Quality of Surface Waters of the United States 1959

Parts 1 and 2. North Atlantic Slope Basins and South Atlantic Slope and Eastern Gulf of Mexico Basins

Prepared under the direction of S. K. LOVE, *Chief, Quality of Water Branch*

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1641

Prepared in cooperation with the States of Connecticut, Delaware, Florida, Georgia, Maryland, Mississippi, New Jersey, New York, North Carolina, Pennsylvania, South Carolina, and with other agencies

UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON : 1965

UNITED STATES DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, *Secretary*

GEOLOGICAL SURVEY

Thomas B. Nolan, *Director*

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C., 20402 - Price $1.50

PREFACE

This report was prepared by the Geological Survey in cooperation with the States of Connecticut, Delaware, Florida, Georgia, Maryland, Mississippi, New Jersey, New York, North Carolina, Pennsylvania, South Carolina, and with other agencies by personnel of the Water Resources Division under the direction of L. B. Leopold, chief hydrologist, and S. K. Love, chief, Quality of Water Branch. The data were collected and computed under the supervision of the following:

N. H. Beamer, district chemist ..... Philadelphia, Pa.
G. A. Billingsley, district chemist ..... Raleigh, N. C.
J. W. Geurin, district chemist ..... Ocala, Fla.
F. H. Pauszek, district chemist ..... Albany, N. Y.
M. E. Schroeder, district chemist .... Little Rock, Ark.
J. W. Wark, project chief ..... Rockville, Md.

CONTENTS

[*Symbols after station name designate type of data: c, chemical; t, water temperature; s, sediment.*]

ILLUSTRATION

QUALITY OF SURFACE WATERS OF THE UNITED STATES, 1959

PARTS 1 and 2

INTRODUCTION

The quality-of-water investigations of the United States Geological Survey are concerned with chemical and physical characteristics of the surface and ground water supplies of the Nation. Most of the investigations carried on in cooperation with State and other Federal agencies deal with the amounts of matter in solution and in suspension in streams.

The records of chemical analysis, suspended sediment, and temperature for surface waters given in this volume serve as a basis for determining the suitability of the waters examined for industrial, agricultural, and domestic uses insofar as such use is affected by the dissolved or suspended mineral matter in the waters. The discharge of a stream and, to a lesser extent, the chemical quality are related to variations in rainfall and other forms of precipitation. In general, lower concentrations of dissolved solids may be expected during the periods of high flow than during periods of low flow. The concentration in some streams may change materially with relatively small variations in flow, whereas for other streams the quality may remain relatively uniform throughout large ranges in discharge. The quantities of suspended sediment carried by streams are also related to discharge, and during flood periods the sediment concentrations in many streams vary over wide ranges.

Publication of annual records of chemical analyses, suspended sediment, and water temperature was begun by the Geological Survey in 1941. The records prior to 1948 were published each year in a single volume for the entire country, and in two volumes in 1948 and 1949. The records were published in four volumes from 1950 to 1958 and beginning in 1959 in five volumes. The drainage basins covered in the five volumes are shown in Figure 1. The samples for which data are given in this volume were collected from October 1, 1958 to September 30, 1959. The records are arranged by drainage basins according to Geological Survey practice in reporting records of streamflow: Stations on tributary streams are listed between stations on the main stem in the order

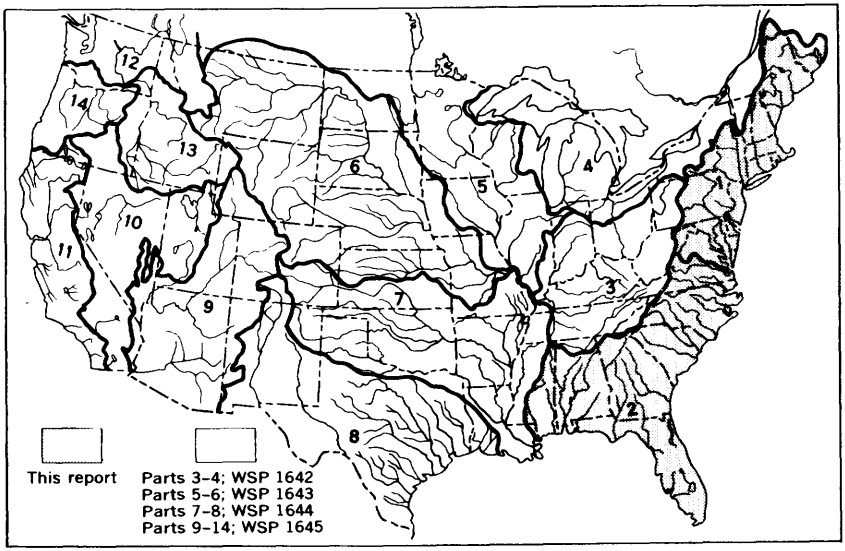

Figure 1. --Map of the United States showing basins covered by the five water-supply papers on quality of surface waters in 1959. The shaded portion represents the section of the country covered by this volume; the unshaded portion represents the section of the country covered by other water-supply papers.

in which those tributaries enter the main stem.

A station number has been assigned as an added means of identification for each stream location where regular measurements of water quantity or quality have been made. The numbers have been assigned to conform with the standard downstream order of listing gaging stations. The numbering system consists of two digits followed by a hyphen and a six digit number. The notation to the left of the hyphen identifies the Part or hydrologic region used by the Geological Survey for reporting hydrologic data. The number to the right of the hyphen represents the position of the location in the standard downstream order listing measuring stations within each of the 14 parts. The assigned numbers are in numerical order but are not consecutive. They are so selected from the complete 6 digit number scale that intervening numbers will be available for future assignments to new locations. The identification number for each station in this report is printed to the left of the station name and contains only the essential digits. For example, the number is printed as 4-100 for a station whose complete identification number is 04-0100.00.

Descriptive statements are given for each sampling station for which regular series of chemical analyses, temperature measurements, or sediment determinations have been made. These statements include the location of the station, drainage area, periods of records available, extremes of dissolved solids, hardness, specific conductance, temperature, sediment loads, and other pertinent data. Records of discharge of the streams at or near the sampling station are included in most tables of analyses.

During the water year ending September 30, 1959, the Geological Survey maintained 171 stations on 113 streams for the study of chemical and physical characteristics of surface water. Samples were collected daily or monthly at 130 of these locations for chemical-quality studies. Samples were also collected less frequently at many other points. Water temperatures were measured daily at 107 stations. Not all analyses of samples of surface water collected during the year have been included. Single analyses of an incomplete nature generally have been omitted. Also, analyses made of the daily samples before compositing have not been reported. The specific conductance of almost all daily samples was determined, and as noted in the table headings this information is available for reference at the district offices listed under Division of Work, on page 29.

Quantities of suspended sediment are reported for 18 stations during the year ending September 30, 1959. Sediment samples were collected one or more times daily during periods of significant flow at most of the continuous-record stations. Particle-size distributions of sediments were determined for 17 of the stations.

COLLECTION AND EXAMINATION OF SAMPLES

Samples for analyses are usually collected at or near points on streams where gaging stations are maintained by Surface Water Branch of U. S. Geological Survey for measurement of water discharge. The concentration of solutes and sediments at different locations in the stream-cross section may vary widely with different rates of water discharge depending on the source of the material and the turbulence and mixing of the stream. In general, the distribution of sediment in a stream section is much more variable than the distribution of solutes. It is necessary to sample some streams at several verticals across the channel and especially for sediment, to uniformly traverse the depth of flow. These measurements require special sampling equipment to adequately integrate the vertical and lateral variability of the concentration in the section. These procedures yield a velocity-weighted mean con-

centration for the section in contrast to the average spatial concentration that existed without regard to the variable velocities of the individual fluid elements.

The nearly uniform dispersed ions of the solute move with the velocity of the transporting media. The mean section concentration of solutes determined from samples is a precise measure of the solute. The mean section concentration obtained from suspended-sediment samples is a less precise measure of the total sediment load, because sediment samplers did not traverse the bottom 0.4 foot of the sampling vertical where the concentration of suspended sediment is greatest and because a significant part of the coarser particles in many streams move in essentially continuous contact with the bed and are not represented in the suspended sediment sample. Hence, the suspended sediment loads presented in this report are usually less than the total sediment loads. For most streams the difference between the suspended and total sediment loads will be small, in the order of a few percent.

CHEMICAL QUALITY

The methods of collecting and compositing water samples for chemical analysis are described in a manual by Rainwater and Thatcher (1960, 301 p.). No single method of compositing samples is applicable to all problems related to the study of water quality. Although generally holding to the principle of 10 day periods or equivalent to three composite samples per month modifications are usually made on the basis of dissolved-solids content as indicated by measurements of conductivity of daily samples, supplemented by other information such as chloride content, river stage, weather conditions and other background information of the stream.

TEMPERATURE

Daily water temperatures were measured at most of the stations at the time samples were collected for chemical quality or sediment content. So far as practicable, the water temperatures were taken at about the same time each day for an individual station in order that the data would be relatively unaffected by diurnal variations in temperature. Most large, swiftly flowing streams probably have a small diurnal variation in water temperature, whereas sluggish or shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. The thermometers used for determining water temperature were accurate to plus or minus 0.5°F.

At stations where thermographs are located, the records consist of maximum and minimum temperatures for each day, and the monthly averages of maximum daily and minimum daily temperatures.

SEDIMENT

In general, suspended-sediment samples were collected daily with U. S. depth-integrating cable-suspended samplers (U. S. Interagency, 1948, p. 70-76 and U. S. Interagency, 1952, p. 86-90) from a fixed sampling point at one vertical in the cross section. The US DH-48 hand sampler was used at many stations during periods of low flow. Depth-integrated samples were collected periodically at three or more verticals in the cross section to determine the cross-sectional distribution of the concentration of suspended sediment with respect to that at the daily sampling vertical. In streams where transverse distribution of sediment concentration ranges widely, samples were taken at two or more verticals to define more accurately the average concentration of the cross section. During periods of high or rapidly changing flow, samples were taken two or more times throughout the day at most sampling stations.

Sediment concentrations were determined by filtration-evapororation method. At many stations the daily mean concentration for some days was obtained by plotting the velocity-weighted instantaneous concentrations on the gage-height chart. The plotted concentrations, adjusted, if necessary for cross-sectional distribution were connected or averaged by continuous curves to obtain a concentration graph. This graph represented the estimated velocity-weighted concentration at any time, and for most periods daily mean concentrations were determined from the graph. The days were divided into shorter intervals when the concentration and water discharge were changing rapidly. During some periods of minor variation in concentration, the average concentration of the samples was used as the daily mean concentration. During extended periods of relatively uniform concentration and flow, samples for a number of days were composited to obtain average concentrations and average daily loads for each period.

For some periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately preceding and following the periods, and suspended-sediment loads for other periods of similar discharge. the estimates were further guided by weather conditions and sediment discharge for other stations.

In many instances where there were no observations for several days, the suspended-sediment loads for individual days are

757-048 O - 65 - 2

not estimated, because numerous factors influencing the quantities of transported sediment made it very difficult to make accurate estimates for individual days. However, estimated loads of suspended sediment for missing days in otherwise continuous period of sampling have been included in monthly and annual totals in order to provide a complete record. For some streams, samples were collected about weekly, monthly, or less frequently, and only rates of sediment discharge at the time of sampling are shown.

In addition to the records of quantities of suspended sediment transported, records of the particle sizes of sediment are included. The particle sizes of the suspended sediments for many of the stations, and the particle sizes of the bed material for some of the stations were determined periodically.

The size of particles in stream sediments commonly range from colloidal clay (finer than 0.001 mm) to coarse sand or gravel (coarser than 1.0 mm). The common methods of particle-size analyses cannot accomodate such a wide range in particle size. Hence, it was necessary to separate most samples into two parts, one coarser than 0.062 mm and one finer than 0.062 mm. The separations were made by sieve or by a tube containing a settling medium of water. The coarse fractions were classified by sieve separation or by the visual accumulation tube (U.S. Interagency, 1957). The fine fractions were classified by the pipet method (Kilmer and Alexander, 1949) or the bottom withdrawal tube method (U.S. Interagency, 1943, p. 82-90).

EXPRESSION OF RESULTS

Quantities of water for analysis are most conveniently obtained in the laboratory by use of volumetric glassware. The analytical results thus obtained are expressed in weights of solute in a given volume of water. To express the results in parts of solute per million (ppm) of water the data must be converted. For most waters this conversion is made by assuming that the liter of water sample weighs 1 kilogram; and thus milligrams per liter are equivalent to parts per million.

Chemical equivalence in equivalents per million (epm) can be obtained by (a) dividing the concentration in parts per million by the combining weight of that ion, or (b) multiplying the concentration (in ppm) by the reciprocal of the combining weights. The following table lists the reciprocals of the combining weights of cations and anions generally reported in water analyses.

The terms "equivalents per million" is a contraction which has been generally adopted for convenience. In more exact language, these units are "milligram equivalents per kilogram" if derived from part-per million data, or "milligram equivalents per

liter" if derived from data expressed in milligrams per liter. Equivalent weights may be computed for use with any of the systems of expression of data (Hem, 1959, p. 30-34).

In an analysis expressed in equivalents per million, unit concentrations of all ions are chemically equivalent.

Conversion factors: Parts per million to equivalents per million

Ion	Multiply by	Ion	Multiply by
Aluminum (Al^{+3})	0.11119	Iron (Fe^{+3})	0.05372
Barium (Ba^{+2})	.01456	Lead (Pb^{+2})	.00965
Bicarbonate (HCO_3^{-1})	.01639	Lithium (Li^{+1})	.14409
Bromide (Br^{-1})	.01251	Magnesium (Mg^{+2})	.08224
Calcium (Ca^{+2})	.04990	Manganese (Mn^{+2})	.03640
Carbonate (CO_3^{-2})	.03333	Nitrate (NO_3^{-1})	.01613
Chloride (Cl^{-1})	.02820	Phosphate (PO_4^{-3})	.03159
Chromium (Cr^{+6})	.11536	Potassium (K^{+1})	.02558
Copper (Cu^{+2})	.03148	Sodium (Na^{+1})	.04350
Fluoride (F^{-1})	.05263	Strontium (Sr^{+2})	.02282
Hydrogen (H^{+1})	.99206	Sulfate (SO_4^{-2})	.02082
Hydroxide (OH^{-1})	.05880	Zinc (Zn^{+2})	.03059
Iodide (I^{-1})	.00788		

Results given in parts per million can be converted to grains per United States gallon by dividing by 17.12.

The hardness of water is conventionally expressed in all water analyses in terms of an equivalent quantity of calcium carbonate. Such a procedure is required because hardness is caused by several different cations, present in variable proportions. It should be remembered that hardness is an expression in conventional terms of a property of water. The actual presence of calcium carbonate in the concentration given is not to be assumed. The hardness caused by calcium and magnesium (and other cations if significant) equivalent to the carbonate and bicarbonate is called carbonate hardness; the hardness in excess of this quantity is called noncarbonate hardness. Hardness or alkalinity values expressed in parts per million as calcium carbonate may be converted to equivalents per million by dividing by 50.

The value usually reported as dissolved solids is the residue on evaporation after drying at 180°C for 1 hour. For some waters, particularly those containing moderately large quantities of soluble salts, the value reported is calculated from the quantities of the various determined constituents using the carbonate equivalent of the reported bicarbonate. The calculated sum of the constituents may be given instead of or in addition to the residue. In the

analyses of most waters used for irrigation, the quantity of dissolved solids is given in tons per acre-foot as well as in parts per million.

Specific conductance is given for most analyses and was determined by means of a conductance bridge and using a standard potassium chloride solution as reference. Specific conductance values are expressed in micromhos per centimeter at 25°C. Specific conductance in micromhos is 1 million times the reciprocal of specific resistance at 25°C. Specific resistance is the resistance in ohms of a column of water 1 centimeter long and 1 square centimeter in cross section.

The discharge of the streams is reported in cubic feet per second (see Streamflow, p. 23) and the temperature in degrees Fahrenheit. Color is expressed in units of the platinum-cobalt scale proposed by Hazen (1892, p. 427-428). A unit of color is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Hydrogen-ion concentration is expressed in terms of pH units. By definition the pH value of a solution is the negative logarithm of the concentration of gram ions of hydrogen. However, the pH meter that is generally used in Survey laboratories determines the activity of the hydrogen ions as distinguished from concentration.

An average of analyses for the water year is given for most daily sampling stations. Most of these averages are arithmetical or time-weighted; when analyses during a year are all on 10-day composites of daily samples with no missing days, the arithmetical and time-weighted averages are equivalent. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the river each day for the water year. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all of the water passing a given station during the year after thorough mixing in the reservoir. A discharge-weighted average is computed by multiplying the discharge for the sampling period by the concentrations of the individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. Discharge-weighted averages are usually lower than arithmetical averages for most streams because at times of high discharge the rivers generally have lower concentrations of dissolved solids.

The concentration of sediment in parts per million is computed as 1,000,000 times the ratio of the weight of sediment to the weight of water-sediment mixture. Daily sediment loads are expressed in tons per day and except for subdivided days are usually obtained by multiplying daily mean sediment concentration in parts per million by the daily mean discharge, and the appropriate conversion factor, normally 0.0027.

Particle-size analyses are expressed in percentages of material finer than indicated sizes in millimeters. The size classification used in this report is that recommended by the American Geophysical Union subcommittee on Terminology (Lane and others, 1947, p. 937). Other data included as pertinent to the size analyses for many streams are the date of collection, the stream discharge and sediment concentration when sample was collected, the concentration of the suspension during analysis, and the method of analysis.

COMPOSITION OF SURFACE WATERS

All natural waters contain dissolved mineral matter. Water in contact with soils or rock, even for only a few hours, will dissolve some mineral matter. The quantity of dissolved mineral matter in a natural water depends primarily on the type of rocks or soils with which the water has been in contact and the length of time of contact. Some streams are fed by both surface runoff and ground water from spring or seeps. Such streams reflect the chemical character of their concentrated underground sources during dry periods and are more dilute during periods of heavy rainfall. Ground water is generally more highly mineralized than surface runoff because it remains in contact with the rocks and soils for much longer periods. The dissolved-solids content in a river is frequently increased by drainage from mines or oil fields, by the addition of industrial or municipal wastes, or--in irrigated regions--by drainage from irrigated lands.

The mineral constituents and physical properties of natural waters reported in the tables of analyses include those that have a practical bearing on the value of the waters for most purposes. The analyses generally include results for silica, iron, calcium, magnesium, sodium, potassium (or sodium and potassium together calculated as sodium), alkalinity as carbonate and bicarbonate, sulfate, chloride, fluoride, nitrate, boron, pH, dissolved solids and specific conductance. Aluminum, manganese, color, acidity, oxygen consumed, and other dissolved constituents and physical properties are reported for certain streams. Phenolic material and minor elements including strontium, chromium, nickel, copper, lead, zinc, cobalt, arsenic, cadmium, and others are occasionally determined for a few streams in connection with specific problems in local areas and the results are reported when appropriate. The source and significance of the different constituents and properties of natural waters are discussed in the following paragraphs. The constituents are arranged in the order that they appear on standard analytical statement cards which are used to process the chemical quality data in this report.

MINERAL CONSTITUENTS IN SOLUTION

Silica (SiO_2)

Silica is dissolved from practically all rocks. Some natural surface waters contain less than 5 parts per million of silica and few contain more than 50 parts, but the more common range is from 10 to 30 parts per million. Silica affects the usefulness of a water because it contributes to the formation of boiler scale; it usually is removed from feed water for high-pressure boilers. Silica also forms troublesome deposits on the blades of steam turbines.

Aluminum (Al)

Aluminum is usually present only in negligible quantities in natural waters except in areas where the waters have been in contact with the more soluble rocks of high aluminum content such as bauxite and certain shales. Acid waters often contain large amounts of aluminum. It may be troublesome in feed waters where it tends to be deposited as a scale on boiler tubes.

Iron (Fe)

Iron is dissolved from many rocks and soils. On exposure to the air, normal basic waters that contain more than 1 part per million of iron soon become turbid with the insoluble reddish ferric oxide produced by oxidation. Surface waters, therefore, seldom contain as much as 1 part per million of dissolved iron, although some acid waters carry large quantities of iron in solution. Iron causes reddish-brown stains on white porcelain or enameled ware and fixtures and on fabrics washed in the water.

Manganese (Mn)

Manganese is dissolved in appreciable quantities from rocks in some sections of the country. It resembles iron in its chemical behavior and in its occurrence in natural waters. However, manganese in rocks is less abundant than iron. As a result the concentration of manganese is much less than that of iron and is not regularly determined in many areas. Waters impounded in large reservoirs may contain manganese that has been dissolved from the mud on the bottom of the reservoir by action of carbon dioxide produced by anaerobic fermentation of organic matter. It is especially objectionable in water used in laundry work and in textile

processing. Concentrations as low as 0.2 part per million may cause a dark-brown or black stain on fabrics and porcelain fixtures. Appreciable quantities of manganese are often found in waters containing objectionable quantities of iron.

Calcium (Ca)

Calcium is dissolved from almost all rocks and soils, but the highest concentrations are usually found in waters that have been in contact with limestone, dolomite, and gypsum. Calcium and magnesium make water hard and are largely responsible for the formation of boiler scale. Most waters associated with granite or silicious sands contain less than 10 parts per million of calcium; waters in areas where rocks are composed of dolomite and limestone contain from 30 to 100 parts per million; and waters that have come in contact with deposits of gypsum may contain several hundred parts per million.

Magnesium (Mg)

Magnesium is dissolved from many rocks, particularly from dolomitic rocks. Its effect in water is similar to that of calcium. The magnesium in soft waters may amount to only 1 or 2 parts per million, but water in areas that contain large quantities of dolomite or other magnesium-bearing rocks may contain from 20 to 100 parts per million or more of magnesium.

Strontium (Sr)

Strontium is a typical alkaline-earth element and is similar chemically to calcium. Strontium may be present in natural water in amounts up to a few parts per million much more frequently than the available data indicate. In most surface water the amount of strontium is small in proportion to calcium. However, in sea water the ratio of strontium to calcium is 1:30.

Sodium and potassium (Na and K)

Sodium and potassium are dissolved from practically all rocks. sodium is the predominant cation in some of the more highly mineralized waters found in the western United States. Natural waters that contain only 3 or 4 parts per million of the two together are likely to carry almost as much potassium as sodium. As the

total quantity of these constituents increases, the proportion of sodium becomes much greater. Moderate quantities of sodium and potassium have little effect on the usefulness of the water for most purposes, but waters that carry more than 50 or 100 parts per million of the two may require careful operation of steam boilers to prevent foaming. More highly mineralized waters that contain a large proportion of sodium salts may be unsatisfactory for irrigation.

In this report, the potassium values not shown are usually calculated in with the sodium and reported as sodium.

Lithium (Li)

Data concerning the quantity of lithium in water are scarce. It is usually found in small amounts in thermal springs and saline waters. Lithium also occurs in streams where some industries dump their waste water. The scarcity of lithium in rocks is responsible more than other factors for relatively small amounts present in water.

Bicarbonate, carbonate and hydroxide (HCO_3, CO_3, OH)

Bicarbonate, carbonate, or hydroxide is sometimes reported as alkalinity. The alkalinity of a water is defined as its capacity to consume a strong acid to pH 4.5. Since the major causes of alkalinity in most natural waters are carbonate and bicarbonate ions dissolved from carbonate rocks, the results are usually reported in terms of these constituents. Although alkalinity may suggest the presence of definite amounts of carbonate, bicarbonate or hydroxide, it may not be true due to other ions that contribute to alkalinity such as silicates, phosphates, borates, possibly fluoride, and certain organic anions which may occur in colored waters. The significance of alkalinity to the domestic, agriculture, and industrial user is usually dependent upon the nature of the cations (Ca, Mg, Na, K) associated with it. However, moderate amounts of alkalinity does not adversely affect most users.

Hydroxide may occur in water that has been softened by the lime process. Its presence in streams usually can be taken as an indication of contamination and does not represent the natural chemical character of the water.

Sulfate (SO_4)

Sulfate is dissolved from many rocks and soils--in especially large quantities from gypsum and from beds of shale. It is formed also by the oxidation of sulfides of iron and is therefore present

in considerable quantities in waters from mines. Sulfate in waters that contain much calcium and magnesium causes the formation of hard scale in steam boilers and may increase the cost of softening the water.

Chloride (Cl)

Chloride is dissolved from rock materials in all parts of the country. Surface waters in the humid regions are usually low in chloride, whereas streams in arid or semiarid regions may contain several hundred parts per million of chloride leached from soils and rocks, especially where the streams receive return drainage from irrigated lands or are affected by ground-water-in-flow carrying appreciable quantities of chloride. Large quantities of of chloride may affect the industrial use of water by increasing the corrosiveness of waters that contain large quantities of calcium and magnesium.

Fluoride (F)

Fluoride has been reported as being present in some rocks to about the same extent as chloride. However, the quantity of fluoride in natural surface waters is ordinarily very small compared to that of chloride. Recent investigations indicate that the incidence of dental caries is less when there are small amounts of fluoride present in the water supply than when there is none. However, fluoride in excessive concentrations is undesirable in waters used for drinking. It is stated in a comprehensive report by the California State Water Pollution Control Board (1952, p. 257) on water-quality standards"... that water containing less than 0.9 to 1.0 ppm of fluoride will seldom cause mottled enamel in children, and for adults concentrations less than 3 or 4 ppm are not likely to cause endemic cumulative fluorosis and skeletal effects."

Nitrate (NO_3)

Nitrate in water is considered a final oxidation product of nitrogenous material and may indicate contamination by sewage or other organic matter. The quantities of nitrate present in surface waters are generally less than 5 parts per million (as NO_3) and have no effect on the value of the water for ordinary uses.

It has been reported that as much as 2 parts per million of nitrate in boiler water tends to decrease intercrystalline cracking of boiler steel. Studies made in Illinois indicate that nitrates in excess of 70 parts per million (as NO_3) may contribute to methe-

moglobinemia ("blue babies") Faucett and Miller, 1946, p. 593), and more recent investigations conducted in Ohio show that drinking water containing nitrates in the range of 44 to 88 ppm or more (as NO_3) may cause methemoglobinemia (Waring, 1949). In a report published by the National Research Council, Maxcy (1950, p. 271) concludes that a nitrate content in excess of 44 parts per million (as NO_3) should be regarded as unsafe for infant feeding.

Phosphate (PO_4)

Phosphorus is an essential element in the growth of plants and animals, and some sources that contribute nitrate, such as organic wastes and leaching of soils, may be important as sources for phosphate in water and its occurrence may add to the apparent alkalinity. The addition of phosphates in water treatment constitutes a possible source, although the dosage is usually small. In some areas, phosphate fertilizers may yield some phosphate to water. A more important source is the increasing use of phosphates in detergents. Domestic and industrial sewage effluents may therefore contain considerable amounts of phosphate.

Boron (B)

Boron in small quantities has been found essential for plant growth, but irrigation water containing more than 1 part per million boron is detrimental to citrus and other boron-sensitive crops. Boron is reported in Survey analyses of surface waters in arid and semiarid regions of the Southwest and West where irrigation is practiced or contemplated, but few of the surface waters analyzed have harmful concentrations of boron.

Dissolved solids

The reported quantity of dissolved solids--the residue on evaporation--consists mainly of the dissolved mineral constituents in the water. It may also contain some organic matter and water of crystallization. Waters with less than 500 parts per million of dissolved solids are usually satisfactory for domestic and some industrial uses. Water containing several thousand parts per million of dissolved solids are sometimes successfully used for irrigation where practices permit the removal of soluble salts through the application of large volumes of water on well-drained lands, but generally water containing more than about 2,000 ppm is considered to be unsuitable for long-term irrigation under average conditions.

Chromium (Cr)

Few if any waters contain chromium from natural sources. Natural waters can probably contain only traces of chromium as a cation unless the pH is very low. When chromium is present in water, it is usually the result of pollution by industrial wastes. Fairly high concentrations of chromate anions are possible in waters having normal pH levels. Concentrations of more than 0.05 ppm of Cr in the hexavalent form constitutes ground for rejection of a water for domestic use on the basis of the standards of the U.S. Public Health Service (1946).

Nickel and cobalt (Ni, Co)

Nickel and cobalt are very similar in chemical behavior and also closely related to iron. Both are present in igneous rocks in small amounts and are more prevalent in silicic rocks. Any nickel in water is likely to be in small amounts and could be in a colloidal state. Cobalt may be taken into solution more readily than nickel. It may be taken into solution in small amounts through bacteriological activity similar to that causing solution of manganese. However, few data on the occurrence of either nickel or cobalt in natural water are available.

Copper (Cu)

Copper is a fairly common trace constituent of natural water. Small amounts may be introduced into water by solution of copper and brass water pipes and other copper-bearing equipment in contact with the water, or from copper salts added to control algae in open reservoirs. Copper salts such as the sulfate and chloride are highly soluble in waters with a low pH but in water of normal alkalinity these salts hydrolyze and the copper may be precipitated. In the normal pH range of natural water containing carbon dioxide, the copper might be precipitated as carbonate. The oxidized portions of sulfide-copper ore bodies contain other copper compounds. The presence of copper in mine water is common.

Copper imparts a disagreeable metallic taste to water. As little as 1.5 ppm can usually be detected, and 5 ppm can render the water unpalatable. Copper is not considered to be a cumulative systemic poison like lead and mercury; most copper ingested is excreted by the body and very little is retained. The pathological effects of copper are controversial, but it is generally believed very unlikely that humans could unknowingly ingest toxic quantities from palatable drinking water. The U.S. Public Health Service (1946) recommends that copper should not exceed 3.0 ppm

in drinking and culinary water on carriers subject to Federal quarantine regulations.

Lead (Pb)

Lead is only a minor element in most natural waters, but industrial or mine and smelter effluents may contain relatively large amounts of lead. Many of the commonly used lead salts are water soluble.

Traces of lead in water usually are the result of solution of lead pipe through which the water has passed. Amounts of lead of the order of 0.1 ppm are significant, as this concentration is the upper limit for drinking water in the standards adopted by the U. S. Public Health Service (1946). Higher concentrations may be added to water through industrial and mine-waste disposal. Lead in the form of sulfate is reported to be soluble in water to the extent of 31 ppm (Seidell, 1940, p. 1409) at 25°C. In natural water this concentration would not be approached, however, since a pH of less than 4.5 would probably be required to prevent formation of lead hydroxide and carbonate. It is reported (Pleissner, 1907) that at 18°C water free of carbon dioxide will dissolve the equivalent of 1.4 ppm of lead and the solubility is increased nearly four fold by the presence of 2.8 ppm of carbon dioxide in the solution. Presence of other ions may increase the solubility of lead.

Zinc (Zn)

Zinc is abundant in rocks and ores but is only a minor constituent in natural water because the free metal and its oxides are only sparingly soluble. In most alkaline surface waters it is present only in trace quantities, but more may be present in acid water. Chlorides and sulfates of zinc are highly soluble. Zinc is used in many commercial products, and industrial wastes may contain large amounts.

Zinc in moderate concentrations is not known to have adverse physiological effects on man or stock, but zinc salts give water an unpleasant astringent taste and form a greasy film on boiling water (Howard, 1923, p. 411). The U. S. Public Health Service (1946, p. 13) recommends that the zinc content not exceed 15 ppm in drinking and culinary water on carriers subject to Federal quarantine regulations.

Barium (Ba)

Barium may replace potassium in some of the igneous rock

minerals, especially feldspar and barium sulfate (barite) is a common barium mineral of secondary origin. Only traces of barium are present in surface water and sea water. Because natural water contains sulfate, barium will dissolve only in trace amounts. Barium sometimes occurs in brines from oil-well wastes.

The U. S. Public Health Service (1946) states that salts of barium, which have a deleterious physiological effect, must not be added to drinking and culinary water on carriers subject to Federal quarantine regulations.

Bromide (Br)

Bromine is a very minor element in the earth's crust and is normally present in surface waters in only minute quantities. Measurable amounts may be found in some streams that receive industrial wastes, and some natural brines may contain rather high concentrations. Probably trace amounts of bromide are of frequent occurrence in surface water since compounds containing bromine are generally readily soluble. It resembles chloride in that it tends to be concentrated in sea water.

Iodide (I)

Iodine, like bromine, is a minor element and is normally present in natural waters in only minute quantities. Measurable amounts may be found in some streams that receive industrial wastes, and some natural brines may contain rather high concentrations. It occurs in sea water to the extent of less than 1 ppm. Rankama and Sahama (1950, p. 767) report iodide present in rainwater to the extent of 0.001 to 0.003 ppm and in river water in about the same amount. Few waters will be found to contain over 2.0 ppm.

PROPERTIES AND CHARACTERISTICS OF WATER

Hardness

Hardness is the characteristic of water that receives the most attention in industrial and domestic use. It is commonly recognized by the increased quantity of soap required to produce lather. The use of hard water is also objectionable because it contributes to the formation of scale in boilers, water heaters, radiators, and pipes, with the resultant decrease in rate of heat transfer,

possibility of boiler failure, and loss of flow

Hardness is caused almost entirely by compounds of calcium and magnesium. Other constituents--such as iron, manganese, aluminum, barium, strontium, and free acid--also cause hardness, although they usually are not present in quantities large enough to have any appreciable effect. Water that has less than 60 parts per million of hardness is usually rated as soft and suitable for many purposes without further softening. Waters with hardness ranging from 61 to 120 parts per million may be considered moderately hard, but this degree of hardness does not seriously interfere with the use of water for many purposes except for use in high-pressure steam boilers and in some industrial processes. Waters with hardness ranging from 121 to 200 parts per million are considered hard, and laundries and industries may profitably soften such supplies. Water with hardness above 200 parts per million generally required some softening before being used for most purposes.

Acidity (H^{+1})

The use of the terms acidity and alkalinity is widespread in the literature of water analysis and is a cause of confusion to those who are more accustomed to seeing a pH of 7.0 used as a neutral point. Acidity of a natural water represents the content of free carbon dioxide and other uncombined gases, organic acids and salts of strong acids and weak bases that hydrolyze to give hydrogen ions. Sulfates of iron and aluminum in mine and industrial wastes are common sources of acidity. The presence of acidity is reported in those waters which have a pH below 4.5.

Sodium-adsorption-ratio (SAR)

The term "sodium-adsorption-ratio (SAR)" was introduced by the U.S. Salinity Laboratory Staff (1954). It is a ratio expressing the relative activity of sodium ions in exchange reaction with soil and is an index of the sodium or alkali hazard to the soil. Sodium-adsorption-ratio is expressed by the equation:

$$SAR = \frac{Na^{+}}{\sqrt{\frac{Ca^{++}+Mg^{++}}{2}}}$$

where the concentrations of the ions are expressed in milliequiv-

alents per liter (or equivalents per million for most irrigation waters).

Waters are divided into four classes with respect to sodium or alkali hazard: low, medium, high, and very high, depending upon the SAR and the specific conductance. At a conductance of 100 micromhos per centimeter the dividing points are at SAR values of 19, 18, and 26, but at 5,000 micromhos the corresponding dividing points are SAR values of approximately 2.5, 6.5 and 11. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Specific conductance (micromhos per centimeter at 25°C)

The specific conductance of a water is a measure of its capacity to conduct a current of electricity (see p. 8). The conductance varies with the concentration and degree of ionization of the different minerals in solution and with the temperature of the water. When considered in conjunction with results of determinations for other constituents, specific conductance is a useful determination and plays an important part in indicating changes in concentration of the total quantity of dissolved minerals in surface waters.

Specific conductance of most waters in the Eastern United States is less than 1,000 micromhos, but in the arid western parts of the country, a specific conductance of more than 1,000 micromhos is common.

Hydrogen-ion concentration (pH)

Hydrogen-ion concentration is expressed in terms of pH units (see p. 8). The values of pH often are used as a measure of the solvent power of water or as an indicator of the chemical behavior certain solutions may have toward rock minerals.

The degree of acidity or alkalinity of water, as indicated by the hydrogen-ion concentration, expressed as pH, is related to the corrosive properties of water and is useful in determining the proper treatment for coagulation that may be necessary at water-treatment plants. A pH of 7.0 indicates that the water is neither acid nor alkaline. pH readings progressively lower than 7.0 denote increasing acidity and those progressively higher than 7.0 denote increasing alkalinity. The pH of most natural surface waters ranges between 6 and 8. Some alkaline surface waters have pH values greater than 8.0, and waters containing free mineral acid or organic matter usually have pH values less than 4.5.

The investigator who utilizes pH data in his interpretations of water analyses should be careful to place pH values in their proper

perspective.

Color

In water analysis the term "color" refers to the appearance of water that is free from suspended solids. Many turbid waters that appear yellow, red, or brown when viewed in the stream show very little color after the suspended matter has been removed. The yellow-to-brown color of some waters is usually caused by organic matter extracted from leaves, roots, and other organic substances in the ground. In some areas objectionable color in water results from industrial wastes and sewage. Clear deep water may appear blue as the result of a scattering of sunlight by the water molecules. Water for domestic use and some industrial uses should be free from any perceptible color. A color less than 10 units generally passes unnoticed. Some swamp waters have natural color of 200 to 300 units or more.

The extent to which a water is colored by material in solution is commonly reported as a part of a water analysis because a significant color in water may indicate the presence of organic material that may have some bearing on the dissolved solids content. Color in water is expressed in terms of units between 0 and 500 or more based on the above standard (see p. 8).

Oxygen consumed

Oxygen consumed is a measure of the amount of oxygen required to oxidize unstable materials in water and may be correlated with natural-water color or with some carbonaceous organic pollution from sewage or industrial wastes.

Tolerances for oxygen consumed in feed water for low- and high-pressure boilers are 15 and 3 ppm, respectively (Northeast Water Works Association, 1940). Wash water containing more than 8 ppm has been reported to impart a bad odor to textiles; concentrations for water used in beverages and brewing range from 0.5 to 5.0 ppm (California State Water Pollution Control Board, 1952, 1954).

Organics

Phenols. --Phenolic material in water resources is invariably the result of pollution. Phenols are widely used as disinfectants and in the synthesis of many organic compounds. Waste products from oil refineries, coke areas, and chemical plants may contain high concentrations. Fortunately, phenols decompose in the pres-

ence of oxygen and organic material, and their persistence downstream from point of entry is relatively short lived. The rate of decomposition is dependent on the environment.

Very low concentrations impart such a disagreeable taste to water that it is highly improbable that harmful amounts could be consumed unknowingly. Reported thresholds of detection of taste and odor range from 0.01 to 0.1 ppm.

Detergents (ABS).--The major type of detergents is the alkylbenzene-sulfonate group, which are highly resistant to biological degradation so that the effect of ABS in water persists over a long period of time. Waste water may carry these detergents to surface water supplies with resulting deterioration of water quality which includes unpleasant taste, odor, and foaming. Very little is known concerning the nature and the extent of occurrence and movement of detergents in waters or of the chemical and physical change that they may undergo after being added to surface waters (U.S. Geological Survey-Federal Housing, 1959).

Temperature

Temperature is an important factor in property determining the quality of water. This is very evident for such a direct use as an industrial coolant. Temperature is also important, but perhaps not so evident, for its indirect influence upon aquatic biota, concentrations of dissolved gases, and distribution of chemical solutes in lakes and reservoirs as a consequence of thermal stratification and variation.

Surface water temperatures tend to change seasonally and daily with air temperatures, except for the outflow of large springs. Superimposed upon the annual temperature cycle is a daily fluctuation of temperature which is greater in warm seasons than in cold and greater in sunny periods than with a cloud cover. Natural warming is due mainly to absorption of a solar radiation by the water and secondarily to transfer of heat from the air or from the bottom. Condensation of water vapor at the water surface is reported to furnish measurable quantities of heat. Heat loss takes place largely through radiation, with further losses through evaporation and conduction to the air and bottom. Thus the temperature of a small stream generally reaches a maximum in mid-to late afternoon due to solar heating and reaches a minimum from early to mid-morning after nocturnal radiation.

Temperature variations which commonly occur during summer in lakes and reservoirs of temperate regions results in a separation of the water volume into a circulating upper portion and a non-circulating lower portion. Separating the two is a stratum of water of variable vertical thickness in which the temperature

757-048 O - 65 - 3

decreases rapidly with increasing depth. This physical division of the water mass into a circulating and a stagnant portion is the result of density differences in the water column associated with the temperature distribution. Knowledge of the stratification in a body of water may result in increased utility by locating strata of more suitable characteristics. For example, the elevation of an intake pipe may be changed to obtain water of lower temperature, higher pH, less dissolved iron, or other desirable properties.

Temperature is a major factor in determining the effect of pollution on aquatic organisms. The resistance of fish to certain toxin substances has been shown to vary widely with temperature. The quantity of dissolved oxygen which the water can contain is also temperature dependent. Oxygen is more soluble in cold water than in warm water, hence the reduction of oxygen concentrations by pollution is especially serious during periods of high temperature when oxygen levels are already low. Increased temperatures also accelerate biological activity including that of the oxygen-utilizing bacteria which decompose organic wastes. These pollutional effects may be especially serious when low flow conditions coincide with high temperatures. Summary temperature data of water are essential for planning multiple uses of water resources.

Turbidity

Turbidity is the optical property of a suspension with reference to the extent to which the penetration of light is inhibited by the presence of insoluble material. Turbidity is a function on both the concentration and particle size of the suspended material. Although it is reported in terms of parts per million of silica, it is only partly synonymous with the weight of sediment per unit volume of water.

Turbid water is abrasive in pipes, pumps, and turbine blades. In process water, turbidities much more than 1 ppm are not tolerated by several industries, but others permit up to 50 ppm higher (Rainwater, Thatcher, 1960, p. 289).

SEDIMENT

Fluvial sediment is generally regarded as that sediment which is transported by, suspended in, or deposited by water. Suspended sediment is that part of it which remains in suspension in water owing to the upward components of turbulent currents or by colloidal suspension. Much fluvial sediment results from the natural process of erosion, which in turn is part of the geologic cycle of

rock transformation. This natural process may be accelerated by agricultural practices. Sediment is also contributed by a number of industrial and construction activities. In certain sections, waste materials from mining, logging, oilfield , and other industrial operations introduce large quantities of suspended as well as dissolved material.

The quantity of sediment, transported or available for transportation, is affected by climatic conditions, form or nature of precipitation, character of the soil mantle, plant cover, topography, and land use. The mode and rate of sediment erosion, transport, and deposition is determined largely by the size distribution of the particles or more precisely by the fall velocities of the particles in water. Sediment particles in the sandsize (larger than 0.062 mm) range do not appear to be affected by flocculation or dispersion resulting from the mineral constituents in solution. In contrast, the sedimentation diameter of clay and silt particles in suspension may vary considerably from point to point in a stream or reservoir, depending on the mineral matter in solution and in suspension and the degree of turbulence present. The size of sediment particles in transport at any point depends on the type of erodible and soluble material in the drainage area, the degree of flocculation present, time in transport, and characteristics of the transporting flow. The flow characteristics include velocity of water, turbulence, and the depth, width, and roughness of the channel. As a result of these variable characteristics, the size of particles transported, as well as the total sediment load, is in constant adjustment with the characteristics and physical features of the stream and drainage area.

STREAMFLOW

Most of the records of stream discharge, used in conjunction with the chemical analyses and in the computation of sediment loads in this volume, are published in Geological Survey reports on the surface-water supply of the United States. The discharge reported for a composite sample is usually the average of daily mean discharges for the composite period. The discharges reported in the tables of single analyses are either daily mean discharges or discharges for the time at which samples were collected, computed from a stage-discharge relation or from a discharge measurement.

PUBLICATIONS

Reports giving records of chemical quality and temperatures of surface waters and suspended-sediment loads of streams in the area covered by this volume for the water years 1941-59, are listed below:

Numbers of water-supply papers containing records for Parts 1-2, 1941-59

Year	WSP	Year	WSP	Year	WSP	Year	WSP
1941	942	1946	1050	1951	1197	1956	1450
1942	950	1947	1102	1952	1250	1957	1520
1943	970	1948	1132	1953	1290	1958	1571
1944	1022	1949	1162	1954	1350	1959	1641
1945	1030	1950	1186	1955	1400		

Geological Survey reports containing chemical quality, temperature, and sediment data obtained before 1941 are listed below. Publications dealing largely with the quality of ground-water supplies and only incidentally covering the chemical composition of surface waters are not included. Publications that are out of print are preceded by an asterisk.

PROFESSIONAL PAPER

*135. Composition of river and lake waters of the United States, 1924.

BULLETINS

*479. The geochemical interpretation of water analyses, 1911.
770. The data of geochemistry, 1924.

WATER-SUPPLY PAPERS

*108. Quality of water in the Susquehanna River drainage basin, with an introductory chapter on physiographic features, 1904.
*161. Quality of water in the upper Ohio River basin and at Erie, Pa., 1906.
*193. The quality of surface waters in Minnesota, 1907.
*236. The quality of surface waters in the United States, Part 1, Analyses of waters east of the one hundredth meridian, 1909.

*237. The quality of the surface waters of California, 1910.
*239. The quality of the surface waters of Illinois, 1910.
*273. Quality of the water supplies of Kansas, with a preliminary report on stream pollution by mine waters in southeastern Kansas, 1911.
*274. Some stream waters of the western United States, with chapters on sediment carried by the Rio Grande and the industrial application of water analyses, 1911.
*339. Quality of the surface waters of Washington, 1914.
*363. Quality of the surface waters of Oregon, 1914.
*418. Mineral springs of Alaska, with a chapter on the chemical character of some surface waters of Alaska, 1917.
*596-B. Quality of water of Colorado River in 1925-26, 1928.
*596-D. Quality of water of Pecos River in Texas, 1928.
*596-E. Quality of the surface waters of New Jersey, 1928.
*636-A. Quality of water of the Colorado River in 1926-28, 1930.
*636-B. Suspended matter in the Colorado River in 1925-28, 1930.
*638-D. Quality of water of the Colorado River in 1928-30, 1932.
*839. Quality of water of the Rio Grande basin above Fort Quitman, Tex., 1938.
*889-E. Chemical character of surface water of Georgia, 1944.
*998. Suspended sediment in the Colorado River, 1925-41, 1947.
1048. Discharge and sediment loads in the Boise River drainage basin, Idaho, 1939-40, 1948.
1110-C. Quality of water of Conchas Reservoir, New Mexico, 1939-49, 1952.

Many of the reports listed are available for consultation in the larger public and institutional libraries. Copies of Geological Survey publications still in print may be purchased at a nominal cost from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., who will, upon request, furnish lists giving prices.

COOPERATION

Many Municipal, State, and Federal agencies assisted in collecting records for these quality-of-water investigations. In addition to the cooperative programs, many stations were operated from funds appropriated directly to the Geological Survey.

The table on p. 26 lists State and local agencies that cooperated in quality-of-water investigations in the drainage basins included in this volume, and the locations of quality-of-water district offices responsible for the data collected.

State	Cooperating agency	Drainage basin	District office
Connecticut	State Water Resources Commission, William S. Wise, director.	North Atlantic slope	Room 348, Federal Bldg. P.O. Box 948 Albany, N.Y. 12201
Delaware	Delaware Geological Survey, University of Delaware, Department of Geology and Geography, Dr. Johan J. Groot, State Geologist.		Room 1302 U.S. Custom House 2nd and Chestnut Streets Philadelphia, Pa. 19106
Florida	Florida Geological Survey, Dr. R.O. Vernon, director. Central and Southern Florida Flood Control District, G.E. Dail, Jr., executive director. Dade County, E.A. Anderson, county engineer. Hillsborough County, E.G. Simmons, chairman of county commissioners. City of Miami, Department of Water and Sewers, C.F. Wertz, director. City of Miami Beach, Morris Lipp, city manager.	South Atlantic slope	Room 244, Federal Bldg. Ocala, Fla. 32670

State	Cooperating agency	Drainage basin	District office
Georgia	Department of Mines, Mining and Geology, Garland Peyton, director.	South Atlantic slope	Room 244, Federal Bldg. Ocala, Fla. 32670
Maryland	Natural Resources Institute, University of Maryland, Dr. L. Eugene Cronin, director.	North Atlantic slope	Room 3, Abbey Bldg. 3 North Perry Street Rockville, Md. 20850[a]
Mississippi	Jackson Mississippi Board of Supervisors, A. W. Head, chief engineer.	South Atlantic slope	Room 2301, Federal Bldg. 700 West Capitol Ave. Little Rock, Ark. 72201
New Jersey	State Department of Conservation and Economic Development, Salvatore A. Bontempo, Commissioner. Division of Water Policy and Supply, George R. Shanklin, acting director and chief engineer.		Room 1302 U.S. Custom House 2nd and Chestnut Sts. Philadelphia, Pa. 19106
New York	New York State Department of Commerce, Bureau of Industrial Development, Henry Gallien, Jr., director.		Room 348, Federal Bldg. P.O. Box 948 Albany, N.Y. 12201

a Field office.

State	Cooperating agency	Drainage basin	District office
North Carolina	North Carolina Department of Conservation and Development, William P. Saunders, director.	South Atlantic slope	Federal Building P. O. Box 2857 Raleigh, N.C. 27602
Pennsylvania	State Department of Forests and Waters, Dr. Maurice K. Goddard, secretary. State Department of Agriculture, Dr. William L. Henning, secretary. Soil Conservation Commission, David Unger, director. City of Philadelphia Water Department, Richardson Dilworth, mayor; Samuel S. Baxter, commissioner.	North Atlantic slope	Room 1302 U.S. Custon House 2nd and Chestnut streets Philadelphia, Pa. 19106
South Carolina	South Carolina State Development Board, R. M. Cooper,[b] director.	South Atlantic slope	Federal Building P. O. Box 2857 Raleigh, N.C. 27602

b Replaced by W.W. Harper Aug. 1, 1959.

DIVISION OF WORK

The quality-of-water program was conducted by the Water Resources Division of the Geological Survey, L. B. Leopold, chief hydrologist, and S. K. Love, chief, Quality of Water Branch. The records were collected and prepared for publication under the supervision of engineers, district chemists or project chiefs as follows: In Delaware, New Jersey, and Pennsylvania, N. H. Beamer; in North Carolina, South Carolina, and Virginia, G. A. Billingsley; in Florida and Georgia, J. W. Geurin; in New York and New England, F. H. Pauszek; in Mississippi, M. E. Schroeder; and in Maryland, and West Virginia, J. W. Wark. Any additional information on file can be obtained by writing the responsible Survey Quality of Water district office.

LITERATURE CITED

American Society for Testing Materials, 1954, Manual on industrial water: Am. Soc. for Testing Mat., Philadelphia, Pa., p. 356.

Baker, M. N., 1949, The quest for pure water: Am. Water Works Assoc., New York, N. Y.

Brandt, H. J., 1948, Intensified injurious effects on fish, especially the increased toxic effect produced by a combination of sewage poisons: Chem. abs. 42, p. 9015.

Busch, Werner, 1927, The applicability of electrometric titration to the determination of the solubility of slightly soluble oxides; Zeitschr. Anorg. Chem., v. 161, p. 161-179.

California State Water Pollution Control Board, 1952, Water-quality criteria: California State Water Pollution Control Board, pub. 3., p. 257, 291-292, 377-378.

_____1954, Water-quality criteria: California State Water Pollution Control Board, pub. 3, Addendum no. 1., p. 291-292.

Eriksson, E., 1952, Composition of atmospheric precipitation II; sulfur, chloride, iodine compounds, bibliography: Tellus, v. 4, p. 280-303.

Faucett, R. L. and Miller, H. C., 1946, Methemoglobinemia occurring in infants fed milk diluted with well waters of high nitrate content: Jour. Pediatrics, v. 29, p. 593.

Hazen, Allen, 1892, A new color standard for natural waters: Am. Chem. Jour., v. 12, p. 427-428.

Hem, John D., 1959, Study and interpretation of chemical characteristics of natural water: U. S. Geo. Survey Water-Supply Paper 1473, 269 p.

Howard, C. D., 1923, Zinc contamination in drinking water: Am. Water Works Assoc. Jour., v. 10, p. 411.

Kilmer, V. J. and Alexander, L. T., 1949, Methods of making mechanical analyses of soils: Soil Sci., v. 68, p. 15-24.

Lackey, J. B., and Sawyer, C. N., 1946, Plankton productivity of certain southeastern Wisconsin lakes as related to fertilization: Sewage Works Jour., v. 17, p. 573.

Lane, E. W., and others, 1947, Report of the Subcommittee on Terminology: Am. Geophys. Union Trans., v. 28, p. 937.

