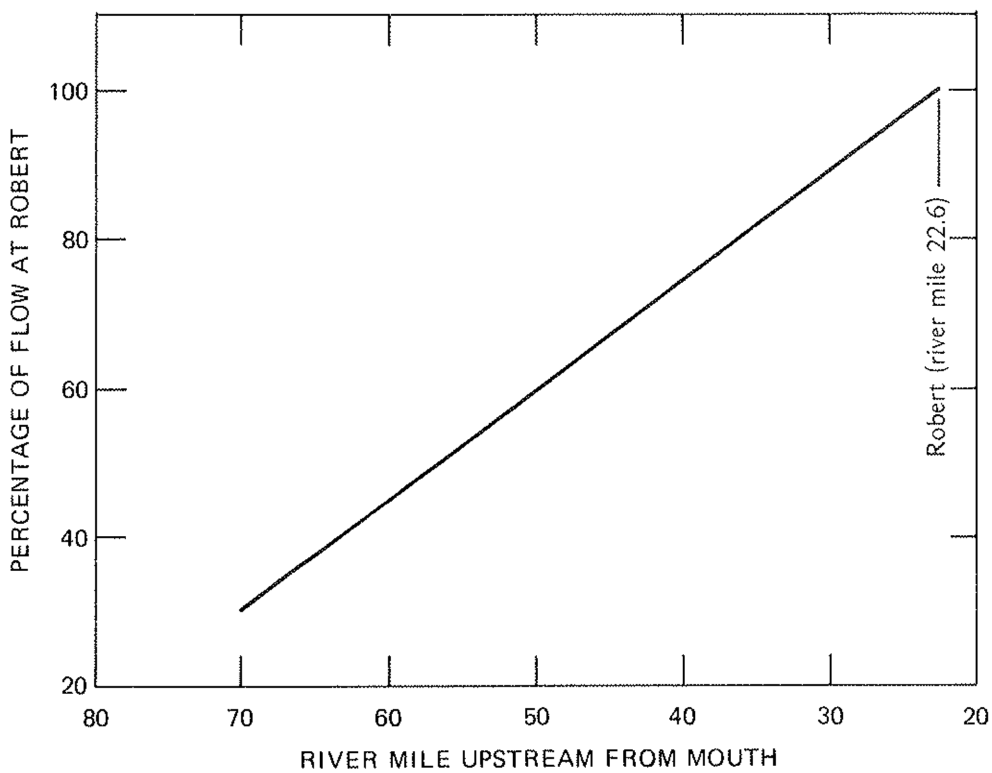

Figure 9.--Relation of discharge of Tangipahoa River at Robert to discharge at upstream sites, during periods of base flow.

QUALITY OF SURFACE WATER

Surface water in the three basins studied is of good quality. Dissolved-solids concentration in the streams generally did not exceed 50 mg/l (milligrams per litre) during the June 1969 and March 1974 areal surveys (pl. 4). However, in the southern part of the area some streams did have dissolved solids greater than 100 mg/l.

Minor Elements

The occurrence of minor elements in surface waters has become a matter of increased concern to water users and planners in recent years because of the potential harmful physiological effects of these elements. Elements that may be present in undesirable amounts (table 2) in the water or the bed material of a stream may also be introduced into the food-chain system of the stream. Hence, the food fish in the stream may become contaminated by the elements. Most of these minor elements that are regarded as potentially toxic are not native to surface waters of the project area. Probably the most widely publicized of these toxic or undesirable elements is mercury and its compounds. However, elements such as copper, lead, arsenic, and cadmium may also produce harmful effects if present in concentrations exceeding the recommended limits.

Water and bed material from selected stream sites in the study area were analyzed for a selected suite of minor elements (table 3). Although some of the elements were detected in the study area, none were found in concentrations that exceed those given in table 2.

Pesticides

Bothersome insects and plants are presently controlled by the application of pesticides. These compounds are used mostly by farmers, but some are also used for domestic and other purposes. There are two general categories of pesticides--insecticides and herbicides. Insecticides are used to control plant-destroying insects and thereby increase crop production. They are also used to control household pests. Herbicides are used by farmers to control weeds in their fields and are also used for weed and brush control along roads and in domestic applications to control weeds and grasses around the home. Pesticides are subject to being washed into streams by runoff from rainfall. Some pesticides are applied directly to stream areas to prevent growth of water hyacinths, and to swamp areas to kill mosquito larvae. Pesticide sources may be anywhere and everywhere because of their widespread use. Some pesticides are suspected as carcinogens (cancer-producing substances) and therefore may become a hazard if they are in water supplies or foodstuffs.

Water and bed material from selected stream sites in the area had no high concentrations of pesticides in March 1974 (table 4). Generally, there were no traces of pesticides, but water from Ponchatoula Creek north of Ponchatoula had traces of DDE and Diazinon. Traces of DDE were found in bed material of Tangipahoa River at Robert, and traces of Diazinon were found in water from Chapepeela Creek near Robert. The detected pesticides were not at a hazardous level (table 2). Streams in the study area are presently not contaminated by pesticides; however, only carefully controlled use of pesticides will maintain the streams in their present, nearly pesticide-free, state.

Table 2.--Recommended limits for maximum concentration of constituents in public water-supply sources (National Academy of Sciences-National Academy of Engineering Committee on Water Quality Criteria, 1973)

Constituent	Recommended maximum concentration (µg/l)
Arsenic (As)	100
Cadmium (Cd)	10
Chromium (Cr)	50
Copper (Cu)	1,000
Cyanide (CN)	200
Lead (Pb)	50
Mercury (Hg)	2
Phenol	1
Zinc (Zn)	5,000
Aldrin	1
Chlorodane	3
DDT	50
Dieldrin	1
Endrin	.5
Heptachlor	.1
Heptachlor epoxide	.1
Lindane	5
Toxaphene	5
2, 4-D	20
2, 4, 5-T	2
Silvex	30
PCB	Not available

Tangipahoa River Basin

General Chemical and Physical Characteristics

Water in the Tangipahoa River is very low in dissolved solids as far downstream as Lees Landing (river mile 8.6), southeast of Ponchatoula. The dissolved-solids concentration ranged from 28 to 75 mg/l and was less than or equal to 49 mg/l about 95 percent of the time in daily samples collected from July 1963 to September 1964 at Lees Landing. The concentration of dissolved solids from periodic samples collected at

Robert, La., (mile 22.6) since 1964 has not exceeded 60 mg/l. In 1974 the chemical quality of the water was almost identical to the quality in 1964.

The quality of surface water is very uniform in the Tangipahoa basin, and there is no appreciable change in dissolved solids as the water moves downstream. (See pl. 4 and table 5.) However, the quality of water in Bedico Creek, Washley Creek, and Bailey Branch is somewhat anomalous. Water in Bedico and Washley Creeks is mostly discharge from swampy areas and is higher in dissolved solids and in color than water from other streams in the basin. Most of the water in Bailey Branch is discharge from a deep water well. This well flows continuously at about 1.4 ft^3/s and yields water with a dissolved-solids concentration of 210 mg/l.

Salt-water intrusion has not been observed at Lees Landing, but a brackish-water wedge moved as far upstream as the confluence with Black Bayou (6.7 mi above the mouth) during Hurricane Hilda (1963). The up-stream movement of salty water from Lake Pontchartrain is retarded by the shallow reaches upstream from Black Bayou and the increased flow velocity in that reach (Cardwell and others, 1967, p. 65, 66).

Concentrations of dissolved iron generally are 150 μg/l (0.15 mg/l) or less but have exceeded 300 μg/l (0.30 mg/l) occasionally. The silica content of the river waters in the area generally is about 20 mg/l but has been as high as 40 mg/l.

The color of water in the Tangipahoa River typically ranges from 5 to 40 units. Water from Bedico and Washley Creeks has color between 20 and 100 units most of the year. The occurrence of high color in these two creeks is most common in the spring when boggy areas in the basins are flushed.

Because water in the Tangipahoa River is low in dissolved solids and pH (5.5-7.0), it is slightly corrosive most of the year (based on the Langelier corrosion index). To raise the pH of the water from 6.0 to 7.0 would require the addition of about 35 equivalents of base (as hydroxyl ion) per million gallons of water (Cardwell and others, 1967). Calcium carbonate addition is another method of raising the pH to pre-vent corrosion. An advantage, however, of the low pH range is that it is very close to the optimum pH range desired for turbidity removal.

Turbidity in the water is of considerable concern to many users. Water in the Tangipahoa River generally has a turbidity of less than 30 JTU (Jackson turbidity units) at base flow (Louisiana Wild Life and Fisheries Commission, unpub. data, 1969).

Dissolved Oxygen

The dissolved-oxygen concentration in water from selected stream sites in the Tangipahoa River basin (pl. 5) is generally within 75 to 100 percent of saturation. Streams in the basin presently are relatively unaffected by oxygen-consuming wastes, and the oxygen levels are normally within 90 percent of saturation. The BOD (biochemical oxygen demand) at these sampling sites generally is less than 4.0 mg/l.

The dissolved oxygen in the Tangipahoa River averages approximately 7.0 mg/l in the summer and 10 mg/l in the winter. Figure 10 typifies the annual cycle of temperature and dissolved oxygen. The oxygen curve represents the probable oxygen range of the river and approximates the 75- to 100-percent saturation level.

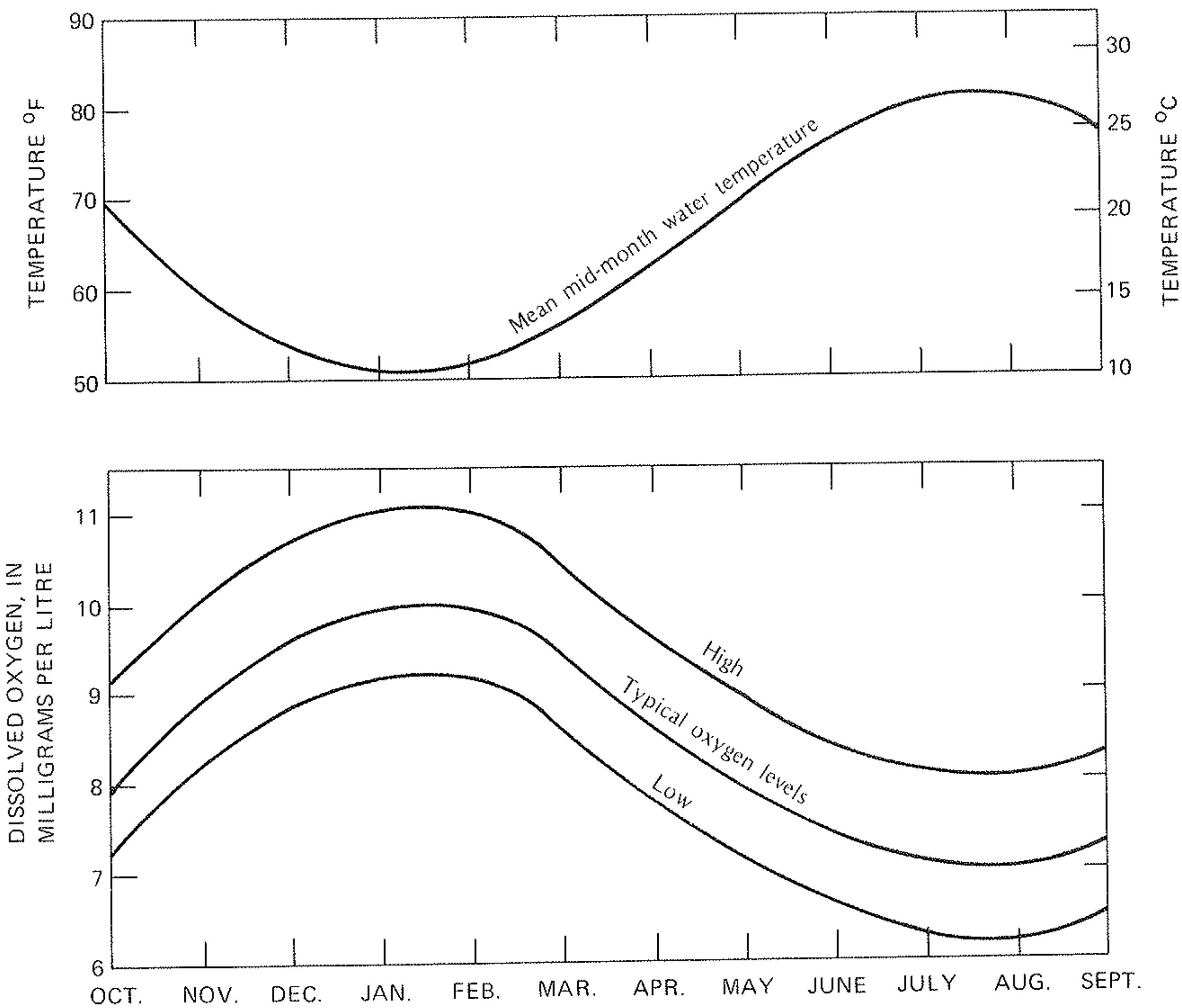

Figure 10.--Typical annual cycles for water temperature and dissolved oxygen, Tangipahoa River at Robert.