Magistad, O. C., and Christiansen, J. E., 1944, Saline soils, their nature and management: U. S. Dept., Agriculture Circ. 707, p. 8-9.

Maxcy, K. F., 1950, Report on the relation of nitrate concentrations in well waters to the occurrence of methemoglobinemia: Natl. Research Council, Bull. Sanitary Eng. and Environment, App. D., p. 271.

Moore, E. W., 1950, The desalting of saline waters, a review of the present status; Natl. Research Council Comm. on Sanitary Eng. and Environment, Rept. to Subcomm. on Water Supply.

National Research Council, 1954, Sodium restricted diets: Natl. Research Council, pub. 325.

Northeastern Water Works Association, 1940, Progress report, Committee on quality Tolerances of Water for Industrial Uses: Northeast Water Works Assoc. Jour., v. 54.

Pleissner, M., 1907, Arb. Kais. Gesundheitsamt, v. 26, p. 384-443.

Rainwater, F. H., and Thatcher, L. L., 1960, Methods for collection and analysis of water samples: U.S. Geol. Survey Water-Supply Paper 1454, 301 p.

Rankama, K., and Sahama, T. G., 1950, Geochemistry: Chicago Univ. Press, Chicago, Ill., p. 767.

Riffenburg, H. B., 1925, Chemical character of ground waters of the northern Great Plains: U. S. Geol. Survey Water-Supply Paper 560-B, p. 31-52.

Seidell, Atherton, 1940, Solubilities of inorganic and metal organic compounds, 3d ed., v. 1, D. van Nostrand, New York.

U. S. Interagency Report 6, 1952, A study of methods used in measurements and analysis of sediment loads in streams, the design of improved types of suspended samplers, p. 86-90; U. S. Engineer Office, St. Paul, Minn.

U. S. Interagency Report 7, 1943, A study of methods used in measurement and analysis of sediment loads in streams, a study of new methods of size analysis of suspended sampler, p. 82-90; U. S. Engineer Office, St. Paul, Minn.

U. S. Interagency Report 8, 1948, A study of methods used in measurement and analysis of sediment loads of streams, measurement of the sediment discharge of streams, p. 70-76; U. S. Engineer Office, St. Paul, Minn.

U. S. Interagency Report 11, 1957, A study of methods used in measurement and analysis of sediment loads in streams, the development and calibration of the visual-accumulation tube, p. 1-109.

U. S. Geological Survey, Water Resources Division, 1959, A reconnaissance study of anionic surfactants in ground water: Federal Housing Adm., Washington 25, D. C.

U. S. Public Health Service, 1946, Drinking water standards: U. S. Public Health Service Repts., v. 61, no. 11.

_____ 1946, Public Health Reports, reprint 2698.

U. S. Salinity Laboratory Staff, 1954, Diagnosis and improvement of saline and alkali soils: U. S. Dept. Agriculture, Agriculture Handb. 60, p. 1-160.

Waring, F. H., 1949, Significance of nitrates in water supplies: Am. Water Works Assoc. Jour., V. 41, no. 2., p. 147-150.

1-212. DENNYS RIVER AT DENNYSVILLE, MAINE

LOCATION.--Temperature recorder at gaging station, just above railroad bridge, 0.9 mile upstream from Cathance Stream, and 1 mile west of Dennysville, Washington County.
DRAINAGE AREA.--92.4 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1958 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 82°F July 29; minimum, freezing point on many days during December to March.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1621.

Temperature (°F) of water, water year October 1958 to September 1959
[Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph]

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	56	55	54	52	53	52	51	53	56	59	58	56	52	49	49	48	50	51	50	48	46	45	46	47	47	46	45	45	45	45	45	50
Minimum.....	55	54	51	50	51	51	49	51	53	56	56	52	49	47	48	48	48	50	48	46	45	44	44	46	46	45	45	45	45	45	44	49
November																																
Maximum.....	44	42	41	40	39	42	43	43	42	41	41	41	40	39	39	39	39	39	40	40	40	40	38	36	36	35	35	35	34	34	--	39
Minimum.....	42	41	40	39	39	39	42	42	41	41	41	40	39	38	38	39	39	39	39	40	40	38	36	36	35	34	35	34	34	34	--	38
December																																
Maximum.....	34	34	34	34	33	33	33	33	33	33	33	33	33	33	33	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33
Minimum.....	34	34	34	33	33	33	33	33	33	33	33	33	33	33	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33
January																																
Maximum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
February																																
Maximum.....	32	32	32	32	32	32	32	32	33	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	--	--	--	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	--	--	--	32
March																																
Maximum.....	33	33	32	32	32	32	32	32	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
Minimum.....	33	32	32	32	32	32	32	32	32	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
April																																
Maximum.....	33	33	33	33	33	34	35	36	36	37	37	37	38	40	40	40	39	40	40	41	40	42	44	45	46	46	45	46	46	45	--	39
Minimum.....	33	33	33	33	33	33	34	35	36	36	37	36	36	38	39	39	39	39	39	39	38	40	42	43	44	45	44	44	45	43	--	38
May																																
Maximum.....	43	43	44	44	47	51	51	51	51	55	55	59	61	62	57	56	54	54	57	60	61	60	62	62	59	62	66	68	68	65	64	57
Minimum.....	43	43	43	44	44	47	51	51	50	51	53	53	57	57	55	54	52	51	52	56	59	58	58	57	55	57	60	64	64	62	60	54
June																																
Maximum.....	64	63	63	63	64	64	63	60	58	58	63	63	62	56	54	52	52	51	50	51	54	55	58	60	62	61	59	60	60	63	--	59
Minimum.....	60	60	60	60	62	63	60	57	56	54	57	60	55	54	52	52	51	50	50	50	51	54	55	58	60	58	57	58	58	57	--	56
July																																
Maximum.....	64	63	64	66	70	70	71	72	73	73	73	64	64	67	67	70	71	73	73	71	72	74	78	78	75	75	79	81	82	79	76	72
Minimum.....	61	61	60	61	64	67	68	68	70	69	64	62	62	64	66	67	69	71	70	69	71	72	75	73	73	72	71	72	73	74	72	68
August																																
Maximum.....	72	69	69	73	75	72	71	72	74	74	71	73	73	76	78	78	79	77	78	77	76	71	70	68	66	66	69	70	70	71	71	73
Minimum.....	69	67	66	67	67	68	69	70	70	70	68	69	69	69	70	73	74	74	73	72	71	68	66	64	63	63	65	67	68	68	68	69
September																																
Maximum.....	68	68	68	64	66	68	68	70	72	72	70	68	66	63	58	56	56	56	56	57	58	62	62	65	65	64	62	64	64	64	--	64
Minimum.....	68	68	64	63	64	64	66	67	68	67	68	64	61	57	54	52	52	52	51	51	52	56	58	60	62	59	58	59	62	63	--	60

1-380. SHEEPSCOT RIVER AT NORTH WHITEFIELD, MAINE

LOCATION.--Temperature recorder at gaging station at North Whitefield, Lincoln County, just upstream from highway bridge, 0.5 mile downstream from Pleasant Pond Brook.
DRAINAGE AREA.--148 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1957 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 82°F July 23; minimum, 34°F on many days during November to April.
EXTREMES, 1957-59.--Water temperatures: Maximum, 82°F July 23, 1959; minimum, 33°F on many days during winter months.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1621.

Temperature (°F) of water, water year October 1958 to September 1959
[Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph]

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	57	55	54	54	54	52	53	54	56	59	59	55	52	49	51	52	52	53	51	50	48	48	49	49	48	46	46	46	46	46	45	51
Minimum.....	55	53	52	51	52	50	50	52	54	56	55	52	49	47	49	50	52	50	49	48	46	46	47	48	46	45	46	46	46	45	44	49
November																																
Maximum.....	45	44	43	42	43	45	45	44	43	42	42	42	42	41	43	44	43	43	43	43	43	42	39	39	38	38	37	36	36	35	--	42
Minimum.....	44	42	42	41	42	43	44	43	42	42	42	42	41	41	41	43	43	43	43	43	42	39	38	38	37	36	36	35	35	34	--	41
December																																
Maximum.....	34	34	35	35	35	35	34	35	35	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Minimum.....	34	34	34	35	35	34	34	34	34	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
January																																
Maximum.....	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
Minimum.....	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
February																																
Maximum.....	34	34	34	34	34	34	34	34	34	34	34	34	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	--	--	--	34
Minimum.....	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	--	--	--	34
March																																
Maximum.....	34	34	35	35	35	34	34	34	34	35	35	34	34	35	35	36	35	35	35	37	36	35	35	36	36	37	36	36	38	37	38	35
Minimum.....	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	35	34	34	34	34	35	34	34	35	35	35	35	35	36	36	36	34
April																																
Maximum.....	37	36	36	35	37	36	38	39	39	40	40	40	42	43	44	43	45	45	46	45	46	48	49	51	52	52	50	52	50	48	--	43
Minimum.....	36	36	34	34	35	36	36	38	38	38	39	38	39	39	40	42	42	43	43	44	41	44	45	48	50	49	48	48	49	48	--	41
May																																
Maximum.....	48	52	53	56	59	61	59	59	60	62	62	66	66	64	63	62	61	62	63	66	69	69	67	64	66	68	71	72	72	70	70	63
Minimum.....	48	47	50	51	52	54	55	56	54	55	57	59	63	62	60	59	57	56	56	60	63	64	65	62	59	62	63	66	69	68	65	59
June																																
Maximum.....	69	66	69	71	71	73	72	68	66	65	70	69	67	67	62	58	58	58	58	62	66	65	68	69	68	68	66	65	65	70	--	66
Minimum.....	65	64	64	65	67	68	68	66	58	59	64	66	67	62	58	58	58	58	57	57	62	64	64	67	66	65	65	64	63	64	--	63
July																																
Maximum.....	71	69	70	74	76	74	75	77	79	78	77	72	76	76	76	78	79	80	79	79	80	80	82	81	79	78	78	80	81	80	78	77
Minimum.....	68	68	66	67	69	70	71	70	73	74	72	71	71	73	73	72	73	74	75	75	75	76	76	78	77	74	74	75	77	78	76	73
August																																
Maximum.....	80	75	75	75	73	73	72	74	73	72	71	74	74	75	77	80	80	79	77	76	74	74	72	66	69	70	74	74	72	71	70	74
Minimum.....	74	72	70	71	71	71	71	71	72	70	69	69	70	70	72	76	76	77	74	74	70	69	66	65	63	66	67	70	70	70	69	70
September																																
Maximum.....	72	72	69	68	70	72	72	72	74	73	70	68	66	63	58	58	57	56	57	58	58	61	63	65	65	63	64	66	65	65	--	65
Minimum.....	69	69	68	66	66	68	68	68	70	70	67	64	63	59	56	54	55	53	52	53	55	57	60	61	61	59	60	61	64	64	--	62

MERRIMACK RIVER BASIN

1-920. MERRIMACK RIVER NEAR GOFFS FALLS, BELOW MANCHESTER, N.H.

LOCATION.--Temperature recorder at gaging station, 0.8 mile downstream from Bowman Brook, 1.3 miles north of Goffs Falls, Hillsboro County, and 2.3 miles downstream from Piscataquog River.
DRAINAGE AREA.--3,092 square miles.
RECORDS AVAILABLE.--Water temperatures: May 1955 to September 1957 (discontinued).
EXTREMES, May to September 1955.--Water temperatures: Maximum, 84°F July 22, 23, 26, Aug. 5.
EXTREMES, 1955-56.--Water temperatures: Maximum, 76°F Aug. 10, 13-15, 17-19; minimum, freezing point on many days during November to March.
EXTREMES, October 1956 to March 1957.--Water temperatures: Minimum, freezing point on many days during December to March.
EXTREMES, May 1955 to March 1957.--Water temperatures: Maximum, 84°F July 22, 23, 26, Aug. 5, 1956; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge for water years October 1954 to September 1957 given in WSP's 1331, 1381, 1431, and 1501 respectively.

Temperature (°F) of water, May to September 1955
/Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph/

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
May																																
Maximum.....	--	--	--	--	--	--	--	--	--	--	56	58	57	58	61	61	60	60	68	62	66	68	70	70	69	72	68	68	71	71	72	--
Minimum.....	--	--	--	--	--	--	--	--	--	--	54	55	56	56	56	58	56	48	51	44	50	49	61	61	59	63	60	55	62	65	63	--
June																																
Maximum.....	70	69	66	65	64	66	65	65	65	66	66	65	66	65	66	69	71	74	74	--	--	--	--	--	73	73	72	74	75	76	--	--
Minimum.....	69	65	65	64	63	63	65	64	53	52	55	58	60	65	65	66	68	69	72	--	--	--	--	--	62	65	59	61	59	61	--	--
July																																
Maximum.....	68	82	80	80	81	79	80	80	81	83	82	82	80	81	82	80	81	83	82	83	83	84	84	81	83	84	83	81	83	78	81	81
Minimum.....	67	66	67	65	66	69	66	65	66	69	67	62	58	62	65	71	72	70	69	63	61	70	70	69	65	61	68	68	64	62	59	66
August																																
Maximum.....	83	83	83	83	84	83	82	82	82	80	79	77	77	76	78	78	79	78	77	77	78	81	80	78	78	77	75	75	74	71	71	79
Minimum.....	68	73	62	66	73	71	71	65	58	55	68	70	73	74	75	77	77	77	76	74	76	77	78	75	65	70	72	61	56	60	68	70
September																																
Maximum.....	72	72	72	72	72	72	72	71	69	67	68	67	66	66	66	66	65	66	68	68	67	56	65	59	62	62	61	61	62	61	--	66
Minimum.....	66	60	58	60	60	56	61	51	52	55	62	57	50	46	58	57	53	57	62	62	50	48	44	53	51	46	44	56	51	56	--	55

1-920. MERRIMACK RIVER NEAR GOFFS FALLS, BELOW MANCHESTER, N.H.--Continued

Temperature (°F) of water, water year October 1955 to September 1956

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	62	61	62	61	61	59	58	58	59	59	60	59	58	57	56	54	53	52	51	51	50	50	50	49	49	48	47	46	46	48	48	54
Minimum.....	50	46	47	44	54	52	56	58	52	46	50	50	46	53	55	52	52	51	51	50	50	50	49	47	43	44	43	40	41	42	46	49
November																																
Maximum.....	47	47	47	47	47	46	46	45	44	43	43	42	42	42	41	41	41	38	38	36	35	35	35	34	34	34	33	33	32	32	--	40
Minimum.....	47	47	47	47	46	46	45	44	43	43	42	42	42	41	41	41	38	38	36	35	35	35	34	34	34	33	32	32	32	32	--	40
December																																
Maximum.....	32	32	33	33	32	33	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	--	32
Minimum.....	32	32	32	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	--	32
January																																
Maximum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
February																																
Maximum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	--	--	32	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	--	--	32	32
March																																
Maximum.....	32	32	32	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	32	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
April																																
Maximum.....	34	33	34	35	35	36	35	34	34	35	36	37	37	37	37	36	36	36	37	37	38	39	39	39	40	40	41	43	44	44	44	37
Minimum.....	33	33	33	34	35	35	34	32	32	34	35	36	37	36	36	36	36	36	36	37	37	38	39	38	38	40	40	41	43	44	44	37
May																																
Maximum.....	44	44	45	46	46	47	46	47	48	48	48	50	52	53	53	53	53	53	52	52	54	55	57	57	56	56	55	55	55	53	55	51
Minimum.....	44	44	44	45	46	46	46	46	47	48	48	48	50	52	52	53	52	52	51	51	52	54	55	55	55	55	55	55	55	53	53	50
June																																
Maximum.....	57	59	61	62	63	63	65	65	65	63	63	65	67	70	73	74	73	73	72	70	68	70	71	70	71	72	70	72	70	70	--	68
Minimum.....	55	57	59	61	62	62	63	64	63	62	62	62	64	66	67	66	64	58	57	58	59	61	61	62	60	60	60	63	59	59	--	61
July																																
Maximum.....	71	72	73	73	70	70	70	70	70	72	73	73	72	73	72	71	69	68	70	70	70	69	70	71	73	74	73	75	74	72	72	71
Minimum.....	61	66	64	62	60	59	59	60	63	71	71	70	66	67	70	69	67	66	67	62	64	63	64	65	62	64	60	67	61	55	57	64
August																																
Maximum.....	72	72	70	70	70	72	73	74	75	76	75	73	76	76	76	75	76	76	76	75	73	73	72	71	70	68	71	71	71	70	68	73
Minimum.....	58	55	55	57	58	59	65	63	61	65	65	63	60	65	62	58	62	63	64	61	60	59	58	62	55	54	56	60	62	61	60	60
September																																
Maximum.....	68	70	69	70	71	72	71	70	68	66	66	67	67	67	65	61	62	61	59	58	57	57	55	55	55	54	52	52	53	53	--	62
Minimum.....	60	64	61	59	61	63	64	54	52	50	51	58	60	63	55	53	54	53	48	52	46	48	52	53	52	52	52	49	47	45	--	54

MERRIMACK RIVER BASIN--Continued

1-920. MERRIMACK RIVER NEAR GOFFS FALLS, BELOW MANCHESTER, N.H.--Continued

Temperature (°F) of water, October 1956 to March 1957

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	54	55	54	54	54	53	54	54	53	53	52	50	49	49	50	52	52	53	51	49	49	49	52	50	49	48	47	47	46	47	47	51
Minimum.....	49	46	49	45	47	41	50	45	51	51	40	38	41	42	44	44	46	48	39	37	42	44	50	49	42	41	41	42	41	38	39	44
November																																
Maximum.....	49	52	48	48	48	49	48	48	48	42	43	43	43	41	41	42	42	42	41	40	40	40	40	38	36	35	34	34	34	34	--	42
Minimum.....	47	48	43	44	41	39	43	43	39	38	41	40	41	39	40	41	42	41	40	40	39	40	38	36	35	34	34	34	33	33	--	40
December																																
Maximum.....	33	32	32	32	32	32	32	35	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
January																																
Maximum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
February																																
Maximum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	33	32	--	--	--	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	--	--	--	32
March																																
Maximum.....	32	32	32	32	32	33	32	33	33	33	33	33	34	35	36	36	36	35	35	35	36	37	38	39	39	39	40	40	41	41	41	36
Minimum.....	32	32	32	32	32	32	32	32	32	33	33	33	33	34	34	36	35	35	35	35	35	36	37	38	39	39	39	40	40	41	41	35

THAMES RIVER BASIN

1-1210. MOUNT HOPE RIVER NEAR WARRENVILLE, CONN.

LOCATION.--At bridge on State Highway 89, 700 feet downstream from gaging station, 1.8 miles south of Warrenville, Windham County, and 3.2 miles southwest of Ashford.
DRAINAGE AREA.--29.1 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1959.
REMARKS.--Records of discharge, water year October 1958 to September 1959 given in WSP 1621.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 13, 1958.....	26	11	0.40	5.6	1.7	2.4	0.9	20	6.5	3.5	0.0	0.1	45	21	5	54	7.2	15
Nov. 10.....	128	9.3	.24	4.0	1.8	2.3	1.0	11	8.3	4.5	.0	.5	44	18	9	50	6.9	30
Dec. 10.....	a54	9.9	.16	4.8	1.5	2.2	.9	11	5.5	4.5	.0	.7	42	18	9	50	6.4	20
Jan. 13, 1959.....	a19	11	.06	5.2	1.8	2.7	.7	14	7.8	5.0	.2	1.1	48	21	9	57	6.4	5
Feb. 5.....	58	7.4	.14	4.2	1.5	2.7	1.5	8	8.3	5.5	.1	1.8	43	17	10	52	6.0	10
Mar. 9.....	76	7.5	.17	3.2	1.7	2.3	1.2	9	7.4	5.5	.1	.9	41	15	8	46	6.2	5
Apr. 6.....	144	6.6	.03	3.4	1.7	2.3	1.0	8	7.5	3.9	.0	1.6	42	16	9	46	6.3	13
May 6.....	42	6.5	.17	3.4	2.4	2.8	1.1	12	12	4.2	.0	1.4	38	19	9	51	6.4	17
May 26.....	15	8.1	.25	4.8	2.7	3.3	1.2	18	6.0	4.8	.0	2.3	45	23	8	57	6.6	23
June 29.....	17	9.9	.22	4.8	2.4	3.3	.9	18	7.0	4.8	.0	1.0	51	22	7	59	6.4	28
Aug. 8.....	7.2	11	.19	5.0	1.6	3.5	1.4	18	5.7	3.6	.0	2.3	52	19	4	65	7.1	27
Sept. 28.....	2.9	11	.08	7.8	1.9	4.0	1.6	24	6.5	7.0	.0	.7	60	28	8	84	6.6	3

a Daily mean discharge.

THAMES RIVER BASIN--Continued

1-1260. FIVE MILE RIVER AT KILLINGLY, CONN.

LOCATION.--At bridge on State Highway 101, approximately 0.1 mile downstream from gaging station at left abutment of New York, New Haven and Hartford Railroad bridge, and 0.4 mile upstream from Whetstone Brook, Windham County.
DRAINAGE AREA.--58.2 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1621.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 13, 1958.....	6.0	11	0.18	7.0	0.7	3.6	1.0	18	7.5	4.0	0.1	1.4	48	21	6	67	6.6	7
Nov. 10.....	22	6.4	.17	4.8	1.1	2.9	.7	8	10	4.0	.0	.6	38	17	10	48	6.2	20
Dec. 10.....	94	7.2	.09	3.6	1.1	2.4	.6	6	7.5	4.5	.0	.6	37	14	9	43	6.0	25
Jan. 13, 1959.....	94	8.3	.08	4.2	1.3	3.1	.6	8	8.3	5.0	.2	.6	41	16	10	46	6.1	15
Feb. 5.....	260	6.1	.17	6.0	1.5	2.8	.9	12	7.5	4.0	.2	1.0	40	21	11	52	6.5	5
Mar. 9.....	220	5.4	.06	2.8	1.1	2.1	1.1	5	8.3	4.0	.1	.6	33	12	8	36	5.8	10
Apr. 6.....	260	4.3	.02	3.1	1.0	2.0	.8	4	8.6	2.3	.1	.8	31	12	8	34	5.8	18
May 6.....	258	3.7	.13	3.1	1.4	2.5	1.0	8	7.0	2.6	.0	1.5	29	14	7	39	5.9	16
May 26.....	64	6.2	.26	4.1	1.7	3.2	1.0	12	6.3	3.6	.0	2.5	37	17	7	49	6.9	17
June 29.....	26	4.7	.12	3.2	1.2	2.9	.7	10	7.5	3.2	.0	3.9	35	13	5	43	6.4	18
Aug. 11.....	84	4.6	.37	3.4	.9	2.7	.8	10	4.4	2.5	.1	2.4	32	12	4	40	6.0	27
Sept. 28.....	105	2.3	.07	3.4	1.0	2.5	.8	10	7.6	3.2	.1	.6	31	13	5	41	6.7	17

1-1270. QUINEBAUG RIVER AT JEWETT CITY, CONN.

LOCATION.--Temperature recorder at gaging station in rear of high school on Slater Avenue at Jewett City, New London County, 570 feet downstream from outlet of canal from Wedgewood Mills at mouth of Pachaug River, and 1,000 feet downstream from railroad bridge.
DRAINAGE AREA.--711 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1958 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 82°F Aug. 1, 19, 20; minimum, 33°F Dec. 8-21, Jan. 6, 7, 22-29.
REMARKS.--Recorder stopped Oct. 19 to Nov. 3; range in temperature 46°F to 57°F for this period. Records of discharge for water year October 1958 to September 1959 given in WSP 1621.

Chemical analysis, in parts per million, September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Sept. 28, 1959.....	287	5.3	0.16	3.4	1.0	3.9	0.9	11	5.6	4.8	0.1	1.2	39	13	4	49	6.5	40

Temperature (°F) of water, water year October 1958 to September 1959
[Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph]

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	60	59	59	59	59	58	57	58	60	60	60	59	58	56	55	55	57	58	--	--	---	--	--	--	--	----	--	--	--	--	--	--
Minimum.....	59	59	59	59	58	57	57	57	58	59	59	58	56	55	54	54	55	57	--	--	--	--	--	--	--	--	--	--	--	--	--	--
November																																
Maximum.....	--	--	--	45	45	46	47	47	47	46	46	45	45	45	46	47	47	48	49	49	49	48	46	44	42	42	42	42	42	40	--	45
Minimum.....	--	--	--	45	45	45	46	47	46	46	45	45	45	45	45	46	47	47	48	49	48	46	44	42	42	42	40	40	40	37	--	45
December																																
Maximum.....	37	34	34	34	35	36	36	34	33	33	33	33	33	33	33	33	3	33	33	33	34	34	34	34	34	34	35	35	35	35	36	34
Minimum.....	34	34	34	34	34	35	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33	34	34	34	34	34	34	35	35	35	35	34
January																																
Maximum.....	35	35	34	34	34	34	34	34	34	34	35	35	35	35	34	35	34	34	34	34	34	34	33	33	33	33	33	33	34	34	34	34
Minimum.....	35	34	34	34	34	33	33	34	34	34	34	34	35	34	34	34	34	34	34	34	34	33	33	33	33	33	33	33	33	34	34	34
February																																
Maximum.....	35	35	36	36	34	35	36	36	35	35	34	35	34	34	34	34	34	34	35	35	35	35	34	34	35	35	35	35	--	--	--	35
Minimum.....	34	35	35	34	34	34	35	35	35	34	34	34	34	34	34	34	34	34	34	35	34	34	34	34	34	34	34	34	--	--	--	34
March																																
Maximum.....	35	34	34	36	36	36	36	35	35	35	36	36	35	34	35	37	37	38	39	40	43	43	41	40	41	44	44	43	41	41	41	38
Minimum.....	34	34	34	34	36	36	35	35	35	35	35	35	34	34	34	35	37	37	38	39	40	41	39	39	40	41	43	41	41	41	41	37

THAMES RIVER BASIN--Continued

1-1270. QUINEBAUG RIVER AT JEWETT CITY, CONN.--Continued

Temperature (°F) of water, water year October 1958 to September 1959--Continued

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
April																																
Maximum.....	43	46	46	46	46	46	46	49	51	51	51	50	49	49	50	51	55	56	56	56	55	54	55	56	56	56	56	56	54	53	--	51
Minimum.....	41	43	46	45	45	46	46	46	49	51	50	49	48	48	49	50	51	55	56	55	54	54	54	54	55	56	56	54	53	52	--	50
May																																
Maximum.....	52	53	56	58	60	62	62	62	62	61	62	65	66	66	66	63	61	60	60	62	66	68	71	69	70	68	69	72	73	72	74	64
Minimum.....	52	52	53	55	57	58	60	62	61	60	61	62	65	66	63	61	60	59	60	60	62	65	68	68	66	66	66	68	71	71	72	62
June																																
Maximum.....	73	71	71	71	69	71	73	72	77	77	78	76	74	72	69	66	65	63	62	64	67	66	72	71	71	70	71	70	70	75	--	70
Minimum.....	71	70	69	69	69	69	70	71	72	75	76	74	72	69	66	65	63	62	61	61	62	65	66	69	70	70	70	69	69	69	--	68
July																																
Maximum.....	74	74	76	77	76	75	77	78	76	74	75	75	74	74	74	72	71	72	74	75	76	76	76	77	78	78	78	80	80	81	80	76
Minimum.....	74	73	72	73	73	73	74	74	73	74	74	74	74	74	72	71	70	70	72	74	75	76	76	76	77	77	77	78	78	78	79	74
August																																
Maximum.....	82	79	78	77	75	73	75	74	74	75	76	78	76	80	80	81	81	81	82	82	81	81	80	77	77	78	80	81	80	78	79	78
Minimum.....	79	77	75	75	73	72	72	72	72	74	74	74	74	76	76	77	78	78	78	78	78	78	77	75	74	74	74	76	77	77	77	76
September																																
Maximum.....	77	78	78	80	80	80	78	78	81	79	77	75	74	72	69	68	68	65	66	65	64	66	68	69	71	70	70	70	71	73	--	73
Minimum.....	76	77	78	78	77	76	76	76	77	77	74	72	71	69	67	66	64	63	62	61	60	62	65	66	68	68	67	68	69	70	--	70

1-1560. WEST RIVER AT NEWFANE, VT.

LOCATION.--Temperature recorder at gaging station, 600 feet downstream from highway bridge and 1 mile northeast of Newfane, Windham County.
DRAINAGE AREA.--308 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1954 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 85°F July 29, Aug. 17; minimum, freezing point on several days in March.
EXTREMES, 1954-59.--Water temperatures: Maximum, 85°F Aug. 5-6, 1955, July 29, Aug. 17, 1959; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge for water years October 1954 to September 1959 given in WSP's 1381, 1431, 1501, 1551, and 1621 respectively.

Temperature (°F) of water, water year October 1954 to September 1955
/Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph/

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	65	65	64	66	65	61	57	51	50	52	59	62	63	63	63	63	61	55	51	52	51	50	49	52	51	50	50	50	47	44	44	56
Minimum.....	61	63	61	61	61	57	51	47	47	49	52	57	60	60	60	61	55	51	49	49	49	47	45	49	48	48	48	46	43	43	43	52
November																																
Maximum.....	43	43	44	44	43	43	41	40	41	40	37	39	38	37	37	37	38	41	44	47	48	46	41	40	39	39	39	38	38	38	--	41
Minimum.....	42	41	41	43	43	41	39	38	40	37	36	37	36	35	37	35	36	38	41	44	46	41	40	39	38	38	38	37	36	36	--	39
December																																
Maximum.....	37	36	35	34	34	34	34	34	34	33	33	34	34	34	34	34	34	34	34	34	33	33	33	33	33	33	33	33	33	32	32	34
Minimum.....	36	35	34	34	34	34	34	34	33	33	33	33	34	34	33	33	34	33	33	33	33	33	33	33	33	33	33	33	33	32	32	34
January																																
Maximum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
February																																
Maximum.....	33	33	33	33	33	32	32	32	32	32	32	32	33	33	32	32	32	32	33	33	33	33	33	33	33	33	33	33	--	--	--	33
Minimum.....	32	32	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	33	32	32	33	33	33	--	--	--	32
March																																
Maximum.....	32	32	33	33	33	33	33	36	33	33	32	33	33	33	33	34	35	33	36	37	36	33	33	34	38	38	35	34	37	41	41	34
Minimum.....	32	32	32	33	33	33	33	33	33	32	32	32	32	32	32	33	33	33	33	34	33	33	33	33	33	33	33	34	34	34	36	33
April																																
Maximum.....	40	40	35	39	42	39	39	39	41	42	42	40	40	40	41	44	43	49	47	48	47	48	51	49	45	42	43	46	47	53	--	43
Minimum.....	36	35	34	34	35	36	36	35	35	36	35	36	38	39	39	38	39	46	41	41	43	43	45	45	42	41	41	42	45	45	--	39
May																																
Maximum.....	55	56	59	61	62	61	60	60	58	58	62	62	61	64	64	62	60	61	63	65	68	69	69	71	71	70	66	70	72	71	68	64
Minimum.....	50	50	53	54	59	56	52	56	53	50	56	56	56	59	58	59	55	53	56	57	60	62	66	66	68	64	63	61	67	67	64	58
June																																
Maximum.....	65	61	64	63	67	73	72	65	63	69	68	66	65	64	69	73	76	79	78	77	77	76	78	76	72	75	74	75	77	77	--	71
Minimum.....	61	59	57	59	59	64	65	61	60	60	64	62	60	61	60	65	67	70	72	72	73	71	73	70	67	69	67	67	69	71	--	65
July																																
Maximum.....	79	79	81	82	81	79	79	81	80	84	83	80	77	79	80	79	83	81	80	78	80	83	82	81	80	82	80	79	79	79	81	80
Minimum.....	74	77	75	76	77	76	74	76	77	79	80	75	73	73	75	76	77	79	77	74	73	77	78	78	76	76	77	75	73	75	74	76
August																																
Maximum.....	83	83	82	83	85	85	83	81	78	75	74	72	68	69	73	73	76	76	74	78	79	81	80	75	74	75	75	73	71	71	71	77
Minimum.....	76	80	77	77	79	80	80	78	73	71	72	68	66	66	67	70	71	74	72	71	74	75	74	71	69	69	70	67	64	67	67	72
September																																
Maximum.....	71	71	71	71	71	71	72	69	67	66	67	68	66	64	65	68	69	73	73	72	69	63	61	58	57	56	57	59	60	60	--	66
Minimum.....	68	67	65	67	69	69	69	65	63	65	65	66	63	61	62	64	65	67	69	69	63	60	57	56	53	52	52	56	56	57	--	63

CONNECTICUT RIVER BASIN--Continued

1-1560. WEST RIVER AT NEWFANE, VT.--Continued

Temperature (°F) of water, water year October 1955 to September 1956
/Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph/

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	62	61	59	58	57	57	55	56	56	57	60	60	59	55	53	52	46	48	49	51	50	49	46	49	49	44	46	45	46	47	48	53
Minimum.....	57	56	55	54	57	55	52	55	53	53	55	58	55	53	52	46	45	45	48	48	49	46	42	44	44	42	43	43	44	46	47	50
November																																
Maximum.....	48	49	49	48	45	45	45	46	45	43	42	44	43	44	44	43	41	39	38	37	36	36	36	38	37	36	35	36	36	35	--	41
Minimum.....	48	47	48	45	43	44	44	45	42	41	41	41	42	43	43	41	39	38	37	36	35	35	35	36	36	35	35	35	35	35	--	40
December																																
Maximum.....	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	36	36	36	36	35	34	34	34	34	34	34	34	35
Minimum.....	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	36	36	35	34	33	33	34	34	34	34	34	35
January																																
Maximum.....	34	34	34	34	34	34	34	34	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
Minimum.....	34	34	34	34	34	34	34	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
February																																
Maximum.....	33	33	33	34	33	33	33	33	32	32	32	32	32	32	32	33	33	33	33	32	33	33	33	33	33	32	33	33	33	--	--	33
Minimum.....	33	33	33	33	33	33	33	32	32	32	32	32	32	32	32	32	33	33	32	32	32	33	33	33	32	32	32	32	33	--	--	32
March																																
Maximum.....	33	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33	34	34	34	34	34	33	33	33	34	33	33	33	34	33	33	33
Minimum.....	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
April																																
Maximum.....	34	34	34	33	34	34	34	33	36	39	39	39	35	38	35	34	34	36	37	37	39	38	36	38	42	40	41	40	34	35	--	36
Minimum.....	33	33	33	33	32	32	32	33	33	33	32	32	33	33	33	33	33	33	33	33	35	35	34	34	35	36	35	35	33	33	--	33
May																																
Maximum.....	39	38	40	39	42	40	41	41	43	43	44	50	52	51	52	51	48	47	46	51	55	56	55	52	51	51	50	48	53	53	58	48
Minimum.....	33	34	36	35	35	36	38	36	37	39	37	42	45	45	44	47	43	44	42	43	47	51	52	47	46	46	46	45	45	50	50	42
June																																
Maximum.....	61	61	60	58	59	63	65	66	64	56	61	65	71	75	77	77	76	74	69	69	67	70	70	72	72	72	72	68	67	67	--	67
Minimum.....	57	59	57	55	54	55	59	59	56	53	53	56	62	66	70	72	71	66	62	63	63	63	66	67	70	66	66	66	64	63	--	62
July																																
Maximum.....	72	75	77	76	73	65	69	72	74	74	75	74	70	69	69	69	69	71	72	72	71	69	73	77	76	76	74	77	76	72	72	73
Minimum.....	66	72	72	72	65	62	60	66	69	71	69	69	68	66	63	65	63	64	65	67	69	66	69	71	72	72	70	73	73	69	68	68
August																																
Maximum.....	72	73	72	71	75	75	76	76	79	80	80	79	77	78	78	77	79	79	78	75	71	70	71	69	70	70	72	74	74	72	68	75
Minimum.....	70	69	68	69	69	72	71	72	72	76	76	75	73	74	74	73	72	74	75	70	66	65	68	67	66	66	68	69	71	68	66	70
September																																
Maximum.....	69	71	75	73	74	74	73	70	66	62	61	64	68	69	68	64	57	56	56	56	54	56	56	54	53	53	52	52	56	59	--	62
Minimum.....	65	69	69	69	69	73	70	65	62	60	60	61	63	66	64	57	54	52	51	55	51	51	53	53	51	49	49	49	51	53	--	59

1-1560. WEST RIVER AT NEWFANE, VT.--Continued

Temperature (°F) of water, water year October 1956 to September 1957
/Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph/

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	59	57	57	57	55	53	54	55	54	51	49	47	47	51	55	56	56	56	53	51	50	51	53	54	53	48	46	49	49	47	47	52
Minimum.....	56	53	54	53	52	50	52	51	51	49	46	44	43	46	50	52	53	53	49	46	47	50	51	53	48	44	44	46	46	44	46	49
November																																
Maximum.....	53	54	53	50	49	47	47	47	46	44	38	38	39	38	40	42	42	41	37	35	37	40	38	34	33	33	32	33	33	33	--	41
Minimum.....	47	53	50	48	46	46	46	46	44	38	35	35	38	37	38	40	41	37	34	34	35	37	34	33	33	32	32	32	33	33	--	39
December																																
Maximum.....	33	33	32	32	33	33	33	35	35	33	33	35	36	36	33	34	34	35	33	33	33	33	33	34	34	34	33	33	33	33	33	34
Minimum.....	33	32	32	32	32	33	33	33	33	33	33	33	35	33	33	33	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
January																																
Maximum.....	33	34	33	33	33	33	33	33	33	33	33	33	33	34	34	34	34	35	34	34	33	33	33	33	33	33	33	33	33	33	33	33
Minimum.....	33	33	33	33	33	33	33	33	33	33	33	33	33	33	34	34	34	34	34	33	33	32	32	33	33	33	33	33	33	33	33	33
February																																
Maximum.....	33	33	33	33	33	33	33	33	33	33	33	33	33	33	34	34	33	33	33	34	34	34	34	34	34	34	34	34	--	--	--	33
Minimum.....	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	34	34	33	33	34	34	33	34	--	--	--	33
March																																
Maximum.....	34	34	35	35	35	35	35	35	34	36	35	35	39	39	38	37	36	38	38	36	40	41	41	40	40	40	40	42	41	43	41	38
Minimum.....	34	34	34	34	34	34	34	34	34	34	34	35	34	37	35	35	34	34	35	36	35	37	37	36	35	37	38	38	38	39	37	35
April																																
Maximum.....	42	42	39	38	37	36	39	37	38	42	43	44	43	40	43	44	46	47	48	52	59	57	57	60	59	60	64	64	63	62	--	48
Minimum.....	37	37	35	36	36	36	35	37	35	35	38	39	38	38	37	39	43	42	45	46	50	50	50	54	52	51	56	61	57	56	--	43
May																																
Maximum.....	60	57	54	56	59	60	63	67	66	67	66	58	61	62	65	64	61	61	60	54	55	58	62	67	67	66	65	65	65	66	68	62
Minimum.....	53	52	48	47	52	53	55	59	61	63	58	56	56	57	59	58	54	56	54	47	46	51	55	60	60	62	61	60	56	60	62	56
June																																
Maximum.....	70	70	68	67	69	69	69	68	70	72	76	76	76	76	82	82	83	84	83	79	78	80	81	83	81	75	75	77	78	75	--	76
Minimum.....	63	65	61	63	63	65	64	61	62	63	67	69	70	73	74	77	79	79	79	74	71	76	76	78	75	67	66	72	74	71	--	70
July																																
Maximum.....	74	71	71	77	73	70	71	77	76	74	70	73	73	77	77	75	74	76	78	79	80	79	78	76	73	75	74	72	73	77	77	75
Minimum.....	69	67	66	69	68	64	65	68	73	70	66	67	68	70	74	71	69	71	73	75	77	77	75	72	70	69	70	70	69	71	73	70
August																																
Maximum.....	76	77	79	78	73	72	72	74	77	77	74	75	73	70	74	75	72	70	70	73	71	73	74	73	71	69	72	70	67	69	70	73
Minimum.....	71	72	73	73	71	69	67	68	71	73	70	72	68	67	67	71	69	66	66	67	69	67	68	68	68	67	68	66	65	66	66	69
September																																
Maximum.....	72	70	72	73	72	77	66	68	69	67	69	72	74	74	72	71	71	69	68	67	67	72	72	67	63	62	59	54	57	58	--	68
Minimum.....	66	67	68	70	66	64	64	65	64	64	64	67	70	71	67	66	69	64	64	65	66	72	72	67	59	59	54	52	52	55	--	64

CONNECTICUT RIVER BASIN--Continued

1-1560. WEST RIVER AT NEWFANE, VT.--Continued

Temperature (°F) of water, water year October 1957 to September 1958
[Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph]

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum	58	57	56	56	59	60	59	58	62	61	59	54	52	53	54	54	54	56	57	56	53	51	54	55	55	51	47	46	45	45	48	54
Minimum	56	56	54	54	55	56	58	58	58	59	54	50	50	51	52	52	53	54	56	53	49	49	50	54	51	47	45	45	44	44	45	52
November																																
Maximum	48	51	52	52	50	49	45	44	47	45	41	38	39	41	46	45	46	46	45	45	43	41	39	37	37	36	35	34	36	36	--	43
Minimum	47	48	51	50	49	45	42	42	45	41	37	36	37	38	41	43	45	45	45	43	40	39	36	37	36	35	34	34	34	36	--	41
December																																
Maximum	36	34	34	34	34	34	34	34	35	36	36	36	34	34	34	34	34	34	34	38	40	40	38	38	38	37	37	36	37	36	35	36
Minimum	34	34	34	34	34	34	34	34	34	35	36	34	34	34	34	34	34	34	34	34	38	38	37	37	35	34	36	35	36	35	34	35
January																																
Maximu	34	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	32	32	32	32	32	32	32	32	32	32	33
Minimum	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	32	32	32	32	32	32	32	32	32	32	32	33
February																																
Maximum	32	32	32	32	32	32	32	32	32	32	33	33	32	32	32	32	32	33	32	32	32	32	32	32	32	32	32	32	--	--	--	32
Minimum	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	--	--	--	32
March																																
Maximum	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	35	34	33	34	35	37	36	36	37	38	38	39	36	34
Minimum	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	32	32	33	33	34	33	33	32	32	33	34	32
April																																
Maximum	35	35	39	40	41	37	35	39	40	41	40	37	44	42	43	42	42	42	43	43	44	43	42	48	47	46	46	46	41	46	--	42
Minimum	34	34	35	34	33	33	33	34	34	35	36	35	36	37	36	35	35	35	36	36	38	39	40	40	43	41	41	39	39	40	--	37
May																																
Maximum	49	51	49	46	48	49	48	45	50	50	56	59	56	54	54	53	61	60	62	66	65	62	65	64	63	64	65	67	67	66	68	57
Minimum	42	45	43	43	46	46	45	44	44	45	47	54	51	47	50	50	50	57	58	59	61	56	58	58	57	55	58	62	62	58	61	52
June																																
Maximum	72	71	66	68	69	68	68	67	66	66	60	69	68	67	66	66	62	63	65	65	60	65	65	67	69	69	72	71	73	75	--	67
Minimum	65	63	58	60	62	65	61	62	64	60	58	59	65	63	61	61	59	56	60	60	59	59	61	63	65	68	66	67	67	70	--	62
July																																
Maximum	79	81	79	75	72	69	72	75	74	77	76	74	76	76	76	77	77	75	75	74	75	74	72	79	79	78	75	67	72	71	71	75
Minimum	72	75	75	71	69	68	68	71	70	69	72	70	68	71	71	75	73	70	70	71	67	70	70	72	76	75	66	66	66	65	67	70
August																																
Maximum	74	76	78	78	77	78	78	79	78	75	76	76	75	77	79	78	78	76	73	75	77	76	75	73	71	70	71	73	74	77	79	76
Minimum	66	68	71	74	71	73	76	77	74	71	71	72	73	74	76	75	75	73	69	69	71	74	71	70	69	68	67	69	69	70	73	72
September																																
Maximum	78	75	70	69	73	72	69	69	69	69	67	63	66	68	72	71	69	65	59	59	59	64	63	62	66	69	69	63	60	58	--	67
Minimum	75	70	65	66	68	69	69	67	65	66	61	59	63	63	66	69	65	59	58	58	59	59	58	60	60	66	63	60	56	55	--	63

1-1560. WEST RIVER AT NEWFANE, VT.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
[Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph]

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	55	55	54	55	55	53	51	54	59	62	62	55	51	49	52	57	58	58	53	50	49	51	52	52	51	48	46	46	46	45	44	53
Minimum.....	55	52	51	52	53	50	48	51	54	59	55	51	49	46	48	52	57	53	50	49	48	48	51	51	48	46	45	45	45	43	42	50
November																																
Maximum.....	45	44	42	42	43	45	45	43	43	43	44	44	44	43	46	47	47	47	49	49	46	43	40	39	39	38	37	36	36	36	--	43
Minimum.....	43	41	40	40	41	43	43	40	41	43	42	42	42	42	43	46	47	47	47	46	43	40	38	38	37	37	36	36	36	36	--	41
December																																
Maximum.....	36	35	35	35	35	35	35	35	35	35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum.....	35	35	35	35	34	34	35	35	35	35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
January																																
Maximum.....	--	--	--	--	--	--	--	--	34	34	34	34	34	34	34	34	33	34	34	34	34	34	34	34	34	34	35	34	34	34	34	--
Minimum.....	--	--	--	--	--	--	--	--	34	34	34	34	34	34	34	33	33	33	34	34	34	33	33	34	34	34	34	34	34	33	33	--
February																																
Maximum.....	34	34	34	34	33	34	34	34	34	34	34	34	34	33	33	33	33	33	33	34	33	34	34	34	34	34	33	33	--	--	--	34
Minimum.....	34	34	34	33	33	33	34	34	34	34	34	33	33	33	33	33	33	33	33	33	33	34	34	34	33	33	33	33	--	--	--	33
March																																
Maximum.....	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	32	34	36	33
Minimum.....	33	33	33	33	32	32	33	33	33	33	33	33	33	33	33	33	32	32	33	32	32	33	33	33	33	33	33	32	32	32	34	33
April																																
Maximum.....	38	35	34	36	38	37	38	40	36	39	39	37	40	42	43	46	47	46	49	48	46	48	49	52	53	53	50	47	46	45	--	43
Minimum.....	34	33	32	33	34	34	34	36	35	36	37	36	35	36	38	39	41	41	44	41	40	41	43	45	49	50	46	44	43	43	--	39
May																																
Maximum.....	51	51	55	57	60	62	63	63	61	61	65	67	66	65	63	58	57	61	60	66	70	75	73	65	65	67	73	77	77	76	76	65
Minimum.....	45	46	49	50	52	55	59	58	54	55	58	63	64	61	56	54	54	52	56	58	64	68	65	59	55	61	65	69	71	71	69	59
June																																
Maximum.....	74	66	70	73	75	74	74	74	79	80	80	76	73	71	64	60	60	58	58	67	71	70	73	71	71	68	72	72	77	79	--	71
Minimum.....	66	64	62	66	69	71	68	69	71	74	76	71	71	64	58	58	58	57	57	54	63	67	65	67	68	65	68	69	68	74	--	66
July																																
Maximum.....	78	74	74	75	77	76	73	74	77	76	78	78	77	77	75	78	80	79	78	77	76	80	81	78	79	79	80	82	85	84	82	78
Minimum.....	73	69	68	68	71	73	71	67	71	75	73	75	75	74	73	71	74	75	76	75	74	76	78	77	76	73	73	75	77	79	79	74
August																																
Maximum.....	83	78	76	75	73	68	71	73	72	72	75	77	77	80	82	83	85	81	79	81	79	79	77	74	74	75	78	78	79	79	78	75	77
Minimum.....	77	73	69	69	68	66	66	69	70	69	71	73	74	73	76	78	79	79	77	77	77	77	73	68	67	69	75	77	77	75	73	73
September																																
Maximum.....	77	78	78	78	78	77	77	78	82	80	79	71	68	65	64	60	59	58	58	61	64	68	72	75	73	69	68	71	71	71	--	71
Minimum.....	73	75	75	76	74	74	74	73	77	77	71	66	64	62	59	56	55	56	55	57	60	63	67	71	69	64	64	67	69	70	--	67

CONNECTICUT RIVER BASIN--Continued

1-1600. SOUTH BRANCH ASHUELOT RIVER AT WEBB, NEAR MARLBORO, N.H.

LOCATION.--Temperature recorder at gaging station, 15 feet downstream from bridge, 800 feet southwest of Webb station on Boston and Maine Railroad, and 2.5 miles south of Marlboro, Cheshire County.
DRAINAGE AREA.--36.0 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1954 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 86°F Aug. 1; minimum, freezing point on many days during winter months.
EXTREMES, 1954-59.--Water temperatures: Maximum, 86°F Aug. 5, 1955, Aug. 1, 1959; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge for water years October 1954 to September 1959 given in WSP's 1381, 1431, 1501, 1551, and 1621 respectively.