The ability of a river to assimilate biodegradable wastes is primarily a function of discharge and velocity of the river. The discharge affects dilution of wastes, and the velocity and turbulence affect the reaeration capacity of the river. Figure 11 illustrates the predicted effect of injected biodegradable wastes on dissolved oxygen in the river. This graph is based on the assumption that (1) the waste injected is biodegradable; (2) the dissolved oxygen in the river before the initial injection was 8.4 mg/l, saturation at 77°F (25.0°C); and (3) the waste is injected continuously and has the decomposition rate of domestic sewage--K_1=0.23 day^{-1}[6/] at 68°F (20.0°C). The combined load of all municipalities injecting wastes into the river at the present time is much less than any one load simulated in figure 11. These loads were

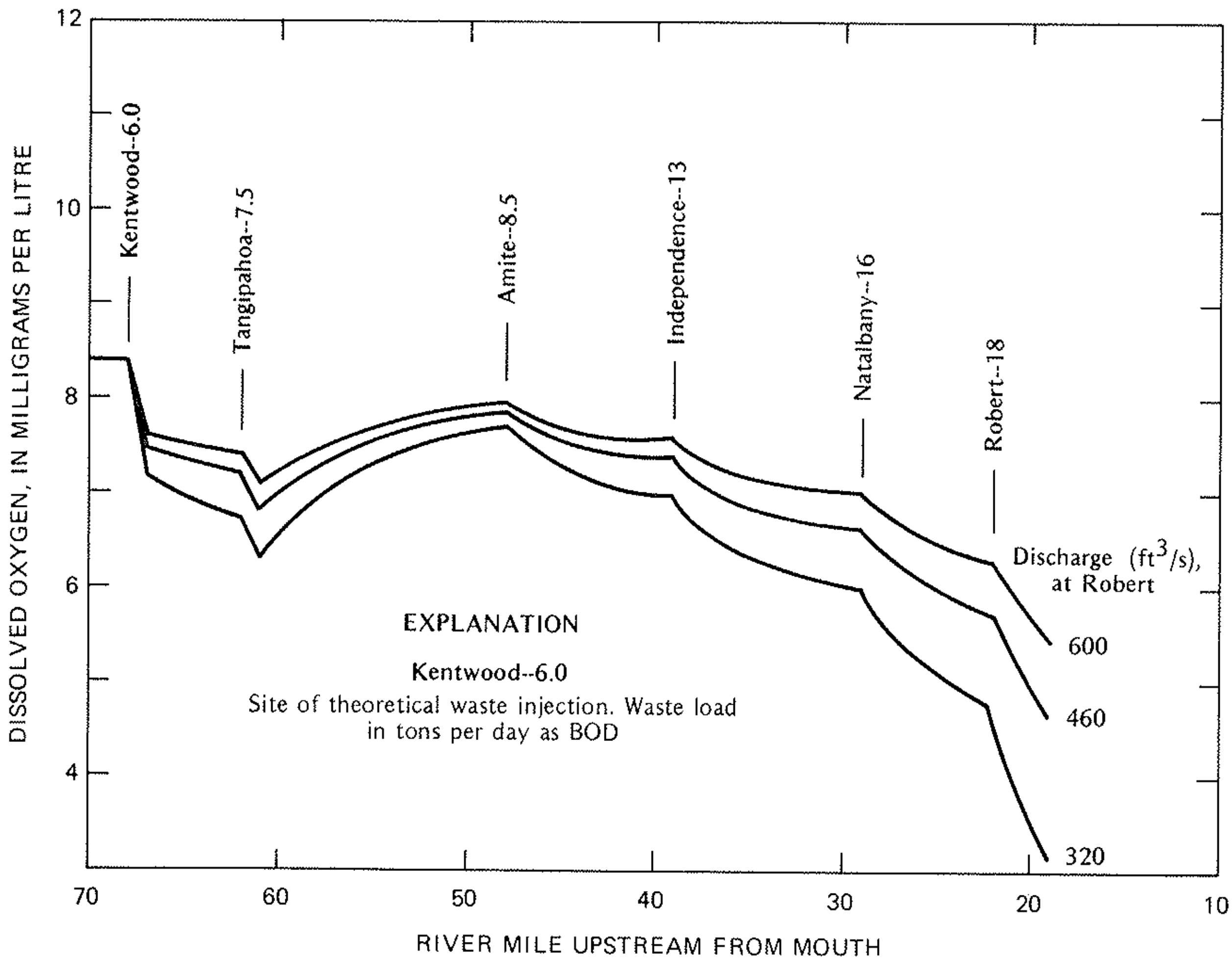

Figure 11.--Predicted oxygen sags from injection of domestic sewage into the Tangipahoa River.

6/The values for K_1 are to the Napierian log base and are used in the Streeter-Phelps oxygen sag equation (Fair and Geyer, 1963, p. 842) to compute the oxygen deficit.

selected to show the ability of the river to assimilate biodegradable wastes. For example, a load of 5.0 tons per day, as BOD, is approximately the amount of raw domestic sewage produced by a city of 60,000 population.

The standard for dissolved oxygen in the Tangipahoa River is 5 mg/l; waste disposal or other activities of man shall not cause the dissolved oxygen in the river to fall below this level, according to the Louisiana Stream Control Commission (1973). Although measured oxygen levels have been well above this limit, the simultaneous disposal of waste at Kentwood, Tangipahoa, Amite, Independence, Natalbany, and Robert (fig. 10) would theoretically lower the dissolved-oxygen level at mile 19 to 4.7 mg/l, or 56-percent saturation, at a flow of 460 ft^3/s. However, these same loads imposed at a lower discharge of 320 ft^3/s would cause the oxygen level to be about 3.2 mg/l, or about 38-percent saturation, at mile 19. Reaeration coefficients and effects of waste disposal were not predicted downstream from mile 19 because discharge below that point is affected by tides in Lake Pontchartrain.

Because of the wide range in possible combinations of waste disposals and streamflow rates, a mathematical model would be beneficial for predicting oxygen levels for base-flow conditions. This would enableable prediction of the potential effect of added biodegradable wastes on the Tangipahoa River before development of new industries or urban expansion.

Bacteria

The presence in stream water of fecal coliform bacteria, which are found in the intestines of warm-blooded animals, may indicate some degree of pollution by fecal wastes. Fecal concentrations greater than 200 colonies per 100 ml (millilitres) indicate recent or significant pollution by bacteria-carrying wastes and also indicate an increased possibility of the presence of pathogens in the water. The recommended limit for primary contact recreational use is 200 fecal coliform colonies per 100 ml of water (Geldreich, 1969). The total coliform group is also an indicator of water quality with respect to sanitary conditions. Some strains of the total coliform group are abundant in the environment and are not specific to fecal material.

Data for the Tangipahoa River show that the total coliform count during the period 1967-69 was at a moderate to high level. Total coliform in water from the Tangipahoa River near Greenlaw and near Ponchatoula appears to have been greater than 1,000 mpn[7/] per 100 ml most of the observed period. The following table contains the data collected

7/ Most probable number. An index of the number of coliform bacteria which, more probably than any other number, would give the results shown by the laboratory examination (multiple-tube fermentation method).

from 1967 to 1969 and is evidence of bacterial pollution during periods of base flow. Although the water can be made acceptable for most uses by disinfection, the river, at times, exceeded the criteria for primary contact recreation uses. Several stream sites (pl. 6) were sampled for bacteria analyses during March 1974. The samples were analyzed for fecal coliform bacteria and for fecal streptococci. If the ratio of the former to the latter is equal to or greater than 4:1, the source of pollution is probably from human fecal wastes. Plate 6 shows the location of the sampling sites and the bacteria level at each site. Generally, bacteria levels in streams throughout the Tangipahoa River basin are below recommended maximum limits for primary contact recreational use, but levels at some sites approached these limits (pl. 6). Reaches of the river used for primary water-contact sports should be tested for total coliform and fecal coliform before and during periods of use to detect possible unsafe conditions.

Results of analyses for total coliform bacteria in the Tangipahoa River

[Analyses by the Louisiana Health and Human Resources Administration, Division of Health;1/ samples collected by Tangipahoa Parish Health Unit]

Date	Coliform (mpn per 100 ml)	Date	Coliform (mpn per 100 ml)
LOUISIANA HIGHWAY 1054 AT GREENLAW2/			
2-24-67	5,700	8- 6-68	400
5- 3-67	47,000	3- 5-69	5,100
9-20-67	8,650	7-22-69	3/ 80
4-16-68	13,000	8-19-69	4/ 330
5-28-68	580		
U.S. HIGHWAY 190 EAST OF PONCHATOULA			
1-25-67	4,900	5-14-68	3,480
2-22-67	5,420	7- 9-68	70
6-28-67	2,300	8- 6-68	2,400
10-24-67	490	11-26-68	330
12- 6-67	5,420	4-15-69	10,900
1- 3-68	160,000	5-22-69	2,300
2-21-68	5,420	7-22-69	2,210
3- 6-68	1,300	8-19-69	3,480
4- 9-68	1,300	9- 3-69	310

1/Formerly, Louisiana State Board of Health.

2/Values for Greenlaw are the average of the coliform counts from the east and west sides of the river, unless noted.

3/West side.

4/East side.

Tchefuncta River Basin

General Chemical and Physical Characteristics

Water in the Tchefuncta River is a sodium bicarbonate type, very low in dissolved solids (less than 50 mg/l), as far downstream as Covington, La. (U.S. Highway 190 crossing). Below Covington the stream is affected by salty-water intrusion from Lake Pontchartrain. Water withdrawn from the river north of the salt-affected area is suitable for most domestic and industrial uses with a minimum of treatment. (See tables 3-5.) The dissolved-solids concentration in samples collected at selected sites in the basin is shown on plate 4. This water is similar to the water in the Tangipahoa River.

Samples for chemical analysis have been taken at various sites in the Tchefuncta River basin from 1943 to the present. In the reaches of the Tchefuncta River that are unaffected by salt-water intrusion, the chloride content is generally less than 10 mg/l. Iron concentrations range from less than 100 to 400 µg/l (0.1 to 0.4 mg/l). Color generally ranges from 10 to 40 units but has been observed as high 80 units. Dissolved solids are generally less than 50 mg/l, and the pH generally ranges from 5.5 to 7.0; thus, the water is slightly corrosive during most of the year. Average monthly temperature ranges from about 49°F (9.5°C) in the winter to about 78°F (25.5°C) in the summer, and the temperature cycle is essentially equivalent to that of Tangipahoa River at Robert. Most streams in the Tchefuncta River basin have very little turbidity during low-flow periods. However, overland runoff from storms may result in turbidity as high as 100 JTU.

Salty water from Lake Pontchartrain intrudes upstream in the Tchefuncta River to just south of Covington (Louisiana Highway 2 crossing) about 80 percent of the time.

The Bogue Falaya-Abita River system flows into the Tchefuncta River below Covington. This system discharges water that usually is high in color (about 40 units). The Bogue Falaya main stem contains water that is very similar in quality to water in the Tchefuncta River and is low in dissolved solids. Little Bogue Falaya and Abita River contain water that is more mineralized than Bogue Falaya Water; the water is higher in color (table 5) and is typical of water from a swampy area. Color of water in the Abita River has been as high as 120 units (platinum-cobalt scale).

Dissolved-oxygen concentration and BOD at selected sites in the basin (pl. 5) show that streams in the basin generally are high in oxygen concentrations and free from oxygen-demanding wastes. Dissolved oxygen was generally higher than 80 percent of saturation, and BOD generally was less than 1.0 mg/l.

Bacteria

Water in the Tchefuncta-Bogue Falaya system had fairly high levels of total coliform bacteria at several locations during the summer of 1969. Figure 12 shows the data from three surveys made in the area during that summer. The total coliform concentration on June 10, 1969, increased in a downstream direction in the Bogue Falaya and reached a maximum of 24,400 colonies per 100 ml at Covington. The high concentration shown on the Tchefuncta River was from a sample taken 0.25 mi downstream from a sewage-treatment facility. Two weeks later a decrease in total coliform was noted in Bogue Falaya at Covington and in the Tchefuncta River downstream from the sewerage plant. However, increases were detected in the Abita River and in the Tchefuncta River north of the sewage-treatment plant. One explanation for the difference in the Tchefuncta River samples might be that the river was in reverse flow in this reach, due to tidal effects, at the time of the second sampling.

The Bogue Falaya, during the 4-week period in 1969, often had greater than 1,000 total coliform colonies per 100 ml; and downstream from Covington, at Three Rivers, high total coliform counts were also observed.

Samples were also taken from selected stream sites in the basin in March 1974 (pl. 6) and were analyzed for fecal coliform bacteria and fecal streptococci. The counts at most sites in the basin were below recommended safe levels for primary contact recreational use and thus were relatively free of fecal wastes at that time.

Natalbany River Basin

The Natalbany River contains a mixed-type water (table 5). Dissolved-solids concentrations range from 40 to 100 mg/l, pH is generally between 6.0 and 7.0, and the water is slightly corrosive. Color usually ranges from 10 to 40 units but, at times, approaches 80 units. Iron concentrations generally range from less than 100 to 400 µg/l (0.1 to 0.4 mg/l). The average monthly temperature of the stream ranges from about 52°F (11.0°C) in winter to about 81°F (27.0°C) in summer and is slightly warmer than Tangipahoa River at Robert.

Dissolved-oxygen levels are generally within 90 percent of saturation, and BOD levels generally are less than 5 mg/l (pl. 5).

The Little Natalbany River contains water that is lower in dissolved solids than water in the Natalbany River, but the waters are very similar in type. Water in the Little Natalbany River is also slightly corrosive and generally is colored.

Water in Ponchatoula Creek is higher in dissolved solids (150-200 mg/l) than water in other streams in the basin. The quality of the water is affected by waste disposal, which increases the temperature as

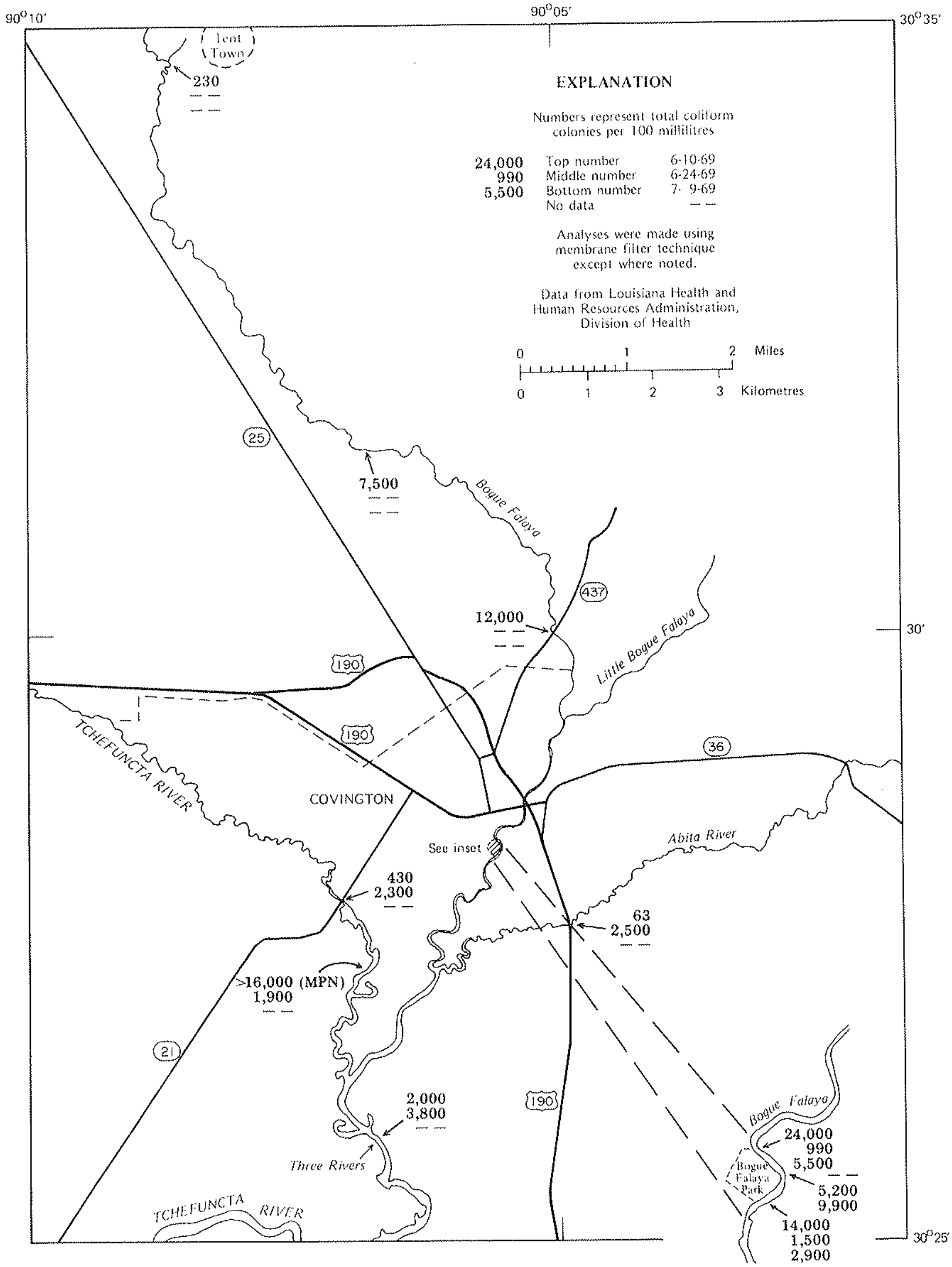

Figure 12.--Results of bacteriological survey of streams in Covington, La., area, 1969.

well as the mineral content. The temperature of the stream was 94°F (34.5°C), while water in other streams in the basin was about 14°F (8°C) cooler, June 11-12, 1969. Bacteria levels were exceedingly high (pl. 6) during the period March 18-20, 1974. These high levels are probably the result of localized waste disposal. The dissolved-oxygen level in the creek north of Ponchatoula was higher than saturation. This supersaturation is probably the result of photosynthesis of algal growths.

Yellow Water River contains water of a quality similar to that of Ponchatoula Creek, and it too seems to be affected by waste disposal from nearby towns.

Considerable clay and fine sand are included in channel deposits of the Natalbany River. As a result, the water is slightly turbid even during low flow.

SUMMARY AND CONCLUSIONS

Streams in the Tangipahoa and Tchefuncta basins have well-sustained flows of good-quality water. These two basins have a 95-percent unit-flow duration of 0.46 $(ft^3/s)/mi^2$ on the main stems and lower reaches of large tributaries. This is equivalent to 297 ft^3/s in Tangipahoa River at Robert and 44 ft^3/s in Tchefuncta River near Folsom. The water is generally of good quality upstream from reaches affected by salt-water intrusion. Because of the low dissolved solids, hardness, and pH, the water is slightly corrosive and may require some treatment, depending upon the use. Turbidity is a problem during a rise in discharge as a result of storm runoff. The above problems are treatable, and surface water in these basins is suitable for most municipal and industrial uses.

The Tangipahoa River can assimilate large amounts of oxygen-demanding wastes (approximately 20 tons per day at a flow of 460 ft^3/s at Robert); however, some control of waste disposal would be required. Coliform bacteria at objectionable levels have been detected in the Tangipahoa and Tchefuncta Rivers and in Bogue Falaya. Some surveillance of bacteria-carrying waste disposals should be made in the affected areas.

The Natalbany basin is a very low-yielding basin and would not be a good source for water supplies. The 95-percent flow duration for Natalbany River at Baptist is 4.5 ft^3/s [about 0.056 $(ft^3/s)/mi^2$], and the water is slightly higher in dissolved solids than water from the other basins. The river cuts through numerous clay deposits that increase the turbidity.

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BASIC DATA

Tables 3-5

TABLE 3.--CONCENTRATION OF MINOR ELEMENTS IN WATER AND BED MATERIAL AT SELECTED STREAM SITES

DATE	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL ARSENIC IN BOTTOM MA- TERIAL (UG/G)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CADMIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL CHRO- MIUM IN BOTTOM MA- TERIAL (UG/G)	HEXA- VALENT CHRO- MIUM (CR6) (UG/L)	TOTAL COPPER IN BOTTOM MA- TERIAL (UG/G)
07374587 - BAYOU LACOMBE NR LACOMBE, LA. (LAT 30 20 33 LONG 089 56 06)							
MAR., 1974							
20...	0	0	3	0	0	0	0
07374700 - TCHEFUNCTA RIVER NEAR FRANKLINTON, LA. (LAT 30 45 22 LONG 090 15 52)							
MAR., 1974							
19...	1	0	1	0	0	0	0
07375050 - TCHEFUNCTA RIVER NEAR COVINGTON, LA. (LAT 30 29 40 LONG 090 10 10)							
MAR., 1974							
19...	1	0	1	2	0	0	0
07375085 - BOGUE FALAYA AT FOLSOM, LA. (LAT 30 37 42 LONG 090 10 15)							
MAR., 1974							
19...	2	0	2	0	0	0	0
07375170 - BOGUE FALAYA AT COVINGTON, LA. (LAT 30 29 58 LONG 090 05 04)							
MAR., 1974							
19...	0	0	1	0	0	0	0
07375222 - ABITA RIVER N. OF ABITA SPRINGS, LA. (LAT 30 28 55 LONG 090 02 20)							
MAR., 1974							
19...	2	1	1	1	0	0	1
07375404 - TANGIPAHOA R AB BEAVER CK AT TANGIPAHOA, LA (LAT 30 52 42 LONG 090 29 56)							
MAR., 1974							
18...	0	0	1	0	0	0	1
07375428 - BIG CREEK NR AMITE, LA. (LAT 30 44 44 LONG 090 28 54)							
MAR., 1974							
18...	1	--	3	--	--	0	--
07375440 - TANGIPAHOA R NR INDEPENDENCE LA (LAT 30 38 13 LONG 090 28 46)							
MAR., 1974							
18...	1	0	1	0	0	0	0
07375491 - CHAPPEPEELA CREEK NR ROBERT, LA. (LAT 30 33 23 LONG 090 18 30)							
MAR., 1974							
19...	2	0	2	0	0	0	1
07375500 - TANGIPAHOA RIVER AT ROBERT, LA. (LAT 30 30 23 LONG 090 21 42)							
NOV., 1973							
28...	11	--	1	--	--	0	--
MAR., 1974							
18...	1	0	3	0	0	0	0
07375680 - BEDICO CREEK NR MADISONVILLE LA (LAT 30 27 13 LONG 090 15 53)							
MAR., 1974							
19...	1	2	2	0	0	0	1
07376440 - NATALBANY R NR INDEPENDENCE, LA. (LAT 30 38 34 LONG 090 32 14)							
MAR., 1974							
18...	2	0	1	0	0	0	2
07376505 - NATALBANY RIVER NEAR ALBANY, LA. (LAT 30 29 07 LONG 090 32 45.01)							
MAR., 1974							
18...	0	--	1	--	--	0	--
07376525 - LITTLE NATALBANY RIVER NEAR ALBANY, LA. (LAT 32 29 01 LONG 090 33 42.01)							
MAR., 1974							
18...	0	--	2	--	--	0	--
07376614 - PONCHATOULA CK N. OF PONCHATOULA, LA. (LAT 30 28 04 LONG 090 26 54)							
MAR., 1974							
18...	2	2	1	0	0	0	3