Temperature (°F) of water, water year October 1954 to September 1955
/Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph/

Month	Day																												Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	66	62	63	67	64	61	56	53	53	55	61	63	64	62	66	66	63	59	56	54	53	52	52	54	52	52	50	50	47	47	46	57
Minimum.....	61	61	61	62	61	56	50	47	48	52	55	58	60	59	61	63	59	55	52	51	50	48	46	49	47	48	49	47	45	46	45	53
November																																
Maximum.....	45	43	46	45	45	43	41	40	40	38	38	38	39	39	38	37	38	40	42	45	46	46	42	39	38	38	38	37	37	36	--	41
Minimum.....	43	42	43	45	43	41	38	37	37	36	34	35	34	35	35	34	36	38	40	42	45	41	39	38	37	36	36	35	34	36	--	38
December																																
Maximum.....	36	35	36	33	32	34	33	33	32	34	33	34	34	35	32	33	32	33	32	32	32	33	34	34	34	36	33	33	34	33	33	33
Minimum.....	35	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
January																																
Maximum.....	33	32	33	34	35	34	36	35	33	34	33	34	33	34	34	33	33	34	33	33	34	33	33	33	34	33	33	33	33	33	33	33
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
February																																
Maximum.....	32	32	32	33	32	33	32	32	32	32	32	32	32	32	33	33	33	33	32	32	32	32	32	32	32	33	33	34	--	--	--	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	32	32	32	32	32	32	32	32	32	33	33	--	--	--	32
March																																
Maximum.....	34	34	35	35	34	34	35	35	35	36	35	35	34	36	36	35	35	34	36	37	34	34	36	35	38	34	35	35	38	39	38	35
Minimum.....	33	33	34	33	33	33	33	33	34	33	34	34	33	34	34	34	34	33	33	32	33	32	32	32	33	33	32	32	32	33	34	33
April																																
Maximum.....	37	36	34	37	38	35	36	37	39	42	42	40	40	42	45	44	42	45	44	46	45	47	49	48	46	41	39	40	42	46	--	41
Minimum.....	33	33	33	33	34	35	34	34	34	36	37	38	39	39	42	42	40	39	43	41	44	43	45	46	41	39	39	39	40	41	--	39
May																																
Maximum.....	51	53	56	57	60	58	57	57	53	54	56	59	58	59	58	60	55	59	60	63	62	64	67	66	68	64	63	66	68	64	63	60
Minimum.....	45	47	51	52	55	50	49	53	50	48	50	50	53	54	51	53	51	48	51	51	53	53	60	62	60	61	58	57	61	62	60	54
June																																
Maximum.....	61	58	61	59	60	64	62	59	58	62	61	60	59	60	65	64	69	75	74	76	72	68	65	65	64	65	68	72	74	75	--	65
Minimum.....	58	57	56	55	55	57	58	56	55	54	56	57	58	57	57	57	59	61	63	68	61	62	62	62	61	62	61	61	62	63	--	59
July																																
Maximum.....	79	80	72	75	78	73	77	74	74	75	76	74	72	76	79	75	79	80	77	76	77	80	80	79	79	81	80	77	79	77	80	77
Minimum.....	66	67	67	66	69	70	69	67	67	69	69	64	62	64	67	68	69	70	69	65	65	70	72	73	68	70	71	70	66	65	65	68
August																																
Maximum.....	83	82	80	82	86	81	80	80	73	73	71	67	68	67	69	74	70	68	68	66	68	73	71	69	68	68	68	65	65	63	68	72
Minimum.....	70	73	66	68	73	73	74	69	62	60	67	67	66	65	67	68	66	68	65	64	66	67	69	66	64	62	64	61	59	60	63	66
September																																
Maximum.....	70	67	71	71	71	70	72	66	65	63	66	67	65	62	66	67	67	70	72	68	64	59	58	55	58	57	56	58	59	57	--	65
Minimum.....	64	62	61	61	62	60	62	56	58	61	62	61	57	56	61	60	60	61	65	64	56	51	49	54	54	50	47	55	50	56	--	58

1-1600. SOUTH BRANCH ASHUELOT RIVER, NEAR MARLBORO, N.H.--Continued

Temperature (°F) of water, water year October 1955 to September 1956
[Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph]

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	61	58	58	57	55	54	56	57	56	56	60	59	56	55	54	54	50	49	50	50	50	50	45	48	48	45	45	45	47	46	48	52
Minimum.....	56	51	50	48	53	53	53	56	54	53	54	54	54	54	54	50	49	48	49	49	49	45	43	45	45	44	43	43	44	46	46	50
November																																
Maximum.....	48	49	49	48	47	46	47	47	46	44	43	43	43	42	42	42	41	40	38	36	35	35	37	37	36	37	41	36	37	36	--	42
Minimum.....	48	48	48	47	46	46	46	46	44	42	41	41	41	41	42	41	40	38	36	35	34	35	34	36	35	35	32	35	35	33	--	40
December																																
Maximum.....	39	37	36	35	37	37	39	36	36	35	35	35	35	35	35	35	35	34	35	35	35	34	35	34	34	34	33	33	34	33	33	35
Minimum.....	32	33	35	35	35	33	33	32	32	33	32	32	32	32	32	32	33	33	33	33	33	33	33	32	32	32	33	33	33	33	33	33
January																																
Maximum.....	34	34	33	33	33	33	34	33	33	34	34	35	35	35	36	36	36	37	36	35	35	35	35	35	35	35	35	35	35	34	33	35
Minimum.....	33	33	33	33	33	33	33	33	32	32	34	35	35	35	35	36	35	35	35	35	35	35	35	35	35	35	35	35	34	34	33	34
February																																
Maximum.....	33	33	33	33	33	33	33	33	33	33	33	33	33	34	34	34	34	33	33	33	34	34	34	34	34	33	33	34	34	--	--	33
Minimum.....	33	33	33	33	33	33	33	33	33	33	33	33	33	33	34	33	33	33	33	33	33	34	34	34	33	33	33	33	34	--	--	33
March																																
Maximum.....	34	35	37	36	35	36	36	35	35	37	35	36	36	36	37	36	35	35	34	34	34	34	37	36	35	35	36	37	36	36	37	36
Minimum.....	34	34	35	35	35	35	34	35	35	35	35	35	35	35	35	35	35	34	34	34	34	34	34	34	34	35	34	34	34	36	35	35
April																																
Maximum.....	39	37	37	36	36	36	35	35	35	38	38	38	37	38	35	35	35	36	36	37	39	38	37	38	40	39	40	43	41	40	--	37
Minimum.....	35	35	36	34	34	35	35	34	34	34	34	34	35	35	35	35	35	35	35	35	35	36	35	35	35	37	36	39	37	37	--	35
May																																
Maximum.....	43	43	45	45	47	48	47	47	48	48	50	54	59	58	57	56	54	51	51	55	58	60	58	57	56	54	52	51	54	54	58	52
Minimum.....	37	40	42	43	42	44	44	43	43	46	44	49	53	54	51	52	49	49	48	48	51	55	54	51	49	49	51	50	47	53	53	48
June																																
Maximum.....	60	61	61	61	61	62	65	68	62	74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum.....	57	60	60	59	60	58	60	61	58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	55	--	--
July																																
Maximum.....	--	74	76	72	--	--	--	--	71	68	71	71	68	67	66	62	64	67	67	65	63	67	73	74	74	71	72	76	69	68	71	--
Minimum.....	--	64	64	--	--	--	--	57	61	62	61	60	62	62	61	60	58	57	58	60	62	61	64	65	63	64	62	67	62	58	58	--
August																																
Maximum.....	71	72	71	70	71	70	75	75	77	77	76	72	74	78	75	76	79	78	75	72	68	69	72	69	72	69	70	73	70	67	64	72
Minimum.....	61	61	58	61	59	62	64	64	65	70	67	65	63	68	65	62	66	67	70	65	63	52	63	63	57	57	59	61	64	64	62	63
September																																
Maximum.....	66	69	71	72	73	70	66	64	60	61	62	53	66	68	63	60	56	55	56	54	54	54	51	53	53	53	50	51	56	57	--	60
Minimum.....	62	66	62	61	62	65	62	58	54	50	52	57	60	62	60	56	55	53	50	52	49	48	50	51	50	48	47	49	48	48	--	55

CONNECTICUT RIVER BASIN--Continued

1-1600. SOUTH BRANCH ASHUELOT RIVER AT WEBB, NEAR MARLBORO, N.H.--Continued

Temperature (°F) of water, water year October 1956 to September 1957
/Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph/

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	55	53	56	51	54	53	51	53	53	49	46	45	47	50	52	53	54	52	48	46	50	50	53	52	46	43	47	49	45	45	47	50
Minimum.....	52	47	50	49	49	45	50	49	48	45	41	39	40	42	45	46	47	48	43	40	42	45	50	46	42	40	43	46	40	38	42	45
November																																
Maximum.....	54	52	50	49	47	47	46	45	45	41	36	42	42	39	42	46	45	41	35	36	41	41	39	35	40	34	35	35	35	34	--	42
Minimum.....	47	50	48	45	43	43	42	44	41	35	33	36	36	36	37	40	40	33	32	32	36	39	35	33	32	32	34	34	34	32	--	38
December																																
Maximum.....	40	34	34	36	40	37	38	38	38	34	39	36	35	35	34	34	35	35	35	38	36	34	33	33	33	36	36	35	35	37	33	36
Minimum.....	32	33	34	33	33	35	37	37	34	34	33	35	35	33	33	34	34	33	33	33	33	33	32	33	33	32	32	33	34	32	33	33
January																																
Maximum.....	33	33	33	33	32	33	33	32	32	32	32	32	32	33	33	33	33	33	33	33	33	32	32	33	33	33	33	34	33	33	32	33
Minimum.....	33	33	33	32	32	32	32	32	32	32	32	32	32	32	33	33	33	33	33	33	32	32	32	32	32	33	32	33	33	32	32	32
February																																
Maximum.....	32	32	34	33	32	32	32	33	33	33	33	35	32	32	33	33	33	34	33	34	34	34	34	35	35	36	33	33	--	--	--	33
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	34	33	34	33	32	32	--	--	--	32
March																																
Maximum.....	33	33	34	36	36	36	35	34	34	34	36	34	36	38	36	36	35	36	36	36	39	39	39	39	38	38	39	41	40	41	41	37
Minimum.....	32	32	32	32	33	32	32	34	33	33	33	33	33	34	34	34	34	35	35	35	35	35	35	35	35	38	38	37	38	39	36	34
April																																
Maximum.....	41	41	39	39	39	38	40	39	38	41	41	45	43	41	43	45	43	49	51	51	57	59	60	60	56	59	65	66	65	62	--	49
Minimum.....	37	39	36	37	38	37	38	38	36	36	38	41	41	40	37	40	43	42	45	47	51	52	53	54	52	52	55	58	59	57	--	44
May																																
Maximum.....	62	59	51	57	58	60	62	66	68	67	63	57	57	60	63	62	59	59	55	52	51	53	59	65	62	61	62	60	60	61	63	60
Minimum.....	54	50	47	47	47	47	49	53	57	60	57	55	54	55	58	58	53	55	52	49	48	50	53	55	55	57	57	55	54	55	57	53
June																																
Maximum.....	66	66	66	62	63	63	68	64	65	66	69	67	71	72	80	79	78	79	77	71	68	70	70	81	74	71	66	66	71	71	--	70
Minimum.....	58	61	58	58	58	59	60	57	56	57	58	61	62	64	65	69	67	67	64	63	60	62	62	65	64	65	64	64	66	64	--	62
July																																
Maximum.....	67	67	65	71	69	68	70	70	67	69	66	71	67	75	72	71	73	74	76	76	76	75	76	70	73	76	73	71	70	74	77	71
Minimum.....	63	61	59	63	65	63	61	62	65	62	60	61	61	64	64	61	61	61	63	65	68	70	67	62	60	62	64	64	64	65	66	63
August																																
Maximum.....	77	78	80	71	72	69	74	74	79	69	73	74	70	65	74	74	70	71	69	72	67	72	72	71	65	70	72	71	66	69	72	72
Minimum.....	67	64	66	69	65	59	59	59	63	64	62	65	58	59	61	65	59	58	58	62	61	61	58	58	63	63	65	59	59	64	61	62
September																																
Maximum.....	72	69	73	73	70	67	67	70	68	65	70	72	75	73	68	76	70	69	70	69	68	76	74	66	64	61	57	57	58	57	--	68
Minimum.....	59	61	67	66	63	60	59	63	57	57	62	62	67	68	62	66	65	60	60	61	67	68	65	59	55	54	49	48	48	49	--	60

1-1600. SOUTH BRANCH ASHUELOT RIVER AT WEBB, NEAR MARLBORO, N.H.--Continued

Temperature (°F) of water, water year October 1957 to September 1958
/Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph/

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	58	58	56	54	58	57	59	60	64	61	56	53	53	53	54	55	55	59	59	54	52	51	56	56	56	49	46	45	44	46	47	54
Minimum.....	51	51	48	49	50	50	55	58	58	55	51	46	45	46	45	47	48	55	54	50	46	45	50	54	49	46	44	39	39	40	44	49
November																																
Maximum.....	48	52	52	52	51	49	46	48	48	47	41	39	40	43	46	46	46	46	47	47	45	42	40	38	38	36	34	38	43	42	--	44
Minimum.....	45	48	51	51	49	44	42	41	47	41	37	36	36	38	43	44	45	44	45	45	42	40	38	38	36	34	34	34	38	39	--	42
December																																
Maximum.....	39	37	37	37	36	35	38	38	37	37	37	37	36	34	33	32	32	32	33	35	38	38	36	34	34	34	33	33	32	32	32	35
Minimum.....	37	36	36	36	34	34	35	37	37	37	37	35	34	33	32	32	32	32	32	33	35	36	34	34	32	32	33	32	32	32	32	34
January																																
Maximum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	33	34	33	33	33	33	33	34	34	35	35	35	33
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	33	33	33	33	33	33	33	34	34	35	33	33
February																																
Maximum.....	35	34	34	35	35	35	36	33	33	33	34	34	32	32	33	32	32	33	33	32	33	34	34	33	33	33	32	32	--	--	--	33
Minimum.....	33	33	33	33	33	32	33	33	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	33	32	32	32	32	--	--	--	32
March																																
Maximum.....	33	34	34	34	35	36	36	36	36	37	37	36	36	36	35	35	35	36	38	36	35	34	35	36	36	37	37	37	33	37	36	36
Minimum.....	32	33	33	33	34	35	35	34	34	34	35	35	34	32	33	34	34	35	35	35	34	33	34	34	35	35	35	35	34	35	36	34
April																																
Maximum.....	36	36	37	38	38	36	35	36	37	38	38	36	40	40	42	42	43	46	47	48	51	52	52	54	54	53	50	50	45	49	--	43
Minimum.....	35	35	35	35	35	35	34	34	34	35	36	35	36	37	37	38	39	40	42	44	46	50	51	50	52	49	47	44	43	45	--	40
May																																
Maximum.....	51	53	52	47	50	51	51	48	50	51	57	59	58	56	56	54	59	62	64	65	65	65	67	68	63	64	66	67	65	61	65	58
Minimum.....	47	49	47	46	47	49	48	47	46	48	50	56	53	51	52	53	53	57	61	62	60	58	61	59	61	59	57	58	59	58	57	54
June																																
Maximum.....	63	65	65	66	68	68	69	61	67	61	60	70	64	66	66	65	59	63	63	59	59	62	67	66	66	68	63	65	65	66	--	65
Minimum.....	61	60	59	58	59	61	56	57	61	58	58	59	60	60	57	56	55	52	56	57	57	58	55	59	61	60	60	60	58	60	--	58
July																																
Maximum.....	71	72	69	69	70	68	69	76	71	71	73	69	67	68	71	67	68	68	69	67	70	68	71	71	71	71	70	67	69	74	70	70
Minimum.....	63	65	67	64	66	67	67	67	67	65	64	66	65	65	64	66	65	62	64	64	61	62	65	66	67	67	67	65	66	67	69	65
August																																
Maximum.....	69	72	75	78	75	74	75	75	70	71	78	76	79	75	78	72	74	71	73	75	77	73	72	69	67	67	73	68	72	75	77	73
Minimum.....	67	65	66	69	66	65	68	70	65	65	64	64	69	68	70	68	66	65	61	61	65	67	63	61	66	64	63	61	64	63	68	65
September																																
Maximum.....	74	68	69	67	73	68	69	67	65	63	60	62	62	64	69	66	64	60	59	60	59	64	63	62	65	69	66	59	57	55	--	64
Minimum.....	68	62	56	61	64	61	67	61	56	60	57	52	52	57	59	62	60	59	58	58	58	58	55	55	57	62	59	56	53	51	--	58

CONNECTICUT RIVER BASIN--Continued

1-1600. SOUTH BRANCH ASHUELOT RIVER AT WEBB, NEAR MARLBORO, N.H.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
[Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph]

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	55	54	53	55	54	51	51	55	58	60	57	51	47	47	53	58	57	56	50	49	48	51	51	51	50	47	46	47	47	45	44	52
Minimum.....	53	51	50	50	48	45	44	47	50	52	51	46	44	40	47	51	54	49	44	43	42	45	49	50	47	46	46	46	45	43	41	47
November																																
Maximum.....	44	42	42	40	41	44	43	42	41	41	41	43	42	43	44	44	44	45	47	46	44	43	39	39	38	37	37	35	35	35	--	41
Minimum.....	41	39	38	38	39	41	41	39	41	41	41	41	39	41	43	44	44	44	45	44	43	38	36	38	35	35	36	34	34	34	--	40
December																																
Maximum.....	34	34	38	38	35	34	34	35	34	35	35	35	37	35	33	33	33	33	32	32	33	33	33	32	33	33	33	32	32	32	34	34
Minimum.....	34	34	33	33	34	33	33	33	33	33	34	34	34	33	33	33	33	32	32	32	32	32	32	32	32	33	32	32	32	32	32	33
January																																
Maximum.....	32	32	32	32	32	32	32	32	33	33	33	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
February																																
Maximum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	33	33	33	33	32	32	33	--	--	--	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	32	32	32	32	32	32	32	--	--	--	32
March																																
Maximum.....	32	33	34	33	34	34	32	33	33	32	33	32	33	33	34	34	35	35	36	37	34	33	33	35	35	36	34	36	36	35	38	34
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	33	33	33	32	32	32	33	33	34	34	34	34	33	35	33
April																																
Maximum.....	37	34	34	35	37	36	39	40	40	39	39	39	40	41	42	44	47	47	48	47	45	47	49	50	52	50	50	47	46	44	--	43
Minimum.....	35	34	34	35	35	36	36	39	39	39	39	38	39	38	39	40	42	43	45	44	42	42	43	45	47	49	46	44	44	43	--	40
May																																
Maximum.....	47	51	54	54	58	60	62	59	60	57	61	63	59	59	55	57	53	55	53	61	65	68	64	61	63	63	69	70	72	72	72	61
Minimum.....	44	45	48	48	49	50	52	51	50	51	54	55	57	55	53	51	49	47	49	53	55	58	61	56	54	56	60	62	63	66	65	54
June																																
Maximum.....	67	65	67	68	68	72	71	74	77	80	75	75	73	68	62	60	59	59	59	62	65	66	73	73	70	70	70	68	73	78	--	69
Minimum.....	63	64	63	61	62	65	65	65	67	69	71	67	67	62	60	59	59	58	59	58	61	62	62	64	66	65	67	66	67	68	--	64
July																																
Maximum.....	73	73	75	74	76	75	73	73	73	75	78	76	77	76	75	79	80	81	85	75	74	73	80	83	81	81	83	84	85	85	83	78
Minimum.....	70	66	67	66	66	68	68	65	67	70	73	71	72	72	71	71	71	73	71	73	71	71	73	77	75	70	69	71	74	76	78	71
August																																
Maximum.....	86	81	78	80	74	69	75	77	74	72	71	75	78	80	82	84	85	79	79	78	77	79	75	70	73	73	75	75	76	73	72	77
Minimum.....	77	70	65	67	69	68	69	69	71	71	71	69	70	70	71	73	75	74	71	71	72	72	66	66	66	66	69	71	72	71	69	70
September																																
Maximum.....	71	70	71	72	71	71	71	72	74	71	70	67	65	61	58	57	57	55	57	58	59	63	66	69	65	64	64	66	67	68	--	66
Minimum.....	68	69	70	70	68	66	67	66	69	68	66	60	59	57	55	54	53	52	49	49	53	57	61	64	62	57	59	63	64	66	--	61

1-1845. SCANTIC RIVER AT BROAD BROOK, CONN.

LOCATION.--At bridge on State Highway 140, 300 feet downstream from gaging station, 1 mile southwest of Broad Brook, Hartford County, and 8.2 miles upstream from mouth.
DRAINAGE AREA.--98.4 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1953 to September 1959.
Sediment records: November 1952 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 82°F Aug. 17; minimum, freezing point on several days during December, January and February.
Sediment concentrations: Maximum daily, 278 ppm Mar. 6; minimum daily, 2 ppm on several days during October and November.
Sediment loads: Maximum daily, 482 tons Mar. 6; minimum, 0.4 ton Oct. 18-22.
EXTREMES, 1953-59.--Water temperatures: 83°F Aug 2, 1955; minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 721 ppm Oct. 16, 1955; minimum daily, 1 ppm Jan. 22, 23, 1953.
Sediment loads: Maximum daily, 6,670 tons Aug. 19, 1955; minimum daily, 0.2 ton Aug. 23, 1953, July 25, 1954, Aug. 4, 1955, Oct. 26, 1956.
REMARKS.--Records of specific conductance of daily samples available in district office at Albany, N.Y. Records of discharge for water year October 1958 to September 1959 given in WSP 1621.

Temperature (°F) of water, water year October 1958 to September 1959

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	58	53	52	54	55	53	53	56	60	61	58	53	50	59	53	60	62	59	50	53	57	56	53	54	53	49	47	47	47	47	47	54
November...	47	44	43	45	47	49	49	45	45	45	45	45	47	47	50	50	49	51	51	51	48	45	40	45	43	40	40	42	38	33	--	45
December...	40	34	--	35	39	35	34	33	34	33	33	33	33	33	33	33	33	33	34	33	33	32	34	34	32	34	34	34	35	34	35	34
January....	32	34	35	35	32	32	32	32	33	32	32	32	34	35	35	34	32	32	32	34	35	36	32	32	34	34	33	33	34	34	34	33
February...	--	--	--	--	34	34	33	34	32	33	33	32	35	35	34	34	36	35	34	34	33	33	32	33	34	35	35	37	--	--	--	34
March.....	34	37	39	37	37	39	34	34	34	34	34	34	34	38	37	34	38	38	40	40	43	--	38	42	43	42	43	40	39	40	48	38
April.....	48	48	44	44	44	44	44	54	54	50	50	46	46	50	50	53	53	55	53	53	53	53	55	53	54	58	53	55	50	51	--	51
May.....	55	55	55	61	62	61	62	63	63	62	66	67	68	65	58	58	55	65	61	68	71	74	72	68	65	68	71	72	76	72	72	65
June.....	73	65	65	73	70	71	73	72	76	79	77	71	68	65	60	65	57	59	59	63	64	67	70	72	68	70	70	68	75	77	--	69
July.....	77	73	72	72	70	72	71	75	73	73	73	72	74	72	68	69	72	74	70	75	72	73	75	76	76	70	77	78	78	78	77	73
August.....	78	69	74	74	67	67	73	74	68	71	70	73	73	78	78	75	82	80	80	79	71	79	70	70	72	70	76	73	76	68	70	73
September..	74	75	74	73	72	70	75	70	75	75	70	66	62	64	63	63	60	59	58	53	57	65	70	72	70	67	63	70	71	71	--	68

CONNECTICUT RIVER BASIN--Continued

1-1845. SCANTIC RIVER AT BROAD BROOK, CONN.--Continued

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	144	29	s 12	104			459	22	27
2...	206	30	17	98	6	1.9	278	8	6.0
3...	181			146			212	10	5.7
4...	149	14	5.6	200	11	5.9	212	16	9.2
5...	115			193	5	2.6	212	11	8.1
6...	98			173	4	1.9	349	23	22
7...	87	4	1.0	144	2	.8	310	10	8.4
8...	84			125	2	.7	252	4	2.7
9...	81			130	4	1.4	206	6	b 3.3
10...	80		.8	175	6	2.8	158	9	3.8
11...	74	4		179	6	2.9	149	8	b 3.2
12...	70			157	5	2.1	148	7	2.8
13...	68			133	5	1.8	135	12	b 4.4
14...	67			122	2	.7	125	17	5.7
15...	68	4	.7	120	4	1.3	125	3	1.0
16...	69			119	4	1.3	126	5	1.7
17...	68			117	2	.6	126	11	3.7
18...	67			115	4	1.2	126	9	3.1
19...	66			118	6	1.9	123	5	1.7
20...	66	2	.4	120	2	.6	123	3	b 1.0
21...	66			118	3	1.0	103	4	1.2
22...	64			111	3	.9	108	11	3.2
23...	133	26	s 12	104	2	.6	105	8	2.3
24...	177	20	9.6	100	2	.5	105	12	2.4
25...	170	14	6.4	97	2	.5	96	10	2.6
26...	201	17	9.2	99	4	1.1	95	6	1.5
27...	187	12	6.1	122	4	1.3	86	2	.5
28...	161			146	8	3.2	88	4	1.0
29...	138	6	2.2	571	98	sa 154	89	9	2.2
30...	121			560	78	sa 116	90	5	1.2
31...	111			--	--	--	96	12	3.1
Total	3,437	--	109.8	4,816	--	315.3	5,080	--	145.7

	January			February			March		
1...	88	6	1.4	93	8	2.0	112	24	7.2
2...	200	30	sa 19	102	9	2.5	117	38	12
3...	232	18	11	81	8	a 1.7	163	34	15
4...	181	10	4.9	216	237	sa 135	343	58	sa 66
5...	138	8	3.0	238	100	a 64	388	68	a 71
6...	171	11	5.1	187	25	13	543	278	sa 482
7...	115	12	3.7	98	14	3.7	860	180	394
8...	89	4	1.0	105	10	2.8	572	64	99
9...	80	6	1.3	78	8	1.7	271	25	18
10...	71	6	1.2	98	14	3.7	212	18	10
11...	69			143	23	8.9	187	16	8.1
12...	69	7	1.3	135	15	5.5	162	10	4.4
13...	68			117	11	3.5	139	10	3.8
14...	69			112	22	a 6.7	144	11	4.3
15...	72	4	.8	407	80	sa 90	152	12	a 4.9
16...	131	19	sa 9.0	353	39	a 37	372	59	sa 69
17...	316	102	sa 89	252	34	23	488	82	a 108
18...	304	15	12	200	17	9.2	401	49	a 53
19...	222	12	7.2	146	15	b 5.9	278	28	21
20...	113	11	3.4	106	13	b 3.7	252	41	28
21...	146	19	sa 12	93	11	b 2.8	290	18	14
22...	717	211	sa 407	85	10	2.3	368	43	43
23...	669	75	sa 137	79	5	1.1	323	14	12
24...	379	24	a 25	78	4	.8	252	10	6.8
25...	206	9	5.0	82	8	1.8	219	8	4.7
26...	146	10	3.9	81	4	.9	200	12	6.5
27...	112	11	3.3	78	6	1.3	212	16	9.2
28...	114	24	7.4	88	6	1.4	212	8	4.6
29...	105	4	1.0	--	--	--	193	8	4.2
30...	113	9	2.7	--	--	--	193	6	3.1
31...	128	18	6.2	--	--	--	252	20	14
Total	5,633	--	788.2	3,931	--	435.9	8,870	--	1,600.8

s Computed by subdividing day.
a Computed from partly estimated-concentration graph.
b Computed from estimated-concentration graph.

1-1845. SCANTIC RIVER AT BROAD BROOK, CONN.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	278	17	13	297	14	11	59	8	1.3
2...	350	41	sa 45	252	10	6.8	85	51	sa 13
3...	782	136	sa 278	219	11	6.5	238	63	40
4...	977	107	sa 295	187	16	8.1	200	34	18
5...	582	34	52	163	11	4.8	148	28	11
6...	440	30	36	148	8	3.2	99	18	4.8
7...	388	19	20	139	8	3.0	94	21	5.3
8...	342	18	17	130	8	2.8	88	25	5.9
9...	310	18	15	125	8	2.7	76	20	4.1
10...	316	19	16	117	12	3.8	69	13	2.4
11...	401	25	27	113	8	2.4	62	18	3.0
12...	414	22	25	116	11	3.4	57	13	2.0
13...	362	12	12	136	12	4.4	67	23	4.2
14...	304	8	6.6	170	17	7.8	96	28	7.3
15...	264	9	6.4	161	12	5.2	95	23	5.9
16...	245	12	7.9	137	11	4.1	84	22	5.0
17...	226	8	4.9	117	12	3.8	78	12	2.5
18...	212	7	4.0	109	8	2.4	80	13	2.8
19...	206	8	4.4	102	8	2.2	92	16	4.0
20...	238	20	13	102	12	3.3	99	17	4.5
21...	264	12	8.6	99	8	2.1	87	18	4.2
22...	264	12	8.6	90	8	1.9	73	12	2.4
23...	219	8	4.7	82	8	1.8	79	16	3.4
24...	193	8	4.2	78	9	1.9	81	15	3.3
25...	175	10	4.7	79	12	2.6	73	12	2.4
26...	164	6	2.7	75	9	1.8	73	14	2.8
27...	178	9	4.3	71	11	2.1	94	28	7.1
28...	232	10	6.3	66	8	1.4	86	24	5.6
29...	297	14	11	64	8	1.4	80	18	3.9
30...	310	12	10	64	16	2.8	77	12	2.5
31...	--	--	--	67	14	2.5	--	--	--
Total	9,913	--	963.3	3,875	--	114.0	2,769	--	184.6
	July			August			September		
1...	58	11	1.7	57	6	0.9	336	70	64
2...	62	12	2.0	53	11	1.6	245	44	29
3...	63	14	2.4	50	5	.7	279	110	sa 100
4...	59	16	2.5	44	4	.6	414	123	137
5...	54	14	2.0	45	11	1.3	512	102	141
6...	52	9	1.3	58	14	2.2	363	42	41
7...	54	8	1.2	65	12	2.1	186	33	17
8...	52	8	1.1	61	10	1.6	122	26	8.6
9...	48	8	1.0	63	19	3.2	97	15	3.9
10...	46	10	1.2	143	84	sa 41	86	12	2.8
11...	69	20	3.7	166	54	s 27	79	14	3.0
12...	80	12	2.6	86	14	3.3	73	13	2.6
13...	72	17	3.3	66	12	2.1	69	9	1.7
14...	75	16	3.2	62	10	1.7	65	8	1.4
15...	91	24	5.9	57	8	1.2	63	10	1.7
16...	110	19	5.6	52	10	1.4	67	12	2.2
17...	86	12	2.8	50	6	.8	64	8	1.4
18...	69	10	1.9	50	7	.9	65	8	1.4
19...	65	10	1.8	54	8	1.2	63	5	.9
20...	122	31	10	57	8	1.2	62	6	1.0
21...	430	88	sa 105	50	6	.8	61	7	1.2
22...	342	68	63	51	10	1.4	60	6	1.0
23...	238	40	26	53	10	1.4	56	6	.9
24...	133	21	7.5	50	7	.9	54	6	.9
25...	108	20	5.8	51	6	.8	53	6	.9
26...	89	14	3.4	50	6	.8	53	5	.7
27...	76	11	2.3	44	4	.5	52	4	.6
28...	69	11	2.0	47	6	.8	50	12	1.6
29...	64	8	1.4	77	16	sa 4.2	58	11	1.7
30...	59	7	1.1	113	68	sa 20	63	6	1.0
31...	57	6	.9	323	151	s 131	--	--	--
Total	3,052	--	275.6	2,248	--	258.6	3,870	--	572.1

Total discharge for year (cfs-days) 57,494
Total load for year (tons) 5,763.9

s Computed by subdividing day.
a Computed from partly estimated-concentration graph.

CONNECTICUT RIVER BASIN--Continued

1-1845. SCANTIC RIVER AT BROAD BROOK, CONN.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Sampling point	Water temperature (°F)	Discharge (cfs)	Sediment concentration (ppm)	Suspended sediment											Method of analysis
						Percent finer than size indicated, in millimeters											
						0.001	0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Nov. 29, 1958 a.....	0600, 1400		38	624	234		28	38	50	64	76	87	93	96	100	--	BWC
Jan. 17, 1959 a.....	0730, 1700		32	313	140		31	56	74	83	87	91	93	97	99	100	BWC
Jan. 22 a.....	0730, 1600		36	351	269		20	31	41	56	65	77	84	95	96	100	BWC
Feb. 4 a.....	0730, 1915		35	238	283		25	39	57	71	81	88	93	99	100	100	BWC
Apr. 3 a.....	0730, 1830		44	746	131		11	22	32	43	52	65	77	99	100	100	BWC
Apr. 4 a.....	0730, 2130		44	962	69		2	14	19	27	35	46	60	100	100	100	BWC

a Composite sample.

1-1900. FARMINGTON RIVER AT RAINBOW, CONN.

LOCATION.--At dam of Farmington River Power Co., Hartford County, 0.4 miles upstream from gaging station and 0.6 mile downstream from Salmon Brook.
DRAINAGE AREA.--591 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1958.
Water temperatures: October 1957 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 80°F Aug. 16; minimum, freezing point Dec. 22.
EXTREMES, 1957-59.--Water temperatures: Maximum, 82°F July 2, 1958; minimum, freezing point Feb. 17, Dec. 22, 1958.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1621.

Temperature (°F) of water, water year October 1958 to September 1959

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	60	60	58	55	57	56	55	57	60	59	59	57	56	54	55	53	63	54	53	55	55	55	54	55	54	53	51	47	50	48	48	55
November...	47	46	48	44	46	47	46	45	45	45	44	45	45	45	46	46	47	49	50	51	49	48	46	46	43	44	42	41	39	36	--	47
December...	35	33	33	34	34	34	35	33	33	33	33	34	34	34	33	33	34	34	33	33	33	32	34	33	33	33	33	33	33	34	33	33
January....	33	34	33	33	33	33	33	33	33	33	33	33	34	33	33	34	33	33	33	34	33	33	33	34	34	33	33	33	33	34	33	33
February...	33	33	33	34	33	33	33	33	33	33	34	33	34	33	34	33	33	33	33	33	33	33	33	33	33	33	33	33	--	--	--	33
March.....	34	34	33	33	34	36	35	34	35	35	34	34	35	35	35	37	39	36	38	38	40	39	35	37	38	39	41	39	38	38	39	36
April.....	42	44	40	42	44	43	44	45	45	46	46	46	43	43	44	46	50	55	54	54	52	54	55	55	55	54	55	54	54	50	--	48
May.....	54	53	54	54	56	58	62	62	62	63	61	63	65	64	62	62	61	62	61	64	64	67	66	66	67	67	68	68	70	70	70	63
June.....	73	72	73	69	71	70	71	69	70	71	70	71	69	72	70	69	70	71	64	70	69	70	69	70	69	72	69	70	72	74	--	70
July.....	70	74	74	72	73	72	73	74	74	75	74	74	79	78	79	79	78	79	78	74	75	76	77	76	78	78	79	79	78	79	79	76
August.....	79	79	78	78	76	77	77	76	78	72	72	76	76	74	76	80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
September..	77	78	78	78	78	75	74	73	76	75	76	74	74	71	72	71	66	64	65	64	64	68	70	71	70	73	71	70	71	70	--	72

HOUSATONIC RIVER BASIN

1-1990. HOUSATONIC RIVER AT FALLS VILLAGE, CONN.

LOCATION.--At dam upstream from hydroelectric plant of Connecticut Power Co., and about 1.1 miles upstream from gaging station at Falls Village, Litchfield County.
DRAINAGE AREA.--632 square miles, upstream from gaging station.
RECORDS AVAILABLE.--Chemical analyses: October 1955 to September 1956.
Water temperatures: October 1955 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 79°F July 21-23; minimum, freezing point on many days during winter months.
EXTREMES, 1955-59.--Water temperatures: Maximum, 81°F June 20, 1957; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1621.

Chemical analysis, in parts per million, September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Sept. 30, 1959.....	575	1.8	0.03	32	14	11	2.2	148	22	9.8	0.3	2.0	168	138	16	316	7.0	5

Temperature (°F) of water, water year October 1958 to September 1959

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	57	53	51	51	51	51	50	50	53	54	53	53	52	49	49	49	--	55	53	51	51	50	56	52	52	48	46	45	45	45	45	51
November...	45	45	44	44	43	42	43	43	43	43	43	43	42	44	44	47	46	47	49	48	46	44	42	41	40	40	38	37	36	32	--	43
December...	32	32	32	32	34	34	33	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
January....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
February...	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	32	32	32	32	32	32	32	32	32	32	32	32	32	--	--	--	32
March.....	32	32	32	32	32	--	35	32	33	33	32	32	32	32	33	35	35	35	35	35	34	33	32	32	33	33	33	33	33	33	33	33
April.....	35	37	38	38	38	40	40	42	44	44	43	43	38	41	43	47	48	48	45	46	46	47	47	47	48	49	51	49	50	51	--	44
May.....	51	51	51	50	49	56	58	60	59	58	60	63	65	63	60	58	55	55	57	58	62	65	67	67	67	67	67	69	70	72	70	61
June.....	72	72	70	68	68	67	68	71	72	74	75	75	74	70	65	62	60	59	59	59	61	65	65	67	69	68	69	69	72	75	--	68
July.....	75	73	73	74	74	73	73	75	75	74	72	72	72	71	72	72	72	73	74	74	79	79	79	77	76	75	74	73	73	73	73	76
August.....	74	74	74	76	75	73	72	70	71	73	72	73	73	72	72	73	72	72	72	70	69	70	70	68	70	69	70	69	68	68	68	71
September..	74	74	74	74	74	74	74	74	75	75	75	72	71	65	64	64	62	60	56	62	63	64	64	65	65	65	66	66	66	68	--	68

1-2000. TENMILE RIVER NEAR GAYLORDSVILLE, CONN.

LOCATION.--At bridge, approximately 0.2 mile upstream from gaging station, 1.4 miles upstream from New York-Connecticut State line, and 3 miles northwest of Gaylordsville, Litchfield County.
DRAINAGE AREA.--204 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1959.
Water temperatures: October 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 218 ppm Sept. 11-30; minimum, 131 ppm Feb. 13-20.
Hardness: Maximum, 198 ppm Oct. 1-25; minimum, 64 ppm Feb. 11-12.
Specific conductance: Maximum daily, 432 micromhos Sept. 29; minimum daily, 127 micromhos Feb. 11.
Water temperatures: Maximum, 79°F Aug. 17; minimum, 33°F on many days during winter months.
REMARKS.--Records of specific conductance and pH of daily samples available in district office at Albany, N.Y. Records of discharge for water year October 1958 to September 1959 given in WSP 1621.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color	Oxygen consumed: Filtered	Oxygen consumed: Unfiltered
Oct. 1-25, 1958.	135	10	0.10	43	22	6.0	2.4	215	24	9.0	0.2	2.1	212	198	22	361	7.5	5	4	5
Oct. 26-31.....	892	11	.13	27	14	3.5	2.2	123	20	5.0	.2	1.8	151	125	24	247	7.3	12	4	6
Nov. 1-20.....	487	9.3	.07	34	14	3.7	1.6	146	22	5.6	.2	2.0	164	143	23	286	7.5	4	--	--
Nov. 21-30.....	405	7.5	.07	35	15	3.7	1.4	157	22	5.3	.1	2.4	172	149	21	300	7.6	5	--	--
Dec. 1-20.....	334	11	.08	35	15	4.0	1.4	157	21	5.0	.0	2.7	170	149	21	289	7.8	3	--	--
Dec. 21-31.....	133	6.0	.07	41	17	4.6	1.4	174	24	8.0	.0	4.8	197	173	30	338	7.8	3	--	--
Jan. 1-20, 1959.	160	6.6	.08	40	16	3.8	3.8	164	25	8.0	.1	7.2	194	166	32	332	7.0	7	3	4
Jan. 21.....	550	--	.16	--	--	3.7	--	164	21	12	--	6.7	--	171	37	342	7.1	7	--	--
Jan. 22, 23.....	1,975	--	.19	--	--	3.7	--	73	14	5.6	--	6.9	--	80	20	174	6.6	7	--	--
Jan. 24-31.....	268	8.6	.08	32	13	3.8	2.9	135	21	8.0	.1	4.6	163	134	23	277	7.2	7	2	3
Feb. 1-4.....	264	--	.10	--	--	9.0	--	145	24	8.5	--	9 2	--	144	25	298	7.5	--	--	--
Feb. 5.....	350	--	.19	--	--	4.8	--	60	18	4.4	--	7.5	--	69	20	159	6.9	--	--	--
Feb. 6-10.....	457	5.7	.11	29	11	3.3	2.6	116	19	5.7	.2	9.4	140	118	23	242	7.2	6	--	--
Feb. 11-12.....	994	--	.13	--	--	6.0	--	62	14	3.4	--	7.8	--	64	13	142	7.2	--	--	--
Feb. 13-20.....	442	7.0	.13	26	11	3.5	2.3	103	18	5.9	.3	9.3	131	110	26	218	7.2	8	--	--
Feb. 21-28.....	132	7.6	.09	36	16	4.8	1.8	154	23	8.8	.2	11	177	156	30	307	7.5	5	--	--
Mar. 1-20.....	520	9.6	.12	28	12	3.9	2.9	118	18	5.7	.1	4.7	153	120	23	248	7.4	2	--	--
Mar. 21-31.....	429	9.7	.14	29	11	3.3	2.0	123	18	4.7	.1	3.3	144	118	17	250	7.5	2	--	--
Apr. 1-30.....	502	6.7	.04	30	13	3.0	1.9	131	17	5.0	.2	2.5	165	129	21	258	7.2	5	2	4
May 1-31.....	210	6.7	.10	37	13	3.9	1.8	156	18	6.1	.0	2.2	170	146	18	297	7.6	8	--	--
June 1-30.....	122	12	.06	39	15	5.7	2.0	174	17	7.0	.1	3.5	198	159	17	330	7.6	4	--	--
July 1-20.....	66	--	.03	--	--	6.9	--	190	22	8.5	--	2.8	--	178	23	358	7.6	7	--	--
July 21-23.....	322	--	.10	--	--	7.6	--	140	22	5.0	--	2.5	--	130	16	272	7.3	14	--	--
July 24-31.....	93	--	.03	--	--	5.8	--	180	19	8.0	--	1.8	--	168	21	337	7.6	9	--	--
Aug. 1-31.....	57	--	.04	--	--	5.3	--	191	21	8.1	--	1.7	--	180	24	363	7.8	--	--	--
Sept. 1-10.....	139	28	.16	36	15	7.7	3.3	173	20	6.0	.1	2.4	210	152	10	332	7.6	13	--	--
Sept. 11-30.....	37	11	.11	42	19	7.7	3.0	206	21	8.2	.2	3.2	218	183	14	388	7.8	5	--	--
Time-weighted average.....	269	9.5	0.08	36	15	4.5	2.2	161	20	6.8	0.1	3.6	179	154	21	309	--	6	--	--

HOUSATONIC RIVER BASIN--Continued

1-2000. TENMILE RIVER NEAR GAYLORDSVILLE, CONN.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
/Once-daily measurement at approximately 10 a.m./

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	57	56	57	53	54	50	49	52	56	57	57	52	50	46	50	54	56	56	51	49	49	51	54	56	56	46	45	47	48	46	45	52
November...	46	44	44	40	43	46	47	44	42	47	40	45	45	47	47	51	49	49	53	47	47	44	41	41	40	41	40	39	38	33	--	44
December...	33	34	35	37	38	37	34	33	34	33	33	33	33	33	34	33	33	35	35	35	35	33	34	33	35	34	33	34	35	36	33	34
January....	35	35	38	36	33	33	33	34	33	34	33	33	34	35	34	34	34	34	33	34	34	35	35	33	35	33	35	34	35	36	34	34
February...	34	33	34	34	34	33	34	35	34	34	34	34	34	34	35	33	36	36	34	34	33	33	34	35	34	35	36	35	--	--	--	34
March.....	36	36	37	38	35	38	35	35	35	36	36	33	37	35	37	37	36	36	36	39	41	39	35	40	41	43	43	38	37	39	41	37
April.....	42	41	43	41	44	45	45	47	50	49	46	46	42	47	47	48	58	54	52	52	49	48	50	50	54	54	54	48	48	51	--	48
May.....	52	51	52	54	57	58	59	60	56	56	59	64	65	60	59	54	54	60	56	61	58	65	67	57	59	69	69	73	68	69	69	60
June.....	71	64	62	69	67	65	68	68	70	72	72	68	68	63	58	58	57	57	58	63	65	66	66	66	68	65	70	69	71	73	--	66
July.....	74	68	68	71	71	69	67	68	68	72	71	73	73	72	68	67	70	73	75	74	73	72	75	74	73	70	76	72	73	73	75	72
August.....	76	70	67	67	67	64	65	67	67	68	70	70	71	73	73	75	79	78	74	74	74	74	71	67	68	68	73	74	78	75	73	71
September..	73	73	75	73	70	69	69	70	72	74	71	63	73	59	59	56	59	59	53	53	55	62	65	64	66	62	61	66	68	74	--	66

1-2015. STILL RIVER NEAR LANESVILLE, CONN.

LOCATION.--At gaging station at highway bridge, 0.2 mile east of U.S. Highway 7, 1.1 miles south of Lanesville, Litchfield County, 3 miles upstream from mouth, and 4 miles south of New Milford.
DRAINAGE AREA.--68.5 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1959.
Water temperatures: October 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 214 ppm Sept. 11-30; minimum, 98 ppm Feb. 11-17.
Hardness: Maximum, 135 ppm Aug. 1; minimum, 53 ppm Nov. 30.
Specific conductance: Maximum daily, 415 micromhos Sept. 25; minimum daily, 108 micromhos Mar. 7.
Water temperatures: Maximum, 81°F July 21; minimum, freezing point on many days during December to March.
REMARKS.--Records of specific conductance and pH of daily samples available in district office at Albany, N.Y. Records of discharge for water year October 1958 to September 1959 given in WSP 1621.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color	Oxygen consumed: Filtered	Oxygen consumed: Unfiltered
Oct. 1-2, 1958..	124	--	0.36	--	--	23	--	78	42	11	--	5.8	--	78	14	250	6.8	--	--	--
Oct. 3-20.....	45	11	.36	30	13	11	3.7	105	38	14	0.1	10	193	129	43	302	7.2	7	5	6
Oct. 21-23.....	46	--	.29	--	--	25	--	105	42	15	--	14	--	108	22	313	7.2	--	--	--
Oct. 24-26.....	165	--	.35	--	--	8.7	--	89	32	12	--	3.4	--	107	34	255	7.1	--	--	--
Oct. 27-28.....	538	--	.46	--	--	6.0	--	53	24	6.8	--	3.7	--	68	25	166	7.1	--	--	--
Oct. 29-31.....	179	12	.35	23	9.7	7.5	2.9	64	37	8.0	.1	6.9	148	98	45	225	7.0	17	--	16
Nov. 1-20.....	136	11	.30	23	8.1	7.4	2.3	80	30	8.5	.2	5.8	137	91	26	224	6.9	7	--	--
Nov. 21-29.....	114	11	.31	26	8.5	9.4	2.6	88	28	10	.3	7.0	149	100	28	248	7.0	5	--	--
Nov. 30.....	465	--	.29	--	--	9.0	--	43	28	6.0	--	--	--	53	18	144	6.8	--	--	--
Dec. 1-20.....	129	11	.23	22	8.5	8.0	2.2	74	30	9.0	.0	6.4	137	90	30	220	6.8	7	--	--
Dec. 21-31.....	60	9.9	.26	27	10	11	2.8	89	36	12	.1	11	162	109	36	260	6.8	5	--	--
Jan. 1-2, 1959..	128	--	.21	--	--	15	--	80	32	15	--	12	--	97	32	262	6.4	7	--	--
Jan. 3-4.....	184	--	.21	--	--	8.7	--	54	20	8.2	--	7.4	--	64	20	173	6.6	7	--	--
Jan. 5-17.....	69	11	.24	30	9.3	11	3.6	65	49	14	.1	25	183	113	60	285	6.6	7	3	6
Jan. 18.....	114	--	.28	--	--	11	--	54	25	10	--	8.5	--	68	24	192	6.5	7	--	--
Jan. 19-20.....	78	--	.24	--	--	8.0	--	75	25	10	--	10	--	92	31	224	6.6	7	--	--
Jan. 21-22.....	186	--	.28	--	--	14	--	60	36	20	--	8.4	--	90	41	273	6.5	7	--	--
Jan. 23-24.....	156	--	.24	--	--	9.2	--	41	25	10	--	9.2	--	61	28	171	6.4	7	--	--
Jan. 25-31.....	62	17	.26	24	9.2	11	3.2	82	33	9.6	.2	9.9	172	98	31	263	6.7	7	4	4
Feb. 1-4.....	70	--	.24	--	--	14	--	78	33	13	--	14	--	99	35	256	6.8	--	--	--
Feb. 5.....	274	--	.30	--	--	9.2	--	37	23	11	--	6.0	--	55	25	163	6.7	--	--	--
Feb. 6-10.....	98	10	.13	20	7.9	11	3.3	69	27	11	.2	8.5	136	83	26	216	6.5	6	--	--
Feb. 11-17.....	245	6.5	.26	14	5.2	6.9	2.7	35	26	8.5	.1	7.7	98	57	28	153	6.4	8	--	--
Feb. 18-20.....	96	--	.21	--	--	9.0	--	58	32	8.6	--	9.0	--	81	34	203	6.6	--	--	--
Feb. 21-28.....	50	8.5	.26	25	9.0	14	2.7	77	34	16	.2	13	172	100	37	259	6.7	6	--	--

1-2015. STILL RIVER NEAR LANESVILLE, CONN.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color	Oxygen consumed: Filtered	Oxygen consumed: Unfiltered
Mar. 1-6, 1959..	136	21	0.25	22	9.9	12	3.3	80	29	13	0.1	8.7	159	96	30	244	7.2	27	--	--
Mar. 7-8.....	696	--	.24	--	--	8.0	--	31	16	4.3	--	12	--	40	15	108	6.4	--	--	--
Mar. 9-10.....	178	--	.16	--	--	9.0	--	58	26	6.8	--	7.8	--	71	24	179	6.6	--	--	--
Mar. 11-31.....	147	12	.27	21	7.1	8.6	2.3	64	31	8.7	.1	8.7	137	82	29	212	6.9	6	--	--
Apr. 1-30.....	181	9.2	.23	23	8.0	7.1	2.4	66	34	8.0	.2	7.1	144	91	37	208	6.7	10	2	6
May 1-23.....	92	7.4	.32	24	8.7	8.5	2.5	85	25	9.1	.2	7.5	146	96	27	234	6.8	7	--	--
May 24.....	48	--	1.1	--	--	15	--	97	50	12	--	12	--	124	45	338	6.7	--	--	--
May 25-26.....	46	--	.34	--	--	10	--	92	25	10	--	12	--	103	28	255	7.2	--	--	--
May 27-31.....	41	--	.27	--	--	14	--	62	63	14	--	16	--	119	68	326	6.6	--	--	--
June 1-10.....	93	14	.40	24	7.9	10	2.5	79	30	9.5	.1	13	162	93	28	246	6.7	10	--	--
June 11-14.....	50	--	.38	--	--	16	--	68	52	15	--	19	--	112	57	306	6.8	--	--	--
June 15-16.....	53	--	.37	--	--	9.4	--	87	20	9.5	--	12	--	95	24	228	7.2	--	--	--
June 17-24.....	47	9.6	.29	28	9.5	14	3.1	75	50	15	.1	17	205	109	48	301	7.1	12	--	--
June 25-30.....	92	14	.33	24	6.9	9.6	2.5	84	24	8.6	.1	10	153	89	20	233	7.2	13	--	--
July 1-8.....	62	--	.27	--	--	5.5	--	88	34	12	--	12	--	122	50	275	6.7	10	--	--
July 9-11.....	68	--	.18	--	--	14	--	80	58	18	--	11	--	130	65	320	6.6	18	--	--
July 12-15.....	80	--	.20	--	--	9.9	--	99	32	10	--	7.3	--	113	32	261	6.8	15	--	--
July 16-31.....	43	--	.18	--	--	13	--	96	48	16	--	11	--	131	53	325	6.8	15	--	--
Aug. 1	76	--	.27	--	--	18	--	54	85	19	--	18	--	135	91	377	6.8	--	--	--
Aug. 2-9.....	33	--	.27	--	--	11	--	96	38	13	--	9.7	--	121	43	299	6.9	--	--	--
Aug. 10.....	86	--	.28	--	--	6.7	--	77	20	5.8	--	4.6	--	81	18	200	6.9	--	--	--
Aug. 11-20.....	38	--	.25	--	--	12	--	84	48	13	--	8.8	--	118	49	298	6.9	--	--	--
Aug. 21-30.....	38	--	.28	--	--	16	--	98	48	13	--	11	--	123	43	315	7.0	--	--	--
Aug. 31.....	54	--	.32	--	--	6.7	--	82	23	7.6	--	11	--	96	29	226	6.8	--	--	--
Sept. 1-10.....	63	18	.37	26	8.8	12	3.6	96	27	10	.3	9.9	172	101	23	271	6.9	15	--	--
Sept. 11-30.....	27	9.5	.27	31	11	19	4.6	80	58	18	.3	16	214	123	57	354	6.7	10	--	--
Time-weighted average.....	101	11	0.28	--	--	10	--	79	36	12	0.2	10	159	102	37	257	--	9	--	--

1-2015. STILL RIVER NEAR LANESVILLE, CONN.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 9 a.m.)

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	59	55	52	54	56	53	50	52	55	59	55	58	51	47	51	54	58	58	53	50	59	56	59	58	54	49	57	48	48	56	41	54
November...	56	45	43	40	39	38	47	45	45	56	46	46	45	47	49	51	50	50	54	50	47	45	39	40	42	41	42	45	42	37	--	45
December...	35	35	32	32	39	42	32	32	36	32	36	33	36	35	35	32	32	32	32	32	35	35	32	35	35	35	34	34	35	35	35	34
January....	33	32	33	35	35	33	35	35	33	35	33	35	35	33	33	35	35	35	33	33	33	35	35	34	36	35	35	33	34	32	37	34
February...	34	34	35	34	35	36	34	35	33	36	36	35	36	36	35	34	37	37	37	32	33	35	35	35	35	35	35	38	--	--	--	35
March.....	40	38	38	35	36	41	32	32	32	38	37	37	32	32	37	38	37	39	32	40	45	42	37	40	42	45	42	40	36	42	42	38
April.....	42	42	45	46	45	50	48	51	55	55	50	46	49	49	50	53	55	51	49	55	53	52	48	50	56	51	51	50	50	50	--	50
May.....	52	55	52	55	56	57	61	62	51	57	59	69	68	63	57	52	58	55	58	61	65	71	71	62	60	62	64	70	72	72	72	61
June.....	67	63	60	70	63	69	62	63	72	79	76	72	69	65	60	60	60	58	60	61	67	68	69	70	61	70	69	71	72	76	--	67
July.....	72	75	75	71	70	70	71	62	71	68	71	78	79	78	71	69	69	70	79	72	81	71	76	72	77	75	72	78	75	75	71	73
August.....	76	69	71	68	70	72	61	67	68	69	72	67	79	70	75	76	79	71	72	75	77	78	78	73	--	69	74	75	78	76	75	73
September..	75	76	76	75	72	73	72	72	--	73	72	66	63	60	60	53	--	58	55	58	51	61	65	68	67	59	63	66	70	71	--	66

HOUSATONIC RIVER BASIN--Continued

1-2030. SHEPAUG RIVER NEAR ROXBURY, CONN.