DATE	DIS-SOLVED LEAD (PB) (UG/L)	TOTAL LEAD IN BOTTOM MA-TERIAL (UG/G)	TOTAL MERCURY (HG) (UG/L)	TOTAL MERCURY IN BOTTOM MA-TERIAL (UG/G)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL ZINC IN BOTTOM MA-TERIAL (UG/G)
07374587 - BAYOU LACOMBE NR LACOMBE, LA. (LAT 30 20 33 LONG 089 56 06)						
MAR., 1974 20...	2	<10	.0	.0	20	2
07374700 - TCHEFUNCTA RIVER NEAR FRANKLINTON, LA. (LAT 30 45 22 LONG 090 15 52)						
MAR., 1974 19...	0	<10	.0	.0	10	4
07375050 - TCHEFUNCTA RIVER NEAR COVINGTON, LA. (LAT 30 29 40 LONG 090 10 10)						
MAR., 1974 19...	4	<10	.0	.0	10	4
07375085 - BOGUE FALAYA AT FOLSOM, LA. (LAT 30 37 42 LONG 090 10 15)						
MAR., 1974 19...	3	10	.0	.0	20	3
07375170 - BOGUE FALAYA AT COVINGTON, LA. (LAT 30 29 58 LONG 090 05 04)						
MAR., 1974 19...	2	<10	.0	.0	20	3
07375222 - ABITA RIVER N. OF ABITA SPRINGS, LA. (LAT 30 28 55 LONG 090 02 20)						
MAR., 1974 19...	4	<10	.0	.0	10	8
07375404 - TANGIPAHOA R AB BEAVER CK AT TANGIPAHOA, LA (LAT 30 52 42 LONG 090 29 56)						
MAR., 1974 18...	3	<10	.7	.0	20	4
07375428 - BIG CREEK NR AMITE, LA. (LAT 30 44 44 LONG 090 28 54)						
MAR., 1974 18...	1	--	.0	--	20	--
07375440 - TANGIPAHOA R NR INDEPENDENCE LA (LAT 30 38 13 LONG 090 28 46)						
MAR., 1974 18...	4	<10	.0	.0	10	4
07375491 - CHAPPEPEELA CREEK NR ROBERT, LA. (LAT 30 33 23 LONG 090 18 30)						
MAR., 1974 19...	1	<10	.1	.0	10	5
07375500 - TANGIPAHOA RIVER AT ROBERT LA. (LAT 30 30 23 LONG 090 21 42)						
NOV., 1973 28...	4	--	.0	--	0	--
MAR., 1974 18...	3	<10	.4	.0	20	5
07375680 - BEDICO CREEK NR MADISONVILLE LA (LAT 30 27 13 LONG 090 15 53)						
MAR., 1974 19...	2	<10	.0	.0	20	5
07376440 - NATALBANY R NR INDEPENDENCE, LA. (LAT 30 38 34 LONG 090 32 14)						
MAR., 1974 18...	5	<10	.0	.0	10	5
07376505 - NATALBANY RIVER NEAR ALBANY, LA. (LAT 30 29 07 LONG 090 32 45.01)						
MAR., 1974 18...	3	--	.0	--	10	--
07376525 - LITTLE NATALBANY RIVER NEAR ALBANY, LA. (LAT 32 29 01 LONG 090 33 42.01)						
MAR., 1974 18...	4	--	.0	--	30	--
07376614 - PONCHATOULA CK N. OF PONCHATOULA, LA. (LAT 30 28 04 LONG 090 26 54)						
MAR., 1974 18...	4	<10	.0	.0	10	10

TABLE 4.--CONCENTRATION OF PESTICIDES IN WATER AND BED MATERIAL FROM SELECTED STREAM SITES

DATE	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL CHLOR-DANE (UG/L)	CHLOR-DANE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA-TERIAL (UG/KG)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)
07374587 - BAYOU LACOMBE NR LACOMBE, LA. (LAT 30 20 33 LONG 089 56 06)												
MAR., 1974 20...	.00	.0	.0	0	.00	.0	.00	.0	.00	.0	.00	.00
07374700 - TCHEFUNCTA RIVER NEAR FRANKLINTON, LA. (LAT 30 45 22 LONG 090 15 52)												
MAR., 1974 19...	.00	.0	.0	0	.00	.0	.00	.0	.00	.0	.00	.00
07375050 - TCHEFUNCTA RIVER NEAR COVINGTON, LA. (LAT 30 29 40 LONG 090 10 10)												
MAR., 1974 19...	.00	.0	.0	0	.00	.0	.00	.0	.00	.0	.00	.00
07375085 - BOGUE FALAYA AT FOLSOM, LA. (LAT 30 37 42 LONG 090 10 15)												
MAR., 1974 19...	.00	.0	.0	0	.00	.0	.00	.0	.00	.0	.00	.00
07375170 - BOGUE FALAYA AT COVINGTON, LA. (LAT 30 29 58 LONG 090 05 04)												
MAR., 1974 19...	.00	.0	.0	0	.00	.0	.00	.0	.00	.0	.00	.00
07375222 - ABITA RIVER N. OF ABITA SPRINGS, LA. (LAT 30 28 55 LONG 090 02 20)												
MAR., 1974 19...	.00	.0	.0	0	.00	.0	.00	.0	.00	.0	.00	.00
07375404 - TANGIPAHOA R AB BEAVER CK AT TANGIPAHOA, LA (LAT 30 52 42 LONG 090 29 56)												
MAR., 1974 18...	.00	.0	.0	0	.00	.0	.00	.1	.00	.0	.00	.00
07375440 - TANGIPAHOA R NR INDEPENDENCE LA (LAT 30 38 13 LONG 090 28 46)												
MAR., 1974 18...	.00	.0	.0	0	.00	.0	.00	.0	.00	.0	.00	.00
07375491 - CHAPPEPEELA CREEK NR ROBERT, LA. (LAT 30 33 23 LONG 090 18 30)												
MAR., 1974 19...	.00	.0	.0	0	.00	.0	.00	.0	.00	.0	.01	.00
07375500 - TANGIPAHOA RIVER AT ROBERT, LA. (LAT 30 30 23 LONG 090 21 42)												
MAR., 1974 18...	.00	.0	.0	0	.00	.0	.00	.1	.00	.0	.00	.00
07375680 - BEDICO CREEK NR MADISONVILLE LA (LAT 30 27 13 LONG 090 15 53)												
MAR., 1974 19...	.00	.0	.0	0	.00	.0	.00	.0	.00	.0	.00	.00
07376440 - NATALBANY R NR INDEPENDENCE, LA. (LAT 30 38 34 LONG 090 32 14)												
MAR., 1974 18...	.00	.0	.0	0	.00	.0	.00	.0	.00	.0	.00	.00
07376614 - PONCHATOULA CK N. OF PONCHATOULA, LA. (LAT 30 28 04 LONG 090 26 54)												
MAR., 1974 18...	.00	.0	.0	0	.00	.0	.00	.1	.00	.0	.10	.00

TABLE 4.--CONCENTRATION OF PESTICIDES IN WATER AND BED MATERIAL FROM SELECTED STREAM SITES--Continued

DATE	DI-ELDRIN IN BOTTOM MA-TERIAL (1G/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA-TERIAL (UG/KG)	TOTAL ETHION (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	HEPTA-CHLOR IN BOTTOM MA-TERIAL (UG/KG)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)	HEPTA-CHLOR EPOXIDE IN BOT-TOM MA-TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA-TERIAL (UG/KG)	TOTAL MALA-THION (UG/L)
07374587 - BAYOU LACOMBE NR LACOMBE, LA. (LAT 30 20 33 LONG 089 56 06)											
MAR., 1974 20...	.0	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00
07374700 - TCHEFUNCTA RIVER NEAR FRANKLINTON, LA. (LAT 30 45 22 LONG 090 15 52)											
MAR., 1974 19...	.0	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00
07375050 - TCHEFUNCTA RIVER NEAR COVINGTON, LA. (LAT 30 29 40 LONG 090 10 10)											
MAR., 1974 19...	.0	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00
07375085 - BOGUE FALAYA AT FOLSOM, LA. (LAT 30 37 42 LONG 090 10 15)											
MAR., 1974 19...	.0	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00
07375170 - BOGUE FALAYA AT COVINGTON, LA. (LAT 30 29 58 LONG 090 05 04)											
MAR., 1974 19...	.0	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00
07375222 - ABITA RIVER N. OF ABITA SPRINGS, LA. (LAT 30 28 55 LONG 090 02 20)											
MAR., 1974 19...	.0	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00
07375404 - TANGIPAHOA R AB BEAVER CK AT TANGIPAHOA, LA (LAT 30 52 42 LONG 090 29 56)											
MAR., 1974 18...	.0	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00
07375440 - TANGIPAHOA R NR INDEPENDENCE LA (LAT 30 38 13 LONG 090 28 46)											
MAR., 1974 18...	.0	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00
07375491 - CHAPPEPEELA CREEK NR ROBERT, LA. (LAT 30 33 23 LONG 090 18 30)											
MAR., 1974 19...	.0	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00
07375500 - TANGIPAHOA RIVER AT ROBERT, LA. (LAT 30 30 23 LONG 090 21 42)											
MAR., 1974 18...	.0	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00
07375680 - BEDICO CREEK NR MADISONVILLE LA (LAT 30 27 13 LONG 090 15 53)											
MAR., 1974 19...	.0	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00
07376440 - NATALBANY R NR INDEPENDENCE, LA. (LAT 30 38 34 LONG 090 32 14)											
MAR., 1974 18...	.0	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00
07376614 - PONCHATOULA CK N. OF PONCHATOULA, LA. (LAT 30 28 04 LONG 090 26 54)											
MAR., 1974 18...	.5	.00	.0	.00	.00	.0	.00	.0	.00	.0	.00