LOCATION.--At gaging station at Wellers highway bridge on Wellers Bridge road, 0.5 mile south of Roxbury Station, 1.2 miles southwest of village of Roxbury, Litchfield County, and 2.4 miles upstream from Jack's Brook.
DRAINAGE AREA.--133 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1959.
Water temperatures: October 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 75 ppm Sept. 1-30; minimum, 51 ppm Mar. 11-31.
Hardness: Maximum, 62 ppm July 11-12; minimum, 20 ppm Mar. 7-8.
Specific conductance: Maximum daily, 478 micromhos Oct. 23; minimum, 55 micromhos Mar. 7.
Water temperatures: Maximum, 77°F Aug. 17; minimum, freezing point Dec. 14.
REMARKS.--Records of specific conductance and pH of daily samples available in district office at Albany, N.Y. Records of discharge for water year October 1958 to September 1959 given in WSP 1621.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color	Oxygen consumed	
														Calcium, magnesium	Noncarbonate				Filtered	Unfiltered
Oct. 1-17, 1958.	191	7.8	0.15	11	2.5	3.3	1.2	36	11	3.8	0.0	0.8	69	38	9	96	6.9	10	5	8
Oct. 18-22.....	92	--	.14	--	--	7.6	--	58	17	4.0	--	.3	--	54	7	136	7.3	--	--	--
Oct. 23.....	193	--	.39	--	--	57	--	45	85	32	--	1.1	--	48	11	478	6.8	--	--	--
Oct. 24-31.....	559	9.3	.20	9.3	2.2	3.1	1.8	29	12	3.9	.1	.9	68	32	8	89	7.0	27	6	9
Nov. 1-20.....	338	6.8	.10	8.4	3.2	2.6	1.1	27	12	3.9	.3	.5	55	34	12	85	6.8	7	--	--
Nov. 21-30.....	331	5.7	.10	8.2	3.0	2.6	1.1	26	12	3.1	.2	.6	54	33	12	83	6.9	5	--	--
Dec. 1-20.....	274	6.2	.05	8.2	3.3	2.6	.9	25	14	3.8	.1	.8	57	34	14	82	6.9	8	--	--
Dec. 21-31.....	137	5.6	.05	9.2	3.2	2.6	.9	27	15	4.0	.0	.8	58	36	14	86	7.0	6	--	--
Jan. 1-18, 1959.	139	6.1	.09	10	2.9	2.9	2.2	29	13	6.0	.1	1.9	65	37	13	97	6.5	7	3	5
Jan. 19.....	140	--	.18	--	--	8.0	--	44	16	6.6	--	4.1	--	48	12	142	6.2	7	--	--
Jan. 20.....	160	--	.12	--	--	4.8	--	30	14	6.0	--	2.3	--	39	15	103	6.3	7	--	--
Jan. 21-31.....	358	7.6	.11	8.0	2.5	3.1	2.3	25	12	5.0	.1	1.8	58	31	10	87	6.2	7	4	6
Feb. 1-20.....	360	4.9	.14	7.0	4.0	3.3	2.0	24	12	5.3	.0	2.1	53	34	15	80	6.2	12	--	--
Feb. 21-28.....	111	5.7	.10	8.4	3.7	3.8	1.6	28	12	5.7	.2	3.8	58	36	13	88	6.4	12	--	--
Mar. 1-6.....	517	6.3	.10	8.2	3.7	3.4	2.6	24	14	5.2	.1	3.7	61	36	16	92	6.5	16	--	--
Mar. 7-8.....	757	--	.12	--	--	4.8	--	18	9.5	3.0	--	1.8	--	20	5	59	6.0	--	--	--
Mar. 9-10.....	390	--	.14	--	--	9.2	--	23	13	4.8	--	4.4	--	23	4	79	6.5	--	--	--
Mar. 11-31.....	411	5.7	.14	7.2	3.2	2.7	1.9	23	12	3.7	.0	5.6	51	31	12	74	6.7	14	--	--
Apr. 1-14.....	644	11	.08	7.2	4.6	3.5	1.9	28	10	5.0	.3	1.8	65	37	14	86	6.6	15	3	4
Apr. 15.....	446	--	.06	--	--	7.6	--	52	12	5.0	--	.8	--	46	4	123	7.3	--	--	--
Apr. 16-30.....	398	5.4	.05	7.2	4.3	2.6	1.7	26	10	5.0	.2	1.2	55	35	14	82	6.8	10	2	3
May 1-27.....	196	4.9	.09	8.8	3.2	2.8	1.6	30	11	3.9	.1	1.0	56	35	11	88	6.7	21	--	--
May 28-31.....	37	--	.12	--	--	4.8	--	46	13	5.0	--	.8	--	48	11	119	6.7	--	--	--

June 1, 1959....	34	--	.14	--	--	10	--	a65	11	3 4	--	1.2	--	48	0	138	8.3	--	--	--
June 2-30.....	102	7.1	.19	9.5	3.2	3.6	1.5	37	11	4.2	.1	2.2	65	37	6	97	6.9	6	--	--
July 1-10.....	44	--	.12	--	--	1.2	--	39	10	5.4	--	.7	--	48	16	98	6.9	6	--	--
July 11-12.....	48	--	.10	--	--	9.9	--	67	19	6.0	--	.2	--	62	7	144	7.7	10	--	--
July 13-31.....	120	--	.12	--	--	4.4	--	37	17	3.7	--	.7	--	44	14	97	6.8	12	--	--
Aug. 1-4.....	69	--	.12	--	--	3.7	--	40	13	3.8	--	.2	--	44	11	102	6.8	--	--	--
Aug. 5.....	81	--	.11	--	--	8.0	--	66	14	3.4	--	.0	--	56	2	141	7.8	--	--	--
Aug. 6-12.....	106	--	.14	--	--	4.4	--	41	16	3.8	--	.2	--	46	13	101	6.9	--	--	--
Aug. 13.....	62	--	.14	--	--	7.8	--	60	16	2.4	--	.1	--	52	3	130	7.5	--	--	--
Aug. 14-29.....	30	--	.13	--	--	3.0	--	44	10	4.5	--	.4	--	47	11	108	6.9	--	--	--
Aug. 30-31.....	28	--	.10	--	--	5.8	--	59	10	4.8	--	.4	--	54	6	133	7.4	--	--	--
Sept. 1-30.....	48	9.3	.16	10	4.4	3.9	1.8	47	9.4	3.0	.1	.8	75	43	5	117	6.9	5	--	--
Time weighted average.....	229	6.6	0.12	--	--	3.0	--	33	12	4.3	0.1	1.5	59	38	11	95	--	10	--	--

a Includes equivalent of 4 parts per million of carbonate (CO_3).

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 7:30 a.m.)

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	56	52	52	--	54	49	47	52	55	52	58	50	48	44	49	54	56	54	48	46	47	49	54	56	51	47	48	47	47	45	43	50
November...	42	42	42	41	43	46	43	41	44	45	43	43	42	46	47	49	47	48	51	43	44	41	37	39	38	--	39	36	39	33	--	43
December...	33	34	34	35	37	35	33	33	33	--	33	33	33	32	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	34	33	33
January....	33	33	33	34	33	33	33	33	33	33	33	33	33	33	33	34	33	33	33	35	35	37	35	34	34	34	33	33	33	35	34	34
February...	33	33	33	33	34	34	34	34	36	35	34	35	35	34	34	34	34	35	33	33	33	33	33	33	33	33	33	33	--	--	--	34
March.....	34	34	35	35	34	37	35	33	34	35	33	33	33	33	36	37	34	33	33	35	36	34	33	35	38	40	40	38	33	38	39	35
April.....	38	41	38	41	38	44	39	43	45	47	44	59	40	41	43	44	47	49	50	51	47	45	46	46	50	52	52	47	46	49	--	45
May.....	49	49	50	51	52	55	58	58	53	54	55	63	65	60	55	52	53	54	57	59	67	68	67	63	56	59	60	67	68	70	68	59
June.....	65	65	60	63	66	62	64	65	68	70	72	67	66	61	55	57	57	56	59	58	64	66	66	65	68	65	69	69	68	68	--	64
July.....	68	70	66	67	67	69	66	65	67	71	70	72	72	69	67	67	69	70	73	75	73	73	73	75	72	68	--	71	72	74	74	70
August.....	74	70	64	64	68	64	64	67	69	69	69	70	70	72	73	75	77	76	73	74	76	75	70	69	67	67	73	74	75	75	73	71
September..	73	72	73	72	68	67	68	67	74	74	69	62	59	57	57	58	54	53	51	53	56	61	65	67	67	61	60	65	70	70	--	64

HUDSON RIVER BASIN

1-3277. HUDSON RIVER AT HUDSON FALLS, N. Y.

LOCATION.--West shore of river at Arkell and Smith Manufacturers, Hudson Falls, Saratoga County.
DRAINAGE AREA.--3,491 square miles, approximately.
RECORDS AVAILABLE.--Water temperatures: November 1957 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 79°F Aug. 21, Sept. 2, 3; minimum, not determined.
EXTREMES, 1957-59.--Water temperatures: Maximum, 79°F Aug. 21, Sept. 2, 3, 1959; minimum, freezing point Feb. 17, 18, 1958.

Temperature (°F) of water, water year October 1958 to September 1959
[Once-daily measurement at approximately 9 a.m.]

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	67	62	62	62	64	60	60	59	61	60	60	59	57	56	58	60	60	55	58	57	55	55	56	56	56	55	55	55	55	55	50	58
November...	50	49	49	49	48	52	50	49	51	50	51	50	49	51	50	50	49	46	47	47	47	49	49	48	47	45	43	42	44	38	--	48
December...	37	38	38	35	38	37	34	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
April.....	--	--	--	--	--	--	--	--	--	--	--	--	--	38	40	42	43	45	47	42	46	46	45	47	46	46	47	48	48	48	--	--
May.....	49	48	48	49	50	50	54	55	56	58	59	60	59	60	60	59	58	59	60	59	62	62	62	62	62	65	66	66	--	66	66	58
June.....	68	68	68	67	68	68	68	68	69	69	70	72	74	72	68	66	66	66	65	64	66	66	66	66	67	69	68	68	70	70	--	68
July.....	70	69	70	70	74	74	74	74	75	74	--	--	74	76	75	75	75	76	77	77	77	76	77	76	76	75	74	77	77	78	78	75
August.....	77	75	74	75	76	74	73	74	74	73	73	73	74	73	73	74	78	78	77	78	79	78	77	76	75	76	76	76	76	76	78	75
September..	78	79	79	78	76	74	76	77	78	76	75	74	74	72	72	71	67	65	65	65	64	66	65	67	66	67	68	70	70	74	--	72

1-3300. GLOWEGEE CREEK AT WEST MILTON, N.Y.

LOCATION.--Temperature recorder at highway bridge, 0.5 mile south of West Milton, Saratoga County, 1.5 miles upstream from Kayaderosseras Creek, and 4 miles northeast of Ballston Spa.
DRAINAGE AREA.--26.0 square miles.
RECORDS AVAILABLE.--Chemical analyses: March 1953 to September 1956.
Water temperatures: March 1953 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 79°F Sept. 3; minimum, freezing point on many days during winter months.
EXTREMES, 1953-59.--Water temperatures: Maximum, 81°F July 18, 1953; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, December 1958 to July 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Dec. 30, 1958.....	8.9	7.9	0.09	30	12	3.6	0.7	123	18	7.0	0.1	0.9	146	125	24	242	7.3	5
Mar. 30, 1959.....	62	6.1	.06	22	8.4	3.6	.8	94	15	6.0	.1	1.0	112	90	13	196	7.2	10
July 1.....	2.6	6.9	.19	30	11	4.1	1.1	136	12	5.0	.2	1.1	139	120	9	260	7.2	6

Temperature (°F) of water, water year October 1958 to September 1959
/Continuous water-stage recorder with thermograph/

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	52	52	50	52	52	49	47	50	57	58	58	53	49	46	47	52	54	53	48	46	44	45	47	48	48	45	43	45	44	44	43	49
Minimum.....	52	48	46	49	49	45	43	46	51	54	54	48	46	43	44	47	52	47	43	43	42	42	45	47	45	42	42	43	44	41	41	46
November																																
Maximum.....	42	40	39	39	40	42	40	39	40	40	40	40	39	41	42	43	42	42	44	43	40	38	37	36	36	37	37	34	36	35	--	39
Minimum.....	40	38	38	37	37	38	39	37	38	39	39	38	37	39	41	42	41	41	42	40	38	36	35	36	33	34	34	32	32	34	--	38
December																																
Maximum.....	35	35	34	34	34	35	35	35	34	34	34	34	33	33	33	33	33	33	32	33	34	34	33	33	34	34	34	33	33	32	33	34
Minimum.....	34	34	33	33	33	34	34	34	33	33	33	33	33	33	33	33	33	32	32	32	33	33	32	32	33	33	33	32	32	32	32	33
January																																
Maximum.....	33	33	32	33	34	34	33	33	33	33	33	34	33	32	32	32	33	33	33	33	33	32	32	32	32	33	32	32	32	32	32	33
Minimum.....	33	32	32	32	33	33	32	33	33	33	33	33	32	32	32	32	32	32	33	32	32	32	32	32	32	32	32	32	32	32	32	32
February																																
Maximum.....	33	33	33	32	32	32	32	32	32	32	33	34	33	32	33	33	32	32	34	34	34	34	33	33	34	33	32	33	--	--	--	33
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	32	33	32	32	32	32	32	--	--	--	32
March																																
Maximum.....	33	33	33	33	33	33	32	32	32	32	33	32	32	32	32	32	32	32	32	32	32	33	33	32	32	32	32	32	33	32	33	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32

HUDSON RIVER BASIN--Continued

1-3300. GLOWEGEE CREEK AT WEST MILTON, N.Y.--Continued

Temperature (°F) of water, water year October 1958 to September 1959--Continued

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
April																																
Maximum.....	34	33	36	36	38	38	38	40	40	40	41	40	42	44	46	49	51	51	54	52	48	50	52	54	56	54	49	46	50	49	--	45
Minimum.....	32	32	33	34	34	36	34	37	38	38	40	38	36	38	39	41	44	45	46	44	41	41	43	44	48	49	44	43	42	46	--	40
May																																
Maximum.....	50	49	56	58	58	62	63	63	61	60	64	61	60	60	56	54	52	57	52	62	63	67	65	55	60	62	68	71	72	73	74	61
Minimum.....	46	45	46	47	50	51	56	55	50	50	55	56	56	54	48	46	46	45	50	53	59	60	55	53	50	56	60	64	64	67	65	53
June																																
Maximum.....	68	64	67	71	74	72	69	74	78	76	78	76	74	69	61	59	58	58	63	71	73	71	70	71	69	70	74	74	75	75	--	70
Minimum.....	63	60	59	62	64	66	64	64	68	69	62	68	68	61	56	54	57	56	57	58	65	66	64	63	66	67	69	71	72	73	--	64
July																																
Maximum.....	74	70	67	67	71	69	67	69	69	68	69	69	68	68	68	68	69	69	68	67	68	68	69	69	69	70	70	71	71	71	70	69
Minimum.....	69	67	64	65	67	66	65	65	67	67	66	67	67	67	67	67	67	68	67	65	65	67	68	68	68	68	68	69	69	69	68	67
August																																
Maximum.....	69	69	69	67	67	65	67	67	67	68	71	71	70	69	69	70	70	71	71	71	71	70	70	69	67	69	69	69	75	75	75	70
Minimum.....	67	67	65	65	63	63	65	67	65	65	68	70	69	68	68	69	68	66	70	70	70	69	69	65	65	67	68	69	68	73	71	67
September																																
Maximum.....	74	75	79	77	75	71	69	69	70	71	71	69	64	63	57	54	52	52	53	54	56	58	60	61	62	61	58	61	61	62	--	64
Minimum.....	71	74	74	72	69	69	69	69	69	70	69	62	61	57	54	50	50	51	48	52	54	56	58	60	61	57	57	58	61	61	--	61

1-3305. KAYADEROSSERAS CREEK NEAR WEST MILTON, N.Y.

LOCATION.--Temperature recorder, 500 feet downstream from Glowegee Creek, 1 mile east of West Milton, Saratoga County.
DRAINAGE AREA.--90 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1955.
Water temperatures: June 1952 to September 1959.
Sediment records: February 1953 to June 1955.
EXTREMES, 1958-59.--Water temperatures: Maximum, 79°F July 29, Aug. 16; minimum, freezing point on many days during January to March.
EXTREMES, 1952-59.--Water temperatures: Maximum, 83°F July 10, 1955; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, December 1958 to July 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Dec. 30, 1958.....	43	8.5	0.11	22	8.8	3.1	0.7	94	14	4.0	0.2	0.9	108	91	14	184	7.2	5
Mar. 30, 1959.....	197	6.6	.06	17	5.9	2.7	.6	66	14	3.5	.0	1.2	86	67	13	150	7.3	3
July 1.....	36	9.0	.07	20	7.4	3.9	.9	89	4.7	2.9	.2	4.0	98	81	8	287	7.2	5

Temperature (°F) of water, water year October 1958 to September 1959
/Continuous water-stage recorder with thermograph/

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	53	52	51	53	53	48	48	52	56	58	56	52	48	45	48	53	55	54	50	48	48	48	50	51	51	50	46	47	47	47	46	50
Minimum.....	52	49	48	50	50	45	44	46	52	53	53	48	45	42	45	48	53	50	45	44	44	44	48	50	50	46	46	46	47	45	44	47
November																																
Maximum.....	46	44	43	43	43	45	45	43	44	43	44	43	42	44	46	46	46	46	48	48	44	42	39	37	37	36	36	35	34	34	--	42
Minimum.....	44	41	42	41	41	43	43	41	42	43	43	42	40	42	44	46	46	46	46	45	42	39	37	37	35	35	35	34	34	34	--	41
December																																
Maximum.....	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33	34
Minimum.....	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33	34

HUDSON RIVER BASIN--Continued

1-3305. KAYADEROSSERAS CREEK NEAR WEST MILTON, N.Y.--Continued

Temperature (°F) of water, water year October 1958 to September 1959--Continued

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
January																																
Maximum.....	33	33	33	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Minimum.....	33	33	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
February																																
Maximum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	--	--	--	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	--	--	--	32
March																																
Maximum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	33	34	33	32	32	32	34	35	35	34	34	34	35	37	33
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	33	32	32	32	32	32	34	34	33	33	33	34	35	32
April																																
Maximum.....	40	35	34	35	39	40	40	42	42	43	43	43	43	45	47	48	51	49	53	51	48	49	50	52	55	54	49	46	49	49	--	45
Minimum.....	34	34	34	34	35	39	36	40	41	40	43	41	39	41	42	44	47	46	47	46	43	42	44	44	49	49	46	44	44	48	--	42
May																																
Maximum.....	49	48	54	55	55	59	61	60	57	56	61	59	59	59	55	51	51	54	53	59	61	63	63	56	58	60	66	66	68	68	68	58
Minimum.....	47	46	46	47	49	50	54	54	50	49	54	56	56	54	48	46	46	45	50	51	57	59	55	53	50	54	57	62	61	63	61	53
June																																
Maximum.....	64	62	64	67	67	67	64	69	74	74	74	70	70	65	59	55	55	54	57	63	69	66	63	66	64	63	68	70	77	76	--	66
Minimum.....	61	58	57	59	61	63	61	61	65	67	67	64	64	59	53	52	54	53	53	54	60	61	58	59	61	62	62	64	66	68	--	60
July																																
Maximum.....	72	69	69	72	73	72	68	73	74	72	76	74	74	73	74	76	76	74	74	72	74	75	76	76	75	74	75	78	79	78	76	74
Minimum.....	66	65	61	62	63	65	62	62	63	68	67	67	68	68	68	66	68	68	71	70	69	70	70	72	71	66	66	69	70	71	73	67
August																																
Maximum.....	75	72	70	70	69	63	69	69	68	69	71	72	72	73	76	79	76	73	72	71	71	71	70	69	69	70	69	70	70	69	68	71
Minimum.....	68	65	63	63	63	61	61	65	65	65	65	65	67	67	69	71	72	70	69	69	70	70	65	65	65	65	69	69	69	68	68	67
September																																
Maximum.....	68	69	71	70	69	69	68	69	71	71	69	65	61	58	57	53	53	52	53	55	58	61	64	64	63	59	61	64	64	65	--	63
Minimum.....	67	68	68	66	64	64	64	64	68	69	65	58	57	55	53	50	49	50	47	48	52	55	59	61	59	55	57	60	62	64	--	59

757-048 O - 65 - 6

HUDSON RIVER BASIN--Continued

1-3355. HUDSON RIVER AT MECHANICVILLE, N. Y.

LOCATION.--At west shore of Hudson River at West Virginia Pulp and Paper Co., Mechanicville, Saratoga County.
DRAINAGE AREA.--4,500 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1954 to September 1959.
EXTREMES, 1955-59.--Water temperatures: Maximum, 80°F on several days during summer months; minimum, freezing point on many days during winter months.
REMARKS.--Mills not in operation Feb. 8 to June 9. No measurements made.

Temperature (°F) of water, water year October 1958 to September 1959
[Once-daily measurement at approximately 8 a.m.]

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	65	65	60	60	60	58	58	58	59	60	58	57	55	55	55	55	55	55	55	55	55	53	55	55	54	52	50	50	50	49	47	56
November...	47	45	45	45	45	47	46	45	45	45	45	45	46	47	47	45	45	47	47	46	46	45	45	43	42	41	40	39	38	35	--	44
December...	33	33	32	32	33	33	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
January....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
February...	32	32	32	32	32	32	32	32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
April.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
May.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
June.....	--	--	--	--	--	--	--	--	--	75	75	74	74	72	67	66	65	63	64	65	66	65	68	69	69	70	70	72	75	76	--	--
July.....	74	72	75	76	76	75	74	75	76	76	75	78	79	78	78	79	78	80	79	73	78	79	79	80	79	--	--	--	--	--	--	--
August.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
September..	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

HUDSON RIVER BASIN--Continued

1-3560. MOHAWK RIVER AT VISCHER FERRY DAM, N.Y.

LOCATION.--At bridge crossing headrace of Vischer Ferry powerplant, operated by New York State Department of Public Works.
DRAINAGE AREA.--3,385 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1951 to September 1953.
Water temperatures: October 1951 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 82°F Aug. 1, 17-20; minimum, freezing point on many days during winter months.
EXTREMES, 1951-59.--Water temperatures: Maximum, 85°F Aug. 5, 1955; minimum, freezing point on many days during winter months.

Chemical analyses, in parts per million, December 1958 to July 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Dec. 30, 1958.....		5.9	0.16	39	7.6	8.4	1.3	116	32	12	0.2	4.9	170	129	34	281	7.6	5
Mar. 30, 1959.....		4.3	.11	28	4.7	3.8	1.4	87	19	5.8	.1	3.4	122	90	18	206	7.1	4
July 1.....		2.0	.09	32	5.8	8.9	1.6	97	28	12	.3	4.9	148	104	25	262	6.9	4

Temperature (°F) of water, water year October 1958 to September 1959
[Twice-daily measurements at 8 a.m. and 4 p.m.]

Month	Day 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Average
October																																
a.m.....	63	63	63	62	62	61	60	59	60	61	61	60	59	58	57	56	56	55	54	53	53	54	54	54	53	52	52	52	51	51	51	57
p.m.....	63	63	63	62	61	61	61	61	61	61	61	60	59	58	57	56	56	54	54	54	54	54	54	54	53	52	52	51	51	51	51	57
November																																
a.m.....	49	48	46	45	44	45	47	46	46	46	45	45	45	45	45	45	45	45	45	46	46	45	44	44	42	42	40	39	37	35	--	44
p.m.....	49	48	46	45	45	45	46	46	46	45	45	45	45	46	45	45	45	45	45	46	46	45	44	44	43	42	40	40	38	35	--	44
December																																
a.m.....	34	34	34	33	33	33	33	33	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
p.m.....	34	33	33	33	33	33	33	33	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
January																																
a.m.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	32	33	32	32	32	32	32	32	32	32	32
p.m.....	32	32	32	32	32	32	32	32	32	32	32	33	33	33	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
February																																
a.m.....	32	32	33	33	33	32	32	32	33	32	33	33	32	32	32	32	33	33	33	32	32	32	32	32	32	33	33	33	--	--	--	32
p.m.....	32	32	32	32	32	32	32	32	33	33	33	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	33	33	--	--	--	32
March																																
a.m.....	33	32	33	33	33	34	33	32	33	33	33	33	33	33	33	33	33	33	33	33	33	33	32	32	32	32	32	32	33	33	35	33
p.m.....	33	32	32	32	32	32	33	33	33	33	33	33	33	33	33	33	33	33	33	32	32	32	33	33	33	32	32	32	33	33	35	33

1-3560. MOHAWK RIVER AT VISCHER FERRY DAM, N.Y.--Continued

Temperature (°F) of water, water year October 1958 to September 1959--Continued

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
April																																
a.m.	36	36	36	37	37	38	36	37	40	40	40	40	40	41	41	42	44	46	47	47	48	48	47	47	48	48	48	49	49	50	--	43
p.m.	36	37	38	37	38	39	36	39	40	40	40	40	40	42	42	43	44	46	47	47	47	47	47	48	48	48	49	49	50	50	--	43
May																																
a.m.	50	50	50	51	53	56	56	57	58	59	60	64	63	63	62	60	58	58	61	60	61	63	62	64	62	62	65	66	66	66	66	60
p.m.	50	50	51	51	53	60	60	59	60	60	60	65	62	64	61	62	64	60	60	62	65	65	63	60	63	63	65	66	68	67	69	61
June																																
a.m.	68	68	68	68	69	69	73	70	74	75	74	74	74	72	69	65	66	65	65	65	67	68	67	68	69	70	70	72	72	74	--	70
p.m.	68	68	69	70	73	72	72	74	75	75	75	75	75	74	70	67	66	65	65	68	69	67	69	70	70	70	71	73	75	76	--	71
July																																
a.m.	75	72	74	74	74	75	68	68	73	75	75	78	76	78	78	76	77	78	77	78	79	78	78	78	78	78	79	78	79	80	80	76
p.m.	75	74	75	75	75	75	75	75	75	75	75	78	79	78	78	78	79	79	78	77	79	79	80	80	80	80	80	81	83	81	81	78
August																																
a.m.	80	79	78	78	78	76	75	75	75	75	76	75	77	76	78	79	79	80	80	80	80	78	78	78	77	76	78	79	79	80	79	78
p.m.	82	80	79	80	78	77	77	77	75	76	77	78	77	77	79	79	82	82	82	82	81	81	80	77	78	79	80	80	80	80	79	79
September																																
a.m.	79	79	80	79	78	78	78	78	78	78	77	75	75	75	73	74	73	72	66	66	66	70	68	70	67	66	69	68	72	72	--	73
p.m.	80	80	80	80	80	80	78	78	81	79	78	77	75	72	71	70	70	68	70	67	67	68	69	70	71	70	71	69	70	73	--	74

HUDSON RIVER BASIN--Continued

1-3575. MOHAWK RIVER AT COHOES, N.Y.

LOCATION.--At bridge on U.S. Highway 4, 1,200 feet downstream from gaging station at Cohoes, Albany County.
DRAINAGE AREA.--3,456 square miles.
RECORDS AVAILABLE.--Water temperatures: May 1956 to June 1959.
Sediment records: January 1954 to June 1959.
EXTREMES, 1958-59.--Water temperatures: Minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 294 ppm Apr. 3; minimum daily, 2 ppm Jan. 4.
Sediment loads: Maximum daily, 34,600 tons Apr. 3; minimum daily, 14 tons Jan. 4.
EXTREMES, 1954-59.--Water temperatures: Maximum, 82°F July 21, 1957; minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 1,234 ppm Oct. 17, 1955; minimum daily, 1.0 ppm Jan. 6, 1956.
Sediment loads: Maximum daily, 300,000 tons Oct. 17, 1955; minimum daily, 0.8 ton Aug. 7, 1955.
REMARKS.--Records of specific conductance of daily samples available in district office at Albany, N.Y. Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, December 1958 to July 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Dec. 29, 1958.....	3,260	5.9	0.13	40	7.4	9.3	1.4	119	31	12	0.3	4.6	176	131	33	291	7.7	5
Mar. 30, 1959.....	8,360	4.2	.09	27	4.8	3.7	1.4	85	18	6.0	.1	1.4	114	87	18	198	7.1	3
Apr. 3.....	50,000	4.1	--	32	4.1	3.1	1.9	96	17	5.0	.0	4.7	130	97	19	213	7.0	4
July 1.....	1,790	1.4	.13	36	6.3	11	1.5	106	31	14	.3	6.3	163	116	29	285	6.9	4

Temperature (°F) of water, October 1958 to June 1959

Month	Day 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Average
October....	64	62	62	62	63	60	61	63	62	62	63	61	59	58	60	60	60	60	57	58	58	58	71	58	--	57	57	56	57	56	55	60
November...	54	52	51	51	--	50	50	49	48	48	48	47	47	46	46	45	45	45	47	46	--	46	45	44	44	44	42	41	41	39	--	46
December...	38	36	35	34	36	35	34	34	33	--	--	33	--	36	34	38	34	32	32	33	34	33	35	--	34	32	32	35	36	35	33	34
January....	33	34	35	34	32	32	32	32	32	32	32	32	32	32	35	32	34	33	32	32	32	36	34	34	34	33	33	34	35	35	33	33
February...	33	33	33	35	34	34	33	33	33	33	34	34	34	33	34	34	33	33	33	33	33	33	33	33	34	34	33	34	--	--	--	33
March.....	34	34	35	34	34	35	34	33	34	34	34	33	--	34	34	34	34	34	35	36	36	35	35	35	36	36	--	34	35	35	36	35
April.....	37	37	36	37	37	37	36	36	36	37	36	37	37	37	38	35	39	39	40	41	43	45	45	45	46	46	45	44	45	44	--	40
May.....	45	46	46	47	50	--	52	52	54	58	--	60	--	61	60	--	60	67	--	63	--	64	64	63	62	63	64	--	65	67	--	--
June.....	67	66	68	69	--	--	69	71	71	72	73	--	--	70	70	70	70	69	67	69	--	70	72	72	--	--	--	73	75	--	--	--

HUDSON RIVER BASIN--Continued

1-3575. MOHAWK RIVER AT COHOES, N.Y.--Continued

Suspended sediment, October 1958 to June 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	2,190			5,430	19	320	4,270		
2...	2,460	22	154	4,150			5,060	10	126
3...	2,770			4,340	14	160	4,150		
4...	2,950			4,870			4,150	12	134
5...	1,940			4,920			4,740		
					12			10	153
6...	2,040			4,590		155	6,560		
7...	1,950	19	108	4,150			6,400		
8...	2,370			4,020	10	110	4,370	7	102
9...	2,240			3,230			5,110		
10...	2,090			3,710	12	112	5,500		
								6	91
11...	2,290			3,690			6,150		
12...	2,210	16	92	3,950	8	83	5,670	10	153
13...	1,900			3,670			4,300	9	s 104
14...	2,100			3,380	8		4,340	8	94
15...	2,320			4,220		76	4,560		
					16	302		10	120
16...	2,080			9,780			4,340		
17...	2,080	14	96	8,470			4,340		
18...	3,000			5,800	10	193	3,730	9	98
19...	3,170			4,440		203	3,560		
20...	2,130	14	81	6,330	14		3,190	6	55
21...	2,400	12	78	4,980	--	e 229	3,240		
22...	2,370	13	83	7,930			2,660	10	80
23...	2,830	10	76	6,460	20	389	2,430		
24...	7,140			5,790	13	203	2,570		
25...	7,760	18	444	5,200			2,950	10	72
					9	150			
26...	12,500			7,120			2,680	9	60
27...	11,500			7,850	10	212	2,290		
28...	13,300	19	594	6,150	10	166	2,150	4	23
29...	14,100			6,310	10	180	2,200		
30...	7,410			7,050			2,290	5	30
31...	7,060	19	320	--	--	--	2,250	4	23
Total	134,730	--	6,442	161,980	--	5,511	122,200	--	2,802

	January			February			March		
1...	2,000			8,550	10	231	3,570	6	58
2...	2,430	4	23	6,150	16	266	3,930	12	127
3...	2,010			5,280	11	157	5,080	6	82
4...	2,520	2	14	4,870	12	158	6,720	10	181
5...	2,940			5,880	9	143	7,050	14	266
6...	2,410			6,340	6	103	7,320	10	198
7...	2,480			5,360	10	145	10,800	22	642
8...	2,110			4,870	9	118	10,500	16	454
9...	2,190			3,970	10	107	7,880	27	574
10...	2,000	--	e 18	3,280	9	80	6,340	17	291
11...	1,940			3,280	7	62	5,020	12	163
12...	1,930			3,400	8	73	4,580	4	49
13...	2,300			4,370	8	94	3,550	4	a 38
14...	2,150			4,200	10	113	3,570	4	39
15...	2,470	13	87	4,900	7	93	3,690	4	40
16...	2,170	10	a 59	6,530	6	106	3,930	4	42
17...	2,160	4	23	7,880	8	170	6,370	8	138
18...	2,300	4	25	6,920	14	262	7,810	6	127
19...	1,790			5,760	8	124	6,400	8	138
20...	1,600	--	e 21	4,570	8	99	7,320	6	119
21...	2,350			3,680	8	79	19,100	24	1,240
22...	22,800	125	7,700	3,270	6	53	18,800	108	5,480
23...	33,500	190	17,200	3,320	6	54	13,800	48	1,790
24...	17,900	98	4,740	3,200	8	69	11,900	40	1,280
25...	14,800	54	2,160	3,330	7	63	13,100	26	920
26...	11,200	30	907	3,340	5	45	16,100	30	1,300
27...	8,360	24	542	3,130	6	51	18,900	39	a 1,990
28...	6,180	17	284	3,000	6	49	13,200	46	1,640
29...	5,500	13	193	--	--	--	10,100	24	654
30...	5,730	12	186	--	--	--	8,190	16	354
31...	7,700	8	166	--	--	--	8,100	13	284
Total	179,920	--	34,598	132,630	--	3,167	272,720	--	20,698

e Estimated.
a Computed from estimated-concentration graph.

HUDSON RIVER BASIN--Continued

1-3575. MOHAWK RIVER AT COHOES, N.Y.--Continued

Suspended sediment, October 1958 to June 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	13,700	14	518	11,100	31	929	1,890	20	102
2...	24,300	S2	5,380	8,490	34	779	2,100	20	113
3...	43,300	294	s 34,600	6,530	22	388	3,350	18	163
4...	30,000	248	s 20,300	6,000	20	324	3,130	16	135
5...	23,800	88	s 5,710	5,020	28	380	3,150	16	a 136
6...	22,400	53	3,260	3,700	22	220	2,330	16	a 101
7...	22,600	58	3,540	3,950	20	213	1,820	16	79
8...	17,800	50	2,400	3,440	27	251	1,790	12	58
9...	19,000	34	1,740	2,380	27	174	1,780	18	87
10...	25,400	59	4,050	2,990	36	291	1,760	18	86
11...	20,700	70	3,910	2,430	30	a 197	1,760	18	86
12...	17,600	40	1,900	3,620	19	186	1,740	20	a 94
13...	14,300	24	927	5,000	19	a 256	1,770	24	a 115
14...	11,700	20	632	4,800	26	337	1,780	28	135
15...	11,000	18	535	3,230	34	297	1,790	36	174
16...	9,680	20	523	3,230	28	a 244	1,800	34	165
17...	8,810	16	381	2,250	22	134	1,740	36	169
18...	7,040	16	304	2,840	21	161	1,730	36	168
19...	11,200	29	844	2,240	19	115	1,640	33	146
20...	14,900	24	966	4,120	20	222	2,040	32	185
21...	15,600	17	716	8,590	18	417	2,320	28	a 175
22...	10,300	19	528	10,100	24	654	2,020	20	109
23...	6,940	18	337	9,600	32	829	1,970	18	96
24...	7,420	22	441	6,870	33	612	2,070	15	84
25...	6,690	22	397	6,180	36	601	1,840	15	a 75
26...	6,590	24	427	3,900	21	221	1,800	14	a 68
27...	7,150	23	444	3,350	24	217	1,780	14	a 67
28...	10,500	23	652	2,770	18	a 135	1,820	14	69
29...	11,700	24	758	2,340	8	51	1,790	16	77
30...	11,000	22	653	2,370	14	90	1,830	16	a 79
31...	--	--	--	742	8	16	--	--	--
Total	462,820	--	97,806	144,172	--	9,941	60,230	--	3,396

Total discharge for period (cfs-days)..... 1,671,402
Total load for period (tons)..... 184,361

s Computed by subdividing day.
a Computed from estimated-concentration graph.

1-3575. MOHAWK RIVER AT COHOES, N.Y.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Sampling point	Water temperature (°F)	Discharge (cfs)	Sediment concentration (ppm)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
						0.001	0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Apr. 3, 1959 a	1155, 1305		--	43,600	433		33	52	67	82	89	91	93	96	97	100	BWC
Apr. 3 a	1430, 2315		37	40,500	335		34	55	73	87	90	93	94	96	98	100	BWC
Apr. 4 a	1000, 1730		37	28,600	239		39	61	77	88	93	95	98	99	100	--	BWC
Apr. 5 a	1100, 1700		38	11,100	80		45	59	85	91	97	99	100	--	--	--	BWC
Apr. 6 a	0655, 2000		37	22,800	56		25	46	73	83	88	93	95	100	--	--	BWC

a Composite sample.

HUDSON RIVER BASIN--Continued

1-3580. HUDSON RIVER AT GREEN ISLAND N.Y.

LOCATION.--At east shore of Green Island at Ford Motor Company, opposite Troy barge lock.
DRAINAGE AREA.--8,090 square miles, approximately.
RECORDS AVAILABLE.--Water temperatures: October 1954 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 81°F July 31, Aug. 1; minimum, 33°F on many days during winter months.
EXTREMES, 1954-59.--Water temperatures: Maximum, 81°F July 31, Aug. 1, 1959; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 8 a.m.)

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	61	61	60	60	60	59	59	60	59	60	60	59	58	57	55	56	56	56	55	55	55	55	54	55	54	53	52	51	50	52	50	56
November...	49	48	47	46	45	45	46	44	44	45	45	46	46	45	46	46	46	46	46	46	46	45	45	44	43	41	40	38	36	35	--	44
December...	35	34	34	33	33	33	33	33	32	32	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
January....	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
February...	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	--	--	--	33
March.....	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	34	34	34	34	34	34	34	34	34	34	34	34	34	33
April.....	36	38	38	38	38	38	39	39	40	40	40	41	41	41	42	43	45	47	48	49	49	49	49	49	50	50	50	51	51	51	--	44
May.....	51	51	52	53	54	56	58	59	60	61	61	62	62	62	62	61	60	61	62	63	64	64	63	63	63	63	64	64	65	65	66	60
June.....	66	67	68	69	69	70	71	72	73	74	75	74	74	72	69	67	66	66	66	67	69	69	68	69	69	70	72	73	74	76	--	70
July.....	75	75	74	74	75	75	75	75	75	77	76	77	78	78	78	78	79	79	79	79	79	79	80	80	80	80	80	80	80	80	81	78
August.....	81	80	78	78	77	75	75	75	75	75	75	76	77	77	77	78	78	79	79	78	78	76	77	77	76	76	77	77	78	79	79	77
September..	79	79	80	80	79	79	78	78	79	80	77	76	75	74	72	70	67	65	64	64	65	67	67	69	70	70	70	70	71	71	--	73

1-4010. STONY BROOK AT PRINCETON, N.J.

LOCATION.--At Lawrenceville Road Bridge on U.S. Highway 206, 4 miles upstream from Carnegie Lake, and 1.6 miles southwest of Princeton, Mercer County.
DRAINAGE AREA.--44.5 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1956 to September 1959.
Sediment records: January 1956 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 89°F June 30; minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 939 ppm Mar. 6; minimum daily, 1 ppm on several days in October and November.
Sediment loads: Maximum daily, 3,830 tons Mar. 6; minimum daily, less than 0.05 ton on many days in October and November.
EXTREMES, 1956-59.--Water temperatures: Maximum, 89°F July 3, 1958, June 30, 1959; minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 939 ppm Mar. 6, 1959; minimum daily, 0 ppm on several days during September 1956, October 1957.
Sediment loads: Maximum daily, 6,800 tons Feb. 28, 1958; minimum daily, 0 tons on several days during September 1956, October 1957.
REMARKS.--Records of specific conductance and pH sampled on periodic basis available in subdistrict office at Harrisburg, Pa. Records of discharge for water year October 1958 to September 1959 given in WSP 1622. Flow affected by ice Jan. 22, 23.

Chemical analysis, in parts per million, August 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Aug. 11, 1959.....	30	21	0.04	15	6.2	7.5	3.0	34	39	7.2	0.4	3.9	145	63	35	180	6.8	2

Temperature (°F) of water, water year October 1958 to September 1959
/Once-daily measurement at approximately 4 p.m./

Month	Day 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Average
October....	60	55	60	65	60	52	56	55	65	52	50	56	51	51	65	76	61	60	54	54	53	56	64	62	60	50	49	49	55	55	50	57
November...	53	48	45	50	51	52	49	50	51	49	50	50	50	50	59	60	51	50	50	50	47	45	40	47	42	43	45	40	40	37	--	48
December...	35	37	37	38	40	40	36	38	34	34	32	33	32	38	33	32	40	32	38	34	34	32	44	34	38	40	33	37	34	35	34	36
January....	34	36	36	34	32	32	34	34	32	33	32	33	34	32	32	32	33	32	32	34	33	34	32	32	38	34	32	32	32	36	36	33
February...	32	32	32	43	39	39	32	35	32	34	35	38	37	35	37	38	42	39	32	32	40	38	35	39	38	36	40	45	--	--	--	37
March.....	40	40	43	43	45	42	40	50	41	38	40	36	40	40	43	47	41	41	46	49	50	38	47	51	53	45	54	42	52	42	42	44
April.....	53	55	51	51	60	56	53	64	56	66	55	45	58	58	66	65	68	63	68	57	59	64	59	60	66	60	54	51	40	57	--	58
May.....	58	62	65	68	69	70	73	72	67	67	70	70	72	71	60	60	65	75	75	75	80	81	75	75	75	72	80	80	78	83	80	72
June.....	75	72	70	80	78	78	85	84	86	72	79	79	73	68	70	62	66	66	75	74	78	79	74	79	76	84	85	75	74	89	--	76
July.....	83	80	81	75	84	78	80	80	81	78	82	80	80	75	75	75	80	82	85	81	85	84	84	84	--	84	83	84	86	85	82	81
August.....	84	78	75	74	70	74	76	73	72	77	78	80	80	79	85	80	85	87	83	84	84	80	--	75	80	85	84	84	79	80	79	79
September..	74	79	80	80	80	80	80	79	81	80	75	72	79	70	70	64	60	64	66	64	71	73	72	75	77	72	75	76	76	79	--	74

RARITAN RIVER BASIN--Continued

1-4010. STONY BROOK AT PRINCETON, N.J.--Continued

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	77	42	s 15	37	1	0.1	65	60	11
2...	62	29	s 5.4	34			56	70	11
3...	24	20	1.3	69	5	s 1.1	48	65	8.4
4...	17	8	.4	56	2	.3	466	258	s 553
5...	13	3	.1	39			168	130	59
6...	10			34	9	.8	103	40	11
7...	8.6	6	.1	30			60	20	3.2
8...	7.9			25			48	28	3.6
9...	7.9			24	2	.1	44	50	5.9
10...	6.9			25			43	37	4.3
11...	5.2	2	(t)	22			30	10	.8
12...	4.7			19			36	15	1.5
13...	4.7			18	2	.1	29	11	.9
14...	4.0			18			22	8	.5
15...	5.2			18	3	.1	24	16	1.0
16...	4.5	2	(t)	41	--	b 1.8	20	12	.6
17...	4.0			31			20	5	.3
18...	3.8			29			21		
19...	3.6			28			19		
20...	3.4	1	(t)	26	2	.1	19		
21...	3.6			22			14	4	.2
22...	7.1	7	s .2	19			12		
23...	178	82	s 50	17			12		
24...	71	18	3.4	17	1	(t)	13		
25...	147	34	s 24	16			9.4		
26...	597	120	s 242	15			8.3	4	.1
27...	185	26	13	15	5	112	6.9		
28...	117	7	2.2	86	29	s 37	7.9		
29...	80	3	.6	732	--	a 650	11		
30...	55	3	.4	108	--	a 7.3	31	7	.6
31...	44			--	--	--	22	7	.4
Total	1,762.1	--	359.0	1,670	--	700.6	1,488.5	--	679.0

Day	January			February			March		
1...	16	8	0.3	14	6	0.2	15	5	0.3
2...	617	243	s 724	13			17		
3...	92	25	s 6.6	9.8			17		
4...	52	9	1.3	236	276	s 297	22		
5...	24			70	99	s 21	25		
6...	23	6	.3	36	19	1.8	848	939	s 3,830
7...	18			22	8	.5	214	86	s 65
8...	14			26	5	.3	94	14	3.6
9...	14			18			74	8	1.6
10...	12			142	--	a 110	84	13	2.9
11...	12	4	.1	95	64	s 20	70	6	1.1
12...	11			33	14	1.2	109	18	5.3
13...	12			62	16	2.7	138	14	5.2
14...	12			82	34	s 9.8	123	14	4.6
15...	13			246	251	s 224	216	34	20
16...	17	2	.1	63	8	1.2	203	30	16
17...	14			47			101		
18...	11			44			78	6	1.2
19...	6.6			36			60		
20...	13	4	.1	19	6	.4	58		
21...	84	20	4.5	20			55	6	.8
22...	180	65	32	14			63		
23...	43	12	1.4	12			45		
24...	31	8	.7	15			42		
25...	29	9	.7	14			38		
26...	26			15	4	.2	35	6	.6
27...	19			15			63	--	a 5.0
28...	17	9	.5	16			113	26	7.9
29...	18			--	--	--	78	10	2.1
30...	22			--	--	--	110	29	s 21
31...	27	11	.8	--	--	--	217	64	s 49
Total	1,499.6	--	777.2	1,434.8	--	694.8	3,423	--	4,051.2

s Computed by subdividing day.
t Less than 0.05 ton.
a Computed from partly estimated-concentration graph.
b Computed from estimated-concemtration graph.

RARITAN RIVER BASIN--Continued

1-4010. STONY BROOK AT PRINCETON, N.J.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	98	6	1.6	48	9	1.2	2.7	2	(t)
2...	153	36	s 33	44			15	29	s 4.2
3...	324	138	s 183	32			190	120	s 95
4...	135	13	4.7	26	4	.3	31	10	.8
5...	90			22			17		
6...	70			19			14	6	.3
7...	55	6	.9	17			10		
8...	48			20	5	.2	7.2	3	.1
9...	44			15			5.5		
10...	43			12			4.5		
11...	56	8	1.2	12	3	.1	3.4	3	(t)
12...	70	6	1.3	12			2.9		
13...	90			18			44	57	s 12
14...	55			75	15	s 3.2	135	--	a 77
15...	42			31	8	.7	28	36	2.7
16...	46	4	.4	20			13		
17...	36			15			9.4	7	.2
18...	30			12	4	.1	7.6		
19...	30			11			6.0		
20...	44			9.4			5.0		
21...	40	3	.3	7.9			4.0	5	.1
22...	31			6.6			3.2		
23...	28			5.7	3	(t)	2.9		
24...	25			5.0			2.5		
25...	21			4.2			3.7		
26...	19	4	.3	3.8			3.4	5	(t)
27...	22			3.2			2.9		
28...	33			3.2			2.9		
29...	80	14	3.0	3.2	4	(t)	3.2	4	(t)
30...	39	5	.5	3.1			2.4		
31...	--	--	--	3.1			--	--	--
Total	1,897	--	240.1	519.4	--	8.5	582.3	--	194.0

	July			August			September		
1...	2.0	3	(t)	73	--	a 15	43	86	s 14
2...	1.7	21	0.1	11	17	.5	62	113	s 23
3...	1.6	7	(t)	5.0	15	.2	38	16	1.6
4...	2.0	8	(t)	3.1	12	.1	18	8	.4
5...	1.8			12	25	s 1.0	12	14	.5
66...	1.6	4	(t)	15	9	.3	9.0	6	.1
7...	1.2			7.2			7.2		
8...	.84			76	18	s 10	7.9		
9...	.84			430	--	a 150	6.6		
10...	.91			62	16	2.7	5.0	6	.1
11...	1.3	3	(t)	30	8	.6	5.7		
12...	.99			19			3.6		
13...	.84			14			3.2		
14...	3.2	9	s .1	11	4	.1	2.9		
15...	6.8	29	s .6	8.3			2.9		
16...	2.2			6.6			2.4	2	(t)
17...	1.7	4	(t)	6.0			2.1		
18...	1.3			9.7			2.0		
19...	.91			6.9	3	.1	1.8		
20...	4.0	43	.7	4.7			1.6		
21...	9.8	5	.1	3.6			1.5		
22...	7.2			9.1	39	s 2.0	1.5		
23...	46	6	s .1	4.7	37	.5	1.4		
24...	39	--	a 5.0	3.8			1.3		
25...	10	9	.2	3.6			1.1		
26...	5.2			3.2	7	.1	.91	2	(t)
27...	3.4			2.7			.99		
28...	3.8	4	(t)	2.5			1.1		
29...	3.2			2.2			1.1		
30...	2.7			8.8	24	s 1.0	1.1		
31...	3.2			15	90	s 5.4	--	--	--
Total	129.83	--	7.5	869.7	--	191.9	--	--	40.3

Total discharge for year (cfs-days)..... 15,525.13
Total load for year (tons)..... 7,943.4

s Computed by subdividing day.
t Less than 0.05 ton.
a Computed from partly estimated-concentration graph.

RARITAN RIVER BASIN--Continued

1-4010. STONY BROOK AT PRINCETON, N.J.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Sampling point	Water temperature (°F)	Discharge (cfs)	Sediment concentration (ppm)	Suspended sediment: Percent finer than size indicated, in millimeters										Method of analysis
						0.001	0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Oct. 26, 1958.....	1430		50	1,090	110		--	37	57	79	92	99					BWC
Dec. 4.....	1010		38	974	439		--	19	35	51	76	98					BWC
Mar. 6, 1959.....	1115		41	1,960	2,070		13	25	42	64	87	99					BWC
Sept. 2.....	1830		76	595	101		26	50	74	93	99	100					SBWC

1-4210. EAST BRANCH DELAWARE RIVER AT FISHS EDDY, N.Y.

LOCATION.--At gaging station at highway bridge at Fishs Eddy, Delaware County, just upstream from Fish Creek, 4.5 miles downstream from Beaver Kill, and 11 miles upstream from confluence of East and West Branches near Hancock.
DRAINAGE AREA.--783 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4) †	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 2, 1958.....	750	2.3	0.03	6.4	1.2	1.2	0.6	13	10	2.7	0.1	0.2	31	21	11	50	6.7	2
Nov. 6.....	1,920	2.5	.03	6.0	.7	1.1	.3	9	9.0	1.5	.0	.5	27	18	11	43	6.7	5
Dec. 8.....	1,140	2.5	.02	5.6	.8	1.2	.6	10	9.3	2.5	.1	.7	31	18	10	45	6.4	3
Jan. 7, 1959.....	260	2.0	.06	7.2	1.0	2.6	.7	5	10	9.0	.2	4.6	47	22	18	70	5.8	3
Feb. 3.....	260	4.9	.02	6.7	.7	1.7	.6	11	9.8	4.0	.0	1.6	35	20	11	54	6.5	3
Mar. 5.....	600	2.2	.03	6.4	1.2	2.5	1.0	16	7.0	6.0	.0	1.7	40	21	8	59	7.4	3
Apr. 16.....	1,520	1.7	.07	5.4	1.3	1.1	.4	10	8.5	1.2	.0	1.2	31	19	11	42	6.9	8
May 12.....	612	1.4	.19	7.2	1.8	2.7	1.4	22	10	3.6	.0	1.7	43	26	8	72	6.3	5
June 4.....	345	2.0	.01	7.2	1.2	2.4	.7	16	11	3.6	.0	4.1	39	23	10	61	6.6	3
July 14.....	910	1.7	.03	6.4	.9	1.5	.9	13	12	2.2	.0	1.2	34	20	9	54	6.5	3
Aug. 5.....	740	1.7	--	5.8	1.0	1.8	.9	14	7.6	3.1	.0	2.5	29	19	7	52	6.7	6
Sept. 1.....	1,570	2.8	.05	5.7	1.1	2.3	1.1	15	7.0	3.2	.0	2.7	35	19	6	54	7.0	7

DELAWARE RIVER BASIN--Continued

1-4265. WEST BRANCH DELAWARE RIVER AT HALE EDDY, N.Y.

LOCATION.--At gaging station at bridge in Hale Eddy, Delaware County, 9 miles upstream from confluence of East and West Branches near Hancock, and 0.2 mile west of State Highway 17.
DRAINAGE AREA.--593 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 2, 1958.....	85	2.6	0.03	7.4	2.3	2.7	1.2	23	12	3.6	0.0	0.1	44	28	9	71	7.5	2
Nov. 6.....	2,310	4.3	.06	6.8	1.2	1.8	.7	13	9.5	2.5	.0	1.4	36	22	12	58	6.7	3
Dec. 8.....	1,250	4.1	.04	6.4	1.9	2.1	.9	14	10	3.7	.1	.9	42	24	13	61	6.2	3
Jan. 7, 1959.....	240	2.1	.04	8.0	1.9	3.6	1.5	21	11	5.3	.2	3.4	50	28	11	86	6.8	5
Feb. 3.....	620	2.9	.01	8.0	1.6	2.9	1.3	17	11	4.8	.0	3.3	49	27	13	75	6.3	3
Mar. 5.....	700	3.2	.09	7.6	1.5	3.2	2.2	16	10	6.5	.2	3.5	51	25	12	79	6.6	5
Apr. 16.....	1,400	2.9	.02	6.5	1.9	2.0	.8	14	11	2.1	.0	2.3	41	24	13	59	6.7	3
May 12.....	666	1.9	.01	5.8	1.8	1.6	.9	16	8.5	2.8	.0	.8	32	22	9	54	7.3	5
June 4.....	359	2.8	.03	7.6	1.9	3.4	1.5	23	12	4.0	.0	4.9	50	27	8	79	6.6	3
July 14.....	79	3.0	.10	9.2	2.2	4.8	1.5	31	8.5	6.8	.0	.7	54	32	7	94	6.8	3
Aug. 5.....	103	3.1	--	8.0	1.9	4.2	1.3	28	8.5	4.0	.0	2.0	50	28	5	88	7.1	6
Sept. 1.....	81	3.4	.10	8.8	2.0	4.7	1.6	30	7.5	4.9	.0	1.7	53	30	6	94	7.0	6

1-4315. LACKAWAXEN RIVER AT HAWLEY, PA.

LOCATION.--At gaging station at bridge at Hawley, Wayne County, 700 feet upstream from Wallenpaupack Creek and 550 feet downstream from Middle Creek.
DRAINAGE AREA.--290 square miles.
RECORDS AVAILABLE.--Chemical analyses: November 1958 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, November 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Nov. 21, 1958.....	358	3.8	0.04	9.6	1.2	2.0	0.9	22	14	1.5	0.1	0.9	54	29	11	75	6.5	12
Dec. 30.....	135	--	--	--	--	3.7	--	23	16	4.1	--	1.8	62	35	16	94	7.1	5
Feb. 3, 1959.....	170	--	--	--	--	1.6	--	17	15	3.0	--	2.3	66	32	18	84	6.6	5
Mar. 17.....	548	--	--	--	--	4.4	--	22	13	3.3	--	3.0	67	29	11	84	6.2	10
Apr. 20.....	1,080	3.4	.00	9.0	.4	3.2	.8	16	13	3.0	.4	2.1	45	24	11	64	6.1	5
May 1.....	1,140	--	--	--	--	3.2	--	16	13	1.6	--	1.2	49	23	10	65	6.5	17
June 9.....	69	--	--	--	--	3.7	--	32	12	1.5	--	1.6	--	34	8	90	6.8	6
July 22.....	82	6.4	.00	13	1.3	3.6	1.7	38	12	2.0	.1	1.7	86	38	7	102	6.8	7
Sept. 1.....	192	--	--	--	--	4.1	--	35	11	3.0	--	1.2	63	36	8	91	6.9	10

1-4340. DELAWARE RIVER AT PORT JERVIS, N.Y.

LOCATION.--At gaging station at bridge on U.S. Highways 6 and 209 at Port Jervis, Orange County, 1.5 miles upstream from Neversink River, and 6.5 miles downstream from Mongaup River.
DRAINAGE AREA.--3,076 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1959.
Water temperatures: February 1957 to September 1959.
Sediment records: February 1957 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 66 ppm Sept. 11-16; minimum, 38 ppm May 1-16.
Hardness: Maximum, 48 ppm June 15, minimum 18 ppm Apr. 1-10.
Specific conductance: Maximum daily, 117 micromhos Sept. 16; minimum daily, 45 micromhos Mar. 29.
Water temperatures: Maximum, 85°F July 19; minimum, freezing point on several days during December and February.
Sediment concentrations: Maximum daily, 543 ppm Apr. 3; minimum daily, 1 ppm Oct. 20, Jan. 1, 21, Feb. 2, Aug. 31.
Sediment loads: Maximum daily, 56,000 tons Apr. 3; minimum daily, 3.9 tons Aug. 31.
EXTREMES, 1957-59.--Dissolved solids: Maximum, 66 ppm Sept. 11-16, 1959; minimum, 32 ppm May 21-31, 1958.
Hardness: Maximum, 48 ppm June 15, 1959; minimum, 18 ppm May 21-31, 1958, Apr. 1-10, 1959.
Specific conductance: Maximum daily, 432 micromhos Feb. 21, 1958; minimum daily, 42 micromhos Apr. 21, 1958.
Water temperatures: Maximum, 85°F July 19, 1959: minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 559 ppm Apr. 6, 1958; minimum daily, 0.3 ppm Aug. 29, 1957.
Sediment loads: Maximum daily, 69,500 tons Dec. 21, 1957; minimum daily, 0.8 ton Aug. 29, 1957.
REMARKS.--Records of specific conductance and pH of daily samples available in district office at Albany, N.Y. Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color	Oxygen consumed: Filtered	Oxygen consumed: Unfiltered
Oct. 1-11, 1958..	2,061	4.5	0.06	7.0	1.6	2.3	0.7	22	6.0	2.0	0.1	0.0	45	24	6	65	6.7	5	2	--
Oct. 12-15.....	1,688	--	.05	--	--	4.8	--	35	10	2.4	--	.0	--	32	4	86	7.8	5	--	--
Oct. 16-31.....	5,766	4.2	.08	7.2	1.2	2.3	.8	19	10	2.6	.1	.0	44	23	8	67	6.8	5	2	--
Nov. 1-20.....	6,493	6.1	.02	7.0	1.3	2.0	.8	21	9.7	2.6	.2	.7	40	23	6	61	6.9	3	--	--
Nov. 21-30.....	5,343	4.9	.03	7.2	1.5	2.0	.6	17	11	2.3	.2	.5	39	24	10	61	6.8	5	--	--
Dec. 1-20.....	5,042	8.0	.03	7.4	1.6	2.4	.9	20	11	2.2	.2	1.0	49	25	9	63	6.9	5	1	2
Dec. 21-31.....	2,570	3.7	.21	7.7	1.3	2.3	.9	18	11	3.3	.1	1.2	45	25	10	67	6.7	3	1	1
Jan. 1-15, 1959..	2,613	4.2	.02	7.4	1.6	2.5	.7	18	11	3.5	.1	1.0	46	25	10	67	7.1	4	1	2
Jan. 16.....	2,910	--	.10	--	--	8.7	--	52	14	3.9	--	.5	--	44	2	112	8.1	5	--	--
Jan. 17-20.....	2,650	--	.04	--	--	1.6	--	18	13	3.9	--	1.9	--	32	17	68	6.8	4	--	--
Jan. 21-31.....	10,639	8.2	.19	6.4	1.4	2.5	1.4	16	9.3	3.0	.2	1.9	50	22	9	61	6.7	5	1	3
Feb. 1-10.....	4,187	6.2	.06	7.2	1.8	2.5	1.2	18	12	4.2	.1	2.9	51	26	11	68	6.7	6	--	--
Feb. 11-28.....	4,834	5.9	.05	6.4	1.9	2.9	1.3	16	11	4.0	.1	2.6	45	24	11	65	6.6	4	--	--
Mar. 1-14.....	5,904	4.7	.04	7.4	1.7	2.1	1.5	16	11	3.8	.0	3.1	48	26	13	62	6.4	4	--	--
Mar. 15-16.....	4,005	--	.03	--	--	.7	--	36	10	3.0	--	1.8	--	44	15	92	7.5	--	--	--

Mar. 17-31, 1959.	8,255	3.5	.04	5.8	1.7	1.7	1.0	13	9.7	2.8	.1	2.9	41	22	11	52	6.3	3	--	--
Apr. 1-10.....	16,845	6.1	.05	5.6	1.0	3.6	1.0	12	11	2.2	.0	2.9	44	18	8	56	6.6	3	2	14
Apr. 11-12.....	13,950	--	.08	--	--	1.2	--	12	11	1.9	--	1.6	--	23	13	53	6.5	--	--	--
Apr. 13.....	10,800	--	.05	--	--	5.3	--	37	12	2.0	--	1.6	--	36	6	92	7.5	--	--	--
Apr. 14-20.....	6,693	5.5	.07	6.3	1.6	2.0	.9	12	12	2.2	.0	1.9	48	22	12	57	6.6	3	2	5
Apr. 21-30.....	7,373	7.0	.05	6.5	1.3	2.1	1.0	16	12	2.6	.0	1.2	42	22	9	61	6.7	3	2	11
May 1-16.....	4,781	3.0	.10	6.4	1.8	2.1	1.0	16	10	3.0	.1	.5	38	24	11	58	6.7	5	--	--
May 17.....	2,380	--	.06	--	--	.7	--	30	10	3.0	--	.4	--	38	14	81	7.0	5	--	--
May 18-31.....	2,205	3.1	.08	6.8	2.2	2.3	1.2	18	10	3.5	.1	.5	41	26	11	63	6.7	5	--	--
June 1-3.....	1,900	--	.02	--	--	1.4	--	18	9.3	3.0	--	.8	--	26	11	67	6.7	--	--	--
June 4.....	2,250	--	.01	--	--	7.6	--	a46	13	2.0	--	.6	--	38	1	102	8.3	--	--	--
June 5-12, 14....	1,490	3.7	.00	7.2	2.7	2.4	1.2	19	9.7	3.8	.1	1.5	43	29	14	68	6.6	6	--	--
June 15.....	1,530	--	.10	--	--	4.6	--	48	14	1.6	--	1.9	--	48	9	107	7.8	--	--	--
June 16-30.....	1,760	3.8	.05	6.4	2.6	2.3	1.1	20	10	4.0	.0	1.9	40	27	10	65	6.8	3	--	--
July 1-31.....	1,655	6.1	.04	9.4	1.4	2.8	.9	22	9.0	3.8	.1	.5	50	30	12	72	6.8	2	--	--
Aug. 1-20.....	1,628	--	.03	--	--	.9	--	21	7.3	2.6	--	.2	--	26	9	66	6.8	5	--	--
Aug. 21-28.....	1,519	--	.04	--	--	2.8	--	26	7.0	3.0	--	.0	--	27	6	71	7.1	5	--	--
Aug. 29.....	1,530	--	.10	--	--	8.3	--	54	7.7	3.3	--	.0	--	39	0	113	8.1	4	--	--
Aug. 30.....	1,270	--	.11	--	--	.9	--	17	7.5	2.2	--	.2	--	23	9	58	6.6	5	--	--
Aug. 31.....	1,440	--	.07	--	--	4.1	--	44	6.5	3.0	--	.0	--	38	2	98	8.2	6	--	--
Sept. 2-10.....	1,731	3.9	.05	6.6	1.4	2.4	1.1	20	9.0	2.0	.1	1.1	41	23	6	65	6.6	3	--	--
Sept. 11-16.....	1,683	4.1	.07	12	2.0	2.7	1.6	34	11	3.0	.1	2.2	66	38	10	86	7.1	12	--	--
Sept. 17-30.....	1,569	3.3	.05	6.5	1.3	2.2	1.1	21	9.8	1.5	.1	.8	39	22	5	64	6.8	5	--	--
Time-weighted average.....	4,358	5.0	0.06	7.1	1.6	2.4	1.0	20	10	3.0	0.1	1.2	45	26	10	65	--	4	--	--

DELAWARE RIVER BASIN--Continued

1-4340. DELAWARE RIVER AT PORT JERVIS, N.Y.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	58	62	63	58	61	58	58	57	61	64	68	56	53	52	67	59	56	57	50	55	54	54	57	58	55	50	48	48	48	46	42	56
November...	48	46	46	47	45	48	47	47	49	45	47	47	48	48	47	50	57	50	49	50	46	46	45	43	40	43	40	40	38	35	--	46
December...	34	--	37	38	38	35	35	35	35	35	35	35	35	--	36	35	34	34	34	32	--	32	32	34	33	34	--	38	34	35	35	35
January....	38	35	35	35	33	34	34	34	34	34	35	35	38	33	38	35	37	33	34	37	35	34	35	35	35	--	34	34	--	38	34	35
February...	35	33	34	38	42	38	34	45	33	32	--	35	32	35	38	40	36	34	--	34	34	34	34	33	35	37	42	41	--	--	--	36
March.....	38	39	38	37	40	42	41	34	35	40	38	34	37	36	36	38	35	33	39	39	38	35	36	36	36	38	40	37	41	40	38	38
April.....	43	45	45	42	45	40	--	--	46	45	43	45	45	45	45	52	56	55	55	53	54	53	52	54	54	57	55	--	50	53	--	49
May.....	--	--	--	56	58	--	64	54	56	65	70	66	65	64	60	58	56	60	60	68	68	68	70	65	66	67	71	74	74	73	72	65
June.....	66	56	67	66	67	68	70	70	76	74	72	74	--	63	63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
July.....	--	--	--	--	--	68	--	--	--	--	--	--	--	--	74	75	77	78	85	81	78	77	75	76	72	74	78	79	80	81	77	--
August.....	79	76	76	74	67	69	73	71	71	74	76	74	77	78	79	81	82	82	79	81	78	79	73	71	75	77	78	78	77	78	76	79
September..	--	76	75	77	76	77	76	77	80	79	74	68	67	65	62	64	67	62	65	68	66	61	62	60	76	60	58	66	57	60	--	68

DELAWARE RIVER BASIN--Continued

1-4340. DELAWARE RIVER AT PORT JERVIS, N.Y.--Continued

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	2,670			8,180	6	133	6,880		
2...	2,940			9,100	2	49	6,250		
3...	2,780	--	e 33	8,510	4	92	6,320	3	51
4...	2,090			12,300	18	598	5,900		
5...	1,710			9,670	10	261	5,930		
6...	1,740	4	19	8,470	4	91	7,180		
7...	1,810			7,140	4	77	7,070		
8...	1,730			6,250	4	68	5,780	4	66
9...	1,900			5,560			5,650		
10...	1,660			5,370	3	44	5,090		
11...	1,640	--	e 13	5,150			4,590		
12...	1,370			5,040			4,230		
13...	1,510			4,650	2	26	3,630	4	43
14...	1,940	2	10	4,670			3,570		
15...	1,930			4,120			3,670		
16...	1,820			4,070			4,300		
17...	1,730	--	e 10	5,100			4,280		
18...	1,900			5,210	6	83	3,650	4	34
19...	1,620			5,460			3,660		
20...	1,510	1	4.1	5,840			3,200		
21...	1,830	2	a 11	5,830			3,110		
22...	2,000	2	a 11	5,130			2,730		
23...	2,430	2	a 11	4,300	2	27	3,500		
24...	3,020	2	16	4,600			2,940		
25...	3,150	2	17	4,710			1,930		
26...	8,900	56	s 1,590	4,630			2,250	--	e 21
27...	15,500	58	s 2,460	4,230			2,640		
28...	13,900	19	s 720	4,080	4	62	1,980		
29...	12,000	10	324	7,200			1,930		
30...	11,300	6	183	8,720			2,780		
31...	9,650	7	182	--			2,480		
Total	121,680	--	5,864.1	183,290	--	2,447	129,100	--	1,188

Day	January			February			March		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	2,620	1	7.1	5,050	5	68	3,370		
2...	1,860			3,510	1	9.5	4,110		
3...	2,380			3,760	2	b 22	4,450	14	158
4...	2,190			3,720	2	b 22	4,800		
5...	2,200			4,560	2	b 22	4,710	16	203
6...	3,160			5,530	3	45	8,060	94	sa 2,690
7...	3,020	--	e 14	4,440	2	24	13,400	124	sa 4,650
8...	3,320			2,900			9,380	27	684
9...	3,570			2,980	--	e 16	6,500	28	491
10...	3,270			5,420			6,020	8	130
					14	293			
11...	1,640			10,100			5,210	11	155
12...	1,830			7,920			4,880	5	66
13...	2,770			5,920			4,180	3	34
14...	2,730			5,050			3,560	4	39
15...	2,630	2	15	6,350	12	205	3,450	12	205
16...	2,910			6,460			4,560	17	209
17...	2,860			6,000			7,410	22	440
18...	2,070	--	e 13	5,540	18	264	6,760	11	201
19...	2,300			4,760			5,020	6	81
20...	3,370	2	18	4,310			5,770	5	a 78
21...	3,160	1	a 8.5	3,410			10,500	54	sa 1,570
22...	30,700	229	sa 30,800	2,520			10,800	64	s 1,840
23...	28,700	190	14,700	2,490			8,490	20	458
24...	12,700	30	1,030	3,260			7,470	14	282
25...	8,130	22	483	3,600	--	e 139	7,790	16	337
26...	7,660	27	558	3,260			10,100	26	709
27...	6,270	6	102	3,070			12,000	40	1,300
28...	5,330	6	86	2,990			10,200	18	496
29...	4,660	6	75	--	--	--	7,690	14	291
30...	4,490	4	48	--	--	--	6,920	15	280
31...	5,230	4	56	--	--	--	6,910	4	75
Total	169,730	--	48,224.6	128,880	--	3,898.5	214,490	--	18,626

e Estimated.
s Computed by subdividing day.
a Computed from partly estimated-concentration graph.
b Computed from estimated-concentration graph.

DELAWARE RIVER BASIN--Continued

1-4340. DELAWARE RIVER AT PORT JERVIS, N.Y.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	9,350	45	1,140	9,120	12	295	1,510	4	17
2...	13,700	122	s 5,340	7,970	6	129	1,700		
3...	37,900	543	sa 56,000	7,110	14	269	2,490	4	27
4...	26,500	156	s 11,500	6,490	5	88	2,250	3	18
5...	19,300	35	1,730	5,750			2,150		
6...	14,400	74	2,880	4,840	4	51	1,580		
7...	13,800	16	596	4,420			1,180		
8...	11,800	13	414	3,990			1,060		
9...	11,100	13	390	3,480			1,240		
10...	11,600	52	1,630	3,120			1,570		
11...	14,900	31	1,250	3,210	4	36	1,730		
12...	13,000	13	456	3,530			1,360		
13...	10,800	7	204	3,500			1,490		
14...	8,960	12	290	3,390			1,560		
15...	7,850	16	339	3,590			1,530		
16...	6,630	6	107	2,990	2	16	1,510		
17...	5,950	5	80	2,380			1,510	--	e 13
18...	5,850	6	95	2,640			1,490		
19...	5,370	6	87	2,720			1,490		
20...	6,240	24	404	2,800			1,510		
21...	8,260	17	379	2,980	2	15	1,480		
22...	7,180	8	155	2,900			1,730		
23...	6,030	4	65	2,250			1,640		
24...	5,160	9	126	1,700			1,770		
25...	5,060	8	109	1,730			1,900		
26...	4,950	10	134	1,810	2	11	2,360		
27...	5,700	9	139	2,160			1,890		
28...	10,100	16	436	2,520			1,740		
29...	11,300	22	s 669	2,010			1,940		
30...	9,980	16	430	1,320	4	17	2,470		
31...	--	--	--	1,330			--	--	--
Total	327,730	--	87,574	109,750	--	1,426	50,830	--	417

	July			August			September		
1...	1,810			1,980	--	e 9.7	2,100		
2...	1,510			1,370			2,740		
3...	1,570			1,310	2	7.1	2,480		
4...	1,310			1,330			2,010		
5...	1,290			1,580			1,680		
6...	1,350			1,730	--	e 7.9	1,150	--	e 9.6
7...	1,310	--	e 13	1,530			1,340		
8...	1,360			1,190			1,340		
9...	1,310			1,390			1,280		
10...	1,700			1,720	2	9.3	1,580		
11...	2,060			2,260			2,170	10	b 59
12...	1,640			1,990			2,230	136	819
13...	1,480			1,540			1,680	16	73
14...	1,210			2,000	--	e 9.9	1,170	3	9.5
15...	1,510	2	8.2	1,800			1,440		
16...	1,410			1,420			1,410		
17...	1,280			1,680	2	9.1	1,340		
18...	1,410	--	e 11	1,900			1,290		
19...	1,330			1,620			1,420		
20...	1,620			1,230			1,180		
21...	2,920	8	63	1,490	--	e 8.2	1,170		
22...	2,970	6	48	1,750			1,550	--	e 13
23...	2,370			1,140			1,890		
24...	1,880	--	e 21	1,140	2	6.2	1,910		
25...	1,530			1,240			1,810		
26...	997	2	5.4	1,550			1,500		
27...	1,300			1,920	--	e 8.5	1,020		
28...	1,900	--	e 9.7	1,920			1,170		
29...	1,830			1,530			2,240		
30...	2,070			1,270			2,480		
31...	2,060			1,440	1	3.9	--	--	--
Total	51,297	--	473.1	48,970	--	262.0	49,750	--	1,264.5

Total discharge for year (cfs-days)..... 1,585,487
Total load for year (tons)..... 171,664.8

e Estimated.
s Computed by subdividing day.
a Computed from partly estimated-concentration graph.
b Computed from estimated-concentration graph.

1-4340. DELAWARE RIVER AT PORT JERVIS, N.Y.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Sampling point	Water temperature (°F)	Discharge (cfs)	Sediment concentration (ppm)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
						0.001	0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Mar. 6, 1959 a	1600, 1650		--	10,800	104		10	25	43	64	77	88	91	98	99	100	BWC
Mar. 7 a	0900, 1700		40	11,800	89		21	35	48	64	76	84	89	96	99	100	BWC
Apr. 2 a	0900, 2030		45	12,600	213		5	10	14	22	30	43	54	88	95	100	BWC
Apr. 3 a	1630, 1720		42	39,600	621		8	14	22	31	40	49	56	65	70	100	BWC
Apr. 3 a	1215, 1830		43	38,500	447		9	17	25	38	52	66	76	88	90	100	BWC
Apr. 4 a	1000, 1915		43	25,700	250		7	15	24	37	49	72	87	99	100	100	BWC

a Composite sample.

DELAWARE RIVER BASIN--Continued

1-4385. DELAWARE RIVER AT MONTAGUE, N.J. (MILFORD, PA.)

LOCATION.--At center of toll bridge at Montague, N.J., Sussex County, 0.4 mile downstream from gaging station and approximately 1.2 miles downstream from Saw Kill.
DRAINAGE AREA.--3,480 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1956 to September 1959.
Water temperatures: October 1956 to December 1957.
EXTREMES, 1956-57.--Specific conductance: Maximum daily, 163 micromhos June 18, 1957; minimum daily, 46 micromhos Apr. 7, 1957.
Water temperatures: Maximum, 81°F July 22, 1957; minimum, freezing point Feb. 1, 1957.
REMARKS.--Records of specific conductance and temperatures of daily samples available in district office at Philadelphia, Pa. Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 10, 1958.....	1,840	1.1	0.00	7.2	1.9	1.8	1.1	22	11	1.6	0.0	0.2	40	26	7	69	6.1	3
Nov. 12.....	5,450	3.6	.00	5.6	1.5	1.2	1.0	12	11	2.2	.0	1.3	35	20	10	54	6.3	3
Dec. 11.....	4,650	3.6	.02	6.0	1.7	3.0	.7	15	12	2.4	.0	.7	44	22	10	62	6.8	5
Jan. 12, 1959.....	1,750	2.0	.02	7.2	1.7	3.0	.7	17	12	3.6	.2	1.3	50	25	11	70	6.6	4
Feb. 11.....	12,000	2.9	.03	4.8	1.5	2.8	1.8	9	12	3.2	.1	2.1	45	18	11	56	6.1	7
Mar. 11.....	5,530	3.0	.00	6.5	.6	1.5	1.2	10	10	3.0	.2	1.5	35	19	11	56	6.4	3
Apr. 15.....	8,950	2.6	.00	4.1	1.9	3.0	.8	10	9.5	2.8	.2	2.3	50	18	10	51	5.7	3
May 20.....	2,860	.8	.00	5.7	2.4	3.0	.8	20	10	3.0	.2	1.3	40	24	8	62	6.0	3
June 17.....	1,890	1.5	.00	5.7	1.9	3.5	1.0	20	9.1	3.0	.2	1.6	37	22	6	62	6.3	3
July 15.....	1,480	2.2	.01	7.3	1.1	2.7	1.6	19	8.9	3.4	.0	.5	43	23	7	65	6.3	5
Aug. 19.....	1,690	2.6	.02	6.5	1.3	2.2	1.0	16	11	3.2	.0	.5	37	22	9	60	6.3	3
Sept. 16.....	1,590	1.4	.00	6.9	1.1	3.3	1.0	16	12	3.2	.1	1.0	37	22	9	63	6.1	2

1-4530. LEHIGH RIVER AT BETHLEHEM, PA.

LOCATION.--At gaging station, 1,650 feet upstream from Minsi Trail Bridge at Bethlehem, Northampton County, and 2,400 feet downstream from Monocacy Creek.
DRAINAGE AREA.--1,279 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 15, 1958.....	830	7.1	0.07	24	8.8	8.0	3.3	64	48	7.0	0.2	9.7	150	96	44	242	7.1	4
Nov. 18.....	1,600	6.4	.01	14	5.1	5.0	1.6	31	31	4.0	.0	6.7	96	56	31	148	6.6	3
Feb. 11, 1959.....	4,500	3.9	.00	9.2	3.4	4.3	2.2	14	25	4.5	.3	5.1	76	37	26	112	6.7	3
Mar. 30.....	2,270	--	--	--	--	3.2	--	26	33	4.4	--	5.0	--	59	38	145	6.4	4
Apr. 21.....	3,100	4.9	.00	9.8	5.2	5.0	1.0	18	28	6.0	.2	3.9	80	46	31	117	6.0	2
May 5	2,130	--	--	--	--	2.8	--	23	32	3.4	--	3.3	112	54	35	129	6.6	4
June 23.....	944	--	--	--	--	6.9	--	43	51	5.0	--	7.4	146	86	51	223	7.4	4
July 31.....	1,150	--	--	--	--	7.6	--	34	57	6.6	--	4.5	--	84	56	222	6.9	3
Sept. 15.....	813	8.7	.00	26	11	8.7	2.0	56	60	6.5	.6	7.1	174	110	64	264	7.0	5

1-4635. DELAWARE RIVER AT TRENTON, N.J. (MORRISVILLE, PA.)

LOCATION.--At Calhoun Street Bridge, Bucks County, Pennsylvania side, 200 feet downstream from gaging station, which is 0.5 mile upstream from Assunpink Creek. Chemical quality samples collected at Morrisville Filter Plant; sediment samples collected at midstream from bridge.
DRAINAGE AREA.--6,780 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1944 to September 1959.
Water temperatures: October 1944 to January 1955, December 1955 to September 1959.
Sediment records: September 1949 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 92°F June 30; minimum, freezing point Dec. 13, Jan. 7.
Hardness: Maximum, 142 ppm Sept. 15; minimum, 32 ppm Apr. 4-16.
Specific conductance: Maximum daily, 400 micromhos Jan. 24; minimum daily, 74 micromhos Apr. 5.
Sediment concentrations: Maximum daily, 580 ppm Mar. 7; minimum daily, 2 ppm on many days in September.
Sediment loads: Maximum daily, 62,200 tons Mar. 7; minimum daily, 16 tons Sept. 20-30.
EXTREMES, 1944-59.--Water temperatures: Maximum, 93°F June 18, 1957; minimum, freezing point on many days during winter months.
Dissolved solids (1944-47, 1950-51, 1953-59): Maximum, 156 ppm Oct. 1-9, 1953; minimum, 44 ppm Mar. 21-31, 1945.
Hardness (1944-47, 1949-59): Maximum, 142 ppm Sept. 15, 1959; minimum, 25 ppm Feb. 21-28, 1954, Apr. 1-10, 1955.
Specific conductance: Maximum daily, 400 micromhos Jan. 24, 1959; minimum daily, 58 micromhos Apr. 1, 1951.
Sediment concentrations (1949-59): Maximum daily, 1,720 ppm Nov. 26, 1950; minimum daily, 0 ppm Oct. 21, 1952.
Sediment loads (1949-59): Maximum daily, 1,087,000 tons Aug. 20, 1955; minimum daily, 0 tons Oct. 21, 1952.
REMARKS.--Records of specific conductance of daily samples available in district office at Philadelphia, Pa. Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-27, 1958	5,940	2.3		18	6.3	6.0	1.6	53	27	5.2	0.2	3.3	92	71	28	172	7.4	5
Oct. 28-Nov. 7	19,600	--		--	--	1.8	--	26	19	3.5	--	1.7	--	44	23	101	6.9	8
Nov. 8-27	9,890	--		--	--	5.3	--	36	21	4.2	--	1.5	--	47	18	120	7.3	8
Nov. 28-30	14,800	--		--	--	--	--	41	24	--	--	--	--	--	--	140	7.3	--
Dec. 1-10	14,300	6.0		10	4.4	3.2	1.0	28	21	4.4	.1	3.8	85	43	20	117	7.1	3
Dec. 11-24	7,750	--		--	--	6.4	--	36	25	5.2	--	4.7	98	53	24	140	7.3	4
Dec. 25-Jan. 16,1959	5,950	--		--	--	6.9	--	42	30	6.1	--	6.1	112	64	30	167	7.1	4
Jan. 17	5,740	--		--	--	--	--	59	49	--	--	--	--	--	--	245	7.1	--
Jan. 18-23	15,700	--		--	--	9.2	--	42	32	7.2	--	6.1	113	63	29	174	7.2	5
Jan. 24	39,600	--		--	--	--	--	69	99	--	--	--	--	--	--	400	7.8	--
Jan. 25-Feb. 1	12,600	--		--	--	8.5	--	26	24	5.6	--	3.8	89	39	18	122	7.3	4
Feb. 2-11	10,300	--		--	--	6.7	--	31	26	5.6	--	5.0	84	50	25	134	7.1	5
Feb. 12-20	15,100	--		--	--	6.4	--	28	22	5.4	--	4.3	77	43	20	119	7.2	8
Feb. 21-Mar. 7	9,950	--		--	--	6.7	--	37	27	6.0	--	4.2	91	56	26	147	7.2	5
Mar. 8-22	14,600	6.0		11	4.3	4.2	1.6	30	21	5.0	.3	3.9	75	45	21	118	6.6	3

Mar. 23-30, Apr. 3, 1959	18,300	--		--	--	6.4	--	27	18	3.7	--	3.2	67	34	12	95	6.7	5
Apr. 4-16	27,300	4.5		8.2	2.8	3.5	1.0	20	16	3.4	.2	2.7	50	32	16	95	6.6	3
Apr. 17-26	13,500	--		--	--	6.4	--	29	20	3.6	--	2.4	67	38	14	111	6.6	4
May 13-26	6,560	--		--	--	6.7	--	44	23	4.5	--	2.6	87	54	18	147	7.1	4
May 27-June 10	4,990	--		--	--	8.3	--	50	27	6.1	--	4.3	112	63	22	171	6.9	4
June 11-28	4,270	--		--	--	8.0	--	52	30	7.0	--	3.8	114	69	27	180	7.1	3
June 29-July 7	3,730	--		--	--	7.6	--	51	28	5.8	--	3.3	109	65	23	170	7.1	5
July 8-14	3,550	6.1		18	6.6	5.5	2.2	58	30	7.1	.2	3.0	122	72	25	192	7.2	5
July 15-31	4,130	--		--	--	6.4	--	49	29	6.0	--	2.1	108	66	26	171	7.0	3
Aug. 1-26, 29-30	4,060	--		--	--	7.6	--	52	30	6.6	--	3.0	110	69	27	176	6.9	4
Aug. 31-Sept. 3	6,420	--		--	--	10	--	52	36	7.8	--	4.3	121	72	30	189	7.2	7
Sept. 4-5	9,500	--		--	--	--	--	80	64	--	--	--	--	112	--	329	7.6	--
Sept. 6-14	4,250	--		--	--	7.4	--	56	33	6.9	--	3.9	124	77	31	192	7.2	9
Sept. 15	3,720	--		--	--	--	--	70	83	--	--	--	--	142	--	347	6.7	--
Sept. 16-30	3,030	2.4		20	6.1	9.5	1.3	57	31	7.4	.2	2.4	122	75	29	194	7.3	4
Time-weighted average	9,090	--		--	--	--	--	42	27	5.5	--	3.5	98	58	24	153	--	5

DELAWARE RIVER BASIN--Continued

1-4635. DELAWARE RIVER AT TRENTON, N.J. (MORRISVILLE), PA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
[Recorder with temperature attachment, continuous gas-actuated thermograph]

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum	63	62	61	62	62	60	61	62	66	68	63	61	58	56	61	64	66	65	62	61	58	57	59	62	60	57	53	52	50	50	51	60
Minimum	61	59	60	59	59	56	55	57	60	62	59	57	56	54	55	58	61	60	57	56	55	56	57	58	57	53	52	50	49	48	49	56
November																																
Maximum	50	50	49	48	48	48	49	48	49	48	48	49	48	49	49	50	50	52	53	52	51	50	47	47	46	44	44	42	42	40	--	48
Minimum	49	49	47	46	46	47	47	46	47	47	47	48	48	48	48	49	50	50	51	50	49	47	46	46	44	44	42	41	40	36	--	46
December																																
Maximum	36	36	36	38	39	39	37	35	33	35	34	38	33	36	33	33	33	35	36	37	34	33	33	35	34	33	33	33	35	39	37	35
Minimum	35	35	35	36	38	36	35	33	33	33	33	33	32	33	33	33	33	33	34	34	33	33	33	33	33	33	33	33	33	35	35	34
January																																
Maximum	37	37	37	36	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	34	39	37	34	34	34	34	34	35	37	38	34
Minimum	35	36	35	34	33	33	32	33	33	33	33	33	33	33	33	33	33	33	33	33	33	34	33	33	33	33	33	33	33	35	36	33
February																																
Maximum	35	34	34	35	38	37	36	36	35	35	37	36	36	37	37	37	38	38	37	35	33	35	35	38	39	39	39	41	--	--	--	36
Minimum	33	33	33	33	35	35	34	35	34	34	35	34	34	36	36	35	36	37	35	33	33	33	34	35	35	36	37	39	--	--	--	35
March																																
Maximum	41	42	44	45	45	44	43	40	39	39	40	39	38	38	41	42	43	42	42	44	47	46	43	43	44	47	46	44	44	43	45	43
Minimum	39	40	40	42	42	42	40	37	36	38	38	36	35	37	37	40	41	41	40	41	44	43	40	40	41	44	44	43	41	41	42	40
April																																
Maximum	47	47	49	48	45	46	48	51	52	52	51	50	47	49	52	54	57	58	58	58	58	57	56	58	59	60	60	57	56	56	--	53
Minimum	44	47	46	43	43	44	45	47	50	51	50	46	45	46	47	50	53	56	56	57	56	55	54	54	56	58	57	54	54	53	--	51
May																																
Maximum	57	57	60	61	62	65	67	67	66	65	67	72	70	69	67	65	64	67	68	72	75	79	78	75	76	75	78	82	82	83	82	70
Minimum	54	56	56	57	59	61	63	65	63	63	63	66	68	67	63	61	62	62	65	65	69	72	73	72	69	69	70	73	76	76	76	66
June																																
Maximum	78	74	75	76	78	78	80	83	87	87	86	83	81	75	72	71	69	71	73	77	80	80	82	82	82	84	86	85	88	92	--	80
Minimum	73	69	69	72	74	73	73	75	77	79	79	77	75	70	67	67	66	65	66	67	71	74	76	75	75	77	80	80	80	84	--	74
July																																
Maximum	88	86	87	88	86	84	85	86	86	82	86	81	85	81	78	79	84	84	87	83	86	84	85	85	83	85	86	90	91	87	87	85
Minimum	83	81	79	78	78	78	76	75	76	78	76	79	78	78	75	75	75	77	78	79	79	80	81	81	80	77	79	80	81	83	82	79
August																																
Maximum	89	86	86	82	76	74	73	--	--	--	--	--	-	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum	81	80	77	76	72	72	72	--	--	--	--	-	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
September																																
Maximum	--	--	--	--	--	--	--	--	85	84	82	79	78	77	76	73	72	69	70	71	72	75	77	78	78	77	77	79	80	80	--	--
Minimum	--	--	--	--	--	--	--	--	81	80	76	72	71	71	71	68	64	64	61	62	64	67	69	71	72	70	71	73	75	75	--	--

DELAWARE RIVER BASIN--Continued

1-4635. DELAWARE RIVER AT TRENTON, N.J. (MORRISVILLE, PA.)--Continued

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	7,300	17	335	17,500	10	472	17,700	33	1,580
2...	8,600	22	511	15,200	8	328	14,700	17	675
3...	8,300	18	403	14,600	6	240	13,400	12	434
4...	7,550	14	280	18,000	8	380	14,900	8	322
5...	6,650	10	180	21,400	12	693	14,600	7	280
6...	5,500	5	74	18,100	9	440	14,600	5	197
7...	4,740	4	51	16,100			15,200	6	246
8...	4,490			14,100	5	184	13,900	4	150
9...	4,460			12,700			12,100		
10...	4,280	4	46	11,500			11,700		
11...	4,240			10,900			10,000	4	113
12...	3,880			10,600			9,000		
13...	3,760			9,680			9,680		
14...	3,530			9,500			8,750		
15...	3,760			9,200	3	78	7,400		
16...	4,210			8,950			8,450	4	87
17...	4,180			8,600			7,700		
18...	3,920	5	51	9,200			7,800		
19...	3,720			10,100			7,950	3	64
20...	3,760			9,900			7,700		
21...	3,560			9,900			7,300		
22...	3,420			10,000	3	76	6,020		
23...	4,660	10	126	9,500			5,300		
24...	6,400	15	259	8,450			5,500		
25...	8,200	25	554	7,900			6,800	3	46
26...	12,700	70	2,400	8,700	3	70	5,000		
27...	20,600	150	8,340	8,350	3	68	4,500		
28...	27,800	135	10,100	8,200	3	66	5,000		
29...	25,400	55	3,770	17,100	33	1,520	5,200		
30...	22,100	25	1,490	19,000	38	1,950	5,020		
31...	19,600	13	688	--	--	--	4,980		
Total	255,270	--	30,301	362,930	--	8 .9	287,850	--	5,500

Day	January			February			March		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	5,340	.3	43	9,260	6	150	6,750		
2...	11,000	110	3,270	8,450	5	114	6,500	4	78
3...	12,200	142	4,680	6,750	10	182	7,200		
4...	8,150	54	1,190	9,660	50	1,300	8,350		
5...	6,000	15	243	15,200	132	5,420	8,450	5	114
6...	4,500			10,600	48	1,380	15,000	147	s 7,760
7...	5,000			9,500	19	487	39,400	580	s 62,200
8...	5,200			9,150	10	247	29,600	164	s 13,600
9...	5,100			7,250	6	117	20,800	60	3,370
10...	5,000	--	b 80	8,700	5	117	15,600	38	1,600
11...	5,000			17,600	--	b 3,400	13,800		
12...	4,500			20,300	79	4,330	12,700	12	392
13...	4,200			15,200	30	1,230	11,400		
14...	4,800			13,300	18	646	10,500		
15...	5,000			18,600	92	4,620	10,200	11	303
16...	5,200	--	b 50	16,600	84	3,760	11,500	12	373
17...	5,100			14,100	33	1,260	12,400	13	435
18...	5,000			12,700	15	514	15,000	15	608
19...	4,500			13,800	25	932	14,000		
20...	4,200			11,000	23	683	11,700	9	309
21...	7,000	--	e 170	8,700	17	399	12,300		
22...	21,900	--	e 4,000	7,650	12	248	17,800	18	865
23...	50,000	--	b 30,000	7,040			18,400	31	1,540
24...	39,600	198	s 22,200	6,700			15,500	24	1,000
25...	21,800	70	4,120	6,750	5	93	13,800	16	600
26...	16,100	27	1,170	6,900			13,700	13	481
27...	13,800	17	633	7,000			16,200	23	1,010
28...	11,600	12	376	6,880			19,900	25	1,340
29...	9,800	8	212	--	--	--	18,200	17	835
30...	9,200	7	174	--	--	--	15,100	13	530
31...	9,380	7	177	--	--	--	15,300	11	454
Total	325,170	--	73,618	305,340	--	32,094	457,050	--	101,825

e Estimated.
s Computed by subdividing day.
b Computed from estimated-concentration graph.

DELAWARE RIVER BASIN--Continued

1-4635. DELAWARE RIVER AT TRENTON, N.J. (MORRISVILLE, PA.)--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	14,600	11	463	18,400	12	596	3,680	7	70
2...	16,600			17,200	10	464	3,650	6	60
3...	33,900	105	s 11,600	15,300	9	372	6,300	12	204
4...	55,700	350	s 53,200	13,900	7	260	8,150	20	440
5...	41,400	155	17,300	12,700	6	206	6,750	22	401
6...	31,500	58	4,930	11,400	4	118	6,100	19	313
7...	26,300	32	2,270	10,400			5,460	17	251
8...	24,300	22	1,440	9,740	4	105	4,660	16	201
9...	21,400			8,950	4	97	3,960	11	118
10...	20,200			8,300			3,590		
11...	22,200	16	1,000	7,650			3,470		
12...	28,200			7,200	7	150	3,620	14	156
13...	25,300			7,500			4,240		
14...	22,100			8,450			4,700		
15...	19,500			8,450			5,100		
16...	17,100			7,850			4,600		
17...	15,500			7,400			4,210		
18...	14,100	9	369	6,700			4,040	8	91
19...	13,400			6,060			3,960		
20...	13,100			6,140			3,860		
21...	13,800			6,140	5	85	3,790		
22...	16,400			6,020			3,720	6	63
23...	14,700			6,020			3,790		
24...	12,700			5,740			4,140		
25...	11,200	7	238	4,980			3,960		
26...	10,500			4,460			4,860	10	131
27...	10,300			4,320			5,340	9	130
28...	12,000	8	259	4,280	7	85	5,500	9	134
29...	18,000	15	729	4,600			4,600	9	112
30...	20,200	19	1,040	5,020			4,100	8	89
31...	--	--	--	4,350			--	--	--
Total	616,200	--	103,705	255,620	--	4,596	137,930	--	4,332

Day	July			August			September		
1...	4,070	14	154	4,280			5,780	37	577
2...	4,180	14	158	4,140			5,820	37	581
3...	3,760	12	122	3,650			9,700	--	b 2,100
4...	3,350	10	90	3,230			11,700	--	b 3,200
5...	3,350			3,200	13	135	7,300	--	b 1,300
6...	3,140			3,900			5,700	--	b 600
7...	3,050			4,180			4,780	--	b 260
8...	3,110			4,140			3,930	10	106
9...	3,020	14	115	6,400	--	a 650	3,620	7	68
10...	2,990			6,180	--	a 600	3,590		
11...	2,900			6,180	35	584	3,760		
12...	4,350			5,540	15	218	4,100		
13...	4,380			5,220			4,490		
14...	4,070			4,490			4,240	5	49
15...	4,660	26	279	3,790	6	64	3,720		
16...	3,820			3,960			3,200		
17...	3,350			3,820			3,110		
18...	3,170			3,590			3,110		
19...	2,930			3,590			2,960		
20...	3,290	12	114	3,680			2,930		
21...	3,590			3,260	4	36	3,050		
22...	4,320			2,750			2,870		
23...	5,660	27	413	3,060			2,780		
24...	6,880	50	929	3,440			2,990		
25...	6,500	42	737	2,990			3,350	2	16
26...	4,780	15	194	2,960	4	36	3,320		
27...	3,960			2,960			3,230		
28...	3,200	11	101	3,500			2,990		
29...	2,960			4,040			2,630		
30...	3,470			4,040	--	b 110	2,900		
31...	3,650	12	118	4,380	--	b 180	--	--	--
Total	119,910	--	6,508	124,580	--	4,358	127,650	--	9,458

Total discharge for year (cfs-days)..... 3,375,480
Total load for year (tons)..... 384,412

s Computed by subdividing day.
a Computed from partly estimated-concentration graph.
b Computed from estimated-concentration graph.

1-4635. DELAWARE RIVER AT TRENTON, N.J. (MORRISVILLE, PA.)--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Sampling point	Water temperature (°F)	Discharge (cfs)	Sediment concentration (ppm)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
						0.001	0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Mar. 7, 1959.....	9:00 a.m.		40	41,900	3,580		24	37	53	68	86	96	--	--	--		BWCM
Apr. 4.....	8:10 a.m.		47	60,400	1,300		8	14	22	33	46	62	76	--	--		BWCM
Apr. 4.....	12:55 p.m.		47	58,100	2,650		11	19	31	41	58	69	83	96	98		BWCM
Apr. 4.....	12:55 p.m.		47	58,100	2,450		--	4	10	20	38	70	91	97	99		BN
Apr. 4.....	2:55 p.m.		47	55,600	2,840		7	14	28	41	56	69	79	88	96		BSWCM

DELAWARE RIVER BASIN--Continued

1-4646. DELAWARE RIVER AT BRISTOL, PA.-BURLINGTON, N.J. BRIDGE

LOCATION.--Three hundred feet upstream from the Bristol-Burlington Bridge.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1959.
Water temperatures: October 1954 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 85°F June 30; minimum, freezing point on many days during December and January.
REMARKS.--Samples collected at center of stream approximately 3 feet from bottom. Additional data published in WSP 1262, Chemical characteristics of Delaware River water, Trenton, N.J., to Marcus Hook, Pa. Records of discharge for gaging station at Trenton, N.J., for water year October 1957 to September 1958 given in WSP 1552.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color	Biochemical oxygen demand [a]	Dissolved oxygen [a]
Oct. 3, 1958....	8,300	5.4	0.26	19	5.6	4.2	3.8	43	32	6.5	0.2	3.9	109	71	36	174	7.2	2	2.6	9.4
Nov. 6.....	18,100	5.6	.13	12	3.2	3.0	2.1	28	22	4.5	.1	2.0	73	43	20	111	6.6	6	1.4	11.2
Dec. 3.....	13,400	4.1	.21	11	3.9	3.5	1.1	29	22	3.9	.1	2.0	62	44	20	110	7.1	17	2.6	13.2
Feb. 4, 1959....	9,660	6.4	.18	12	3.9	4.8	2.0	33	26	6.2	.2	3.2	82	46	23	137	7.3	5	2.2	11.2
Mar. 4.....	8,350	5.2	.19	14	4.6	6.0	1.7	34	26	7.2	.1	6.1	94	54	26	156	6.9	8	.5	11.0
Apr. 8.....	24,300	5.2	.00	8.2	3.3	2.0	1.1	18	18	3.6	.2	3.4	58	34	19	88	6.7	3	2.8	11.2
May 7.....	10,400	3.0	.12	10	3.8	4.0	1.3	26	21	4.6	.2	2.0	90	41	19	112	7.0	5	2.0	8.3
June 1.....	3,680	.0	.00	16	5.7	7.2	2.0	44	30	7.4	.2	3.6	95	64	28	170	6.5	5	2.2	7.0
July 1.....	4,070	.8	.00	17	6.2	9.0	2.3	48	32	9.4	.4	6.4	132	68	29	192	6.0	3	1.2	7.5
Aug. 3.....	3,650	4.0	.00	17	5.5	7.2	2.2	42	33	7.6	.2	4.6	98	65	31	173	6.6	3	1.3	5.4
Sept. 3.....	9,700	3.3	.00	18	5.5	7.2	2.1	46	33	7.6	.2	5.1	102	68	30	178	7.6	3	3.8	5.2

a Samples collected approximately 3 feet from surface.

Temperature (°F) of water, water year October 1958 to September 1959
[Recorder with temperature attachment, continuous mercury-actuated thermograph]

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	65	63	61	60	60	59	59	59	60	61	60	59	60	59	60	61	61	60	59	59	59	58	59	59	59	57	56	52	49	48	49	58
Minimum.....	62	60	60	59	59	57	57	58	58	58	58	58	58	58	58	58	58	58	58	58	58	57	57	57	56	55	52	49	48	47	47	56
November																																
Maximum.....	49	48	47	47	47	47	47	47	47	47	47	47	47	47	47	48	48	50	50	51	50	48	47	47	46	46	45	44	44	40	--	47
Minimum.....	48	47	47	46	46	46	46	46	46	46	47	47	47	47	47	47	47	48	49	49	48	47	47	46	45	44	42	42	40	37	--	46
December																																
Maximum.....	37	35	34	35	36	37	37	36	34	35	33	33	34	34	33	34	33	33	34	34	34	34	34	34	35	35	35	34	34	34	34	34
Minimum.....	34	34	33	33	34	36	35	34	34	32	32	32	32	33	33	33	32	33	33	33	33	33	33	34	34	34	34	33	33	33	33	33

January																														
Maximum.....	34	35	36	36	36	36	37	37	38	37	37	34	33	33	33	33	33	33	33	--	--	--	--	--	--	--	--	--	--	--
Minimum.....	34	34	35	35	35	35	36	36	36	36	34	32	32	32	32	32	32	32	32	--	--	--	--	--	--	--	--	--	--	--
February																														
Maximum.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
March																														
Maximum.....	--	--	--	--	--	--	--	--	--	--	--	--	38	38	39	41	43	43	43	43	45	45	44	43	44	45	45	45	45	44	44	--
Minimum.....	--	--	--	--	--	--	--	--	--	--	--	--	37	36	37	39	40	41	41	41	43	43	42	41	42	43	44	43	43	43	43	--
April																														
Maximum.....	46	48	49	49	46	46	48	49	53	53	53	52	49	49	50	53	55	57	58	58	58	58	57	56	57	58	58	57	56	56	--	53
Minimum.....	43	44	47	46	44	44	45	47	49	52	52	49	48	47	47	49	52	54	56	57	56	56	55	55	55	56	57	56	55	54	--	51
May																														
Maximum.....	56	56	58	60	61	62	64	66	66	66	66	67	67	69	68	66	65	65	65	67	69	72	73	74	74	74	74	75	76	77	78	68
Minimum.....	54	55	56	57	59	60	62	64	64	65	64	65	66	67	66	65	63	63	64	64	66	68	70	71	71	72	72	72	74	74	76	65
June																														
Maximum.....	77	77	76	76	75	75	76	77	78	79	80	80	80	79	77	75	74	73	72	72	72	74	75	77	78	79	81	81	83	85	--	77
Minimum.....	76	75	75	74	73	73	74	75	76	77	78	78	78	77	74	72	71	70	69	70	71	72	73	74	75	76	78	79	80	82	--	75
July																														
Maximum.....	84	84	84	84	84	84	83	83	83	82	82	81	82	81	80	79	80	79	80	79	79	80	80	81	81	81	82	82	83	83	82	82
Minimum.....	83	83	83	83	82	82	81	81	81	80	80	80	80	80	79	78	78	78	78	77	77	78	78	79	80	79	80	80	80	81	80	80
August																														
Maximum.....	83	82	81	81	79	77	77	76	75	74	74	76	77	78	80	81	82	82	83	83	84	84	83	81	82	83	82	83	83	82	81	80
Minimum.....	80	80	79	79	76	75	74	73	72	72	73	73	74	76	77	78	79	81	81	82	82	82	81	80	80	80	80	80	80	80	80	78
September																														
Maximum.....	81	81	81	80	80	80	79	80	80	80	80	78	77	76	75	74	72	71	69	68	68	68	68	68	68	69	68	69	71	72	--	74
Minimum.....	80	79	79	78	78	78	78	77	78	78	77	76	75	74	72	71	69	67	67	66	65	65	65	65	66	66	67	68	69	70	--	72

DELAWARE RIVER BASIN--Continued

1-4658. DELAWARE RIVER AT TORRESDALE INTAKE, PHILADELPHIA, PA.