TABLE 4.--CONCENTRATION OF PESTICIDES IN WATER AND BED MATERIAL FROM SELECTED STREAM SITES--Continued

DATE	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL PCB (UG/L)	PCB IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
07374587 - BAYOU LACOMBE NR LACOMBE, LA. (LAT 30 20 33 LONG 089 56 06)											
MAR., 1974 20...	.00	.00	.00	.0	0	0	0	.00	.00	.00	.00
07374700 - TCHEFUNCTA RIVER NEAR FRANKLINTON, LA. (LAT 30 45 22 LONG 090 15 52)											
MAR., 1974 19...	.00	.00	.00	.0	0	0	0	.00	.00	.00	.00
07375050 - TCHEFUNCTA RIVER NEAR COVINGTON, LA. (LAT 30 29 40 LONG 090 10 10)											
MAR., 1974 19...	.00	.00	.00	.0	0	0	0	.00	.00	.00	.00
07375085 - BOGUE FALAYA AT FOLSOM, LA. (LAT 30 37 42 LONG 090 10 15)											
MAR., 1974 19...	.00	.00	.00	.0	0	0	0	.00	.00	.00	.00
07375170 - BOGUE FALAYA AT COVINGTON, LA. (LAT 30 29 58 LONG 090 05 04)											
MAR., 1974 19...	.00	.00	.00	.0	0	0	0	.00	.00	.00	.00
07375222 - ABITA RIVER N. OF ABITA SPRINGS, LA. (LAT 30 28 55 LONG 090 02 20)											
MAR., 1974 19...	.00	.00	.00	.0	0	0	0	.00	.00	.00	.00
07375404 - TANGIPAHOA R AB BEAVER CK AT TANGIPAHOA, LA (LAT 30 52 42 LONG 090 29 56)											
MAR., 1974 18...	.00	.00	.00	.0	0	0	0	.00	.00	.00	.00
07375440 - TANGIPAHOA R NR INDEPENDENCE LA (LAT 30 38 13 LONG 090 28 46)											
MAR., 1974 18...	.00	.00	.00	.0	0	0	0	.00	.00	.00	.00
07375491 - CHAPPEPEELA CREEK NR ROBERT, LA. (LAT 30 33 23 LONG 090 18 30)											
MAR., 1974 19...	.00	.00	.00	.0	0	0	0	.00	.00	.00	.00
07375500 - TANGIPAHOA RIVER AT ROBERT, LA. (LAT 30 30 23 LONG 090 21 42)											
MAR., 1974 18...	.00	.00	.00	.0	0	0	0	.00	.00	.00	.00
07375680 - BEDICO CREEK NR MADISONVILLE LA (LAT 30 27 13 LONG 090 15 53)											
MAR., 1974 19...	.00	.00	.00	.0	0	0	0	.00	.00	.00	.00
07376440 - NATALBANY R NR INDEPENDENCE, LA. (LAT 30 38 34 LONG 090 32 14)											
MAR., 1974 18...	.00	.00	.00	.0	0	0	0	.00	.00	.00	.00
07376614 - PONCHATOULA CK N. OF PONCHATOULA, LA. (LAT 30 28 04 LONG 090 26 54)											
MAR., 1974 18...	.00	.00	.00	.0	0	0	0	.00	.10	.00	.00

TABLE 5.--WATER-QUALITY DATA FOR SELECTED STREAM SITES

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
07374584 - BAYOU LACOMBE AT ST. TAMMANY, LA. (LAT 30 23 36 LONG 089 53 46)										
JUNE, 1969										
11...	5.1	13	190	4.4	1.9	7.3	.6	2	25	6.5
07374587 - BAYOU LACOMBE NR LACOMBE, LA. (LAT 30 20 33 LONG 089 56 06)										
JUNE, 1969										
11...	--	12	160	4.5	1.4	8.8	.6	5	22	8.7
MAR., 1974										
20...	--	14	90	4.4	1.4	6.1	.8	6	13	7.4
07374600 - TCHEFUNCTA R NR WILMER, LA. (LAT 30 49 10 LONG 090 17 25)										
JUNE, 1969										
11...	9.6	9.0	190	.9	.4	2.5	.6	8	.4	2.4
07374650 - GORMAN CK NR WILMER, LA. (LAT 30 46 26 LONG 090 15 32)										
JUNE, 1969										
11...	5.0	8.5	190	1.1	.5	2.5	.7	8	.4	3.2
07374700 - TCHEFUNCTA RIVER NEAR FRANKLINTON, LA. (LAT 30 45 22 LONG 090 15 52)										
JUNE, 1969										
11...	25	9.1	160	1.1	.3	2.8	.5	6	.6	2.8
MAR., 1974										
19...	42	9.3	100	1.2	.6	2.5	.7	8	.9	3.8
07374720 - CATCA CK S. OF STONEY POINT, LA. (LAT 30 44 20 LONG 090 14 14)										
JUNE, 1969										
11...	2.2	9.7	130	1.1	.5	3.2	.6	9	.6	4.3
07375000 - TCHEFUNCTA RIVER NEAR FOLSOM, LA. (LAT 30 36 55 LONG 090 14 55)										
MAR., 1969										
14...	63	8.9	--	1.3	.7	3.0	1.1	10	.4	4.2
APR.										
25...	80	9.4	--	1.7	.9	2.8	1.2	10	.2	5.6
JUNE										
06...	47	9.5	--	.7	1.0	2.6	.6	9	.0	2.9
11...	44	9.9	110	1.0	.6	3.1	.7	10	.2	4.7
JULY										
16...	46	11	--	2.0	.2	2.7	1.5	10	1.2	3.2
AUG.										
26...	47	12	--	1.6	.5	3.5	1.3	13	.8	4.1
07375035 - TCHEFUNCTA R NR ST. BENEDICT, LA. (LAT 30 33 00 LONG 090 12 23)										
JUNE, 1969										
11...	48	10	130	1.0	.6	3.6	.7	11	.0	6.0
07375050 - TCHEFUNCTA RIVER NEAR COVINGTON, LA. (LAT 30 29 40 LONG 090 10 10)										
JUNE, 1969										
11...	52	11	150	1.6	1.0	3.4	.8	10	.4	6.6
MAR., 1974										
19...	88	11	230	1.5	.9	3.4	1.3	9	1.3	4.4
07375075 - BOGUE FALAYA NR FOLSOM, LA. (LAT 30 41 08 LONG 090 10 59)										
JUNE, 1969										
11...	2.6	9.8	250	1.2	.7	3.0	.6	8	1.0	6.0

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	SUS-PENDED SOLIDS (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
07374584 - BAYOU LACOMBE AT ST. TAMMANY, LA. (LAT 30 23 36 LONG 089 53 46)										
JUNE, 1969										
11...	.1	.40	--	--	60	--	19	17	99	5.5
07374587 - BAYOU LACOMBE NR LACOMBE, LA. (LAT 30 20 33 LONG 089 56 06)										
JUNE, 1969										
11...	.1	.40	--	--	61	--	17	13	95	6.6
MAR., 1974										
20...	.2	.51	.00	63	51	12	17	12	72	6.1
07374600 - TCHEFUNCTA R NR WILMER, LA. (LAT 30 49 10 LONG 090 17 25)										
JUNE, 1969										
11...	.1	.70	--	--	21	--	4	0	27	6.6
07374650 - GORMAN CK NR WILMER, LA. (LAT 30 46 26 LONG 090 15 32)										
JUNE, 1969										
11...	.0	.20	--	--	21	--	5	0	27	6.7
07374700 - TCHEFUNCTA RIVER NEAR FRANKLINTON, LA. (LAT 30 45 22 LONG 090 15 52)										
JUNE, 1969										
11...	.0	.20	--	--	21	--	4	0	27	6.9
MAR., 1974										
19...	.2	.59	.01	26	24	1	5	0	27	6.3
07374720 - CATCA CK S. OF STONEY POINT, LA. (LAT 30 44 20 LONG 090 14 14)										
JUNE, 1969										
11...	.0	.20	--	--	25	--	5	0	28	6.8
07375000 - TCHEFUNCTA RIVER NEAR FOLSOM, LA. (LAT 30 36 55 LONG 090 14 55)										
MAR., 1969										
14...	.0	.10	--	27	24	--	6	0	30	6.4
APR.										
25...	.0	.10	--	43	27	--	8	0	37	5.6
JUNE										
06...	.0	.00	--	33	21	--	6	0	28	5.9
11...	.0	.20	--	--	25	--	5	0	30	6.8
JULY										
16...	.0	.20	--	29	27	--	6	0	32	5.9
AUG.										
26...	.0	.20	--	33	30	--	6	0	32	6.5
07375035 - TCHEFUNCTA R NR ST. BENEDICT, LA. (LAT 30 33 00 LONG 090 12 23)										
JUNE, 1969										
11...	.0	.20	--	--	28	--	5	0	32	6.9
07375050 - TCHEFUNCTA RIVER NEAR COVINGTON, LA. (LAT 30 29 40 LONG 090 10 10)										
JUNE, 1969										
11...	.0	.10	--	--	30	--	8	0	37	6.9
MAR., 1974										
19...	.0	.42	.01	36	29	3	7	0	35	6.2
07375075 - BOGUE FALAYA NR FOLSOM, LA. (LAT 30 41 08 LONG 090 10 59)										
JUNE, 1969										
11...	.0	.60	--	--	27	--	6	0	29	6.8

DATE	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	DISSOLVED OXYGEN (MG/L)	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLIFORM (COLS. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	OIL AND GREASE (MG/L)
07374584 - BAYOU LACOMBE AT ST. TAMMANY, LA. (LAT 30 23 36 LONG 089 53 46)									
JUNE, 1969 11...	24.0	0	--	--	--	--	--	--	--
07374587 - BAYOU LACOMBE NR LACOMBE, LA. (LAT 30 20 33 LONG 089 56 06)									
JUNE, 1969 11...	30.0	10	--	--	--	--	--	--	--
MAR., 1974 20...	21.5	30	8.5	4.3	--	84	.00	4	1
07374600 - TCHEFUNCTA R NR WILMER, LA. (LAT 30 49 10 LONG 090 17 25)									
JUNE, 1969 11...	24.0	20	--	--	--	--	--	--	--
07374650 - GORMAN CK NR WILMER, LA. (LAT 30 46 26 LONG 090 15 32)									
JUNE, 1969 11...	22.0	20	--	--	--	--	--	--	--
07374700 - TCHEFUNCTA RIVER NEAR FRANKLINTON, LA. (LAT 30 45 22 LONG 090 15 52)									
JUNE, 1969 11...	22.0	20	--	--	--	--	--	--	--
MAR., 1974 19...	18.0	8	8.0	.5	20	44	.00	4	0
07374720 - CATCA CK S. OF STONEY POINT, LA. (LAT 30 44 20 LONG 090 14 14)									
JUNE, 1969 11...	22.0	20	--	--	--	--	--	--	--
07375000 - TCHEFUNCTA RIVER NEAR FOLSOM, LA. (LAT 30 36 55 LONG 090 14 55)									
MAR., 1969 14...	--	20	--	--	--	--	--	--	--
APR. 25...	16.0	0	--	--	--	--	--	--	--
JUNE 06...	--	15	--	--	--	--	--	--	--
11...	24.0	20	--	--	--	--	--	--	--
JULY 16...	24.0	15	--	--	--	--	--	--	--
AUG. 26...	24.0	5	--	--	--	--	--	--	--
07375035 - TCHEFUNCTA R NR ST. BENEDICT, LA. (LAT 30 33 00 LONG 090 12 23)									
JUNE, 1969 11...	25.0	20	--	--	--	--	--	--	--
07375050 - TCHEFUNCTA RIVER NEAR COVINGTON, LA. (LAT 30 29 40 LONG 090 10 10)									
JUNE, 1969 11...	--	20	--	--	--	--	--	--	--
MAR., 1974 19...	19.5	10	8.8	3.1	60	140	.00	5	1
07375075 - BOGUE FALAYA NR FOLSOM, LA. (LAT 30 41 08 LONG 090 10 59)									
JUNE, 1969 11...	21.0	50	--	--	--	--	--	--	--

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
07375085 - BOGUE FALAYA AT FOLSOM, LA. (LAT 30 37 42 LONG 090 10 15)										
JUNE, 1969										
11...	6.3	10	110	1.1	.8	2.7	.5	8	.6	5.0
MAR., 1974										
19...	25	7.6	260	3.3	1.7	9.0	3.8	24	3.1	8.6
07375093 - BEASON CK NR FOLSOM, LA. (LAT 30 37 42 LONG 090 09 15)										
JUNE, 1969										
11...	.46	11	210	1.4	.9	3.4	.9	7	1.2	6.0
07375110 - SIMALUSA CK NR RAMSAY, LA. (LAT 30 34 39 LONG 090 08 32)										
JUNE, 1969										
11...	3.3	9.9	160	1.6	.5	3.2	.7	8	.8	5.5
07375115 - BOGUE FALAYA NR ST. BENEDICT, LA. (LAT 30 33 26 LONG 090 08 43)										
JUNE, 1969										
11...	20	11	140	1.5	.5	4.1	.6	11	.6	6.4
07375170 - BOGUE FALAYA AT COVINGTON, LA. (LAT 30 29 58 LONG 090 05 04)										
JUNE, 1969										
11...	30	11	120	1.6	.5	4.8	.8	13	2.0	3.9
MAR., 1974										
19...	94	13	170	1.8	.7	6.1	1.0	15	1.9	5.3
07375200 - LITTLE BOGUE FALAYA NR COVINGTON, LA. (LAT 30 32 00 LONG 090 03 25)										
JUNE, 1969										
11...	.28	16	220	1.9	.5	6.5	.7	9	2.4	7.0
07375210 - E. FK LITTLE BOGUE FALAYA NR COVINGTON, LA. (LAT 30 31 37 LONG 090 02 43)										
JUNE, 1969										
11...	1.8	23	150	2.6	.4	16	.9	38	4.4	6.6
07375214 - LITTLE BOGUE FALAYA AT COVINGTON, LA. (LAT 30 29 37 LONG 090 04 30)										
JUNE, 1969										
11...	7.8	18	150	2.0	.0	11	.9	26	3.6	4.8
07375222 - ABITA RIVER N. OF ABITA SPRINGS, LA. (LAT 30 28 55 LONG 090 02 20)										
JUNE, 1969										
11...	1.1	24	370	1.1	1.0	33	1.4	75	8.4	6.9
MAR., 1974										
19...	5.7	15	300	1.3	.6	10	1.1	18	3.5	6.7
07375300 - TANGIPAHOA R NR KENTWOOD, LA. (LAT 30 56 15 LONG 090 28 25)										
JAN., 1969										
29...	149	8.9	--	3.5	.1	4.9	1.2	12	2.2	7.0
MAR.										
13...	127	8.8	--	1.9	.8	5.4	1.2	10	2.2	8.2
APR.										
24...	204	9.4	--	2.5	.9	4.0	1.2	10	1.6	7.0
JUNE										
05...	184	9.8	--	2.3	1.0	4.2	1.2	10	2.6	7.0
11...	135	9.6	40	2.3	.8	4.5	1.1	14	.8	6.0
JULY										
17...	120	10	30	2.5	.9	5.3	1.2	12	.4	9.0
AUG.										
27...	122	14	10	2.6	.9	5.8	1.4	14	1.2	8.2
07375310 - TERRY'S CREEK AT KENTWOOD, LA. (LAT 30 56 17 LONG 090 29 45)										
JUNE, 1969										
11...	35	11	180	2.0	.5	3.1	1.0	12	.6	2.9

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS_ SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	SUS-PENDED SOLIDS (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
07375085 - BOGUE FALAYA AT FOLSOM, LA. (LAT 30 37 42 LONG 090 10 15)										
JUNE, 1969 11...	.0	.30	--	--	25	--	6	0	27	6.7
MAR., 1974 19...	.3	.98	.07	72	51	21	15	0	88	6.2
07375093 - BEASON CK NR FOLSOM, LA. (LAT 30 37 42 LONG 090 09 15)										
JUNE, 1969 11...	.1	.20	--	--	29	--	7	1	35	6.5
07375110 - SIMALUSA CK NR RAMSAY, LA. (LAT 30 34 39 LONG 090 08 32)										
JUNE, 1969 11...	.0	.40	--	--	27	--	6	0	35	7.0
07375115 - BOGUE FALAYA NR ST. BENEDICT, LA. (LAT 30 33 26 LONG 090 08 43)										
JUNE, 1969 11...	.0	.30	--	--	31	--	6	0	35	6.9
07375170 - BOGUE FALAYA AT COVINGTON, LA. (LAT 30 29 58 LONG 090 05 04)										
JUNE, 1969 11...	.1	.30	--	--	32	--	6	0	43	6.9
MAR., 1974 19...	.1	.45	.02	46	38	1	7	0	46	6.4
07375200 - LITTLE BOGUE FALAYA NR COVINGTON, LA. (LAT 30 32 00 LONG 090 03 25)										
JUNE, 1969 11...	.0	.40	--	--	40	--	7	0	54	7.2
07375210 - E. FK LITTLE BOGUE FALAYA NR COVINGTON, LA. (LAT 30 31 37 LONG 090 02 43)										
JUNE, 1969 11...	.1	.30	--	--	73	--	8	0	90	7.6
07375214 - LITTLE BOGUE FALAYA AT COVINGTON, LA. (LAT 30 29 37 LONG 090 04 30)										
JUNE, 1969 11...	.1	.30	--	--	54	--	5	0	69	7.2
07375222 - ABITA RIVER N. OF ABITA SPRINGS, LA. (LAT 30 28 55 LONG 090 02 20)										
JUNE, 1969 11...	.2	.80	--	--	114	--	7	0	163	7.8
MAR., 1974 19...	.1	.79	.02	65	48	22	6	0	63	6.3
07375300 - TANGIPAHOA R NR KENTWOOD, LA. (LAT 30 56 15 LONG 090 28 25)										
JAN., 1969 29...	.1	.40	--	37	34	--	9	0	49	6.1
MAR. 13...	.0	.10	--	46	34	--	8	0	53	5.5
APR. 24...	.0	.10	--	39	32	--	10	2	47	5.6
JUNE 05...	.0	.10	--	40	33	--	10	2	48	5.6
11...	.0	.10	--	--	32	--	9	0	50	6.6
JULY 17...	.0	.10	--	46	35	--	10	0	52	5.9
AUG. 27...	.0	.30	--	43	41	--	10	0	57	6.1
07375310 - TERRY'S CREEK AT KENTWOOD, LA. (LAT 30 56 17 LONG 090 29 45)										
JUNE, 1969 11...	.1	.20	--	--	27	--	7	0	34	6.8

DATE	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	DIS-SOLVED OXYGEN (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM (COL. PER 100 ML)	STREP-TOCOCCI (COL-ONIES PER 100 ML)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	OIL AND GREASE (MG/L)
07375085 - BOGUE FALAYA AT FOLSOM, LA. (LAT 30 37 42 LONG 090 10 15)									
JUNE, 1969									
11...	21.5	20	--	--	--	--	--	--	--
MAR., 1974									
19...	21.0	70	6.0	.1	40	160	.00	5	1
07375093 - BEASON CK NR FOLSOM, LA. (LAT 30 37 42 LONG 090 09 15)									
JUNE, 1969									
11...	21.5	100	--	--	--	--	--	--	--
07375110 - SIMALUSA CK NR RAMSAY, LA. (LAT 30 34 39 LONG 090 08 32)									
JUNE, 1969									
11...	21.5	30	--	--	--	--	--	--	--
07375115 - BOGUE FALAYA NR ST. BENEDICT, LA. (LAT 30 33 26 LONG 090 08 43)									
JUNE, 1969									
11...	21.5	30	--	--	--	--	--	--	--
07375170 - BOGUE FALAYA AT COVINGTON, LA. (LAT 30 29 58 LONG 090 05 04)									
JUNE, 1969									
11...	26.0	30	--	--	--	--	--	--	--
MAR., 1974									
19...	20.0	30	7.9	.8	400	220	.00	--	1
07375200 - LITTLE BOGUE FALAYA NR COVINGTON, LA. (LAT 30 32 00 LONG 090 03 25)									
JUNE, 1969									
11...	21.5	40	--	--	--	--	--	--	--
07375210 - E. FK LITTLE BOGUE FALAYA NR COVINGTON, LA. (LAT 30 31 37 LONG 090 02 43)									
JUNE, 1969									
11...	21.5	20	--	--	--	--	--	--	--
07375214 - LITTLE BOGUE FALAYA AT COVINGTON, LA. (LAT 30 29 37 LONG 090 04 30)									
JUNE, 1969									
11...	25.0	20	--	--	--	--	--	--	--
07375222 - ABITA RIVER N. OF ABITA SPRINGS, LA. (LAT 30 28 55 LONG 090 02 20)									
JUNE, 1969									
11...	24.0	120	--	--	--	--	--	--	--
MAR., 1974									
19...	19.0	100	7.5	2.1	270	260	.00	--	1
07375300 - TANGIPAHOA R NR KENTWOOD, LA. (LAT 30 56 15 LONG 090 28 25)									
JAN., 1969									
29...	--	10	--	--	--	--	--	--	--
MAR.									
13...	12.0	5	--	--	--	--	--	--	--
APR.									
24...	21.0	0	--	--	--	--	--	--	--
JUNE									
05...	21.0	0	--	--	--	--	--	--	--
11...	22.0	10	--	--	--	--	--	--	--
JULY									
17...	26.0	0	--	--	--	--	--	--	--
AUG.									
27...	--	10	--	--	--	--	--	--	--
07375310 - TERRY'S CREEK AT KENTWOOD, LA. (LAT 30 56 17 LONG 090 29 45)									
JUNE, 1969									
11...	--	30	--	--	--	--	--	--	--

TABLE 5.--WATER-QUALITY DATA FOR SELECTED STREAM SITES--Continued

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
07375400 - BEAVER CK AT TANGIPAHOA, LA. (LAT 30 52 57 LONG 090 30 43)										
JUNE, 1969 11...	6.2	9.3	80	1.6	1.0	3.3	1.9	14	.4	3.4
07375403 - BEAVER CK NR TANGIPAHOA, LA. (LAT 30 52 38 LONG 090 29 56)										
JUNE, 1969 11...	8.7	10	160	2.5	.9	3.7	1.3	14	.8	4.0
07375404 - TANGIPAHOA R AB BEAVER CK AT TANGIPAHOA, LA (LAT 30 52 42 LONG 090 29 56)										
JUNE, 1969 11...	188	10	50	2.2	.9	4.6	1.0	13	.6	4.8
MAR., 1974 18...	297	11	40	2.0	.8	5.2	1.3	12	1.8	6.5
07375415 - SPRING CK NR TANGIPAHOA, LA. (LAT 30 52 38 LONG 090 29 33)										
JUNE, 1969 11...	4.6	11	260	1.6	1.0	2.7	1.0	10	1.0	3.0
07375420 - TANGIPAHOA R AT ARCOLA, LA. (LAT 30 46 36 LONG 090 29 53)										
JUNE, 1969 11...	216	11	230	2.0	.7	4.2	1.1	12	.0	4.1
07375424 - BIG CK NR ROSELAND, LA. (LAT 30 47 44 LONG 090 27 06)										
JUNE, 1969 11...	18	9.4	130	1.8	.4	2.3	.8	12	.2	2.8
07375426 - E. FORK BIG CK NR ROSELAND, LA. (LAT 30 47 27 LONG 090 26 37)										
JUNE, 1969 11...	10	9.4	140	1.1	.8	2.7	.8	9	.8	2.5
07375428 - BIG CREEK NR AMITE, LA. (LAT 30 44 44 LONG 090 28 54)										
JUNE, 1969 11...	42	9.7	110	1.2	.7	2.6	.8	9	.6	3.3
MAR., 1974 18...	66	9.9	130	1.5	.7	5.1	1.3	9	1.6	4.1
07375430 - TANGIPAHOA RIVER NEAR AMITE, LA. (LAT 30 43 40 LONG 090 29 05.01)										
JUNE, 1969 11...	290	11	80	2.1	.9	4.0	1.2	15	.4	4.0
07375440 - TANGIPAHOA R NR INDEPENDENCE LA (LAT 30 38 13 LONG 090 28 46)										
JUNE, 1969 12...	308	15	--	3.5	.3	3.7	1.0	14	1.2	4.5
MAR., 1974 18...	--	11	110	2.2	.9	4.6	1.2	14	2.0	5.1
07375450 - TANGIPAHOA R NR TICKFAW, LA. (LAT 30 36 09 LONG 090 26 20)										
JUNE, 1969 11...	366	11	100	2.2	.6	4.3	1.2	14	.8	4.5
07375475 - L CHAPPEPEELA CK TRIB NR LORANGER, LA. (LAT 30 37 21 LONG 090 20 43)										
JUNE, 1969 11...	18	12	140	1.6	1.0	3.7	.9	14	.4	5.5
07375478 - BAILEY BRANCH NR LORANGER, LA. (LAT 30 36 41 LONG 090 19 48)										
JUNE, 1969 11...	1.4	8.6	140	1.7	.4	42	.4	101	6.2	5.5
07375491 - CHAPPEPEELA CREEK NR ROBERT, LA. (LAT 30 33 23 LONG 090 18 30)										
JUNE, 1969 11...	48	12	130	1.6	.7	5.4	1.0	11	.6	6.8
MAR., 1974 19...	70	12	220	1.7	.8	5.0	1.1	11	2.5	4.3