LOCATION.--In river opposite the intake building of the Torresdale Filter Plant.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1959.
REMARKS.--Samples collected at center of stream approximately 3 feet from bottom. Additional data published in WSP 1262, Chemical characteristics of Delaware River water, Trenton, N. J., to Marcus Hook, Pa. Records of discharge for gaging station at Trenton, N. J. for water year October 1958 to September 1959 given in WSP 1662.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color	Biochemical oxygen demand[a]	Dissolved oxygen[a]
														Calcium, magnesium	Noncarbonate					
Oct. 3, 1958...	8,300															167	7.1		5.2	10.4
Nov. 6.....	15,100									4.0						118	7.2		.3	9.2
Dec. 3.....	13,400															122	7.0		--	10.2
Feb. 4, 1959...	9,660															135	6.9		1.1	9.0
Mar. 4.....	8,350															162	7.3		.8	11.4
Apr. 8.....	24,300															87	6.8		.0	8.4
May 7.....	10,400															111	7.2		5.1	11.6
June 1.....	3,680															175	6.6		.4	4.6
July 2.....	4,180															198	6.9		.7	5.8
Aug. 3.....	3,650															165	6.6		.6	4.8
Sept 3.....	9,700															193	6.9		3.6	4.2

a Samples collected approximately 3 feet from surface.

737-048 O - 65 - 8

DELAWARE RIVER BASIN--Continued

1-4671. DELAWARE HIVER AT LEHIGH AVENUE, PHILADELPHIA, PA.

LOCATION.--Between river end of pier 11, of Port Richmond Terminal, Leigh Avenue, Philadelphia, and west bank of Petty Island, N.J.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1959.
REMARKS.--Samples collected at center of stream approximately 3 feet from bottom. Additional data published in WSP 1262, Chemical characteristics of Delaware River water, Trenton, N. J., to Marcus Hook, Pa. Records of discharge for gaging station at Trenton, N. J., for water year October 1958 to September 1959 given in WSP 1662.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color	Biochemical oxygen demand[a]	Dissolved oxygen[a]
														Calcium, magnesium	Noncarbonate					
Oct. 3, 1958...	8,300															187	7.2		2.4	5.4
Nov. 6.....	18,100															112	7.0		5.0	10.0
Dec. 3.....	13,400															136	7.1		--	9.4
Feb. 4, 1959...	9,660															138	7.0		2.8	9.0
Mar. 4.....	8,350															183	6.8		3.4	9.4
Apr. 8.....	24,300															84	6.8		.0	7.4
May 7.....	10,400															112	7.0		1.9	8.0
June 1.....	3,680															212	6.6		.7	1.4
July 2.....	4,180															235	6.8		1.8	3.4
Aug. 3.....	3,650															193	6.5		3.1	5.9
Sept. 3.....	9,700															195	6.7		3.8	3.4

a Samples collected approximately 3 feet from surface.

1-4672. DELAWARE RIVER AT PHILADELPHIA, PA., BENJAMIN FRANKLIN BRIDGE (PHILADELPHIA-CAMDEN BRIDGE)

LOCATION.--Opposite pier 13 North, which is 100 feet south of Vine Street and Delaware Avenue, Philadelphia, Pa.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1959.
REMARKS.--Samples collected at center of stream approximately 3 feet from bottom. Additional data published in WSP 1262, Chemical characteristics of Delaware River water, Trenton, N.J., to Marcus Hook, Pa. Records of discharge for gaging station at Trenton, N.J. for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color	Biochemical oxygen demand [a]	Dissolved oxygen [a]
														Calcium, magnesium	Noncarbonate					
Oct. 3, 1958....	8,300	3.0	0.02	17	6.3	9.4	4.6	42	36	9.8	0.3	5.9	120	69	34	196	6.5	5	0.2	4.2
Nov. 6 b.....	18,100	5.6	.16	11	4.1	5.5	3.1	28	24	7.0	.2	3.5	86	45	22	127	6.6	3	6.4	11.0
Dec. 3.....	13,400	4.5	.11	12	4.4	5.6	2.1	32	27	6.2	.0	3.3	83	48	22	139	6.8	20	.4	10.0
Feb. 4, 1959....	9,660	5.6	.23	10	3.4	6.4	2.9	27	27	9.0	.0	2.1	80	39	26	138	6.9	6	1.2	7.0
Mar. 4.....	8,350	6.0	.12	15	4.4	10	2.5	24	37	12	.3	8.4	116	56	36	184	6.3	8	4.0	8.2
Apr. 8.....	24,300	4.5	.03	8.0	2.4	2.2	1.3	14	18	3.6	.3	3.4	70	30	19	84	6.3	7	1.6	10.4
May 7.....	10,400	4.1	.13	9.6	3.9	4.0	1.4	24	22	5.0	.1	2.5	82	40	21	114	7.0	5	1.8	7.0
June 1.....	3,680	3.0	.00	16	5.7	14	2.6	32	44	15	.3	7.9	130	64	38	224	6.3	5	.9	1.4
July 2.....	4,180	.4	.00	18	7.1	15	3.0	42	44	16	.4	9.3	160	74	40	240	5.9	5	1.1	3.8
Aug. 3.....	3,650	3.2	.00	16	5.5	10	2.7	36	38	11	.2	5.7	105	63	33	189	6.7	4	1.2	2.2
Sept. 3.....	9,700	2.4	.00	17	5.5	11	2.5	44	35	11	.3	5.1	113	65	29	197	6.6	3	1.8	1.8

a Samples collected approximately 3 feet from surface.
b Right side - bottom.

1-4673. DELAWARE RIVER AT WHARTON STREET, PHILADELPHIA, PA.

LOCATION.--Between pier 55 South, Wharton Street, Philadelphia, and Kaighn Point, Camden, N. J.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1959.
REMARKS.--Samples collected at center of stream, approximately 3 feet from bottom. Additional data published in WSP 1262, Chemical characteristics of Delaware River water, Trenton, N. J., to Marcus Hook, Pa. Records of discharge for gaging station at Trenton, N. J., for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color	Biochemical oxygen demand [a]	Dissolved oxygen [a]
														Calcium, magnesium	Noncarbonate					
Oct. 3, 1958...	8,600															200	7.0		1.9	4.4
Nov. 5.....	21,400															127	6.8		2.7	5.2
Dec. 2.....	14,700															142	6.9		1.0	8.0
Feb. 5, 1959...	15,200															146	6.8		4.5	9.0
Mar. 3.....	7,200															199	6.8		3.9	7.4
Apr. 9.....	21,400															91	6.9		.5	7.4
May 8.....	9,740															121	6.8		.8	6.6
June 2.....	3,680															222	6.6		.5	2.1
July 1.....	4,070															262	6.7		.8	2.8
Aug. 4.....	3,230															207	6.4		2.0	3.2
Sept. 1.....	5,780															265	6.6		8.0	3.0

a Samples collected approximately 3 feet from surface.

1-4674. DELAWARE RIVER AT LEAGUE ISLAND, PHILADELPHIA, PA.

LOCATION.--Between pier 2, U.S. Naval Base, League Island, Philadelphia, and a point 100 feet offshore, adjacent to and downstream from ferry slip, National Park, N. J.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1959.
REMARKS.--Samples collected at center of stream approximately 3 feet from bottom. Additional data published in WSP 1262, Chemical characteristics of Delaware River water, Trenton, N. J., to Marcus Hook, Pa. Records of discharge for gaging station at Trenton, N. J.,for water year October 1958 to September 1959 given in WSP 1662.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color	Biochemical oxygen demand[a]	Dissolved oxygen[a]
														Calcium, magnesium	Noncarbonate					
Oct. 2, 1958....	8,600															230	7.0		1.8	3.6
Nov. 5.....	21,400															155	7.0		1.6	5.8
Dec. 2.....	14,700															151	7.0		2.6	7.9
Feb. 5, 1959....	15,200															168	6.9		5.6	9.4
Mar. 3.....	7,200															213	6.8		2.0	6.4
Apr. 4.....	55,700															112	6.8		1.6	7.0
May 8.....	9,740															137	6.8		1.3	5.8
June 2.....	3,680															248	6.5		.8	2.2
July 1.....	4,070															293	6.6		1.4	2.6
Aug. 4.....	3,230															237	6.6		4.5	3.0
Sept. 1.....	5,780															300	6.6		3.6	2.2

a Samples collected approximately 3 feet from surface.

1-4705. SCHUYLKILL RIVER AT BERNE, PA.

LOCATION.--At gaging station at highway bridge at Berne, Berks County, 0.5 mile upstream from Mill Creek, and 6.5 miles downstream from Little Schuylkill River.
DRAINAGE AREA.--355 square miles.
RECORDS AVAILABLE.--Chemical analyses: December 1947 to February 1953, October 1956 to September 1959.
Water temperatures: February 1948 to April 1953, December 1956 to September 1959.
Sediment records: October 1947 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 608 ppm Aug. 13-27; minimum, 185 ppm Apr. 3-14.
Hardness: Maximum, 345 ppm July 29 to Aug. 12; minimum, 106 ppm Apr. 3-14.
Specific conductance: Maximum daily, 917 micromhos Aug. 24, minimum daily, 201 micromhos Jan. 22, 23.
Water temperatures: Maximum, 90°F June 29; minimum, freezing point on many days during December and January.
Sediment concentrations: Maximum daily, 278 ppm Mar. 6; minimum daily, 1 ppm on many days.
Sediment loads: Maximum daily, 2,700 tons Jan. 22; minimum daily, less than 0.50 ton on many days.
EXTREMES, 1947-53, 1956-59.--Dissolved solids (1947-53, 1958-59): Maximum, 755 ppm Sept. 11-20, 1948; minimum, 155 ppm Dec. 11-14, 1952.
Hardness: Maximum, 501 ppm Sept. 11-20, 1948; minimum, 56 ppm Mar. 11-12, 1952.
Specific conductance: Maximum daily, 1,040 micromhos Oct. 23, 1951; minimum daily, 133 micromhos Feb. 28, 1958.
Water temperatures (1956-59): Maximum, 90°F June 17, 1957, June 29, 1959; minimum, freezing point on many days during winter months.
Sediment concentrations (1947-59): Maximum daily, 8,030 ppm Nov. 4, 1947; minimum daily, 0 ppm on many days during 1952 water year.
Sediment loads: Maximum daily, 90,180 tons Nov. 12, 1947; minimum daily, 0 tons on many days during 1952 water year.
REMARKS.--Records of specific conductance and pH of daily samples available in district office at Philadelphia, Pa. Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-10, 1958	287	10	2.2	0.00	1.9	45	30	11	2.4	0	267	6.0	0.0	4.8	382	236	236	0.6	547	4.5	3
Oct. 11-20	166	---	--	--	--	--	--	--	--	0	309	6.0	--	5.7	--	265	265	.8	641	4.2	3
Oct. 21-31	441	--	--	--	--	--	--	--	--	0	231	5.0	--	4.1	--	188	188	.6	487	4.4	3
Nov. 1-10	707	9.8	2.2	.04	1.2	27	18	6.0	1.8	0	156	4.2	.0	1.8	240	142	142	.4	361	4.5	4
Nov. 11-20	375	--	--	--	--	--	--	--	--	0	211	4.4	--	1.3	--	152	152	.7	461	4.5	3
Dec. 1-10	666	9.4	2.8	.00	1.8	24	16	5.3	2.0	1	143	5.0	.1	1.5	212	126	125	--	335	4.7	3
Dec. 11-20	418	--	--	--	--	--	--	--	--	0	200	4.0	--	3.8	304	180	180	.5	453	4.2	3
Oct. 21-31	293	--	--	--	--	--	--	--	--	0	255	4.4	--	3.9	386	225	225	.6	561	4.2	2
Jan. 1-5, 1959	604	8.7	1.9	.01	2.1	32	19	8.0	2.8	0	173	5.2	.2	4.2	266	158	158	.3	392	4.4	3
Jan. 22-31	850	--	--	--	--	--	--	--	--	0	142	3.0	--	3.2	233	120	120	.4	351	4.2	4
Feb. 1-10	542	9.2	1.9	.02	2.3	32	21	8.8	2.0	0	193	5.6	.2	2.5	288	167	167	.3	432	4.4	3
Feb. 11-22	740	--	--	--	--	--	--	--	--	0	142	4.4	--	6.5	209	125	125	.2	329	4.4	3
Feb. 23-28, Mar. 1-5	392	--	--	--	--	--	--	--	--	0	213	5.2	--	2.7	321	190	190	.4	471	4.2	3
Mar. 6-31, Apr. 1-2	856	8.6	1.6	.04	.99	25	17	7.0	1.4	0	146	6.0	.3	2.7	250	133	133	.4	344	4.0	5

DELAWARE RIVER BASIN--Continued

1-4705. SCHUYLKILL RIVER AT BERNE, PA.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
Apr. 3-14, 1959	1,590	8.3	1.1	0.02	1.4	21	13	5.6	1.5	0	113	3.3	0.0	1.8	185	106	106	0.2	283	4.3	3
Apr. 15,30, May 1-7	779	--	--	--	--	--	--	--	--	0	175	2.5	--	1.8	299	152	152	.4	400	4.0	2
May 8-31, June 1-2	450	--	--	--	--	--	--	--	--	0	235	2.5	--	1.9	378	204	204	.4	513	4.4	1
June 3	2,010	--	--	--	--	--	--	--	--	0	193	--	--	--	--	--	--	.1	437	4.2	--
June 4-5	808	--	--	--	--	--	--	--	--	0	106	--	--	--	--	--	--	.2	272	4.0	--
June 6-9	530	9.7	--	.03	2.1	28	17	6.9	1.8	0	159	5.5	--	4.1	272	140	140	.4	377	4.2	1
June 10-20	371	--	--	--	--	--	--	--	--	0	221	3.5	--	5.2	318	190	190	.5	478	3.9	1
June 21-30	282	--	--	--	--	--	--	--	--	0	293	5.0	--	4.4	417	240	240	.6	600	3.4	1
July 1-18	206	--	--	--	--	--	--	--	--	0	339	3.5	--	3.4	528	310	310	.5	701	4.3	2
July 19-28	176	14	3.5	.04	3.5	65	43	18	2.5	0	382	6.8	.3	2.0	590	339	339	.5	760	4.5	3
July 29-31, Aug. 1-12	177	--	--	--	--	--	--	--	--	0	394	7.2	--	4.3	580	345	345	.6	787	3.7	3
Aug. 13-27	151	12	5.1	.08	4.5	67	42	20	3.0	0	416	7.5	.1	3.3	608	340	340	.8	810	4.2	1
Aug. 28-31, Sept. 1-2	384	--	--	--	--	--	--	--	--	0	339	6.3	--	3.5	500	295	295	.6	687	3.7	3
Sept. 3-8	1,080	--	--	--	--	--	--	--	--	0	164	4.0	--	5.0	249	136	136	.4	351	4.5	5
Sept. 9-15	297	--	--	--	--	--	--	--	--	0	278	4.8	--	3.8	395	224	224	.8	564	4.0	2
Sept. 16-19	222	--	--	--	--	--	--	--	--	0	365	5.2	--	3.9	478	275	275	.8	647	4.2	5
Sept. 20-30, Oct. 1	237	--	--	--	--	--	--	--	--	0	380	5.9	--	3.9	573	340	340	.8	775	4.4	3
Time-weighted average	514	--	--	--	--	--	--	--	--	--	240	4.7	--	3.3	367	208	208	0.5	512	--	3

analysis of additional sample

Apr. 22, 1959	728	10	1.6	0.02	1.3	31	19	7.5	1.5	0	180	3.0	0.0	1.2	288	156	156	0.5	387	4.3	3

DELAWARE RIVER BASIN--Continued

1-4705. SCHUYLKILL RIVER AT BERNE, PA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
/Once-daily measurement at approximately 4 p.m./

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	58	57	59	64	63	59	51	54	58	64	56	59	54	53	61	63	58	58	60	60	56	54	55	62	55	--	51	58	50	50	52	57
November...	53	47	48	49	50	51	48	48	49	48	48	48	48	51	51	52	51	51	48	49	47	46	46	47	45	44	40	37	37	35	--	47
December...	35	37	--	38	39	36	34	34	33	33	32	33	33	32	32	33	34	34	--	32	33	33	35	35	35	33	33	35	35	37	32	34
January....	32	35	34	34	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	35	33	33	36	36	35	36	35	39	38	33
February...	34	34	33	36	36	36	37	38	34	34	35	36	39	38	38	37	40	38	35	34	34	38	35	37	37	40	42	41	--	--	--	37
March.....	46	46	46	46	46	42	39	40	42	42	40	36	36	39	40	42	41	38	43	47	49	41	44	48	50	50	45	42	43	42	48	43
April.....	51	50	49	47	50	50	50	53	55	52	52	45	48	51	53	55	60	60	60	56	57	57	54	57	61	62	57	51	50	59	--	54
May.....	61	58	62	63	60	63	66	67	65	64	67	71	86	64	63	61	58	66	67	73	73	78	76	72	72	71	73	76	81	80	77	68
June.....	71	68	65	67	70	71	73	75	78	78	80	76	68	71	69	69	69	67	68	75	80	78	78	79	78	83	85	86	90	86	--	75
July.....	86	--	84	81	83	76	81	83	76	78	80	80	83	80	73	81	80	77	80	80	82	82	84	79	84	86	82	88	87	86	83	82
August.....	85	82	82	72	71	70	74	72	75	75	79	84	86	87	89	88	88	86	88	88	88	83	74	74	84	76	80	84	82	79	76	81
September..	76	72	74	74	75	76	76	79	81	78	75	73	71	70	67	65	62	65	67	66	72	75	75	70	73	70	73	76	75	74	--	72

DELAWARE RIVER BASIN--Continued

1-4705. SCHUYLKILL RIVER AT BERNE, PA.

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	394	5	5	362	1	1	748	5	10
2...	449			362			681	4	7
3...	350	2	2	1,330	23	s 89	616	3	5
4...	308			1,140	9	28	634	3	5
5...	274			893	3	7	690	5	9
6...	243	1	1	758	2	4	861	6	14
7...	222			644	1	2	660	4	7
8...	217			566			630	3	5
9...	208			517			600	3	5
10...	208			494			540	4	6
11...	203	1	(t)	449	1	1	450	7	8
12...	184			401			500	10	14
13...	175			381			460	9	11
14...	167			362			430	8	9
15...	167			344			430	8	9
16...	162	--	(t)	356	1	1	400	7	8
17...	154			350			390	7	7
18...	150			401			390	6	6
19...	154			362			370	4	4
20...	146			344			360	3	3
21...	133	9	s 16	314	1	1	340	3	3
22...	150			297			290	2	2
23...	592			285			300	2	2
24...	453	3	4	280			310	1	1
25...	457	7	s 10	274			300	3	2
26...	718	7	14	274	1	1	290	2	2
27...	566			280			270	1	1
28...	540			325			280	1	1
29...	463	2	3	1,380	16	s 64	297	1	1
30...	408			914	5	12	274	1	1
31...	375			--	--	--	270	1	1
Total	9,390	--	80.8	15,439	--	230	14,061	--	169

Day	January			February			March		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	270	1	1	369	4	4	369		
2...	1,310	23	s 92	300	5	4	381	3	3
3...	699	10	19	310	6	5	362		
4...	450	4	5	1,260	43	s 176	369	2	2
5...	290	3	2	684	30	s 58	350		
6...	230			456	18	22	2,360	278	s2,460
7...	310			356	7	7	1,860	60	s 339
8...	300			388	5	5	1,200	11	36
9...	270			350	4	4	948	6	15
10...	250			942	35	s 167	829	5	11
11...	230			1,210	63	s 231	709		
12...	240			574	18	28	699		
13...	270	--	a 2	540	9	13	625	6	10
14...	240			600	11	18	574		
15...	250			1,410	35	s 146	591		
16...	260			738	16	32	914	8	20
17...	230			625	11	19	948		
18...	200			865	25	s 81	839		
19...	180			870	36	s 94	728		
20...	300			450	8	10	728	5	10
21...	1,400	--	b 750	490	8	11	748		
22...	3,100	258	s 2,700	510	6	8	728		
23...	1,000	33	89	463	6	8	625		
24...	770	10	21	449	6	7	582		
25...	709	6	11	408	5	6	557	3	5
26...	608	6	10	388	4	4	540		
27...	540	5	7	388	4	4	616		
28...	460	7	9	381	4	4	728		
29...	440	8	10	--	--	--	644	5	9
30...	442	7	8	--	--	--	672		
31...	435	6	7	--	--	--	758		
Total	16,683	--	3,771	16,774	--	1,176	23,581	--	3,075

s Computed by subdividing day.
t Less than 0.50 ton.
a Computed from partly estimated-concentration graph.
b Computed from estimated-concentration graph.

1-4705. SCHUYLKILL RIVER AT BERNE, PA.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	748	6	12	872	4	9	297	3	2
2...	1,480	111	s 800	808			799	10	s 41
3...	3,160	105	s 938	778			2,010	27	s 159
4...	2,640	27	192	728	2	4	934	8	20
5...	1,970	13	69	672			681		
6...	1,700			644			672	4	7
7...	1,430	7	26	634			557		
8...	1,270			582			471		
9...	1,150			540			422		
10...	1,080	5	15	517	3	4	388	2	2
11...	1,310	7	25	509			362		
12...	1,140	6	18	502			350		
13...	1,120	6	18	540			634	4	7
14...	1,110	5	15	690			449		
15...	1,020			548			356		
16...	960	3	8	509	2	3	320	2	2
17...	904			486			320		
18...	861			463			314		
19...	818			435			291		
20...	861	2	4	422			297		
21...	829			408			269		
22...	728			394			264	1	1
23...	672			388	2	2	320		
24...	644			381			274		
25...	616	2	3	362			248		
26...	608			337			361	2	2
27...	672			331			314		
28...	861	5	12	314	4	3	269	1	1
29...	882	6	14	308			253		
30...	839	3	7	325			248		
31...	--	--	--	302			--	--	--
Total	34,083	--	2,302	15,729	--	105	13,744	--	279

Day	July			August			September		
1...	243	1	1	180			302	4	3
2...	285	17	13	154			874	40	s 152
3...	248			137	3	1	3,470	71	s 1,060
4...	217			125			1,030	5	14
5...	203	8	5	206			653		
6...	208			194			509	2	3
7...	222			162			415		
8...	198			162	--	(t)	375		
9...	184			184			331		
10...	171	4	2	303	12	s 10	314		
11...	232			184			389		
12...	189			154			285		
13...	217			158			264	1	1
14...	194			150	--	(t)	253		
15...	184	--	(t)	150			243		
16...	180			141			238		
17...	171			154			222		
18...	158			154			213		
19...	162			129			217		
20...	217			133	--	(t)	227		
21...	180	--	(t)	125			217		
22...	167			133			198		
23...	162			146			189	1	1
24...	217	4	2	146	--	(t)	184		
25...	184			146			175		
26...	167			129			167		
27...	158			275			175		
28...	141	--	(t)	283	3	2	175		
29...	146			203	2	1	231	4	2
30...	184			338	9	8	302	3	2
31...	186			302	13	11	--	--	--
Total	5,975	--	56.3	5,542	--	46.3	12,837	--	1,263

Total discharge for year (cfs-days)..... 183,838
Total load for year (tons)..... 12,553.4

s Computed by subdividing day;.
t Less than 0.50 ton.

DELAWARE RIVER BASIN--Continued

1-4705. SCHUYLKILL RIVER AT BERNE, PA.--Continued

Particle-size analyses of suspended sediment, water years October 1954 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Sampling point	Water temperature (°F)	Discharge (cfs)	Sediment concentration (ppm)	Suspended sediment											Method of analysis
						Percent finer than size indicated, in millimeters											
						0.001	0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Aug. 18, 1955	2215		--	26,000	2,060		19	36	56	71	87	93	--				BWC
Apr. 6, 1957	0915		--	10,600	542		--	25	43	61	75	87	96	99	100		SBWC
Feb. 4, 1959	2430		36	2,170	75		30	42	60	72	85	91	94				BWC
Mar. 6	1600		42	4,360	516		22	34	54	72	87	91	96				BWC

1-4730. PERKIOMEN CREEK AT GRATERFORD, PA.

LOCATION.--At highway bridge at Graterford, Montgomery County, 1,650 feet downstream from gaging station, 0.5 mile upstream from Landis Brook, and 2.5 miles north of Collegeville.
DRAINAGE AREA.--279 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1949 to September 1951, October 1958 to September 1959.
Water temperatures: April 1948 to April 1953, October 1958 to September 1959.
Sediment records: April 1948 to April 1953.
EXTREMES, 1958-59.--Specific conductance: Maximum daily, 343 micromhos Feb. 28; minimum daily, 154 micromhos Jan. 2.
Water temperatures: Maximum, 82°F June 30, July 1; minimum, freezing point on several days in December.
REMARKS.--Records of specific conductance of daily samples available in district office at Philadelphia, Pa. Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-14, 1958	1,500	--	--	--	--	12	--	84	33	9.1	--	2.1	--	91	22	225	7.8	6
Oct. 16-31, Nov. 1	245	--	--	--	--	10	--	76	34	9.2	--	3.0	--	91	29	226	7.6	12
Nov. 2-15	218	--	--	--	--	11	--	66	36	9.4	--	4.1	--	85	31	217	7.6	12
Nov. 16-26	117	6.4	0.03	23	9.2	9.7	2.8	76	37	11	0.1	3.2	137	96	33	240	7.5	3
Nov. 27-29, Dec. 1, 4-5	986	--	--	--	--	7.8	--	44	35	6.4	--	5.8	120	69	33	181	7.5	18
Dec. 6-9, 13-17, 19-20	208	--	--	--	--	11	--	61	42	10	--	7.7	152	90	40	230	7.6	5
Dec. 24-31, Jan. 1, 1959	94	--	--	--	--	12	--	69	41	13	--	7.9	165	97	41	249	7.7	5
Jan. 2-3	1,500	--	--	--	--	--	--	36	--	--	--	--	--	--	--	164	6.7	--
Jan. 4-14, 16-21	155	--	--	--	--	8.5	--	58	36	10	--	6.7	143	86	39	223	7.4	10
Jan. 22-23, 25-26, 28-31, Feb. 1-2	364	--	--	--	--	10	--	50	37	10	--	6.8	138	77	36	205	7.5	15
Feb. 3-5	593	--	--	--	--	--	--	37	--	--	--	--	--	--	--	161	6.9	--
Feb. 6-20	459	14	.00	17	5.8	5.6	3.3	42	32	7.6	.3	7.5	150	67	32	178	7.0	10
Feb. 21-27	146	--	--	--	--	8.0	--	48	36	10	--	5.3	140	78	39	204	7.7	10
Feb. 28	122	--	--	--	--	--	--	53	35	--	--	--	--	--	--	343	6.6	--
Mar. 1-15	573	--	--	--	--	7.1	--	41	35	13	--	6.0	146	78	45	206	7.2	10
Mar. 16-19	722	--	--	--	--	6.9	--	37	33	7.8	--	6.1	119	66	36	173	7.1	12
Mar. 20-30	303	--	--	--	--	7.6	--	46	37	9.8	--	5.8	131	78	41	199	7.6	8
Mar. 31, Apr. 1-9	692	15	.00	17	6.6	8.0	2.4	44	33	7.0	.3	6.4	123	70	34	187	6.9	6
Apr. 10-30, May 1-5	274	--	--	--	--	9.0	--	56	33	6.6	--	4.3	120	74	28	193	7.1	5
May 6-14, 16-29	113	--	--	--	--	9.2	--	69	32	8.9	--	3.2	153	85	29	220	7.3	6
May 30-31	238	--	--	--	--	--	--	34	26	--	--	--	--	--	--	170	6.8	--

DELAWARE RIVER BASIN--Continued

1-4730. PERKIOMEN CREEK AT GRATERFORD, PA.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
June 1-17, 1959	176	--	--	--	--	10	--	65	34	8.9	--	3.6	147	82	29	217	7.1	12
June 18-30	51	--	--	--	--	13	--	78	34	13	--	2.3	152	91	27	238	7.5	11
July 1-18	42	--	--	--	--	12	--	81	30	8.8	--	1.4	136	86	20	223	7.7	7
July 19	111	--	--	--	--	--	--	105	40	--	--	--	--	--	--	302	7.0	--
July 20-21	66	--	--	--	--	--	--	72	37	--	--	--	--	--	--	214	7.6	--
July 22-29	56	--	--	--	--	17	--	96	34	16	--	4.1	172	102	24	283	7.7	9
July 30-31, Aug. 1-19	139	--	--	--	--	12	--	74	29	9.2	--	2.5	137	80	20	215	7.6	11
Aug. 20-30	117	13	0.00	24	8.0	11	3.5	81	30	11	0.2	1.6	146	93	27	238	7.3	10
Aug. 31, Sept. 1-12	601	--	--	--	--	9.2	--	65	32	8.9	--	4.3	139	83	30	215	7.3	18
Sept. 13-30	62	--	--	--	--	11	--	85	31	11	--	2.2	147	96	27	244	7.7	8
Time-weighted average	311	--	--	--	--	10	--	65	34	9.6	--	4.2	142	84	31	217	--	9

DELAWARE RIVER BASIN--Continued

1-4730. PERKIOMEN CREEK AT GRATERFORD, PA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	58	56	60	58	57	53	51	54	58	62	60	56	52	53	55	57	56	57	56	50	50	52	55	56	56	53	52	51	51	50	50	55
November...	51	52	46	43	46	44	44	44	45	44	44	45	44	45	56	58	54	52	53	51	53	44	43	40	42	43	41	40	37	--	--	46
December...	39	--	--	35	34	32	33	33	33	--	--	--	32	33	33	34	33	--	32	32	--	33	--	34	34	35	35	35	36	35	35	--
January....	34	36	38	34	33	34	33	33	34	34	35	35	34	35	--	34	33	33	35	35	37	36	36	--	36	37	--	37	38	37	38	35
February...	35	34	40	37	37	36	37	36	38	37	37	36	35	40	43	42	43	45	40	37	36	36	35	34	35	35	37	36	--	--	--	37
March.....	37	39	38	39	40	42	41	42	44	43	39	42	43	42	43	44	44	40	40	39	41	41	40	41	43	42	41	41	42	43	42	41
April.....	44	43	45	46	46	46	46	54	51	54	53	52	50	50	55	56	54	55	56	57	56	54	54	52	56	57	56	54	54	55	--	52
May.....	56	56	56	58	59	61	63	64	64	64	65	65	66	63	--	64	64	64	65	67	68	66	65	65	64	64	67	71	74	76	74	65
June.....	79	71	69	64	69	71	73	70	72	74	76	74	75	73	74	66	63	64	65	67	70	73	73	72	73	75	77	78	80	82	--	72
July.....	82	79	72	72	74	73	71	70	73	73	74	74	74	70	72	72	73	74	74	74	74	76	78	78	78	77	77	78	78	78	77	75
August.....	77	75	73	74	71	69	67	71	72	71	71	75	76	78	78	80	81	81	79	77	77	79	78	75	73	78	76	76	77	78	76	75
September..	75	74	74	74	74	73	72	73	73	77	73	71	70	67	67	67	62	61	63	64	64	65	67	67	69	69	69	71	71	72	--	70

DELAWARE RIVER BASIN--Continued

1-4738. SCHUYLKILL RIVER AT MANAYUNK, PHILADELPHIA, PA.

LOCATION.--At Green Lane Avenue bridge, 5 miles upstream from gaging station at Fairmount Dam, Philadelphia County.
DRAINAGE AREA.--1,893 square miles (at Fairmount Dam).
RECORDS AVAILABLE.--Sediment records: November 1947 to September 1959.
EXTREMES, 1958-59.--Sediment concentrations: Maximum daily, 1,310 ppm Jan. 23; minimum daily, 3 ppm Dec. 31.
Sediment loads: Maximum daily, 33,700 tons Jan. 23; minimum daily, 6 tons Aug. 17.
EXTREMES, 1947-59.--Sediment concentrations: Maximum daily, 4,910 ppm Dec. 30, 1948; minimum daily, 1 ppm on several days.
Sediment loads: Maximum daily, 650,000 tons Aug. 19, 1955; minimum daily, 2 tons on several days.
REMARKS.--Records of specific conductance and pH of random samples available in subdistrict office at Harrisburg, Pa. Records of discharge for water year October 1958 to September 1959 based on records for the Schuylkill River at Philadelphia (Fairmount Dam) given in WSP 1622 and does not include water diverted by City of Philadelphia for municipal water supply.

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	2,630	26	185	1,410	11	42	3,260	16	141
2...	2,780	25	188	1,290	11	38	2,630	9	64
3...	2,380	23	148	2,520	14	s 103	2,380	9	58
4...	1,810	19	93	4,630	37	463	3,970	27	s 339
5...	1,550	18	75	3,420	21	194	4,510	34	414
6...	1,250	16	54	2,830	15	115	3,480	14	132
7...	1,090	14	41	2,380	13	84	2,940	9	71
8...	935	14	35	2,040	10	55	2,330	7	44
9...	900	14	34	1,770	6	29	2,280	7	43
10...	830	12	27	1,630	8	35	2,040	7	39
11...	725	12	23	1,550	10	42	1,590	7	30
12...	655	15	27	1,370	10	37	1,460	6	24
13...	592	12	19	1,210	8	26	1,550	5	21
14...	480	9	12	1,130	8	24	1,410	4	15
15...	480	8	10	1,090	11	32	1,250	5	17
16...	480	8	10	1,130	19	58	1,250	10	34
17...	454	8	10	1,130	12	37	1,090	5	15
18...	428	9	10	1,090	11	32	1,090	4	12
19...	402	9	10	1,210	14	46	1,090		
20...	376	12	12	1,130	12	37	1,050	5	14
21...	325	11	10	1,010	14	38	1,010		
22...	598	13	s 23	900	12	29	795	9	19
23...	1,390	26	s 101	830	11	25	725		
24...	2,040	24	132	865	8	19	795		
25...	2,220	20	s 124	760	6	12	865	4	8
26...	4,100	31	343	760	6	12	655		
27...	3,420	24	222	760	9	18	592		
28...	2,580	17	118	1,020	18	s 86	655	4	7
29...	2,330	13	82	8,510	332	s 8,500	760		
30...	1,950	12	63	5,340	102	s 1,560	1,010	4	11
31...	1,590	10	43	--	--	--	1,010	3	8
Total	43,770	--	2,284	56,715	--	11,828	51,522	--	1,646

s Computed by subdividing day.

DELAWARE RIVER BASIN--Continued

1-4738. SCHUYLKILL RIVER AT MANAYUNK, PHILADELPHIA, PA.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	January			February			March		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	887	6	s 16	1,370	11	31	1,130	17	52
2...	6,830	183	s 4,040	1,010			1,130		
3...	6,930	198	s 3,860	795			1,130		
4...	3,260	102	s 930	3,140	50	s 567	1,170	18	57
5...	1,860	48	241	6,260	127	s 2,170	1,170	16	51
6...	650	28	s 82	2,850	89	s 695	5,280	393	s 9,810
7...	850	26	s 120	1,630	68	299	10,100	714	s 19,900
8...	935	10	25	1,250	61	206	5,300	300	s 4,440
9...	1,090			1,210	55	180	3,650	75	740
10...	920			1,610	27	s 132	3,150	25	213
11...	690			4,790	82	s 1,090	2,890	18	143
12...	760			3,420	67	s 649	2,990		
13...	900			2,140	60	347	3,480	21	197
14...	760	--	b 18	2,830	54	413	2,890	11	86
15...	760			6,300	161	s 2,960	3,040	12	98
16...	865			5,180	185	s 2,670	4,330	35	409
17...	795			2,890	130	1,010	4,100	33	365
18...	690			2,380	--	b 600	3,590	22	213
19...	508	6	8	4,200	--	b 1,900	2,990	14	106
20...	699	6	11	2,940	130	1,030	2,630		
21...	1,340	10	36	1,810	68	332	2,580	19	132
22...	9,360	390	s 14,700	1,680	44	200	2,530	21	143
23...	8,900	1,310	s 33,700	1,630	34	150	2,380		
24...	3,260	390	3,430	1,630	22	97	2,090		
25...	2,380	140	900	1,460	15	59	1,860	14	77
26...	2,140	55	318	1,290	14	46	1,810		
27...	1,810	34	166	1,210			2,000	20	108
28...	1,550	22	92	1,170			2,430	21	138
29...	1,330	12	43	--	--	--	2,400	12	78
30...	1,370	14	52	--	--	--	2,400		
31...	1,500	17	69	--	--	--	3,800	13	133
Total	66,579	--	63,019	70,075	--	17,987	92,420	--	38,351

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	3,260	19	167	2,480	18	121	564	52	79
2...	3,150	28	238	2,580	21	146	1,260	71	s 297
3...	7,750	120	s 2,580	2,190	18	106	3,860	77	s 816
4...	7,810	112	2,360	2,000	17	92	3,720	60	s 618
5...	6,360	69	1,180	1,810	14	68	2,540	41	s 294
6...	4,990	38	512	1,680	11	50	2,030	37	203
7...	4,330	23	269	1,550	13	54	1,720	38	176
8...	3,700	17	170	1,550	16	67	1,290	32	111
9...	3,370	15	136	1,410	15	57	1,010	23	63
10...	3,100	19	159	1,250	14	47	865	19	44
11...	3,260	23	202	1,210	13	42	725	17	33
12...	4,040	25	273	1,170	12	38	753	25	31
13...	3,700	15	150	1,540	19	79	1,170	32	100
14...	3,590	15	145	2,090	18	102	1,500	39	158
15...	3,100	18	151	1,860	16	80	1,150	38	118
16...	2,730	20	147	1,410	17	65	760	31	64
17...	2,580	19	132	1,210	18	59	620	32	54
18...	2,430	18	118	1,090	18	53	655	30	53
19...	2,330	23	145	1,050	16	45	760	24	49
20...	2,480	27	181	1,010	13	35	620	20	33
21...	2,830	26	199	900	11	27	690	18	34
22...	2,480	23	154	865	14	33	536	19	27
23...	2,140	22	127	760	15	31	454	14	17
24...	2,000	20	108	690	20	37	454	12	15
25...	1,900	20	103	655	21	37	568	16	s 26
26...	1,810	16	78	620	17	28	732	17	34
27...	1,810	19	93	592	16	26	536	17	25
28...	2,330	22	138	564	12	18	655	16	28
29...	2,830	27	206	654	13	s 26	454	16	20
30...	2,680	22	159	1,710	47	s 201	376	12	12
31...	--	--	--	725	58	114	--	--	--
Total	100,870	--	10,780	40,875	--	1,984	33,027	--	3,652

s Computed by subdividing day.
b Computed from estimated-concentration graph.

DELAWARE RIVER BASIN--Continued

1-4738. SCHUYLKILL RIVER AT MANAYUNK, PHILADELPHIA, PA.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	July			August			September		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	376	13	13	662	23	41	3,940	81	s 880
2...	376	14	14	690	30	56	2,780	73	548
3...	454	16	20	350	16	15	11,400	527	s 18,400
4...	428	20	23	198	22	12	9,000	213	s 5,940
5...	325	20	18	466	16	23	4,280	49	s 566
6...	275	18	13	795	25	54	2,830	32	245
7...	275	18	13	655	20	35	2,100	28	159
8...	325	18	16	664	26	s 55	1,730	25	117
9...	300	15	12	2,360	102	s 660	1,590	16	77
10...	235	14	9	1,340	40	s 161	1,410	22	84
11...	235	14	9	1,010	25	68	1,450	22	86
12...	255	13	9	795	22	47	1,630	22	97
13...	300	13	11	454	15	18	1,240	27	90
14...	558	13	s 21	402	11	12	1,000	21	57
15...	1,550	56	s 305	300	10	8	892	15	36
16...	665	45	81	300	10	8	744	13	26
17...	376	20	20	235	10	6	744	12	24
18...	300	15	12	534	14	20	638	12	21
19...	790	48	s 226	830	14	31	636	14	24
20...	3,440	129	s 1,250	508	11	15	608	14	23
21...	1,380	114	s 460	325	11	10	606	12	20
22...	760	56	115	275	10	7	636	11	19
23...	508	33	45	325	10	9	606	11	18
24...	454	25	31	454	11	13	542	11	16
25...	592	32	51	564	15	23	510	12	17
26...	454	30	37	480	12	16	478	10	13
27...	376	23	23	350	10	9	478	10	13
28...	350	25	24	532	18	26	446	10	12
29...	275	18	13	1,290	37	s 229	478	11	14
30...	375	16	s 20	2,140	113	s 765	542	17	25
31...	690	36	s 92	1,610	40	s 169	--	--	--
Total	18,252	--	3,006	21,893	--	2,641	55,966	--	27,667

Total discharge for year (cfs-days)..... 651,964
Total load for year (tons)..... 164,845

s Computed by subdividing day.

DELAWARE RIVER BASIN--Continued

1-4738. SCHUYLKILL RIVER AT MANAYUNK, PHILADELPHIA, PA.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Sampling point	Water temperature (°F)	Discharge (cfs)	Sediment concentration (ppm)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
						0.001	0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Mar. 7, 1959.....	0730		43	11,500	644		26	45	55	79	93	97	99	--	--		SBWC
Apr. 3.....	1115		55	7,950	87		23	37	56	76	93	99	--	--	--		BWC
June 3.....	1412		--	4,450	55		25	47	68	81	86	90	91	--	--		SBWC
Sept. 3.....	1140		80	13,100	443		28	38	52	71	83	86	88	92	97		SBWC
Sept. 3.....	1300		80	13,500	427		24	38	66	86	90	93	95	97	99		SBWC
Sept. 3.....	1445		80	13,900	488		12	15	44	64	86	90	96	97	99		SBWC

1-4745. SCHUYLKILL RIVER AT BELMONT FILTER PLANT, PHILADELPHIA, PA.

LOCATION.--At Belmont Filter Plant, Philadelphia, Philadelphia County, 1.6 miles upstream from gaging station which is 40 feet upstream from Fairmont Dam.
DRAINAGE AREA.--1,893 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1945 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 298 ppm July 11-20; minimum, 155 ppm Apr. 5-15.
Hardness: Maximum, 179 ppm Aug. 20-30; minimum, 93 ppm Apr. 5-15.
Specific conductance: Maximum daily, 531 micromhos Aug. 23; minimum daily, 201 micromhos Apr. 6.
Water temperatures: Maximum, 86°F Aug. 20-23; minimum, freezing point Jan. 7.
EXTREMES, 1945-59.--Dissolved solids (1945-56, 1957-59): Maximum, 362 ppm Oct. 21-30, 1953; minimum, 94 ppm Feb. 1-10 and Feb. 21-28, 1951.
Hardness: Maximum, 231 ppm Oct. 4-9, 1951; minimum, 70 ppm Apr. 6-10, 1957.
Specific conductance: Maximum daily, 588 micromhos Oct. 7, 1951; minimum daily, 151 micromhos Jan. 26, 1958.
Water temperatures: Maximum, 88°F July 20, Aug. 7, 1955; minimum, freezing point on many days during winter months.
REMARKS.--Samples collected at raw-water intake on west side of river at Belmont Filter Plant by City of Philadelphia. Records of specific conductance of daily samples available in district office at Philadelphia, Pa. Records of discharge for Schuylkill River at Philadelphia for water year October October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-5, 1958.....	2,230	--		--	--	9.7	--	75	55	9.6	--	8.0	--	118	57	283	7.4	5
Oct. 6-26.....	988	14		37	16	15	2.9	89	83	16	0.2	8.9	242	159	86	374	7.5	5
Oct. 27-Nov. 15.....	2,110	--		--	--	9.7	--	60	71	11	--	7.8	--	124	75	297	7.2	5
Nov. 16-29.....	1,510	--		--	--	10	--	70	86	14	--	7.5	--	150	93	351	7.1	6
Nov. 30.....	5,340	--		--	--	--	--	38	48	--	--	--	--	--	--	217	6.6	--
Dec. 1-14.....	2,560	--		--	--	11	--	50	67	10	--	8.3	193	108	67	281	7.4	6
Dec. 15-Jan. 2, 1959	1,230	12		34	15	13	2.2	70	84	14	.2	12	238	147	89	365	7.2	3
Jan. 3-7.....	2,710	--		--	--	8.3	--	40	65	8.2	--	10	160	102	69	260	6.8	8
Jan. 8-16.....	853	--		--	--	13	--	68	73	14	--	11	212	132	77	333	7.6	5
Jan. 17-22.....	2,230	--		--	--	15	--	70	95	16	--	11	246	155	98	391	7.5	6
Jan. 23-30.....	2,840	--		--	--	7.6	--	41	58	9.3	--	9.3	156	98	65	248	7.2	8
Jan. 31-Feb. 5.....	2,350	--		--	--	12	--	54	74	14	--	9.2	203	122	78	318	7.2	5
Feb. 6-24.....	2,760	--		--	--	11	--	44	65	10	--	8.8	176	101	65	266	6.9	8
Feb. 25-Mar. 6.....	1,610	--		--	--	16	--	62	79	14	--	8.0	219	125	74	324	7.1	5
Mar. 7-Apr. 4.....	3,560	--		--	--	14	--	47	68	10	--	8.1	172	100	62	266	7.1	7
Apr. 5-15.....	3,960	10		23	8.5	7.8	2.0	44	58	8.0	.2	7.3	155	93	57	240	6.8	3
Apr. 16-May 9.....	2,190	--		--	--	11	--	53	77	9.3	--	7.0	189	118	75	303	7.1	3
May 10-23.....	1,240	--		--	--	11	--	57	87	12	--	9.0	226	138	92	348	7.0	5
May 24-June 7.....	1,460	--		--	--	17	--	67	94	14	--	7.0	238	142	87	371	7.2	5
June 8-19.....	938	--		--	--	14	--	61	82	13	--	7.0	220	128	78	333	7.1	5

June 20-July 10,1959	450	10		40	17	16	3.2	72	110	19	.3	3.9	278	170	111	432	7.3	4
July 11-20.....	847	--		--	--	21	--	83	118	19	--	5.5	298	176	108	446	7.8	6
July 21-25.....	740	--		--	--	17	--	62	76	15	--	5.5	221	118	67	312	7.5	10
July 26-Aug. 11.....	701	--		--	--	21	--	85	109	21	--	7.2	282	172	103	440	7.3	5
Aug. 12-19.....	481	--		--	--	22	--	82	92	19	--	11	264	152	85	403	7.3	5
Aug. 20-30.....	705	11		42	18	23	3.5	89	113	23	.2	5.8	297	179	106	482	7.4	7
Aug. 31-Sept. 13....	3,360	--		--	--	--	--	60	64	10	--	7.6	206	111	62	292	7.1	10
Sept. 14-30.....	623	--		--	--	21	--	81	100	20	--	7.9	269	160	94	429	7.3	8
Weighted average..	1,790	--		--	--	14	--	64	82	14	--	8.0	224	134	82	341	--	6

DELAWARE RIVER BASIN--Continued

1-4745. SCHUYLKILL RIVER AT BELMONT FILTER PLANT, PHILADELPHIA, PA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	67	62	63	63	63	62	62	62	63	65	66	65	65	63	62	62	65	65	65	64	63	63	62	62	63	61	59	56	55	53	54	62
November...	53	54	53	52	52	52	52	52	53	52	52	51	52	52	53	54	55	55	55	54	54	55	53	51	50	50	49	48	48	44	--	52
December...	40	40	38	43	40	40	40	38	38	37	35	34	37	34	35	35	34	35	35	37	36	36	36	37	37	36	36	36	36	37	38	37
January....	40	40	39	38	36	34	32	33	33	33	33	34	35	35	37	38	38	38	38	38	38	41	40	37	37	36	42	37	37	38	39	37
February...	40	40	38	38	39	39	38	38	38	38	39	39	39	39	40	40	40	40	39	38	36	35	35	36	37	38	40	42	--	--	--	38
March.....	43	44	44	46	47	47	48	44	42	42	42	42	42	43	40	41	42	42	43	44	45	47	47	47	48	50	52	51	49	48	47	45
April.....	48	49	50	--	50	51	51	52	54	56	59	56	55	51	53	55	56	58	63	65	64	63	62	61	62	63	63	63	61	60	--	57
May.....	59	--	62	63	64	64	65	67	69	68	69	69	71	72	71	69	68	67	67	68	73	78	78	78	77	76	76	77	79	81	83	71
June.....	81	80	78	76	76	74	76	77	79	81	82	81	81	77	75	74	72	71	71	71	72	74	74	76	72	73	73	73	77	84	--	76
July.....	84	84	85	85	82	81	80	80	80	81	79	81	81	82	81	79	78	79	80	80	79	80	81	82	82	83	83	83	84	84	84	82
August.....	84	81	81	80	80	78	76	76	77	76	78	78	80	80	83	84	85	85	85	86	86	86	86	84	82	81	82	84	84	82	81	82
September..	80	80	80	80	80	78	79	79	80	81	81	79	78	76	76	75	74	72	70	69	69	70	71	71	73	75	75	75	75	76	--	76

1-4762. DELAWARE RIVER AT EDDYSTONE, PA.

LOCATION.--Between river end of piers of Sun Shipbuilding and Drydock Co., Eddystone, Pa.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1959.
REMARKS.--Samples collected at center of stream approximately 3 feet from surface and 3 feet from bottom. Additional data published in WSP 1262, Chemical characteristics of Delaware River water, Trenton, N.J. to Marcus Hook, Pa. Records of discharge for gaging station at Trenton, N.J. for water year October 1958 to September 1959 given in WSP 1662.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color	Biochemical oxygen demand	Dissolved oxygen
Oct. 2, 1958....	8,600									--						292	7.1		1.5	3.4
Top.....										--						301	7.1		--	--
Bottom.....																				
Nov. 5	21,400									--						186	6.8		3.2	6.4
Top.....										--						187	7.0		--	--
Bottom.....																				
Dec. 2.....	14,700									--						181	6.8		2.9	7.4
Top.....										--						182	6.8		--	--
Bottom.....																				
Feb. 5, 1959....	15,200									12						183	6.8		5.1	8.0
Top.....										--						184	6.8		--	--
Bottom.....																				
Mar. 3.....	7,200									12						212	6.8		2.0	6.1
Top.....										--						211	6.8		--	--
Bottom.....																				
Apr. 9.....	21,400									5.5						128	6.8		.9	7.2
Top.....										--						127	6.7		--	--
Bottom.....																				
May 8.....	9,740									8.0						179	6.8		.0	3.0
Top.....										--						179	6.7		--	--
Bottom.....																				
June 2.....	3,680									16						256	6.3		1.0	2.2
Top.....										--						254	6.2		--	--
Bottom.....																				
July 1.....	4,070									38						369	6.5		1.6	5.2
Top.....										--						377	6.4		--	--
Bottom.....																				
Aug. 4.....	3,230									24						305	6.3		2.6	3.2
Top.....										--						306	6.4		--	--
Bottom.....																				
Sept. 1.....	5,780									70						493	6.5		7.6	2.2
Top.....										--						472	6.5		--	--
Bottom.....																				

DELAWARE RIVER BASIN--Continued

1-4772. DELAWARE RIVER AT MARCUS HOOK, PA.