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS_ SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	SUS-PENDED SOLIDS (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
07375400 - BEAVER CK AT TANGIPAHOA, LA. (LAT 30 52 57 LONG 090 30 43)										
JUNE, 1969										
11...	.1	.50	--	--	28	--	8	0	45	6.7
07375403 - BEAVER CK NR TANGIPAHOA, LA. (LAT 30 52 38 LONG 090 29 56)										
JUNE, 1969										
11...	.1	.60	--	--	31	--	10	0	45	6.8
07375404 - TANGIPAHOA R AB BEAVER CK AT TANGIPAHOA, LA.(LAT 30 52 42 LONG 090 29 56)										
JUNE, 1969										
11...	.1	.20	--	--	31	--	9	0	47	6.7
MAR., 1974										
18...	.1	.45	.01	41	35	1	8	0	44	6.2
07375415 - SPRING CK NR TANGIPAHOA, LA. (LAT 30 52 38 LONG 090 29 33)										
JUNE, 1969										
11...	.0	.70	--	--	27	--	8	0	34	6.4
07375420 - TANGIPAHOA R AT ARCOLA, LA. (LAT 30 46 36 LONG 090 29 53)										
JUNE, 1969										
11...	.0	.40	--	--	30	--	8	0	45	6.6
07375424 - BIG CK NR ROSELAND, LA. (LAT 30 47 44 LONG 090 27 06)										
JUNE, 1969										
11...	.0	.10	--	--	24	--	6	0	31	6.6
07375426 - E. FORK BIG CK NR ROSELAND, LA. (LAT 30 47 27 LONG 090 26 37)										
JUNE, 1969										
11...	.1	.20	--	--	23	--	6	0	30	6.5
07375428 - BIG CREEK NR AMITE, LA. (LAT 30 44 44 LONG 090 28 54)										
JUNE, 1969										
11...	.0	.20	--	--	24	--	6	0	32	6.8
MAR., 1974										
18...	.1	.39	.02	40	29	8	7	0	35	6.2
07375430 - TANGIPAHOA RIVER NEAR AMITE, LA. (LAT 30 43 40 LONG 090 29 05.01)										
JUNE, 1969										
11...	.0	.10	--	--	31	--	9	0	44	6.8
07375440 - TANGIPAHOA R NR INDEPENDENCE LA.(LAT 30 38 13 LONG 090 28 46)										
JUNE, 1969										
12...	.0	.20	--	--	36	--	10	0	42	6.5
MAR., 1974										
18...	.1	.33	.01	41	34	1	9	0	44	6.4
07375450 - TANGIPAHOA R NR TICKFAW, LA. (LAT 30 36 09 LONG 090 26 20)										
JUNE, 1969										
11...	.1	.20	--	--	32	--	8	0	47	6.9
07375475 - L CHAPPEPEELA CK TRIB NR LORANGER, LA. (LAT 30 37 21 LONG 090 20 43)										
JUNE, 1969										
11...	.0	.20	--	--	32	--	8	0	38	7.0
07375478 - BAILEY BRANCH NR LORANGER, LA. (LAT 30 36 41 LONG 090 19 48)										
JUNE, 1969										
11...	.2	.40	--	--	115	--	6	0	193	7.9
07375491 - CHAPPEPEELA CREEK NR ROBERT, LA. (LAT 30 33 23 LONG 090 18 30)										
JUNE, 1969										
11...	.0	.20	--	--	34	--	7	0	45	7.0
MAR., 1974										
19...	.0	.24	.02	39	33	1	8	0	40	6.3

DATE	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	DIS-SOLVED OXYGEN (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM (COL. PER 100 ML)	STREP-TOCOCCI (COL-ONIES PER 100 ML)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	OIL AND GREASE (MG/L)
07375400 - BEAVER CK AT TANGIPAHOA, LA. (LAT 30 52 57 LONG 090 30 43)									
JUNE, 1969									
11...	22.0	15	--	--	--	--	--	--	--
07375403 - BEAVER CK NR TANGIPAHOA, LA. (LAT 30 52 38 LONG 090 29 56)									
JUNE, 1969									
11...	--	20	--	--	--	--	--	--	--
07375404 - TANGIPAHOA R AB BEAVER CK AT TANGIPAHOA, LA. (LAT 30 52 42 LONG 090 29 56)									
JUNE, 1969									
11...	22.0	20	--	--	--	--	--	--	--
MAR., 1974									
18...	20.0	2	8.9	4.4	70	190	.00	--	0
07375415 - SPRING CK NR TANGIPAHOA, LA. (LAT 30 52 38 LONG 090 29 33)									
JUNE, 1969									
11...	--	30	--	--	--	--	--	--	--
07375420 - TANGIPAHOA R AT ARCOLA, LA. (LAT 30 46 36 LONG 090 29 53)									
JUNE, 1969									
11...	28.5	10	--	--	--	--	--	--	--
07375424 - BIG CK NR ROSELAND, LA. (LAT 30 47 44 LONG 090 27 06)									
JUNE, 1969									
11...	22.0	20	--	--	--	--	--	--	--
07375426 - E. FORK BIG CK NR ROSELAND, LA. (LAT 30 47 27 LONG 090 26 37)									
JUNE, 1969									
11...	22.0	20	--	--	--	--	--	--	--
07375428 - BIG CREEK NR AMITE, LA. (LAT 30 44 44 LONG 090 28 54)									
JUNE, 1969									
11...	23.0	20	--	--	--	--	--	--	--
MAR., 1974									
18...	18.5	8	9.8	5.0	190	150	.00	4	0
07375430 - TANGIPAHOA RIVER NEAR AMITE, LA. (LAT 30 43 40 LONG 090 29 05.01)									
JUNE, 1969									
11...	28.5	30	--	--	--	--	--	--	--
07375440 - TANGIPAHOA R NR INDEPENDENCE LA. (LAT 30 38 13 LONG 090 28 46)									
JUNE, 1969									
12...	--	5	--	--	--	--	--	--	--
MAR., 1974									
18...	18.0	3	9.6	1.9	<10	96	.00	16	0
07375450 - TANGIPAHOA R NR TICKFAW, LA. (LAT 30 36 09 LONG 090 26 20)									
JUNE, 1969									
11...	30.0	20	--	--	--	--	--	--	--
07375475 - L CHAPPEPEELA CK TRIB NR LORANGER, LA. (LAT 30 37 21 LONG 090 20 43)									
JUNE, 1969									
11...	27.0	20	--	--	--	--	--	--	--
07375478 - BAILEY BRANCH NR LORANGER, LA. (LAT 30 36 41 LONG 090 19 48)									
JUNE, 1969									
11...	25.0	40	--	--	--	--	--	--	--
07375491 - CHAPPEPEELA CREEK NR ROBERT, LA. (LAT 30 33 23 LONG 090 18 30)									
JUNE, 1969									
11...	24.0	20	--	--	--	--	--	--	--
MAR., 1974									
19...	19.0	8	8.5	1.7	<10	240	.00	3	1

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
07375500 - TANGIPAHOA RIVER AT ROBERT, LA. (LAT 30 30 23 LONG 090 21 42)										
JAN., 1969 27...	428	10	40	1.4	1.3	4.3	1.4	15	1.2	5.0
MAR. 17...	1520	4.4	0	2.5	.9	3.2	2.7	7	5.0	5.1
APR. 22...	1050	12	20	2.3	1.0	4.3	1.5	14	2.2	4.4
JUNE 03...	474	9.4	--	2.3	.8	4.0	1.9	15	2.4	4.0
11...	460	11	130	2.2	.6	4.9	1.2	16	1.6	4.8
JULY 22...	638	9.6	90	1.0	1.3	4.2	2.0	14	1.6	3.8
AUG. 29...	412	14	0	1.6	1.0	5.0	1.5	17	.8	5.4
NOV. 18...	298	14	--	1.7	.9	5.2	1.5	13	3.2	6.2
JAN., 1970 15...	625	11	10	2.5	.9	5.6	2.3	16	.0	8.0
MAR. 18...	904	8.4	10	2.1	1.2	5.1	2.4	12	2.2	7.2
MAY 27...	322	14	60	1.4	.6	5.7	1.0	12	1.4	5.9
JULY 15...	950	8.6	8	2.6	.4	2.9	2.4	11	.2	5.0
SEP. 30...	500	14	220	2.4	1.2	5.3	1.8	18	2.4	6.9
DEC. 22...	1460	12	190	3.3	.7	6.1	2.9	16	3.6	9.1
JAN., 1971 20...	648	13	180	3.7	1.9	5.1	1.1	16	4.0	7.0
MAR. 31...	1170	9.4	210	3.4	.4	4.5	2.6	15	2.0	6.0
MAY 26...	678	13	100	2.8	1.2	6.0	1.7	17	2.8	5.9
JUNE 23...	503	12	240	2.4	1.0	5.7	.9	15	3.2	6.5
JAN., 1972 18...	944	12	190	2.7	2.7	5.5	1.7	18	9.5	6.7
MAR. 15...	656	13	190	3.0	.6	4.5	1.3	14	2.2	5.5
MAY 25...	686	13	160	3.2	.5	4.1	1.6	16	1.2	4.1
JULY 17...	503	12	70	2.0	.5	5.0	1.5	13	.8	5.7
SEP. 27...	440	13	20	2.5	1.2	5.5	2.4	15	3.6	6.6
NOV. 15...	524	16	--	2.2	1.1	6.0	2.1	20	.2	7.2
JAN., 1973 17...	700	7.7	170	2.5	1.4	6.0	1.4	16	3.0	7.4
MAY 24...	955	11	230	2.7	1.0	3.4	1.1	20	1.4	5.0
AUG. 15...	635	12	--	1.6	.5	7.0	1.6	11	2.6	8.0
NOV. 28...	1590	9.2	290	2.3	1.5	5.2	3.3	12	3.9	7.0
FEB., 1974 27...	1020	11	--	1.7	1.2	3.6	1.2	12	1.4	4.5
MAR. 18...	623	12	160	2.7	1.0	4.7	1.3	13	1.9	5.3
MAY 21...	1470	11	--	2.7	.7	4.2	1.3	12	1.9	4.0
JULY 24...	534	13	160	2.4	.9	6.4	1.5	13	2.5	6.6
07375600 - WASHLEY CK NR ROBERT, LA. (LAT 30 30 20 LONG 090 18 30)										
JUNE, 1969 11...	.06	7.0	670	4.4	1.7	21	4.3	54	5.4	11
07375650 - TANGIPAHOA R NR PONCHATOULA, LA. (LAT 30 26 36 LONG 090 20 06)										
JUNE, 1969 11...	385	12	160	2.3	1.0	5.2	1.3	16	2.2	4.7