LOCATION.--Between river end of piers of Sun Oil Co., Marcus Hook, Pa., and a point 2,000 feet offshore from New Jersey bank of river.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1959.
REMARKS.--Samples collected at center of stream approximately 3 feet from surface and 3 feet from bottom. Additional data published in WSP 1262; Chemical characteristics of Delaware River water, Trenton, N.J. to Marcus Hook, Pa. Records of discharge for gaging station at Trenton, N.J.,for water year October 1958 to September 1959 given in WSP 1662.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color	Biochemical oxygen demand	Dissolved oxygen
Oct. 2, 1958....	8,600																			
Top		--	--	--	--	--	--	--	--	26	--	--	--	--	--	331	7.0	--	2.8	2.4
Bottom		2.9	0.03	24	9.7	23	5.0	42	69	27	0.5	6.3	198	100	66	334	6.4	5		
Nov. 5.....	21,400																			
Top [a]		--	--	--	--	--	--	--	--	12	--	--	--	--	--	218	6.8	--	4.1	5.6
Bottom [a]		6.3	.09	19	5.1	10	4.9	35	44	13	.2	6.3	130	69	40	217	6.4	8		
Dec. 2.....	14,700																			
Top.....		--	--	--	--	--	--	--	--	--	--	--	--	--	--	216	6.9	--	2.4	6.5
Bottom.....		--	--	--	--	16	--	43	44	12	.2	3.4	--	66	31	213	6.8	10		
Feb. 5, 1959....	15,200																			
Top.....		--	--	--	--	--	--	--	--	15	--	--	--	--	--	228	6.4	--	3.0	7.0
Bottom.....		5.6	.43	18	5.8	13	3.8	25	56	16	.4	4.3	140	69	49	234	6.8	16		
Mar. 3.....	7,200																			
Top		--	--	--	--	--	--	--	--	14	--	--	--	--	--	228	6.6	--	1.8	6.9
Bottom.....		6.6	.12	17	5.8	12	2.8	14	53	15	.4	11	144	67	56	228	6.0	10		
Apr. 9.....	21,400																			
Top.....		--	--	--	--	--	--	--	--	5.5	--	--	--	--	--	137	6.8	--	1.4	7.4
Bottom.....		5.6	.09	12	3.9	5.2	1.8	20	29	6.8	.3	6.4	110	46	30	137	6.5	7		
May 8.....	9,740																			
Top.....		--	--	--	--	--	--	--	--	9.0	--	--	--	--	--	189	6.6	--	..0	3.2
Bottom.....		5.2	.00	15	4.9	9.8	2.0	32	38	11	.4	5.2	145	58	32	189	6.8	7		
June 2.....	3,680																			
Top.....		--	--	--	--	--	--	--	--	37	--	--	--	--	--	362	5.7	--	1.0	2.8
Bottom.....		4.9	.05	22	10	46	3.8	4	88	74	.6	5.5	285	96	93	477	5.0	5		
July 1.....	4,070																			
Top.....		--	--	--	--	--	--	--	--	181	--	--	--	--	--	901	5.5	--	.5	3.1
Bottom.....		1.1	.08	31	23	160	7.7	4	126	270	.8	7.9	715	172	169	1,180	5.0	5		
Aug. 4.....	3,230																			
Top.....		--	--	--	--	--	--	--	--	262	--	--	--	--	--	1,190	5.5	--	2.2	3.2
Bottom.....		1.2	.00	32	22	155	11	9	127	256	.8	6.5	656	171	163	1,170	5.7	3		
Sept. 1.....	5,780																			
Top.....		--	--	--	--	--	--	--	--	170	--	--	--	--	--	866	5.8	--	2.9	1.8
Bottom.....		1.2	.00	32	22	160	12	5	130	254	.7	8.9	649	171	167	1,170	6.4	4		

a Right side.

1-4800. RED CLAY CREEK AT WOODDALE, DEL.

LOCATION.--Temperature recorder at gaging station on right bank 12 feet upstream from bridge on State Highway 48, 0.3 mile south of Wooddale, New Castle County, and 2.3 miles north of Marshallton.
DRAINAGE AREA.--47.0 square miles.
RECORDS AVAILABLE.--Water temperatures: April 1953 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 86°F June 30; minimum, 33°F Feb. 22.
EXTREMES, April 1953 to September 1959.--Water temperatures: Maximum, 87°F July 17, Aug. 2, 6, 1955; minimum, freezing point on several days during winter months.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Temperature (°F) of water, water year October 1958 to September 1959

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	62	60	59	61	61	59	56	58	62	65	64	59	55	54	59	61	63	62	58	54	56	59	60	62	61	59	54	54	54	53	54	59
Minimum.....	60	57	58	59	58	54	52	55	58	61	59	55	54	53	54	58	59	58	54	52	52	56	58	59	59	54	52	53	52	52	51	56
November																																
Maximum.....	54	53	51	50	52	53	52	50	50	50	50	50	51	52	53	55	55	56	58	53	49	46	45	46	46	47	46	42	42	40	--	50
Minimum.....	51	51	47	47	49	51	50	47	49	49	47	48	49	49	51	53	54	54	53	49	46	45	42	43	44	44	42	40	40	35	--	47
December																																
Maximum.....	35	37	39	42	45	44	38	35	37	36	35	35	35	35	35	35	36	37	37	38	36	35	35	40	38	34	34	36	39	41	40	37
Minimum.....	34	34	37	39	42	38	35	34	35	34	35	35	35	35	35	35	35	35	35	36	35	34	34	35	34	34	34	34	36	39	38	35
January																																
Maximum.....	38	38	39	39	37	35	34	34	34	34	34	34	35	36	40	40	38	35	35	37	41	45	41	37	40	41	38	36	38	41	41	38
Minimum.....	37	36	38	37	34	34	34	34	34	34	34	34	34	35	36	38	34	34	34	34	36	41	36	35	36	38	36	35	35	38	39	36
February																																
Maximum.....	39	35	35	36	40	40	39	39	39	40	41	40	43	42	42	41	42	42	42	36	36	37	37	41	40	40	41	43	--	--	--	40
Minimum.....	35	34	34	35	36	38	36	38	38	38	40	37	39	42	41	37	39	42	36	34	34	33	36	37	36	37	38	39	--	--	--	37
March																																
Maximum.....	45	44	45	47	45	45	45	43	44	44	43	42	39	42	45	47	45	44	45	48	53	52	46	49	52	55	54	47	47	46	51	46
Minimum.....	41	43	41	44	42	43	43	39	40	43	41	39	36	38	41	43	42	40	39	42	46	45	41	42	46	50	46	43	41	44	44	42
April																																
Maximum.....	55	55	53	54	55	56	56	61	66	65	60	55	52	55	58	60	63	63	63	63	58	59	58	60	63	64	64	58	59	61	--	59
Minimum.....	49	51	47	51	48	51	49	53	59	60	55	48	46	48	49	52	55	57	60	58	55	53	54	52	55	60	58	52	52	56	--	53
May																																
Maximum.....	65	63	67	66	66	68	70	70	66	63	67	73	72	66	64	61	62	65	68	73	74	77	76	74	70	69	73	78	78	79	77	70
Minimum.....	60	59	60	60	60	61	64	66	60	60	61	65	63	62	60	56	57	60	64	67	70	72	73	70	64	64	67	71	74	73	73	64
June																																
Maximum.....	74	68	69	71	73	74	75	76	79	80	80	78	76	74	68	66	65	66	67	72	74	76	76	75	76	78	82	83	84	86	--	75
Minimum.....	68	66	65	66	69	68	70	70	71	74	75	74	74	68	64	63	62	63	63	65	69	70	73	70	72	73	76	78	78	80	--	70
July																																
Maximum.....	84	82	80	80	79	75	77	78	78	75	79	75	76	75	72	72	75	77	82	78	76	79	80	84	80	80	78	81	81	82	80	78
Minimum.....	80	78	74	71	70	72	69	68	69	73	71	74	72	72	70	70	70	72	75	74	72	75	76	78	77	73	75	74	75	76	75	73
August																																
Maximum.....	79	77	74	71	71	71	74	73	73	72	75	78	81	82	84	85	85	82	82	82	82	84	80	78	78	81	79	83	81	78	77	78
Minimum.....	74	73	68	69	70	69	70	71	71	70	70	72	74	76	77	78	79	79	77	75	75	78	74	73	73	74	77	77	77	76	75	74
September																																
Maximum.....	75	76	76	76	78	77	76	77	78	79	77	72	71	70	70	68	65	63	63	65	66	69	72	73	73	71	73	75	78	76	--	73
Minimum.....	73	75	74	74	75	74	73	73	74	77	72	68	66	66	65	65	62	59	58	59	60	63	66	67	69	69	69	71	74	74	--	69

1-4815. BRANDYWINE CREEK AT WILMINGTON, DEL.

LOCATION.--At Henry Clay Bridge in Wilmington, New Castle County, 0.2 mile upstream from gaging station, and 4.4 miles upstream from mouth.
DRAINAGE AREA.--314 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1947 to September 1950, October 1952 to July 1953, October 1956 to September 1959.
Water temperatures: November 1956 to September 1959.
Sediment records: December 1946 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 85°F June 30; minimum, freezing point on several days during winter months.
Sediment concentrations: Maximum daily, 962 ppm Jan. 2; minimum daily, 2 ppm Dec. 9, Jan. 9-12.
Sediment loads: Maximum daily, 8,090 tons Sept. 3, minimum daily, 1 ton Jan. 9-12.
EXTREMES, 1946-59.--Water temperatures (1956-59): Maximum, 86°F June 17, 1957; minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 1,550 ppm Feb. 28, 1958; minimum daily, 1 ppm on many days.
Sediment loads: Maximum daily, 22,900 tons Feb. 28, 1958; minimum daily, less than 0.50 ton on many days.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1622. Flow affected by ice Dec. 10-18, 21-23, 25-28, Jan. 7-8, 17-19, Feb. 20-22.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 10, 1958	230	17	0.11	17	6.3	8.8	2.2	57	24	8.0	0.2	6.3	124	69	22	179	6.9	6
Nov. 4	620	14	.05	13	3.9	5.2	3.3	34	19	6.6	.1	6.1	90	48	20	128	6.4	6
Dec. 10	230	15	.00	15	5.4	8.7	2.0	47	24	7.3	.2	7.0	103	60	21	164	7.3	3
Jan. 2, 1959	2,690	6.6	.05	8.0	5.4	4.0	7.2	18	24	8.0	.4	9.7	103	42	27	137	6.9	25
Jan. 6	229	14	.10	14	5.4	6.2	4.0	44	22	8.8	.2	6.6	106	57	21	160	6.5	20
Feb. 6	442	12	.05	11	4.9	6.0	3.9	31	20	7.5	.2	7.9	95	48	22	142	6.5	20
Mar. 4	301	11	.04	14	5.4	7.5	1.8	46	21	8.4	.1	9.3	110	57	20	161	7.0	5
Apr. 10	493	9.8	.00	14	5.8	7.2	1.9	46	20	8.0	.1	7.2	115	59	22	160	6.9	7
May 12	343	12	.00	14	5.8	8.4	2.0	56	19	8.8	.2	7.5	103	59	13	169	6.9	5
June 12	162	12	.03	16	5.5	11	2.5	55	23	11	.1	4.0	120	63	18	187	6.7	7
July 8	96	10	.03	18	5.8	14	1.8	63	25	15	.1	3.4	139	69	18	215	7.2	6
Aug. 5	128	8.2	.01	20	6.1	12	2.5	67	28	11	.0	3.8	135	75	20	213	6.9	6
Sept. 8	215	16	.03	18	5.8	8.8	4.0	57	26	6.8	.0	6.3	126	69	23	186	7.0	10

DELAWARE RIVER BASIN--Continued

1-4815. BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at 7 a.m.)

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	62	54	56	58	58	56	50	52	58	60	52	60	58	52	56	58	60	60	52	52	52	54	58	58	58	50	52	50	48	46	47	55
November...	50	48	46	48	45	48	47	43	43	44	42	46	45	50	50	--	52	54	56	48	48	46	42	44	40	42	40	39	36	32	--	45
December...	32	36	32	38	42	36	--	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	34	32	32	33	34	34	34	32	33
January....	32	38	34	32	32	32	32	32	32	32	32	32	32	32	33	35	35	34	34	33	35	--	36	32	34	33	34	35	32	36	36	33
February...	34	32	32	33	34	36	37	35	35	37	38	32	36	40	40	38	35	39	34	32	32	34	34	36	34	--	37	38	--	--	--	35
March.....	41	41	40	42	36	45	41	46	49	43	39	38	36	36	41	42	42	40	38	42	41	44	46	48	50	50	50	52	45	45	43	43
April.....	49	58	49	51	48	49	50	54	58	62	56	49	45	49	51	53	57	58	62	60	55	54	53	54	56	60	58	55	51	54	--	54
May.....	59	59	60	60	62	62	65	65	64	62	62	66	70	64	60	55	57	52	66	68	73	75	76	73	58	67	69	73	77	78	73	65
June.....	68	69	64	67	70	69	68	70	74	75	77	77	76	65	65	64	65	62	64	60	70	74	74	72	74	74	80	78	80	85	--	71
July.....	80	81	78	74	75	75	72	70	73	77	--	75	76	76	73	72	72	73	76	78	74	77	77	76	79	75	79	75	77	78	80	76
August.....	70	--	72	75	82	72	72	72	70	70	72	73	74	77	78	79	80	80	78	76	75	79	77	75	75	73	76	77	78	77	75	75
September..	72	74	74	74	73	73	77	75	75	77	73	68	61	75	75	65	60	58	56	--	60	61	64	66	68	--	68	72	73	73	--	69

DELAWARE RIVER BASIN--Continued

1-4815. BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	543	36	s 71	262	9	6	343	14	13
2...	527	37	53	268			315	7	6
3...	329	20	18	929	50	s 150	294	16	13
4...	287			620	50	84	638	48	83
5...	280	12	9	402	15	16	595	22	35
6...	270			336	--	11	434	9	11
7...	260			308	9	7	322	8	7
8...	250	10	7	280	7	5	308	5	4
9...	240			280	6	5	301	2	2
10...	230			294	7	6	230	3	2
11...	226	11	7	280	6	5	195		
12...	215			274	7	5	260	3	2
13...	215			262	8	6	250		
14...	220	8	5	256	10	7	195		
15...	226			256	8	6	190		
16...	205			262	14	10	200	4	2
17...	195	10	5	268	11	8	205		
18...	153			268	8	6	215		
19...	153			262	9	6	232		
20...	149	10	4	250	9	6	244		
21...	145			244	7	5	205	3	2
22...	207	22	12	238	4	3	170		
23...	790	86	s 187	232	4	3	215		
24...	518	18	25	238	4	3	244		
25...	410	14	15	238	4	3	220		
26...	450	15	18	232	4	3	170	4	2
27...	400	10	11	238	3	2	170		
28...	350			310	30	25	220		
29...	300	9	7	1,520	478	s 2,150	232		
30...	280			561	70	106	329	6	5
31...	260			--	--	--	268		
Total	9,283	--	549	10,668	--	2,664	8,409	--	224

Day	January			February			March		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	285	8	6	329	29	26	301	11	9
2...	2,690	962	s 7,730	262	6	4	301	14	11
3...	742	112	224	238	4	3	294		
4...	484	38	50	1,190	320	s 1,370	301	9	7
5...	262	22	16	782	180	380	301		
6...	229	10	6	442	24	29	1,540	325	s 2,020
7...	310	9	7	336			1,100	455	s 1,630
8...	300			343	9	8	561	55	83
9...	287			322			459	25	31
10...	274	2	1	672	73	s 264	450	13	16
11...	262			901	166	404	442		
12...	274			442	38	45	595	17	27
13...	280			561	41	s 83	688	22	41
14...	274			714	44	85	570	13	20
15...	294	4	3	1,070	116	s 342	595	13	21
16...	315			586	68	108	595	15	24
17...	270			476	18	23	502		
18...	200			450	13	16	434	13	16
19...	200	6	4	544	27	40	410		
20...	294			300	20	16	402		
21...	536	11	16	310	3	3	402	12	13
22...	910	42	103	310			410		
23...	552	35	52	336	13	12	372		
24...	343	18	17	336	16	15	358	8	8
25...	350			308			358		
26...	343	6	5	308	10	8	358	16	16
27...	329			301			402		
28...	280			301			518		
29...	287			--	--	--	459	11	15
30...	446	19	s 28	--	--	--	493	14	19
31...	484	29	38	--	--	--	697	26	49
Total	13,386	--	8,357	13,470	--	3,327	15,668	--	4,211

s Computed by subdividing day.

DELAWARE RIVER BASIN--Continued

1-4815. BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	527	18	26	484	16	21	145	23	9
2...	552	20	30	468			490	80	s 238
3...	1,220	249	s 865	425	14	15	706	98	187
4...	842	46	105	395			322	28	24
5...	714	31	60	388			232	16	10
6...	586	47	74	372			484	78	102
7...	527	25	36	365			287	53	41
8...	510	22	30	350	12	11	210	29	16
9...	502	19	26	343			185	30	15
10...	493	19	25	343			170	22	10
11...	604	24	39	350			162	20	9
12...	765	34	70	343	16	15	162	23	10
13...	714	22	42	454	29	s 42	336	43	39
14...	688			599	75	s 131	238	35	22
15...	586	23	37	336	26	24	170	--	a 11
16...	536			287			153	25	10
17...	510			268	12	9	162	22	10
18...	493	23	31	256			175	21	10
19...	493			250			170	19	9
20...	544			250	15	10	185	20	10
21...	544	23	32	232			162	15	7
22...	476			215			149	15	6
23...	459			210	14	8	132	16	6
24...	442			195			132	17	6
25...	418	17	20	185			174	47	s 28
26...	425			185	17	8	180	70	34
27...	442			180			145	14	5
28...	518	17	22	175			167	36	s 22
29...	570			162	13	6	244	63	42
30...	493	16	23	210	21	12	150	21	9
31...	--	--	--	153	20	8	--	--	--
Total	17,193	--	1,898	9,428	--	514	6,779	--	957

Day	July			August			September		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	130	18	6	289	18	s 15	1,440	407	s 1,950
2...	120	16	5	145	17	7	858	120	s 289
3...	110	20	6	122	16	5	2,840	896	s 8,090
4...	100			119	16	5	960	210	s 644
5...	98	20	5	128	15	5	418	45	51
6...	98			170	14	6	287	27	21
7...	98			180	18	9	244	18	12
8...	96			157	20	8	215	18	10
9...	92			280	34	26	195	23	12
10...	94	18	5	287	33	26	195	18	9
11...	96			180	28	14	215	17	10
12...	94	16	4	149	20	8	180	17	8
13...	96	--	a 4	128			157	18	8
14...	182	21	s 12	119	14	5	149	15	6
15...	294	34	27	113			149	12	5
16...	220	27	16	101	11	3	145		
17...	141	20	8	98			136		
18...	122	16	5	170	17	s 9	132	8	3
19...	128	15	5	250	20	14	128		
20...	630	54	s 101	132	13	5	125		
21...	410	71	79	110	13	4	128		
22...	238	30	19	110	14	4	128		
23...	978	272	s 780	238	22	14	125	7	2
24...	336	75	68	162	17	7	119		
25...	301	32	26	205	20	11	119		
26...	226	30	18	157	21	9	116		
27...	175	10	5	125	15	5	119		
28...	166	19	9	125	25	8	119	9	3
29...	136	17	6	125	54	s 18	116		
30...	153	16	7	393	52	s 57	125		
31...	162	15	7	631	148	s 468	--	--	--
Total	6,318	--	1,263	5,698	--	788	10,382	--	11,165

Total discharge for year (cfs-days)..... 126,682
Total load for year (tons)..... 35,917

s Computed by subdividing day.
a Computed from partly estimated concentration graph.

DELAWARE RIVER BASIN--Continued

1-4815. BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Sampling point	Water temperature (°F)	Discharge (cfs)	Sediment concentration (ppm)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
						0.001	0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Nov. 29, 1958.....	1305		38	1,930	264		--	27	52	66	89	97	100				BWC
Jan. 2, 1959.....	1100		36	1,811	738		--	5	14	25	45	91	100				BN
Jan. 2.....	1100		36	1,811	738		--	39	60	72	91	98	100				BWC
July 23,.....	0700		77	1,896	316		13	28	49	67	89	97	99				SBWC
Sept. 3	1930		75	4,632	1,170		16	25	43	58	76	90	97	99			SBWC

1-4821. DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, WILMINGTON, DEL.

LOCATION.--Center of the navigation channel at the center of the Delaware Memorial Bridge, 1.9 miles downstream from the mouth of the Christina River.
DRAINAGE AREA.--11,030 square miles.
RECORDS AVAILABLE.--Chemical analyses: July 1955 to September 1959.
Water temperatures: October 1956 to September 1959.
EXTREMES, 1958-59.--Maximum, not determined; minimum, freezing point on several days in December and January.
EXTREMES, 1956-59.--Water temperatures: Maximum, not determined; minimum, freezing point on many days during winter months.
REMARKS.-- Samples collected approximately 3 feet from bottom. Maximum and minimum daily records of specific conductance taken from continuous conductivity recorder available in district office at Philadelphia, Pa. Temperature recorder not in operation June 9 to Aug. 14. Records of discharge for gaging station at Trenton, N.J., for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 21, 1958.....	3,560	3.7	0.03	52	78	632	43	19	239	1,100	0.7	1.5	2,300	450	435	3,870	6.2	8
Nov. 13.....	9,680	5.4	.07	26	28	194	9.0	23	112	320	.4	4.5	736	180	161	1,330	6.5	12
Dec. 17.....	7,770	6.2	.12	19	5.8	16	2.7	10	63	19	.6	7.7	149	72	64	252	6.2	7
Jan. 29, 1959.....	9,800	6.1	.22	19	7.3	14	3.1	21	61	19	.4	8.1	152	78	61	262	6.5	5
Mar. 25.....	13,800	6.4	.11	25	20	144	7.3	12	89	235	.3	8.1	598	145	135	1,030	6.2	10
Apr. 29.....	18,000	6.4	.09	15	4.9	15	2.3	6	52	19	.4	10	150	58	53	223	5.8	10
June 11.....	3,470	2.2	.04	24	18	106	7.0	6	104	190	.6	6.3	520	134	129	893	5.4	5
July 21 a.....	3,590	.8	.06	49	87	688	34	10	268	1,220	1.0	4.1	2,510	480	472	4,330	6.0	5
Sept. 10.....	3,590	1.5	.06	26	16	80	10	24	106	132	.8	6.8	425	131	112	701	6.1	5

a Samples collected at right center top of the navigation channel.

Temperature (°F) of water, water year October 1958 to September 1959
[Recorder with temperature attachment, continuous mercury-actuated thermograph]

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	67	66	65	65	65	64	63	63	63	64	63	62	61	61	60	60	61	61	60	61	59	58	57	57	55	54	53	53	53	52	52	60
Minimum.....	66	64	64	63	63	61	61	61	61	61	61	60	59	58	57	58	59	59	58	58	57	57	56	55	54	52	52	52	51	50	50	58
November																																
Maximum.....	51	51	50	49	49	49	48	48	47	47	47	46	46	46	46	46	46	46	46	46	50	50	49	49	49	48	48	47	47	47	--	48
Minimum.....	50	49	49	48	48	47	47	46	46	46	46	45	44	45	45	45	45	46	46	45	45	48	47	48	47	47	46	45	45	45	--	46
December																																
Maximum.....	46	46	45	45	45	45	43	42	42	41	39	38	38	37	36	36	35	35	35	35	35	34	34	34	34	34	34	33	34	35	35	38
Minimum.....	44	44	43	43	44	43	42	40	40	39	37	36	36	35	35	35	34	34	34	34	34	33	33	33	33	32	32	32	33	33	34	37

DELAWARE RIVER BASIN--Continued

1-4821. DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, WILMINGTON, DEL.--Continued

Temperature (°F) of water, water year October 1958 to September 1959--Continued

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
January																																
Maximum.....	34	36	36	36	36	35	34	33	33	33	33	34	34	34	34	35	35	34	34	35	33	34	35	37	37	37	37	37	36	37	37	35
Minimum.....	33	34	35	35	33	33	33	32	32	32	32	32	32	32	33	34	34	33	32	32	32	33	33	33	34	34	35	35	35	35	36	33
February																																
Maximum.....	36	36	36	35	36	36	36	36	36	36	37	37	37	37	38	38	39	39	39	39	37	37	37	37	37	37	38	38	38	--	--	37
Minimum.....	36	35	34	35	35	35	35	35	35	35	36	36	36	36	36	37	38	38	38	37	35	34	35	35	35	35	36	37	--	--	--	36
March																																
Maximum.....	38	39	39	40	40	42	42	42	43	43	43	43	42	42	42	43	43	43	43	44	44	44	45	45	46	46	47	46	46	46	47	43
Minimum.....	37	37	38	39	39	40	41	40	41	42	41	41	42	41	41	41	42	42	42	42	43	43	43	44	44	45	46	45	45	45	45	42
April																																
Maximum.....	47	48	49	50	50	50	51	52	53	53	53	53	52	53	53	54	55	56	56	57	57	57	57	57	58	58	59	59	58	59	--	54
Minimum.....	46	47	47	49	48	49	50	50	51	52	53	52	52	52	52	52	53	54	55	56	57	56	56	56	57	57	58	58	57	57	--	53
May																																
Maximum.....	59	59	60	61	63	63	64	65	64	64	65	67	67	67	67	66	65	66	68	69	70	72	72	72	73	73	74	75	76	76	76	68
Minimum.....	58	59	59	60	61	62	63	64	64	63	63	65	66	66	66	64	63	64	66	67	68	70	71	71	71	71	71	72	73	75	75	66
June																																
Maximum.....	76	75	75	77	76	77	78	76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum.....	75	74	74	74	75	75	75	76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
July																																
Maximum.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
August																																
Maximum.....	--	--	--	--	--	--	--	--	--	--	--	--	--	81	82	82	84	83	83	84	84	84	83	81	82	82	82	83	83	82	82	--
Minimum.....	--	--	--	--	--	--	--	--	--	--	--	--	--	80	80	80	81	82	82	82	82	82	81	80	80	80	81	81	81	81	81	--
September																																
Maximum.....	83	82	83	83	83	82	82	83	83	84	84	82	80	80	79	78	75	74	73	72	72	73	74	74	74	73	73	75	75	75	--	78
Minimum.....	81	81	80	82	82	81	81	81	81	82	81	79	78	78	77	75	74	73	71	70	70	71	71	72	72	72	72	73	74	74	--	76

1-4827. DELAWARE RIVER AT REEDY POINT, DEL.

LOCATION.--One-hundred yards west of buoy "IN", 0.8 mile southeast of the Chesapeake and Delaware Canal, and 2.1 miles south of Pea Patch Island.
DRAINAGE AREA.--11,220 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1955 to September 1959.
Water temperatures: October 1956 to September 1959.
EXTREMES, 1958-59.--Specific conductance: Maximum daily, 14,800 micromhos Jan. 14; minimum daily, 345 micromhos Apr. 7.
Water temperatures: Maximum, 85°F Aug. 1; minimum, freezing point on several days during December, January, and February.
EXTREMES, 1956-59.--Specific conductance: Maximum daily, 20,800 micromhos Oct. 7, 1957; minimum daily, 154 micromhos Apr. 14, 1958.
Water temperatures: Maximum, 85°F June 17, 1957, Aug. 4, 1958 and Aug. 1, 1959; minimum, freezing point on many days during winter months.
REMARKS.--Composited samples selected from representative daily samples collected one hour prior to high-water slack, 3 feet below surface. Records of specific conductance of daily samples available in district office at Philadelphia, Pa. Records of discharge for gaging station at Trenton, N.J. for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-4, 1958	7,940	3.9	0.03	76	197	1,600	42	34	489	2,820	0.7	0.9	5,540	1,000	972	8,980	6.9	7
Nov. 4-7	18,400	6.0	.02	72	149	1,340	48	33	386	2,240	.8	3.7	4,450	793	766	7,300	6.8	7
Dec. 2-5	14,400	6.8	.00	42	96	728	26	20	252	1,300	.6	3.6	2,620	500	484	4,500	6.7	5
Jan. 2-4, 1959	10,400	5.8	.00	69	182	1,370	52	28	418	2,600	.6	1.6	4,920	921	898	8,240	6.4	5
Feb. 3-6	10,600	8.2	.00	48	97	792	50	24	270	1,350	.5	3.7	2,780	520	500	4,740	6.5	4
Mar. 2-4	7,350	5.2	.00	72	175	1,450	99	30	471	2,540	.4	1.1	4,960	900	875	8,260	6.6	7
Apr. 9-11	21,300	6.6	.00	18	12	58	9.0	18	62	110	--	5.8	321	95	80	542	6.6	3
May 7-10	9,350	6.4	.00	24	34	270	5.0	9	116	440	--	4.9	980	200	193	1,740	6.1	4
May 30-June 2	4,180	6.1	.01	57	128	1,090	18	21	325	1,850	.6	1.7	3,740	669	652	6,290	6.6	5
July 2-5	3,660	2.3	.01	75	176	1,510	20	17	443	2,600	.8	.9	5,170	911	897	8,470	6.4	5
Aug. 4-8	3,730	3.7	.01	94	247	2,100	50	26	559	3,600	.6	4.7	6,970	1,250	1,230	11,700	6.8	5
Sept. 1-4	8,250	9.4	.02	80	195	1,640	50	29	485	2,850	.6	6.1	5,590	1,000	978	9,650	6.7	5

DELAWARE RIVER BASIN--Continued

1-4827. DELAWARE RIVER AT REEDY POINT, DEL.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
/Once-daily measurement one hour prior to high-water slack/

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	62	63	65	65	64	62	62	66	--	60	64	64	62	--	64	--	61	63	--	57	57	--	63	63	--	58	57	58	--	57	58	--
November...	59	55	54	54	53	54	52	52	53	52	54	--	43	53	54	55	53	--	--	52	51	50	50	51	50	50	49	46	46	44	--	51
December...	--	43	43	41	43	41	39	38	38	37	--	36	35	--	--	34	34	33	33	34	32	--	33	34	32	33	33	--	--	35	35	--
January....	--	35	33	34	--	--	--	--	--	--	--	--	--	32	--	--	--	--	--	--	--	35	33	33	35	--	--	--	--	34	34	--
February...	32	32	32	34	33	36	38	38	37	36	--	--	37	--	38	35	35	--	--	34	38	39	36	35	--	36	36	38	38	--	--	--
March.....	38	38	36	37	38	--	--	--	--	40	--	--	--	43	--	--	--	38	--	41	34	41	42	--	46	47	--	--	45	44	46	--
April.....	48	45	48	49	50	--	51	53	55	55	54	54	55	56	56	56	--	55	51	51	--	--	56	--	60	60	55	54	58	58	--	54
May.....	--	58	--	60	--	--	57	65	64	64	60	69	66	61	--	--	63	63	59	67	70	70	71	71	72	71	72	74	74	73	74	66
June.....	72	72	--	73	74	--	76	76	--	75	--	78	76	74	73	70	70	73	69	73	--	75	74	74	74	74	80	78	78	79	--	74
July.....	--	80	79	79	80	80	78	80	80	78	81	75	78	77	76	78	77	79	80	79	83	--	80	80	80	80	80	81	82	81	83	79
August.....	85	83	84	84	78	78	80	76	78	--	76	78	78	79	82	84	84	80	81	84	80	82	80	80	80	80	80	81	81	82	80	81
September..	83	82	82	81	84	75	83	84	83	80	79	78	76	78	76	72	73	73	72	--	73	72	72	70	70	73	71	72	74	74	--	76

757-048 O - 65 - 10

SUSQUEHANNA RIVER BASIN

1-5090. TIOUGHNIOGA RIVER AT CORTLAND, N.Y.

LOCATION.--At bridge on U.S. Highway 11 at Cortland, Cortland County, about 0.3 mile downstream from gaging station, and 0.7 mile from confluence of East and West Branches.
DRAINAGE AREA.--296 square miles (including 16 square miles, the flow from which may be directed into DeRuyter Reservoir in Oswego River basin).
RECORDS AVAILABLE.--Chemical analyses: October 1956 to September 1957.
Water temperatures: October 1956 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 68°F Aug. 8; minimum, freezing point Jan. 6.
EXTREMES, 1956-59.--Water temperatures: Maximum, 74°F July 22, 1957; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Temperature (°F) of water, water year October 1958 to September 1959
/Once-daily measurement at approximately 9 a.m./

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	54	51	52	53	53	53	54	53	52	53	51	50	51	51	50	50	52	52	50	50	50	51	54	55	54	54	53	53	53	53	53	52
November...	50	50	48	48	48	48	45	44	45	47	47	46	46	47	47	47	47	48	47	45	45	45	--	--	--	--	--	--	42	38	--	46
December...	38	38	39	42	41	39	39	38	38	38	34	34	34	34	35	35	36	36	37	33	33	33	33	36	36	35	34	36	43	38	40	37
January....	40	43	39	41	33	32	34	35	36	35	38	38	36	40	41	39	38	36	36	38	38	39	38	37	38	33	35	33	35	37	37	37
February...	36	34	33	37	35	35	35	36	35	37	35	35	38	36	37	37	36	36	35	35	36	37	37	37	36	37	38	38	--	--	--	36
March.....	38	38	39	--	38	38	38	39	38	37	37	38	37	37	37	37	37	37	36	37	37	36	37	39	39	39	37	37	37	38	38	38
April.....	38	38	37	37	37	39	38	39	39	39	37	37	40	42	45	45	46	46	45	45	45	49	49	50	51	51	50	48	49	49	--	43
May.....	47	48	48	47	52	53	53	50	51	51	53	53	55	52	51	51	49	53	54	54	58	61	59	49	52	55	58	60	60	60	60	53
June.....	59	58	56	57	59	60	60	61	62	64	64	63	61	54	55	55	57	57	56	54	58	60	58	58	58	60	60	62	62	62	--	59
July.....	65	63	63	62	64	64	60	60	62	65	63	63	64	63	63	63	64	64	64	63	62	63	64	67	65	58	59	62	64	65	65	63
August.....	66	60	57	56	59	60	62	68	61	60	62	62	65	63	65	67	67	65	63	64	64	64	63	62	60	60	63	63	63	63	60	62
September..	64	64	65	63	62	63	64	64	65	65	61	55	55	53	54	53	51	52	52	51	55	57	58	61	55	55	67	62	63	64	64	59

SUSQUEHANNA RIVER BASIN--Continued

1-5135. SUSQUEHANNA RIVER AT JOHNSON CITY, N.Y.

LOCATION.--At the New York State Gas and Electric Corp., Goudey Station, Johnson City, N.Y.
DRAINAGE AREA.--3,916 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1955 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 81°F on several days during June, July, August and September; minimum, freezing point on many days during winter months.
EXTREMES, 1955-59.--Water temperatures: Maximum, 81°F June 30, 1957, and on several days during summer months in 1959; minimum, freezing point on many days during winter months.
REMARKS.--Temperatures are measured by plant employees from water diverted to plant through underground tubes.

Temperature (°F) of water, water year October 1958 to September 1959

/Once-daily measurement at approximately 8 a.m./

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	57	53	54	55	56	50	50	53	56	58	57	52	51	49	49	51	56	55	52	50	50	51	53	54	55	51	47	46	45	45	44	52
November...	45	43	42	42	42	45	44	42	42	44	44	44	44	44	46	47	48	48	50	47	46	43	39	39	38	38	38	36	34	33	--	43
December...	32	33	33	33	33	33	33	32	33	33	33	33	33	33	32	33	33	33	33	33	33	33	34	34	33	33	33	33	33	34	34	33
January....	33	34	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	34	34	34	32	32	33	33	32	32	32	32	32	33	33
February...	33	32	32	33	32	32	33	33	33	33	32	32	33	33	33	32	32	33	33	33	33	33	33	33	33	34	34	33	--	--	--	33
March.....	33	34	33	34	34	34	33	33	32	32	33	33	33	33	33	33	33	32	32	34	35	33	32	34	36	37	37	34	33	36	38	34
April.....	39	43	38	38	38	40	39	41	43	43	43	42	40	40	43	46	50	52	52	53	49	48	49	50	53	56	54	48	45	50	--	46
May.....	52	52	51	52	55	58	61	61	59	61	64	67	65	61	56	52	52	54	60	60	67	70	70	64	60	64	66	70	70	71	70	61
June.....	71	69	65	68	71	72	70	71	74	75	77	76	72	68	61	63	61	61	61	61	67	71	68	69	72	72	75	79	81	81	--	70
July.....	79	77	72	73	75	75	70	70	73	76	76	76	76	76	76	76	78	78	78	77	75	77	78	79	80	73	74	77	79	81	80	76
August.....	80	77	74	74	73	70	68	73	75	73	74	74	77	77	80	81	81	80	77	78	79	81	77	73	73	75	75	75	77	79	76	76
September..	74	76	76	76	76	76	76	76	78	81	76	71	70	66	66	61	59	58	58	59	62	65	67	69	69	69	67	69	71	72	--	70

1-5165. COREY CREEK NEAR MAINESBURG, PA.

LOCATION.--At gaging station, 1.1 miles downstream from Mainesburg, Tioga County, 3.5 miles east of Mansfield, and 4.5 miles upstream from mouth.
DRAINAGE AREA.--12.2 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1958 to September 1959.
Sediment records: May 1954 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 93°F Aug. 11, 12, 15, 17; minimum, freezing point on many days during December and January.
Sediment concentrations: Maximum daily, 350 ppm Apr. 27; minimum daily, 1 ppm on many days from October through January.
Sediment loads: Maximum daily, 111 tons Apr. 27; minimum daily, 0 tons on several days in August.
EXTREMES, 1954-59.--Sediment concentrations: Maximum daily, 1,440 ppm Apr. 5, 1957; minimum daily, 0 ppm on many days.
Sediment loads: Maximum daily, 1,940 tons Oct. 14, 1955; minimum daily, 0 tons on many days.
REMARKS.--Records of specific conductance and pH of periodic sediment samples available in subdistrict office at Harrisburg, Pa. Records of discharge for water year October 1958 to September 1959 given in WSP 1622. Flow affected by ice Nov. 28 to Mar. 15, Mar. 17-19, 22-24, 28, 29.

Chemical analyses, in parts per million, October 1958 to August 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 8, 1958.....	1.1	1.1	0.03	26	3.9	4.3	1.9	80	19	3.9	0.1	0.4	110	81	16	172	7.5	5
Apr. 2, 1959.....	67	4.1	.02	10	2.4	2.0	1.9	22	15	3.6	.3	5.2	80	35	17	90	6.5	7
Aug. 8.....	.1	5.6	.02	30	4.3	6.2	2.5	107	13	4.8	.0	.6	126	93	5	205	7.4	5

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 4 p.m.)

Month	Day																												Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	60	60	58	58	57	57	55	55	55	54	50	50	48	48	49	48	48	48	48	48	48	48	47	47	48	47	42	46	46	46	51
November...	45	46	46	46	46	45	43	42	41	41	43	41	45	42	41	40	40	41	40	40	38	38	37	37	36	35	34	33	32	32	--	40
December...	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
January....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	--	32	32	32
February...	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	--	--	--	32
March.....	32	32	32	32	32	34	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	35	35	--	43	33
April.....	39	39	41	40	42	42	52	52	47	48	--	--	--	--	58	60	62	54	52	--	--	57	51	60	48	--	49	--	--	--	--	--
May.....	50	66	63	67	65	70	70	63	66	64	68	51	52	50	48	61	53	54	60	59	61	61	62	62	63	65	66	65	66	67	63	61
June.....	79	76	78	78	81	81	81	79	75	75	73	85	83	85	84	83	88	84	85	85	85	80	85	88	85	85	85	88	90	75	--	82
July.....	76	72	80	77	77	78	78	84	80	83	80	76	80	--	--	--	--	--	--	76	85	82	84	--	--	80	80	80	91	91	84	--
August.....	82	81	78	72	74	75	68	76	88	92	93	93	92	91	93	91	93	88	88	88	89	89	89	78	91	83	89	88	89	83	83	85
September..	83	88	88	88	89	90	85	78	85	91	82	72	70	68	64	72	68	70	63	71	80	74	75	74	73	72	71	78	80	68	--	77

SUSQUEHANNA RIVER BASIN--Continued

1-5165. COREY CREEK NEAR MAINESBURG, PA.--Continued

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	3.5	8	0.1	3.0	1	(t)	5.4		
2...	2.6	7	(t)	5.4			4.7	1	(t)
3...	2.0			10			4.4		
4...	1.8			8.2	1	(t)	5.4	2	(t)
5...	1.5	4	(t)	6.8			16	7	0.3
6...	1.3			5.8			18		
7...	1.2			4.9			9.0		
8...	1.1			3.7	1	(t)	7.2	1	(t)
9...	1.1			3.4			6.2		
10...	1.1	1	(t)	3.8			5.0		
11...	1.1			3.7	3	(t)	4.5		
12...	1.0			3.4	4	(t)	4.3		
13...	.9			3.4			4.1	1	(t)
14...	.9			4.0	4	(t)	3.8		
15...	.9	1	(t)	3.7			3.5		
16...	.8			4.2	4	(t)	3.3		
17...	1.0			4.8	4	0.1	3.2		
18...	1.2			6.8	5	.1	3.0	1	(t)
19...	1.1			6.3			3.2		
20...	1.1	1	(t)	5.5	3	(t)	3.2		
21...	.8			5.3			2.7		
22...	5.4	5	.1	4.9			2.4		
23...	4.8	3	(t)	4.4	2	(t)	2.6	2	(t)
24...	3.0	1	(t)	4.4			2.7		
25...	1.5			4.2			2.7		
26...	9.3	4	s .2	4.4	2	(t)	2.3		
27...	13	4	s .2	4.5			2.4		
28...	21	5	.3	4.8			2.3	2	(t)
29...	12			7.4	3	.1	2.2		
30...	6.6	3	.1	6.4			2.1		
31...	5.0			--	--		1.9		
Total	109.6	--	1.4	151.5	--	1.2	143.7	--	0.7

Day	January			February			March		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	1.8			7.0			11	28	0.8
2...	5.2			3.3			6.0	24	.4
3...	5.8	3	(t)	3.5	5	0.1	4.5	24	.3
4...	3.5			6.4			3.6	23	.2
5...	2.2			5.6			3.2	23	.2
6...	1.9			4.5			100	240	65
7...	1.8			3.3			16	40	1.7
8...	1.8	4	(t)	2.9	5	(t)	13		
9...	1.7			2.6			7.1	22	.5
10...	1.7			150	--	a 36	5.2		
11...	1.7			16	--	e .8	4.3	21	.2
12...	1.6			9.5	--	e .3	3.8		
13...	1.6	3	(t)	6.4	5	.1	3.6	23	.2
14...	1.6			5.4	5	.1	4.2		
15...	1.6			7.4	--	b 1.4	100	38	10
16...	9.4			5.3			34	22	2.0
17...	3.9			4.9			14	20	.8
18...	2.5	2	(t)	4.6	5	.1	8.0	20	.4
19...	2.2			3.5			14	20	.8
20...	2.4			2.5			28	20	1.5
21...	180	100	49	2.7			32	15	1.3
22...	120	--	b 29	2.9	5	(t)	19	12	.6
23...	50			2.7			14		
24...	24			2.4			12		
25...	14	3	0.2	2.2	48	.3	20	10	.4
26...	11			2.4	75	.5	20		
27...	9.0			3.6	60	.6	34	--	a 1.6
28...	8.0			10	62	1.7	23		
29...	7.7	1	(t)	--	--	--	21	10	.6
30...	12			--	--	--	18		
31...	12			--	--	--	31		
Total	503.6	--	79.4	283.5	--	43.1	627.5	--	93.9

e Estimated.
s Computed by subdividing day.
t Less than 0.05 ton.
a Computed from partly estimated-concentration graph.
b Computed from estimated-concentration graph.

SUSQUEHANNA RIVER BASIN--Continued

1-5165. COREY CREEK NEAR MAINESBURG, PA.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	32	21	1.8	20	17	0.9	1.4		
2...	67	167	s 39	16			2.0	9	(t)
3...	47	--	a 4.3	14			2.3		
4...	38			10	5	.1	1.6		
5...	24			8.5			1.4		
		6	.4					9	(t)
6...	28			7.1			1.6		
7...	18			6.3			1.2		
8...	18			5.6			1.1		
9...	18			5.3			.9		
10...	16			4.9	2	(t)	.6		
		4	.2					7	(t)
11...	15			4.9			.6		
12...	12			5.5			.6		
13...	11			5.6			.6		
14...	9.4			6.1			.6		
15...	8.5			5.3	3	(t)	.5	4	(t)
16...	7.4	3	.1	5.1			.5		
17...	7.1			4.7	4	.1	.6		
18...	6.6			5.1			.8		
19...	7.1			7.2	6	.1	1.4	6	(t)
20...	14	--	a .2	5.9	4	.1	1.1		
21...	12			4.5			.6		
22...	9.7			4.0			1.2	7	(t)
23...	8.8	5	.1	3.5			3.0		
24...	7.7			3.5	5	(t)	1.8		
25...	7.7			2.9			1.0	6	(t)
26...	19	--	a .5	2.6			1.1		
27...	83	350	s 111	2.4			1.0		
28...	72	25	4.9	2.4			.7		
29...	47			2.0	4	(t)	.5	7	(t)
30...	30	7	.7	1.9			.4		
31...	--	--	--	1.6			--	--	--
Total	701.0	--	167.2	184.4	--	2.6	32.7	--	0.6

Day	July			August			September		
1...	0.3			0.2			1.9	7	(t)
2...	.6			.1			3.3	5	(t)
3...	.5	3	(t)	.1			1.3		
4...	.3			.1	5	(t)	.9		
5...	.3			.1			.7		
								2	(t)
6...	1.8	7	(t)	.1			.5		
7...	2.0			.1	5	(t)	.3		
8...	.7	3	(t)	.1	6	(t)	.2		
9...	.4			.5			.1		
10...	.6			1.1			.2		
11...	.3			.4	7	(t)	.2		
12...	.3			.3			.2		
13...	.2			.2			.1		
14...	.1			.1			.1	3	(t)
15...	.1	4	(t)	.1	7	(t)	.1		
16	.1			.1			.1		
1	.1			0			.1		
18...	.1			0			.1		
19...	.1			0			.1		
20...	.3			0			.2		
21...	1.0			0	--	0.0	.2		
22...	.7			0			.2		
23...	.6			0			.1		
24...	.5			0			.1		
25...	.4			0			.1	5	(t)
26...	.2	3	(t)	.2			.1		
27...	.1			12	9	.1	.1		
28...	.1			5.0			.1		
29...	.2			1.8	9	(t)	.1		
30...	.4			1 8	8	(t)	.2		
31...	.3			2.8	8	.1	--	--	--
Total	13.7	--	0.1	27.3	--	0.5	12.0	--	0.1

Total discharge for year (cfs-days) 2,790.5
Total load for year (tons) 390.8

s Computed by subdividing day.
t Less than 0.05 ton.
a Computed from estimated-concentration graph.

SUSQUEHANNA RIVER BASIN--Continued

1-5165. COREY CREEK NEAR MAINESBURG, PA.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Sampling point	Water temperature (°F)	Discharge (cfs)	Sediment concentration (ppm)	Suspended sediment: Percent finer than size indicated, in millimeters										Method of analysis
						0.001	0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Jan. 21, 1959	1450		32	1,030	169		--	33	43	53	68	82		100			SBWC
Feb. 10	1000		--	1,170	89		8	27	46	55	70	82					BWC
Mar. 6	1400		36	288	610		11	26	39	57	71	83					BWC

1-5170. ELK RUN NEAR MAINESBURG, PA.

LOCATION.--At gaging station, 2.7 miles northeast of Mainesburg, Tioga County, 5.5 miles upstream from mouth, and 5.8 miles east of Mansfield.
DRAINAGE AREA.--10.2 square miles.
RECORDS AVAILABLE.--Water temperatures: November 1956 to September 1959.
Sediment records: May 1954 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 87°F July 16, 17; minimum, freezing point on many days during November to March.
Sediment concentrations: Maximum daily, 330 ppm Apr. 27; minimum daily, 1 ppm on many days during year.
Sediment loads: Maximum daily, 273 tons Mar. 15; minimum daily, 0 tons on many days during year.
EXTREMES, 1954-59.--Water temperatures (1956-59): Maximum, 90°F July 30, 1957; minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 885 ppm Apr. 5, 1957; minimum daily, 0 ppm on many days.
Sediment loads: Maximum daily, 852 tons, Apr. 5, 1957; minimum daily, 0 tons on many days.
REMARKS.--Records of specific conductance and pH of periodic sediment samples available in subdistrict office at Harrisburg, Pa. Operation of thermograph was poor. Once daily measurement at approximately 5 p.m. given for days when thermograph was not operating. Records of discharge for water year October 1958 to September 1959 given in WSP 1622. Flow affected by ice Nov. 28 to Mar. 25, Mar. 28, 29.

Chemical analyses, in parts per million, October 1958, August 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 8, 1958.....	0.8	6.4	0.03	24	3.2	4.6	2.5	78	15	4.6	0.1	0.5	107	73	9	169	7.3	3
Aug. 8, 1959.....	.1	3.1	.02	27	3.4	6.2	2.4	96	12	5.8	.0	.1	139	82	3	189	7.4	5

SUSQUEHANNA RIVER BASIN--Continued

1-5170. ELK RUN NEAR MAINESBURG, PA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph)

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October	50	47	49	52	50	44	42	--	--	--	42	45	41	44	49	57	55	46	--	48	39	42	47	52	44	--	40	40	40	39	46	--
Maximum	--	--	--	--	--	--	--	55	63	61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	--	--	45	48	53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
November	39	--	39	40	35	47	38	--	40	40	--	40	38	48	--	--	45	50	--	42	39	35	38	40	38	41	--	35	--	35	--	--
Maximum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	--	--	32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	32	--	32	--	--	--
December	--	--	34	40	40	--	--	--	--	--	--	34	33	--	--	34	33	34	34	--	--	--	34	34	--	--	33	33	35	34	33	--
Maximum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum	32	32	--	--	--	32	32	32	32	32	32	--	--	32	32	--	--	--	--	32	32	32	--	--	32	32	--	--	--	--	--	--
January	33	35	33	34	--	--	--	--	33	33	33	--	33	33	33	35	33	--	34	34	35	33	33	33	38	33	34	35	35	38	35	--
Maximum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	32	32	32	32	--	--	--	32	--	--	--	--	--	32	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February	--	--	--	33	34	--	--	--	33	34	--	--	38	35	34	34	35	35	--	--	33	34	35	33	33	--	--	33	--	--	--	--
Maximum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	--	--	32	--	--	32	32	--	--	--	--	--	--	32	32	--	--	--	--	--	32	32	--	--	--	--	--
March	35	34	35	34	35	33	35	33	33	--	--	--	--	33	35	33	34	34	40	41	36	--	36	34	42	37	--	--	38	39	--	--
Maximum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	44	--
Minimum	--	--	--	--	--	--	--	--	--	32	32	32	--	--	--	--	--	--	--	--	--	32	--	--	--	--	32	32	--	--	38	--
April	51	--	42	42	47	44	46	--	--	42	42	37	47	40	--	--	--	--	--	44	44	--	--	--	--	--	--	44	--	--	--	--
Maximum	--	51	--	--	--	--	--	48	46	--	--	--	--	--	54	58	59	53	51	--	--	50	52	58	63	56	46	--	58	57	--	--
Minimum	--	44	--	--	--	--	--	44	41	--	--	--	--	--	43	44	46	47	49	--	--	43	42	46	49	46	44	--	44	49	--	--
May	--	--	--	--	--	--	--	--	--	--	--	--	--	48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum	58	51	65	59	63	69	72	62	62	70	76	66	62	57	--	56	59	69	67	76	76	77	67	68	74	75	80	81	81	80	82	69
Minimum	47	46	50	46	49	52	56	51	49	54	59	60	56	50	--	42	47	48	57	61	65	66	59	55	55	57	60	61	64	63	61	55
June																																
Maximum	80	66	79	81	83	79	80	83	85	83	84	75	79	74	74	69	67	67	73	83	85	72	81	84	81	85	84	85	86	86	--	79
Minimum	63	60	59	55	59	61	57	57	61	64	67	66	56	54	50	64	55	56	58	59	60	66	61	57	65	67	70	70	75	74	--	62
July	--	--	--	--	--	69	61	60	64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum	86	85	86	--	--	--	--	--	--	79	86	85	86	86	86	87	87	84	82	77	81	81	82	81	77	82	82	82	83	83	84	83
Minimum	69	66	60	--	--	--	--	--	--	67	63	67	64	65	68	66	66	65	72	68	65	66	64	70	61	57	61	59	66	68	70	65
August	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum	86	84	83	80	76	73	74	71	72	75	76	76	76	79	78	75	76	80	84	85	86	80	70	84	86	84	74	78	79	77	77	79
Minimum	64	60	56	59	64	64	62	68	65	64	64	63	68	70	70	68	71	59	53	55	59	65	61	58	55	55	67	67	67	70	71	63
September	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum	79	78	79	79	78	78	77	78	78	76	70	68	66	65	62	58	57	56	63	66	72	68	76	73	74	69	69	77	77	75	--	71
Minimum	71	73	71	67	58	62	62	66	70	70	60	53	54	54	52	50	41	48	46	54	59	62	62	65	64	63	65	68	69	71	--	61

SUSQUEHANNA RIVER BASIN--Continued

1-5170. ELK RUN NEAR MAINESBURG, PA.--Continued

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	3.1	3	(t)	4.6	2	(t)	4.5	5	0.1
2...	2.2			4.6	2	(t)	3.9	2	(t)
3...	1.7			8.7	6	0.1	3.7		
4...	1.3	2	(t)	6.8			4.8	5	.1
5...	1.1			5.9			13	50	c 1.8
6...	1.1			5.0	2	(t)	15	7	.3
7...	1.1			4.2			7.0	3	.1
8...	.8			3.8			6.0		
9...	.8	2	(t)	3.4			5.2		
10...	.9			3.4			4.0		
11...	1.1			3.4	3	(t)	3.7	3	(t)
12...	.9			3.1			3.5		
13...	.9			3.1			3.3		
14...	1.1	2	(t)	3.8	2	(t)	3.1		
15...	.9			3.4	2	(t)	2.9		
16...	1.1			3.8	3	(t)	2.7	1	(t)
17...	1.1			4.2	4	(t)	2.6		
18...	.9			6.8	5	.1	2.5		
19...	.9	1	(t)	5.9	4	.1	2.6		
20...	.6			5.0	2	(t)	2.7		
21...	.6			5.0			2.2		
22...	2.5	6	0.2	4.6			2.0	1	(t)
23...	5.0	10	.2	4.2	2	(t)	2.1		
24...	2.8	3	(t)	4.2			2.2		
25...	2.2			4.2			2.0		
26...	6.4	5	.1	4.2	2	(t)	1.9		
27...	9.8	6	.2	4.2			2.0		
28...	13	9	.3	4.9	3	(t)	1.9	1	(t)
29...	9.3	3	.1	8.0	7	.2	1.8		
30...	7.2	3	.1	5.6	4	.1	1.7		
31...	5.4			--	--	--	1.6		
Total	87.8	--	1.5	142.0	--	1.3	118.1	--	2.8

	January			February			March		
1...	1.5	1	(t)	5.8	2	(t)	9.2	10	0.2
2...	4.3	5	0.1	2.7	4	(t)	4.8	7	.1
3...	4.8	3	(t)	2.9	3	(t)	3.6	4	(t)
4...	2.9	2	(t)	5.3	8	0.1	3.0		
5...	1.8			4.6	3	(t)	2.7	6	(t)
6...	1.6			3.5			270	314	c 229
7...	1.5			2.7	2	(t)	100	70	19
8...	1.5	2	(t)	2.4			31	24	2.0
9...	1.4			2.1			8.0		
10...	1.4			280	--	e 121	5.2	13	.2
11...	1.4			31	28	2.3	4.0		
12...	1.3	2	(t)	8.0	3	.1	3.5		
13...	1.3			5.2			3.3	5	(t)
14...	1.3			4.5	5	.1	4.0		
15...	1.3	--	b (t)	6.2	10	.2	350	289	c 273
16...	7.6	--	b 1.0	4.4			170	125	57
17...	3.0	5	(t)	4.0			47	29	3.7
18...	2.0	2	(t)	3.8	3	(t)	23	10	.6
19...	1.8	2	(t)	2.8			33	--	a 15
20...	2.0			2.1			28	--	a 10
21...	45	94	c 11	2.2			29	75	5.9
22...	100	40	11	2.3	2	(t)	21	18	.9
23...	50			2.2			16		
24...	20	4	.3	2.0			11	25	.7
25...	12			1.8	3	(t)	14	30	1.1
26...	9.0			2.0	17	.1	17	15	.7
27...	7.5	2	(t)	3.0	34	.3	27	47	s 4.3
28...	6.4			8.6	21	.5	28	27	2.0
29...	6.2			--	--	--	19	24	1.2
30...	10	13	.4	--	--	--	18	22	1.1
31...	10	7	.2	--	--	--	29	108	s 12
Total	321.8	--	25.1	408.1	--	125.2	1,324.3	--	641.3

e Estimated.
s Computed by subdividing day.
t Less than 0.05 ton.

a Computed from partly estimated-concentration graph.
b Computed from estimated-concentration graph.
c Computed from estimated water discharge.