TABLE 5.--WATER-QUALITY DATA FOR SELECTED STREAM SITES--Continued

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	SUS-PENDED SOLIDS (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
07375500 - TANGIPAHOA RIVER AT ROBERT, LA. (LAT 30 30 23 LONG 090 21 42)										
JAN., 1969 27...	.2	.40	--	56	32	--	9	0	48	6.4
MAR. 17...	.1	.10	--	57	27	--	10	4	48	5.3
APR. 22...	.0	.20	--	33	35	--	10	0	48	6.4
JUNE 03...	.0	.20	--	42	32	--	9	0	46	6.2
11...	.1	.20	--	--	35	--	8	0	51	6.8
JULY 22...	.0	.10	--	34	31	--	8	0	45	6.1
AUG. 29...	.0	.00	--	37	37	--	8	0	46	7.0
NOV. 18...	.0	.10	--	38	39	--	8	0	47	6.8
JAN., 1970 15...	.0	.50	--	43	39	--	10	0	61	6.4
MAR. 18...	.1	1.9	--	47	37	--	10	0	54	6.2
MAY 27...	.0	.30	--	36	36	--	6	0	41	6.5
JULY 15...	.1	.60	--	36	28	--	8	0	42	6.1
SEP. 30...	.1	.50	--	56	44	--	11	0	52	6.8
DEC. 22...	.0	1.1	--	55	47	--	11	0	65	6.4
JAN., 1971 20...	.0	.60	--	54	44	--	17	4	54	6.6
MAR. 31...	.0	1.6	--	65	37	--	10	0	54	6.4
MAY 26...	.0	.10	--	51	42	--	12	0	59	6.4
JUNE 23...	.0	.40	--	46	39	--	10	0	54	6.6
JAN., 1972 18...	.1	.50	--	82	50	--	18	3	53	6.3
MAR. 15...	.0	.60	--	46	38	--	10	0	46	6.7
MAY 25...	.0	.20	--	44	36	--	10	0	47	6.8
JULY 17...	.0	.30	--	43	34	--	7	0	45	6.1
SEP. 27...	.0	.20	--	44	42	--	11	0	56	6.2
NOV. 15...	.2	.40	--	--	45	--	10	0	54	7.2
JAN., 1973 17...	.0	.20	--	42	38	--	12	0	51	7.0
MAY 24...	.1	.10	--	67	36	--	11	0	47	6.4
AUG. 15...	.0	.60	.04	38	39	--	6	0	51	6.4
NOV. 28...	.2	1.9	--	25	41	--	12	2	56	6.5
FEB., 1974 27...	.0	--	--	37	31	--	9	0	36	6.2
MAR. 18...	.1	.31	.01	42	36	1	11	0	46	6.3
MAY 21...	.1	--	--	32	32	--	10	0	42	6.6
JULY 24...	.1	.50	.07	42	40	--	10	0	47	6.3
07375600 - WASHLEY CK NR ROBERT, LA. (LAT 30 30 20 LONG 090 18 30)										
JUNE, 1969 11...	.2	.10	--	--	82	--	18	0	139	7.5
07375650 - TANGIPAHOA R NR PONCHATOULA, LA. (LAT 30 26 36 LONG 090 20 06)										
JUNE, 1969 11...	.1	.10	--	--	37	--	10	0	50	7.0

DATE	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	DIS-SOLVED OXYGEN (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI-FORM (COL. PER 100 ML)	STREP-TOCOCCI (COL-ONIES PER 100 ML)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	OIL AND GREASE (MG/L)
07375500 - TANGIPAHOA RIVER AT ROBERT, LA. (LAT 30 30 23 LONG 090 21 42)									
JAN., 1969									
27...	--	20	--	--	--	--	--	--	--
MAR.									
17...	11.0	50	--	--	--	--	--	--	--
APR.									
22...	16.0	15	--	--	--	--	--	--	--
JUNE									
03...	23.0	15	--	--	--	--	--	--	--
11...	29.0	30	--	--	--	--	--	--	--
JULY									
22...	26.0	15	--	--	--	--	--	--	--
AUG.									
29...	26.0	0	--	--	--	--	--	--	--
NOV.									
18...	18.0	5	9.3	.0	--	--	--	--	--
JAN., 1970									
15...	12.0	5	11.0	1.8	--	--	--	--	--
MAR.									
18...	16.0	15	8.6	.5	--	--	--	--	--
MAY									
27...	25.0	5	7.1	.3	--	--	--	--	--
JULY									
15...	--	7	--	--	--	--	--	--	--
SEP.									
30...	22.0	10	8.8	.9	--	--	--	--	--
DEC.									
22...	17.0	30	--	--	--	--	--	--	--
JAN., 1971									
20...	10.0	15	11.0	3.1	--	--	--	--	--
MAR.									
31...	17.5	60	8.8	2.0	--	--	--	--	--
MAY									
26...	23.0	15	7.9	1.6	--	--	--	--	--
JUNE									
23...	25.5	40	7.5	1.3	--	--	--	--	--
JAN., 1972									
18...	9.5	30	10.0	1.0	--	--	--	--	--
MAR.									
15...	19.5	20	8.3	1.8	--	--	--	--	--
MAY									
25...	25.5	20	7.7	1.4	--	--	--	--	--
JULY									
17...	--	20	--	--	--	--	--	--	--
SEP.									
27...	--	30	--	--	--	--	--	--	--
NOV.									
15...	14.0	10	10.0	--	2300	3000	--	--	--
JAN., 1973									
17...	13.0	5	9.9	1.0	35	40	--	--	--
MAY									
24...	25.0	40	7.7	1.6	65	10	--	--	--
AUG.									
15...	27.0	10	7.5	9.0	40	30	--	--	--
NOV.									
28...	20.0	27	7.6	3.5	600	950	--	--	--
FEB., 1974									
27...	13.0	10	9.9	1.2	20	20	--	--	--
MAR.									
18...	20.5	8	8.3	2.2	30	160	.00	4	0
MAY									
21...	25.0	20	7.6	1.7	250	1500	--	--	--
JULY									
24...	28.0	10	7.0	1.3	--	3500	--	--	--
07375600 - WASHLEY CK NR ROBERT, LA. (LAT 30 30 20 LONG 090 18 30)									
JUNE, 1969									
11...	--	10	--	--	--	--	--	--	--
07375650 - TANGIPAHOA R NR PONCHATOULA, LA. (LAT 30 26 36 LONG 090 20 06)									
JUNE, 1969									
11...	28.0	30	--	--	--	--	--	--	--

TABLE 5.--WATER-QUALITY DATA FOR SELECTED STREAM SITES--Continued

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
07375680 - BEDICO CREEK NR MADISONVILLE LA (LAT 30 27 13 LONG 090 15 53)										
JUNE, 1969 11...	.35	14	210	4.4	2.7	14	1.8	27	16	9.6
MAR., 1974 19...	.88	17	80	4.2	2.0	9.9	2.0	20	14	8.9
07376440 - NATALBANY R NR INDEPENDENCE, LA. (LAT 30 38 34 LONG 090 32 14)										
JUNE, 1969 11...	5.1	8.1	170	2.6	1.1	9.2	1.0	18	4.4	9.0
MAR., 1974 18...	--	9.3	80	2.4	1.2	9.8	1.0	17	6.2	11
07376505 - NATALBANY RIVER NEAR ALBANY, LA. (LAT 30 29 07 LONG 090 32 45.01)										
MAY , 1969 05...	--	12	20	9.9	.8	9.5	1.9	38	11	7.6
JUNE 11...	11	15	130	4.0	1.5	11	1.7	26	8.2	10
MAR., 1974 18...	19	11	120	3.2	1.5	10	1.7	21	6.2	9.9
07376510 - LITTLE NATALBANY R NR INDEPENDENCE, LA. (LAT 30 38 35 LONG 090 35 00)										
JUNE, 1969 11...	.98	13	80	3.7	2.4	12	1.8	32	3.6	12
07376525 - LITTLE NATALBANY RIVER NEAR ALBANY, LA. (LAT 32 29 01 LONG 090 33 42.01)										
MAY , 1969 05...	--	10	20	6.0	1.7	14	2.1	28	12	13
MAR., 1974 18...	7.8	15	100	4.2	2.4	14	1.9	27	7.3	14
07376614 - PONCHATOULA CK N. OF PONCHATOULA, LA. (LAT 30 28 04 LONG 090 26 54)										
JUNE, 1969 11...	2.3	14	0	12	3.9	50	4.2	147	14	20
MAR., 1974 18...	31	19	60	9.2	2.7	42	2.8	100	15	18
07376628 - YELLOW WATER RIVER NR PONCHATOULA, LA. (LAT 30 27 30 LONG 090 30 19)										
JUNE, 1969 11...	3.9	16	190	5.1	1.8	33	2.4	66	9.6	19

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	SUS-PENDED SOLIDS (MG/L)	HARD-NESS (CA+MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
07375680 - BEDICO CREEK NR MADISONVILLE LA (LAT 30 27 13 LONG 090 15 53)										
JUNE, 1969										
11...	.2	.40	--	--	77	--	22	0	116	7.4
MAR., 1974										
19...	.3	.33	.00	83	66	6	19	0	103	6.4
07376440 - NATALBANY R NR INDEPENDENCE, LA. (LAT 30 38 34 LONG 090 32 14)										
JUNE, 1969										
11...	.0	.40	--	--	45	--	11	0	79	6.8
MAR., 1974										
18...	.1	.23	.01	58	49	3	11	0	76	6.4
07376505 - NATALBANY RIVER NEAR ALBANY, LA. (LAT 30 29 07 LONG 090 32 45.01)										
MAY , 1969										
05...	.1	.30	--	--	72	--	28	0	108	7.3
JUNE										
11...	.1	.30	--	--	65	--	16	0	94	7.3
MAR., 1974										
18...	.1	.28	.03	92	54	1	14	0	84	6.7
07376510 - LITTLE NATALBANY R NR INDEPENDENCE, LA. (LAT 30 38 35 LONG 090 35 00)										
JUNE, 1969										
11...	.1	.10	--	--	65	--	19	0	109	7.0
07376525 - LITTLE NATALBANY RIVER NEAR ALBANY, LA. (LAT 32 29 01 LONG 090 33 42.01)										
MAY , 1969										
05...	.3	1.7	--	--	75	--	22	0	116	6.6
MAR., 1974										
18...	.3	.77	.20	62	74	5	20	0	115	6.8
07376614 - PONCHATOULA CK N. OF PONCHATOULA, LA. (LAT 30 28 04 LONG 090 26 54)										
JUNE, 1969										
11...	.4	1.1	--	--	192	--	46	0	344	7.8
MAR., 1974										
18...	.4	.79	.97	171	162	53	34	0	265	6.7
07376628 - YELLOW WATER RIVER NR PONCHATOULA, LA. (LAT 30 27 30 LONG 090 30 19)										
JUNE, 1969										
11...	.3	.80	--	--	121	--	20	0	203	7.5

TABLE 5.--WATER-QUALITY DATA FOR SELECTED STREAM SITES--Continued

DATE	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	DIS- SOLVED OXYGEN (MG/L)	BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	OIL AND GREASE (MG/L)
07375680 - BEDICO CREEK NR MADISONVILLE LA (LAT 30 27 13 LONG 090 15 53)									
JUNE, 1969 11...	--	50	--	--	--	--	--	--	--
MAR., 1974 19...	23.0	30	7.9	2.1	340	680	.00	4	1
07376440 - NATALBANY R NR INDEPENDENCE, LA. (LAT 30 38 34 LONG 090 32 14)									
JUNE, 1969 11...	24.0	50	--	--	--	--	--	--	--
MAR., 1974 18...	17.0	8	9.8	3.2	150	40	--	--	0
07376505 - NATALBANY RIVER NEAR ALBANY, LA. (LAT 30 29 07 LONG 090 32 45.01)									
MAY , 1969 05...	--	--	--	--	--	--	--	--	--
JUNE 11...	--	30	--	--	--	--	--	--	--
MAR., 1974 18...	18.5	3	9.7	1.5	90	64	.00	4	0
07376510 - LITTLE NATALBANY R NR INDEPENDENCE, LA. (LAT 30 38 35 LONG 090 35 00)									
JUNE, 1969 11...	22.0	15	--	--	--	--	--	--	--
07376525 - LITTLE NATALBANY RIVER NEAR ALBANY, LA. (LAT 32 29 01 LONG 090 33 42.01)									
MAY , 1969 05...	--	--	--	--	--	--	--	--	--
MAR., 1974 18...	17.0	20	9.5	4.3	120	120	.00	--	0
07376614 - PONCHATOULA CK N. OF PONCHATOULA, LA. (LAT 30 28 04 LONG 090 26 54)									
JUNE, 1969 11...	34.5	60	--	--	--	--	--	--	--
MAR., 1974 18...	19.5	60	13.1	10	5900	1300	.00	4	0
07376628 - YELLOW WATER RIVER NR PONCHATOULA, LA. (LAT 30 27 30 LONG 090 30 19)									
JUNE, 1969 11...	--	50	--	--	--	--	--	--	--