SUSQUEHANNA RIVER BASIN--Continued

1-5170. ELK RUN NEAR MAINESBURG, PA.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	29	58	4.5	21	7	0.4	1.0		
2...	61	153	s 33	18			1.2	2	(t)
3...	40	50	5.4	18			1.6		
4...	32	24	2.1	16			1.1		
5...	22			12	4	.1	1.2		
6...	26	11	.7	9.5			2.1	3	(t)
7...	19			7.2			1.2		
8...	19			5.8			.9		
9...	19			4.6			.7	-	
10...	18			3.8			.6		
		6	.3		2	(t)		3	(t)
11...	18			3.8			.5		
12...	15			4.6			.5		
13...	13			4.3			.6	4	(t)
14...	11			4.9			.6		
15...	9.9			4.0			.4	1	(t)
16...	8.7	4	.1	3.8	2	(t)	.3		
17...	7.5			3.3			.5		
18...	7.5			4.3			.7	1	(t)
19...	7.9			5.6			.8		
20...	17	17	s .9	5.5			.9		
21...	12	3	.1	4.0			.7	1	(t)
22...	11			3.6	3	(t)	1.1	3	(t)
23...	9.5	2	(t)	3.0			1.8	5	(t)
24...	8.3			3.0			.8		
25...	7.2			2.7			.7		
26...	17	15	s .8	2.3			.8	4	(t)
27...	84	330	s 119	2.1			.7		
28...	63	56	9.5	2.0	3	(t)	.6		
29...	41	20	2.2	1.6			.5	4	(t)
30...	29	13	1.0	1.5			.4	4	(t)
31...	--	--	--	1.1			--	--	--
Total	682.5	--	183.2	186.9	--	1.5	25.5	--	0.2

Day	July			August			September		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	0.3	3	(t)	0.2	2	(t)	3.0		
2...	.6			0			3.5		
3...	.4	3	(t)	0	--	0	2.0	2	(t)
4...	.3			0			1.2		
5...	.2	3	(t)	0			.7		
6...	.6			.1			.5	2	(t)
7...	.9			.1	2	(t)	.4		
8...	1.2	2	(t)	.1			.3	1	(t)
9...	1.6			.6			.2		
10...	.7			.8	2	(t)	.2		
11...	.6			.2			.1		
12...	.4			.1	2	(t)	.1		
13...	.3			0			.1		
14...	.3	6	(t)	0			.1	2	(t)
15...	.2			0			.1		
16...	.2			0			.1		
17...	.1			0			.1		
18...	0	--	0	0	--	0	.1		
19...	0			0			.1		
20...	.2	2	(t)	0			.1		
21...	.9	3	(t)	0			.1		
22...	.6			0			.1	1	(t)
23...	.5			0			.1		
24...	.4	3	(t)	0			.1		
25...	.3			0			.1		
26...	.2			.2	7	(t)	.1		
27...	.1	3	(t)	9.9	117	c 6.5	0	--	0
28...	0	--	0	4.1	8	.1	.1	3	(t)
29...	.2			1.6	4	(t)	0	--	0
30...	.3	3	(t)	1.6	3	(t)	.2	2	(t)
31...	.2			5.2	12	.2	--	--	--
Total	12.8	--	0.1	24.8	--	6.8	13.9	--	0.1

Total discharge for year (cfs-days)..... 3,348.5
Total load for year (tons)..... 989.1

s Computed by subdiding day.
t Less than 0.05 ton.
c Computed from estimated water discharge.

SUSQUEHANNA RIVER BASIN--Continued

1-5170. ELK RUN NEAR MAINESBURG, PA.--Continued

Particle-size analyses of suspended sediment, water years October 1957 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Sampling point	Water temperature (°F)	Discharge (cfs)	Sediment concentration (ppm)	Suspended sediment											Method of analysis
						Percent finer than size indicated, in millimeters											
						0.001	0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Dec. 20, 1957	1000		50	186	1,280		--	22	40	52	72	90	96	99	100		SBWC
Jan. 21, 1959	1410		38	669	109		17	25	34	45	56	70					SBWC
Jan. 21	1415		40	656	186		5	8	17	34	53	77					BN
Mar. 6	1115		33	887	617		13	21	34	53	68	82					BWC
Mar. 15	1730		34	884	837		9	19	33	42	59	75					BWC

SUSQUEHANNA RIVER BASIN--Continued

1-5360. LACKAWANNA RIVER AT OLD FORGE, PA.

LOCATION.--On highway bridge, 600 feet upstream from gaging station which is 150 feet upstream from Delaware, Lackawanna, and Western Railroad bridge in Old Forge, Lackawanna County, and 0.5 mile upstream from St. Johns Creek.
DRAINAGE AREA.--332 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1947 to September 1951, February to August 1956, October 1958 to September 1959.
REMARKS.--Records of specific conductance and pH of daily samples available in district office at Philadelphia, Pa. Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959.

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
Oct.29,1958 a.	1,170	--	--	--	--	--	--	--	--	4	38	2.5	--	2.4	--	48	45	--	128	5.7	2
Oct. 29, b....	1,170	--	--	--	--	--	--	--	--	0	135	4.5	--	1.1	--	140	140	0.2	369	4.5	2
Dec. 10.....	497	--	--	--	--	--	--	--	--	0	191	8.0	--	4.9	312	185	185	.4	482	4.0	3
Jan. 20, 1959.	220	14	8.3	0.07	4.3	84	73	14	3.3	0	571	7.0	0.3	1.6	849	510	510	1.2	1,100	3.5	3
Feb. 25.....	312	12	.6	.04	2.4	52	35	18	3.6	0	283	20	.3	6.8	479	274	274	.5	677	3.8	3
Mar. 8, a.....	980	--	--	--	--	--	--	--	--	0	138	2.0	--	2.5	--	88	88	.2	245	4.4	--
Apr. 8, b.....	980	--	--	--	--	--	--	--	--	3	162	1.5	--	.9	296	164	164	--	380	5.3	11
Apr. 22.....	786	9.0	1.4	.00	1.1	28	19	7.5	2.0	0	159	6.8	.1	3.9	248	148	148	.8	372	4.0	5
May 23.....	349	--	--	--	--	--	--	--	--	0	441	5.0	--	.5	728	400	400	1.0	889	3.8	7
Aug. 12.....	126	15	2.4	.03	4.5	84	64	18	3.2	0	532	13	--	.3	--	473	473	.8	1,010	4.2	3
Sept. 23.....	145	--	--	--	--	--	--	--	--	0	662	10	--	1.2	1,020	625	625	1.2	1,210	3.9	5

a Left side.
b Center, right side.

1-5405. SUSQUEHANNA RIVER AT DANVILLE, PA.

LOCATION.--At gaging station at Mill Street Bridge on State Highway 54, at Danville, Montour County, 0.8 mile upstream from Mahoning Creek.
DRAINAGE AREA.--11,220 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1945 to June 1953, October 1956 to September 1959.
Water temperatures: October 1945 to June 1953, October 1956 to September 1959.
EXTREMES, 1958-59.--Hardness: Maximum, 202 ppm July 19-30; minimum, 43 ppm Jan. 22-29.
Specific conductance: Maximum daily, 531 micromhos July 28; minimum daily, 88 micromhos Jan. 24.
Water temperatures: Maximum, 89°F June 30; minimum, freezing point on many days during November to February.
EXTREMES (1945-53, 1956-59).--Dissolved solids (1945-47, 1958-59): Maximum, 334 ppm Sept. 11-20, 1946; minimum, 68 ppm May 21-31, 1946.
Hardness: Maximum, 232 ppm Nov. 1-10, 1952; minimum, 33 ppm Apr. 7-10, 1958.
Specific conductance: Maximum daily, 557 micromhos Oct. 13, 1948; minimum daily, 84 micromhos Apr. 8, 1958.
Water temperatures: Maximum, 89°F June 30, 1959; minimum, freezing point on many days during winter months.
REMARKS.--Records of specific conductance of daily samples available in district office at Philadelphia, Pa. Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-7, 1958.....	7,550	--	--	--	--	7.6	--	40	72	6.2	--	2.3	--	102	69	255	7.3	5
Oct. 8-15.....	4,100	--	--	--	--	11	--	40	117	6.5	--	1.8	--	142	109	325	6.9	8
Oct. 16-27.....	4,490	3.7	0.00	36	16	12	1.6	39	139	7.4	0.1	2.7	247	156	124	374	6.9	2
Oct. 28-29.....	17,100	--	--	--	--	--	--	53	48	--	--	--	--	--	--	223	7.1	5
Oct. 30-31, Nov. 1-10	16,900	--	--	--	--	5.1	--	40	40	5.0	--	2.0	--	72	39	180	7.3	3
Nov. 11-30.....	12,600	--	--	--	--	6.9	--	41	55	6.0	--	2.1	--	86	53	211	7.1	6
Dec. 1-5, 7-12.....	13,400	4.3	.02	19	5.8	5.2	1.2	37	45	6.0	--	2.5	116	72	41	183	7.1	3
Dec. 13, 15-18.....	6,880	--	--	--	--	10	--	36	76	6.7	--	3.7	157	100	71	246	7.6	4
Dec. 20-31, Jan. 1-3, 1959.....	5,350	--	--	--	--	12	--	48	89	8.8	--	4.3	187	122	83	297	7.3	3
Jan. 4-6, 8-15.....	4,680	--	--	--	--	11	--	49	96	10	--	4.6	202	134	94	329	7.4	4
Jan. 16.....	5,400	--	--	--	--	--	--	31	41	--	--	--	--	--	--	190	6.2	--
Jan. 17-21.....	5,980	--	--	--	--	11	--	48	87	10	--	5.0	185	124	85	304	7.5	5
Jan. 22-29.....	41,500	--	--	--	--	4.1	--	21	24	4.4	--	5.1	87	43	26	121	7.0	1
Jan. 30-31, Feb. 1-10	16,200	5.2	.02	21	5.6	4.2	1.8	38	43	7.4	.2	4.5	117	76	45	193	6.8	3
Feb. 11-15.....	31,400	--	--	--	--	6.0	--	28	33	5.3	--	3.9	107	55	32	153	6.6	3
Feb. 16-22.....	13,400	--	--	--	--	6.9	--	37	59	7.2	--	3.6	158	90	60	224	7.1	1
Feb. 23-28, Mar. 1-2.	8,950	--	--	--	--	8.0	--	33	106	8.0	--	3.4	225	134	107	324	7.0	1
Mar. 3-7.....	17,200	--	--	--	--	6.7	--	40	66	7.2	--	3.7	166	100	67	250	6.7	3
Mar. 8-12.....	27,000	--	--	--	--	4.8	--	31	43	5.1	--	3.9	117	70	45	179	6.7	7
Mar. 13-20.....	20,900	--	--	--	--	5.3	--	30	61	6.4	--	3.2	145	88	64	218	6.9	4
Mar. 21-31, Apr. 1-2.	33,300	--	--	--	--	6.0	--	34	41	4.6	--	2.5	117	66	38	169	7.0	5
Apr. 3-15.....	52,700	--	--	--	--	4.8	--	32	26	4.7	--	2.2	89	51	25	131	7.0	4
Apr. 16-27.....	19,200	--	--	--	--	8.3	--	47	45	7.4	--	2.5	131	80	42	205	7.2	3
Apr. 28-30, May 1-6..	28,400	--	--	--	--	6.9	--	38	35	6.1	--	2.3	104	63	32	164	7.2	5

SUSQUEHANNA RIVER BASIN--Continued

1-5405. SUSQUEHANNA RIVER AT DANVILLE, PA.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
May 7-16, 1959	10,900	--	--	--	--	11	--	45	61	8.7	--	1.1	155	90	53	231	7.2	3
May 17-26	7,400	--	--	--	--	12	--	54	76	13	--	1.7	190	118	74	295	6.9	4
May 27-31, June 1-10	5,220	--	--	--	--	15	--	56	93	16	--	1.4	232	134	88	350	7.0	4
June 11-24, 26-30	3,120	3.2	0.00	42	15	18	1.0	44	137	18	0.0	1.3	277	167	131	422	6.6	1
July 19-30	1,840	5.8	.00	46	21	18	2.0	20	193	16	.0	2.0	328	202	185	489	6.8	4
July 31, Aug. 1-16	1,450	--	--	--	--	20	--	27	186	14	--	3.9	346	194	172	481	6.7	2
Aug. 17-31	1,580	3.7	.02	42	18	18	2.0	37	164	16	.2	5.5	303	179	149	458	7.1	4
Sept. 1-3	5,770	--	--	--	--	--	--	64	73	--	--	--	--	--	--	326	7.1	--
Sept. 4-11	3,250	--	--	--	--	17	--	46	97	11	--	2.5	198	118	81	297	7.3	5
Sept. 12, 16	1,580	--	--	--	--	20	--	29	140	11	--	1.8	260	144	120	367	6.6	5
Sept. 18-30	1,030	6.8	.03	46	19	18	2.0	23	189	14	.3	1.5	310	193	174	466	6.4	2
Time-weighted average	14,100	--	--	--	--	9.6	--	39	90	9.5	--	2.8	200	117	85	291	--	4

SUSQUEHANNA RIVER BASIN--Continued

1-5405. SUSQUEHANNA RIVER AT DANVILLE, PA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	60	60	59	62	58	57	57	59	62	63	55	58	55	54	57	60	63	60	58	58	56	55	56	58	55	55	53	54	49	50	49	57
November...	48	55	49	47	47	43	47	45	45	46	46	47	46	47	47	48	47	47	48	48	48	44	42	42	41	41	38	35	33	32	--	45
December...	34	33	32	32	32	--	32	32	32	32	32	32	33	--	32	32	32	32	--	32	32	32	32	33	32	32	32	32	33	34	34	32
January....	37	--	34	32	32	32	--	32	32	32	32	32	33	34	33	32	32	32	32	32	34	32	32	32	33	33	33	32	33	34	31	33
February...	33	32	32	34	--	32	35	35	32	33	32	33	34	34	34	34	35	33	32	32	34	35	34	33	35	37	38	39	--	--	--	34
March.....	39	38	37	37	39	39	36	35	37	37	37	35	36	37	39	40	37	36	39	44	40	38	39	41	41	40	41	42	40	40	42	39
April.....	44	41	45	42	42	44	45	49	46	--	45	43	45	49	50	54	54	54	56	--	55	53	54	57	59	60	54	56	54	54	--	50
May.....	54	55	57	--	59	64	65	63	66	65	69	70	67	64	60	60	57	63	64	70	71	72	72	68	72	70	75	74	78	78	--	66
June.....	73	--	74	75	77	77	76	80	82	84	80	76	73	70	67	63	64	66	69	74	75	75	77	78	--	81	85	86	88	89	--	76
July.....	83	81	81	75	79	78	72	73	75	78	75	80	82	81	79	82	--	83	81	80	83	84	86	84	82	83	84	86	88	87	87	81
August.....	88	85	70	72	73	69	68	75	73	72	73	73	73	75	80	82	85	85	84	86	87	85	85	85	81	85	85	82	85	80	80	79
September..	80	82	80	81	80	81	80	82	83	81	75	75	77	73	74	68	--	66	64	70	72	72	76	77	76	73	73	75	75	75	--	76

SUSQUEHANNA RIVER BASIN--Continued

1-5458. WEST BRANCH SUSQUEHANNA RIVER AT LOCK HAVEN, PA.

LOCATION.--Center of lockport Bridge which is situated at the termination of North Jay Street, Lock Haven, Clinton County, and 30.1 miles downstream from gaging station at Renovo, Pa.
DRAINAGE AREA.--3,337 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1945 to September 1951, October 1958 to September 1959.
Water temperatures: October 1945 to September 1951, October 1958 to September 1959.
EXTREMES, 1959-59.--Dissolved solids: Maximum, 380 ppm Aug. 18-24; minimum, 68 ppm Jan. 22-26, Mar. 25-31, Apr. 1-2.
Hardness: Maximum, 189 ppm Sept. 19-30; minimum, 33 ppm Jan. 22-26.
Specific conductance: Maximum daily, 781 micromhos Aug. 4; minimum daily, 98 micromhos Apr. 3.
Water temperatures: Maximum, 84°F July 30, 31, Aug. 16; minimum, freezing point on many days during November to February.
EXTREMES, 1945-51, 1958-59.--Dissolved solids (1945-47, 1958-59): Maximum, 380 ppm Aug. 18-24, 1959, minimum, 51 ppm Mar. 1-10, 1946.
Hardness (1945-47, 1949-51, 1958-59): Maximum, 206 ppm Sept. 11-20, 1951; minimum, 28 ppm Apr. 1-10, 1950.
Specific conductance: Maximum daily, 785 micromhos Sept. 18, 1951; minimum daily, 79 micromhos Apr. 2, 1951.
Water temperatures: Maximum, 84°F July 30, 31, Aug. 16, 1959; minimum, freezing point on many days during winter months.
REMARKS.--Records of specific conductance and pH of daily samples available in district office at Philadelphia, Pa. Records of discharge for gaging station at Renovo for water year October 1958 to September 1959 Given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-10,1958	2,960	--	--	--	--	--	--	--	--	0	88	3.2	--	0.0	--	69	69	0.5	265	3.8	2
Oct. 11-18....	1,480	--	--	--	--	--	--	--	--	0	106	3.9	--	.1	--	84	84	.6	275	4.2	3
Oct. 19-31, Nov. 1-9....	1,680	6.7	2.3	0.08	1.3	23	10	6.0	1.3	0	121	4.3	0.1	.0	180	99	99	.6	301	4.2	2
Nov. 10-20....	3,620	--	--	--	--	--	--	--	--	0	72	3.6	--	.2	--	68	68	.3	220	4.3	2
Nov. 21-30, Dec. 1-6....	4,120	7.5	1.0	.00	.31	12	5.4	2.2	1.4	0	61	2.6	.1	.2	90	52	52	.2	164	4.5	3
Dec. 7-8.....	5,230	--	--	--	--	--	--	--	--	--	78	--	--	--	--	--	--	.3	213	4.3	--
Dec. 9-10, 12-21.....	2,860	--	--	--	--	--	--	7.6	--	0	64	3.4	--	.2	--	55	55	.2	175	4.5	2
Dec. 22-31, Jan.1-4,1959	2,090	--	--	--	--	--	--	--	--	0	98	3.5	--	4.7	--	72	72	.3	221	4.2	3
Jan. 5.....	2,700	--	--	--	--	--	--	--	--	--	115	--	--	--	--	--	--	.4	286	4.2	--
Jan. 6-17.....	2,060	--	--	--	--	--	--	--	--	0	74	2.8	--	1.3	120	64	64	.2	198	4.4	3
Jan. 18-21....	4,610	--	--	--	--	--	--	--	--	--	77	--	--	--	--	--	--	.2	211	4.3	--
Jan. 22-26....	34,800	--	--	--	--	--	--	--	--	0	38	1.0	--	1.6	68	33	33	.2	116	4.4	3
Jan. 27-31, Feb. 1-10...	6,320	--	--	--	--	--	--	--	--	0	67	1.9	--	1.8	106	54	54	.3	184	4.1	2
Feb. 11-14....	2,140	--	--	--	--	--	--	--	--	--	43	--	--	--	--	--	--	.3	136	4.3	--
Feb. 15-24....	9,090	--	--	--	--	--	--	--	--	--	61	2.2	--	1.2	110	52	52	.2	177	4.3	3
Feb. 25-28, Mar. 1-6....	5,550	--	--	--	--	--	--	--	--	0	74	2.8	--	1.7	122	60	60	.2	201	4.2	3
Mar. 7-24.....	10,500	--	--	--	--	--	--	--	--	0	58	2.2	--	.8	93	48	48	.3	161	4.1	5

Mar. 25-31, Apr.1-2,1959	12,100	6.8	--	.00	.41	9.6	3.9	2.5	1.0	0	43	2.0	.1	.4	68	40	40	.2	135	4.5	3
Apr. 3-8	21,900	--	--	--	--	--	--	--	--	0	42	1.6	--	1.3	71	37	37	.1	121	4.3	2
Apr. 9-17	9,660	--	--	--	--	--	--	--	--	0	59	2.2	--	1.1	94	50	50	.2	169	4.2	2
Apr. 18-22, 24-27	6,630	--	--	--	--	--	--	--	--	0	67	2.2	--	1.5	107	56	56	.3	193	4.1	2
Apr. 23	7,020	7.1	1.2	.00	.55	12	5.7	2.8	1.3	0	67	3.4	.1	.4	100	54	54	.6	182	4.0	3
Apr. 28-30, May 1-3	25,100	--	--	--	--	--	--	--	--	0	46	2.0	--	1.3	80	41	41	.2	142	4.3	2
May 4-11	9,970	--	--	--	--	--	--	--	--	0	70	2.0	--	.9	111	57	57	.3	199	4.0	2
May 12-27	4,760	7.1	--	.02	.89	15	6.9	4.8	.5	0	82	2.4	.0	.7	136	66	66	.4	235	3.8	3
May 28-31, June 1-6	2,350	--	--	--	--	--	--	--	--	0	99	2.8	--	.5	159	76	76	.4	279	3.8	0
June 7-26	1,510	--	--	--	--	--	--	--	--	0	129	3.6	--	2.4	200	102	102	.6	344	3.7	1
June 27-30, July 1-2	2,010	--	--	--	--	--	--	--	--	0	80	1.5	--	.8	150	68	68	.3	222	4.0	1
July 3-10	1,330	--	--	--	--	--	--	--	--	0	115	3.2	--	.9	180	46	46	.5	314	3.8	2
July 11-26	806	--	--	--	--	--	--	--	--	0	161	5.0	--	.6	229	117	117	.7	410	3.6	3
July 27-31, Aug. 1	716	--	--	--	--	--	--	--	--	0	211	7.0	--	.9	289	142	142	.8	503	3.7	2
Aug. 2-6	597	--	--	--	--	--	--	--	--	0	236	7.0	--	.7	340	170	170	1.1	603	3.4	3
Aug. 8-17	511	--	--	--	--	--	--	--	--	0	202	6.5	--	1.0	295	152	152	.9	521	3.5	5
Aug. 18-24	626	12	4.0	.33	2.6	41	19	11	2.2	0	236	7.8	.3	.2	380	181	181	1.2	604	3.3	2
Aug. 25-28	909	--	--	--	--	--	--	--	--	0	141	6.0	--	.8	214	107	107	.7	378	3.6	3
Aug. 29-31, Sept. 1-18	601	--	--	--	--	--	--	--	--	0	206	6.4	--	.9	299	158	158	.9	533	3.6	2
Sept. 19-30	248	11	8.4	.33	3.0	46	18	11	2.5	0	250	7.5	.2	.5	371	189	189	1.1	622	3.4	2
Time-weighted average	5,010	--	--	--	--	--	--	--	--	--	105	3.6	--	0.9	169	85	85	0.5	285	--	2

SUSQUEHANNA RIVER BASIN--Continued

1-5458. WEST BRANCH SUSQUEHANNA RIVER AT LOCK HAVEN, PA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	57	58	56	59	58	54	55	57	60	63	57	55	53	54	55	60	60	58	56	54	54	53	54	58	54	52	51	51	51	51	50	55
November...	50	47	54	47	42	48	47	44	46	44	46	46	44	44	47	50	50	53	54	51	47	45	43	42	40	41	39	34	34	32	--	45
December...	35	32	32	34	33	33	33	32	32	32	--	32	33	33	33	33	32	32	32	34	33	33	34	33	34	33	33	34	33	33	33	33
January....	34	33	34	33	32	32	32	32	33	32	33	33	33	33	33	32	32	32	33	32	32	33	32	32	32	32	33	33	32	32	33	33
February...	32	32	32	32	32	32	33	32	32	33	32	34	34	37	37	38	39	38	37	34	32	34	34	34	35	36	39	41	--	--	--	35
March.....	39	40	38	40	40	39	38	38	38	40	39	34	35	39	41	41	39	36	42	43	41	40	40	44	40	43	42	42	41	40	44	40
April.....	49	48	42	44	47	47	48	50	51	49	50	45	45	49	52	55	55	55	54	52	54	52	53	55	59	58	53	49	51	52	--	51
May.....	55	49	57	55	62	59	65	64	63	65	68	68	66	61	56	57	55	66	63	65	70	74	70	70	68	68	74	77	77	78	73	65
June.....	72	69	73	76	76	77	77	79	83	81	81	75	73	69	67	62	62	64	70	74	74	74	77	75	77	78	78	80	88	82	--	75
July.....	83	80	79	79	80	78	78	78	78	80	82	83	83	80	80	80	83	83	82	80	79	87	82	82	80	81	81	81	83	84	84	81
August.....	83	81	78	77	76	75	--	74	76	77	78	79	79	83	79	84	83	82	83	82	81	81	77	75	80	82	83	83	82	82	82	80
September..	81	81	81	80	80	79	77	79	81	81	77	73	71	70	69	66	64	61	61	62	61	67	70	71	72	71	71	72	72	72	--	72

1-5545. SHAMOKIN CREEK AT WEIGH SCALE, PA.

LOCATION.--At foot bridge, 400 feet downstream from gaging station at Weigh Scale, Northumberland County, 1 mile downstream from Trout Run and 2 miles northwest of Shamokin.
DRAINAGE AREA.-- 54.2 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1949 to September 1950, October 1958 to September 1959.
Water temperatures: October 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 1,320 ppm Aug. 3-7; minimum, 740 ppm Jan. 24 to Feb. 9.
Hardness: Maximum, 717 ppm Aug. 9-21; minimum, 441 ppm Apr. 2-13.
Specific conductance: Maximum daily, 1,910 micromhos Sept. 16; minimum daily, 477 micromhos Aug. 22.
Water temperatures: Maximum, 82°F June 29; minimum, 36°F Jan. 5, 6, 18.
REMARKS.--Records of specific conductance and pH of daily samples available in district office at Philadelphia, Pa. Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
Oct. 1-21, 1958	43	22	9.6	5.6	8.9	104	102	12	4.2	0	792	8.0	0.1	0.9	1,100	680	680	0.3	1,560	3.4	5
Oct. 22-23	51	--	--	--	--	--	--	--	--	0	491	--	--	--	--	--	--	1.4	1,030	3.5	--
Oct. 24-31, Nov. 1	33	--	--	--	--	--	--	--	--	0	739	7.5	--	1.2	--	590	590	2.7	1,510	3.2	3
Nov. 2-3	54	--	--	--	--	--	--	--	--	0	556	--	--	--	--	--	--	1.8	1,170	3.3	--
Nov. 4-17	41	20	9.5	4.9	7.4	104	102	11	3.9	0	796	7.0	.0	.9	1,060	680	680	3.2	1,540	3.4	5
Nov. 18-27	39	--	--	--	--	--	--	--	--	0	727	17	--	2.1	1,110	610	610	2.6	1,610	3.2	2
Nov. 28	68	--	--	--	--	--	--	--	--	0	263	--	--	--	--	--	--	.5	611	3.9	--
Nov. 29-30, Dec. 1-6	50	--	--	--	--	--	--	--	--	0	660	12	--	1.7	960	550	550	2.4	1,430	3.2	2
Dec. 7-31, Jan. 1-5,1959	47	--	--	--	--	--	--	--	--	0	743	10	--	2.5	1,070	600	600	2.6	1,570	3.2	3
Jan. 6-20	42	--	--	--	--	--	--	--	--	0	806	10	--	1.1	1,170	670	670	3.0	1,630	3.2	4
Jan. 21	192	--	--	--	--	--	--	--	--	0	227	--	--	--	--	--	--	1.0	507	3.4	--
Jan. 22-23	170	--	--	--	--	--	--	--	--	0	487	--	--	--	--	--	--	2.0	1,120	3.1	--
Jan. 24-31, Feb. 1-9	66	--	--	--	--	--	--	--	--	0	674	6.0	--	.9	740	570	570	2.4	1,480	3.0	5
Feb. 10	108	--	--	--	--	--	--	--	--	0	382	--	--	--	--	--	--	1.3	861	3.4	--
Feb. 11-16	72	20	7.6	2.5	7.6	104	63	7.5	3.3	0	628	5.2	.4	2.2	918	519	519	2.1	1,370	3.1	3
Feb. 17-28, Mar. 1-5	55	--	--	--	--	--	--	--	--	0	713	9.0	--	.3	1,040	600	600	2.5	1,510	2.9	5
Mar. 6	112	--	--	--	--	--	--	--	--	0	386	--	--	--	--	--	--	1.4	893	3.4	--

SUSQUEHANNA RIVER BASIN--Continued

1-5545. SHAMOKIN CREEK AT WEIGH SCALE, PA.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
Mar. 7-31, Apr. 1, 1959.	73	--	--	--	--	--	--	--	--	0	628	4.3	--	0.1	991	530	530	2.4	1,430	3.4	3
Apr. 2-13.....	123	17	7.2	1.2	6.6	76	61	5.6	3.2	0	536	2.0	0.2	.4	770	441	441	2.0	1,180	2.9	2
Apr. 14-30, May 1-4.....	103	--	--	--	--	--	--	--	--	0	599	2.4	--	.2	903	500	500	2.1	1,360	3.4	2
May 5-31, June 1.....	103	--	--	--	--	--	--	--	--	0	697	3.0	--	.6	1,070	565	565	2.3	1,510	3.0	2
June 2.....	88	--	--	--	--	--	--	--	--	0	346	--	--	--	--	--	--	1.2	644	3.8	--
June 3-11.....	64	--	--	--	--	--	--	--	--	0	713	4.0	--	.1	1,130	580	580	2.6	1,560	3.0	2
June 12.....	53	--	--	--	--	--	--	--	--	263	23	--	--	--	--	--	--	--	694	7.5	--
June 13-14.....	62	--	--	--	--	--	--	--	--	0	534	--	--	--	--	--	--	1.8	1,190	3.2	--
June 15-30, July 1-11....	47	--	--	--	--	--	--	--	--	0	733	5.5	--	.3	1,120	580	580	2.6	1,530	3.1	2
July 12.....	63	--	--	--	--	--	--	--	--	52	257	--	--	--	--	--	--	--	695	6.1	--
July 13-18.....	47	--	--	--	--	--	--	--	--	0	780	6.5	--	.1	1,200	625	625	2.8	1,590	3.2	3
July 19.....	46	--	--	--	--	--	--	--	--	0	477	--	--	--	--	--	--	1.2	906	3.5	--
July 20-31, Aug. 1.....	38	--	--	--	--	--	--	--	--	0	851	6.5	--	.7	1,250	670	670	3.0	1,690	3.1	2
Aug. 2.....	31	--	--	--	--	--	--	--	--	0	619	--	--	--	--	--	--	2.4	1,120	3.0	--
Aug. 3-7.....	33	--	--	--	--	--	--	--	--	0	918	9.0	--	.1	1,320	710	710	3.0	1,760	3.2	2
Aug. 8.....	38	--	--	--	--	--	--	--	--	0	475	--	--	--	--	--	--	2.0	1,080	2.9	--
Aug. 9-21.....	32	20	9.0	2.1	11	137	91	11	4.2	0	802	7.2	.3	.3	1,240	717	717	2.8	1,660	3.0	3
Aug. 22.....	34	--	--	--	--	--	--	--	--	316	17	--	--	--	--	--	--	--	477	6.7	--
Aug. 23-31.....	32	--	--	--	--	--	--	--	--	0	806	5.6	--	1.4	1,160	680	680	2.2	1,570	3.3	3
Sept. 1-15.....	51	--	--	--	--	--	--	--	--	0	821	6.0	--	2.9	1,220	690	690	3.0	1,620	3.2	5
Sept. 16-30....	37	22	9.4	4.1	9.5	126	94	16	4.7	0	820	7.9	.3	.0	1,220	702	702	2.6	1,570	3.0	2
Time-weighted average....	59	--	--	--	--	--	--	--	--	--	712	6.7	--	0.9	1,070	605	605	2.4	1,490	--	3
Analysis of additional sample																					
Apr. 22, 1959..	105	20	7.4	0.87	5.5	90	74	9.5	3.0	0	626	7.8	0.3	0.5	945	530	530	2.8	1,490	2.9	3

SUSQUEHANNA RIVER BASIN--Continued

1-5545. SHAMOKIN CREEK AT WEIGH SCALE, PA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	58	60	57	62	53	54	59	61	65	64	53	55	53	54	61	63	63	57	56	57	55	55	59	60	55	50	52	51	53	54	55	57
November...	53	50	49	53	54	52	49	48	52	49	51	51	51	54	56	55	52	58	51	51	48	47	47	49	42	49	43	40	41	39	--	49
December...	43	43	42	46	45	38	39	41	39	38	39	41	38	40	38	39	43	41	45	38	39	39	44	42	37	40	42	45	47	44	41	41
January....	41	43	44	41	36	36	40	39	37	37	41	42	41	46	47	42	39	36	40	44	46	38	39	42	45	44	48	44	45	46	43	42
February...	40	42	45	45	47	40	45	45	42	43	41	43	47	45	43	46	49	45	40	38	41	46	45	44	46	51	49	50	--	--	--	44
March.....	50	49	49	47	49	--	43	45	51	48	47	44	45	50	50	48	46	47	53	55	51	46	51	55	57	52	45	49	51	49	55	49
April.....	59	50	54	51	55	52	56	59	58	53	51	46	54	55	58	59	61	60	58	53	57	59	56	58	63	60	54	50	62	60	--	56
May.....	62	60	64	65	66	68	69	61	63	66	69	68	61	59	55	58	57	67	65	73	70	70	67	65	68	65	71	75	73	72	73	66
June.....	76	64	69	73	68	72	73	75	76	75	74	69	69	66	67	60	64	67	67	73	75	69	74	73	73	76	78	77	82	75	--	72
July.....	76	74	75	75	76	71	74	75	77	75	75	69	75	76	71	75	74	74	73	72	76	76	77	76	73	78	75	77	77	75	77	75
August.....	78	73	74	65	66	65	71	69	73	73	75	76	76	76	79	80	75	76	76	77	77	76	67	69	76	79	77	79	74	77	71	74
September..	73	74	75	73	73	72	71	74	77	73	66	67	68	67	70	61	62	60	63	65	67	73	72	72	70	64	68	70	69	70	--	69

SUSQUEHANNA RIVER BASIN--Continued

1-5670. JUNIATA RIVER AT NEWPORT, PA.

LOCATION.--At gaging station at bridge on State Highway 34 at Newport, Perry County, 1,000 feet upstream from Little Buffalo Creek, and 230 feet from west bank of river.
DRAINAGE AREA.--3,354 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1944 to June 1953, October 1956 to September 1959.
Water temperatures: October 1944 to September 1950, June 1958 to September, 1959.
Sediment records: January 1951 to September 1959.
EXTREMES, 1958-59.--Specific conductance: Maximum daily, 457 micromhos Sept. 29; minimum daily, 132 micromhos Feb. 12, May 4.
Water temperatures: Maximum, 86°F June 28, Aug. 29; minimum, freezing point on many days during December and January.
Sediment concentrations: Maximum daily, 615 ppm May 12; minimum daily, 1 ppm on several days in August.
Sediment loads: Maximum daily, 17,100 tons Mar. 7; minimum daily, 2 tons Aug. 17-21.
EXTREMES, 1944-53, 1956-59.--Dissolved solids (1944-47, 1958-59): Maximum, 282 ppm Oct. 1-10, 1944; minimum, 72 ppm Apr. 1-10, 1945, May 21-31, 1946.
Hardness: (1944-47, 1956-59): Maximum, 170 ppm Nov. 1-10, 1952; minimum, 24 ppm Nov. 25, 1950.
Specific conductance: Maximum daily, 489 micromhos Dec. 17, 1946; minimum daily, 59 micromhos Aug. 19, 1950.
Water temperatures (1958-59): Maximum, 86°F June 28, Aug. 29, 1959; minimum, freezing point on many days during winter months.
Sediment concentrations (1951-59): Maximum daily, 1,130 ppm Mar. 2, 1954; minimum daily, no flow on many days.
Sediment loads (1951-59): Maximum daily, 128,000 tons Mar. 2, 1954; minimum daily, 0 tons on many days.
REMARKS.--Records of specific conductance and pH of daily samples available in district office at Philadelphia, Pa. Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-10, 1958.....	700	2.2	0.00	38	12	25	2.2	122	67	18	0.2	2.0	225	145	45	385	7.8	4
Oct. 11-20.....	540	--	--	--	--	29	--	129	72	20	--	2.0	--	148	43	411	7.9	3
Oct. 21-31.....	754	--	--	--	--	32	--	129	79	21	--	2.0	--	148	43	425	7.9	7
Nov. 1-10.....	970	3.0	.00	34	10	18	2.6	110	55	17	.1	2.3	210	126	36	341	7.3	7
Nov. 11-20.....	1,020	--	--	--	--	17	--	88	50	15	--	5.4	--	112	40	294	7.2	10
Nov. 21-30.....	1,110	--	--	--	--	17	--	88	50	14	--	3.4	--	108	36	294	7.2	10
Dec. 1-10.....	1,410	4.5	.02	30	7.8	13	2.6	90	42	13	.1	3.5	167	107	33	286	7.9	5
Dec. 11-15.....	1,210	--	--	--	--	15	--	86	50	12	--	4.5	170	110	40	291	7.7	5
Jan. 22-23, 1959....	12,400	--	--	--	--	---	--	55	33	--	--	--	--	--	--	194	7.1	--
Jan. 24-29.....	4,790	--	--	--	--	5.8	--	41	28	5.8	--	5.0	103	62	29	164	7.1	10
Jan. 30-31, Feb. 1-11.	3,170	6.9	.03	20	6.8	10	2.3	58	42	2.3	.3	3.8	141	78	31	216	7.7	7
Feb. 12-20.....	7,070	--	--	--	--	6.0	--	38	26	5.0	--	4.7	91	56	25	144	7.2	15
Feb. 21-28, Mar. 1-6	3,140	6.7	.03	22	3.9	8.0	1.7	54	37	7.4	.2	3.3	122	71	27	191	7.6	5
Mar. 7-26.....	6,040	7.1	.00	17	4.9	4.0	1.8	44	25	5.2	.1	4.5	107	63	27	152	6.8	3
Apr. 18-29.....	5,070	--	--	--	--	7.6	--	56	28	5.2	--	2.5	117	68	22	170	7.5	5
Apr. 30, May 1-22...	6,310	6.2	.03	18	4.4	5.2	1.7	49	25	4.1	.2	1.8	96	63	23	154	7.0	4

May 23-28, 1959.....	3,440	--	--	--	--	7.8	--	67	29	5.5	--	2.2	127	78	23	189	7.8	6
May 29-31, June 1-21	2,350	--	--	--	--	12	--	82	37	7.1	--	2.7	137	92	25	233	7.8	3
June 22-24, 26-30, July 1-7.....	1,230	--	--	--	--	17	--	104	49	11	--	1.2	180	116	31	291	8.1	5
July 8-31, Aug. 1-8.	1,080	--	--	--	--	18	--	97	56	13	--	1.4	189	119	40	326	7.7	7
Aug. 9-25.....	1,050	--	--	--	--	17	--	94	57	13	--	.7	188	119	42	321	7.8	5
Aug. 26-30.....	1,290	4.0	.01	37	9.9	25	2.5	113	69	16	.1	1.2	224	133	41	366	7.5	6
Aug. 31, Sept. 1-8..	1,600	--	--	--	--	15	--	96	54	10	--	3.5	187	118	40	295	7.2	10
Sept. 9-18.....	682	--	--	--	--	34	--	104	96	14	--	.5	226	132	47	370	8.1	6
Sept. 19-30.....	502	1.7	.01	43	12	30	2.2	128	80	20	.2	.6	256	157	52	428	7.8	5
Time weighted average	2,570	--	--	--	--	--	--	84	48	11	--	2.5	159	103	34	273	--	6

SUSQUEHANNA RIVER BASIN--Continued

1-5670. JUNIATA RIVER AT NEWPORT, PA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
/Once-daily measurement at approximately 11 a.m./

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	65	62	60	62	60	65	60	61	62	56	65	61	57	60	55	58	60	68	65	61	56	58	60	56	55	52	52	53	55	50	52	59
November...	48	47	46	51	50	55	53	51	50	50	50	51	52	51	49	48	47	48	55	53	45	43	--	40	39	45	40	38	39	34	--	47
December...	36	37	35	37	38	37	36	35	32	33	33	35	33	34	33	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33
January....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	35	33	34	35	33	38	36	35	35	34	33
February...	33	35	34	35	35	34	35	34	34	34	35	35	37	37	35	35	34	37	34	35	34	34	35	36	37	38	40	40	--	--	--	35
March.....	40	42	42	40	43	43	37	38	36	36	40	34	33	34	35	42	40	40	40	43	47	40	40	43	43	40	45	43	45	43	44	40
April.....	48	52	48	47	47	50	51	54	56	54	54	48	45	43	52	58	62	56	60	56	58	60	55	51	58	62	60	55	57	51	--	54
May.....	60	60	62	62	61	65	64	66	64	65	67	69	65	64	60	57	58	65	65	74	74	76	75	71	70	74	74	77	76	77	78	68
June.....	77	73	77	76	77	78	77	77	85	84	83	78	72	70	68	63	68	65	62	73	75	78	76	80	--	82	84	86	84	84	--	76
July.....	82	82	78	78	80	76	72	74	74	73	74	80	75	78	78	76	78	74	83	78	78	78	78	84	82	82	82	78	84	84	84	79
August.....	84	84	84	75	75	74	74	72	73	76	75	76	78	76	78	80	84	80	80	82	82	84	76	75	78	82	80	83	86	80	77	79
September..	78	76	78	77	75	75	72	75	74	74	72	72	72	72	74	73	64	68	58	60	64	60	58	62	62	62	60	62	62	60	--	68

SUSQUEHANNA RIVER BASIN--Continued

1-5670. JUNIATA RIVER AT NEWPORT, PA.--Continued

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	844			844			1,550	50	s 219
2...	760			788	6	14	1,310	43	152
3...	774			930			1,330	27	97
4...	735	2	4	1,000			1,330	24	86
5...	710			1,270	11	38	1,290	15	52
6...	660			1,200	10	32	1,500		
7...	672			990	9	24	1,550	15	67
8...	591			915	13	32	1,900		
9...	624			915	29	72	1,500		
10...	624	4	7	844	28	64	800	12	38
11...	591			760	38	78	1,200		
12...	591			947	30	s 76	1,400		
13...	547			930	31	78	1,150	11	36
14...	515			886	34	81	1,050		
15...	425			872	32	75	1,250		
		4	6						
16...	580			872	36	85	1,150		
17...	495			816	31	68	1,200		
18...	569			1,230	35	s 120	1,150		
19...	547			1,430	38	s 148	1,100		
20...	536			1,470	28	s 113	1,150		
21...	485	5	8	1,200	36	117	1,250		
22...	515			1,100	35	104	1,050		
23...	760			1,000	30	81	950	--	e 24
24...	802			1,000	15	40	980		
25...	760			872	14	33	1,200		
26...	886	4	8	1,040	18	s 55	1,400		
27...	760			960	31	80	950		
28...	698			1,000	34	s 94	1,000		
29...	886			1,450	36	141	920		
30...	844	5	12	1,500	42	170	980		
31...	900			--	--	--	1,100		
Total	20,686	--	218	31,031	--	2,155	37,640	--	1,449

	January			February			March		
1...	1,200			3,500	40	378	2,510	17	115
2...	1,100	--	e 36	2,700	24	175	2,510		
3...	1,800				16	86	2,460	13	86
4...	3,200	--	e 260	2,400	41	266	2,460		
5...	2,400			2,900	50	392	2,420		
6...	1,800			2,700	--	a 320	5,680	61	s 1,210
7...	1,200			2,500	22	148	13,800	459	s 17,100
8...	1,400			2,180	14	82	13,000	332	s 11,800
9...	1,600			1,830	4	20	8,150	130	2,860
10...	1,350			2,570	24	s 180	6,340	100	1,710
11...	1,200	--	e 55	10,600	346	s 13,400	5,800	90	1,410
12...	1,150			12,000	431	s 14,100	5,270	60	854
13...	1,500			7,300	265	5,220	4,880	32	422
14...	1,350			5,800	155	2,430	4,240	25	286
15...	1,250			7,580	180	3,680	4,240	20	229
16	1,600			8,730	205	4,830	5,930	52	s 864
17...	3,300			7,580	115	2,350	10,200	135	3,720
18...	3,500			5,930	50	801	9,020	90	2,190
19...	3,200	--	e 400	4,800	15	194	6,880	45	836
20...	3,000			3,900	165	1,740	5,930	39	624
21...	3,700			3,140	225	1,910	5,800	40	626
22...	9,000	--	e 4,400	2,740	170	1,260	5,800	34	532
23...	15,800	--	e 17,000	2,830	80	611	5,530	25	373
24...	7,860	--	e 3,100	2,920	24	189	5,010		
25...	5,930	74	1,180	3,500	30	284	4,750	19	244
26...	4,750	62	795	3,260	28	246	4,500		
27...	4,240	56	641	2,920	24	189	4,750		
28...	3,200	48	415	2,690	19	138	6,740	57	1,040
29...	2,760	25	186	--	--	--	7,860	80	1,700
30...	2,580	32	223	--	--	--	6,470	47	821
31...	2,760	45	335	--	--	--	5,930	26	416
Total	100,680	--	31,508	123,500	--	55,619	184,860	--	53,058

e Estimated.
s Computed by subdividing day.
a Computed from partly estimated-concentration graph.

SUAQUEHANNA RIVER BASIN--Continued

1-5670. JUNIATA RIVER AT NEWPORT, PA.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	5,530	24	358	12,400	87	2,910	2,290		
2...	6,060	43	704	10,200	62	1,710	2,220	17	106
3...	7,580	67	1,370	8,150	47	1,030	2,460		
4...	7,860	47	997	8,440	48	1,090	2,810		
5...	8,440	52	1,180	7,580	40	819	3,040	22	172
6...	7,300	40	788	6,600	37	659	2,810		
7...	6,740	30	546	5,800	28	438	2,400		
8...	6,060	28	458	5,140			2,220	12	72
9...	5,530	25	369	4,620	26	328	2,020		
10...	5,400			4,240			2,260		
11...	7,070	38	s 732	4,120	92	1,020	1,940	6	32
12...	9,920	96	2,570	6,200	615	10,300	1,690		
13...	9,620	62	1,610	5,270	115	1,640	3,610	118	s 1,320
14...	9,320	42	1,060	5,400	68	991	4,370	177	2,090
15...	9,020	34	828	5,930	55	881	2,970	129	s 1,080
16...	7,860	31	658	6,060	52	851	1,980	40	214
17...	7,020			5,400	40	583	1,670	31	140
18...	6,340	29	500	4,880	29	362	1,610	25	109
19...	5,800			4,370			1,500	18	73
20...	5,400			4,120			1,400		
21...	5,270	23	319	3,740	21	215	1,260	8	28
22...	5,140			3,500			1,190		
23...	4,750			4,370	102	1,200	1,270		
24...	4,370			3,740	126	1,270	1,310		
25...	3,740			4,000	75	810	1,400		
26...	3,620	19	197	3,140	54	458	1,360	5	18
27...	3,620			2,900	35	274	1,290		
28...	4,610	32	s 428	2,490			1,140		
29...	8,150	92	2,020	2,580	17	118	945	4	10
30...	13,000	115	4,040	2,580			816		
31...	--	--	--	2,670			--	--	--
Total	200,140	--	24,649	160,630	--	31,759	59,251	--	6,386

Day	July			August			September		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	858	25	58	1,150			2,210	41	s 257
2...	1,390	54	s 212	960	4	11	1,610	24	104
3...	1,600	39	s 179	945			2,150	35	203
4...	1,780	24	s 127	886			1,920	36	187
5...	1,100			872			1,420	14	54
6...	945	6	17	1,070	2	6	1,270	9	31
7...	1,440			1,560			936	6	15
8...	1,510	23	92	1,170			858		
9...	1,480			1,060			844		
10...	1,290			1,810	23	112	844		
11...	960	12	33	2,160	16	s 94	816		
12...	844			1,330	9	32	748		
13...	1,070	38	110	1,170			698	2	4
14...	960	33	86	975			591		
15...	1,140			886	2	5	547		
16...	1,140			760			569		
17...	1,050	8	22	722			580		
18...	960			698			580		
19...	990			930	1	2	515		
20...	960			872			536		
21...	1,650			830			505		
22...	1,530	18	72	735			495		
23...	1,270			844			505		
24...	1,100			886	2	5	525		
25...	1,120	3	9	1,160			475	3	4
26...	1,120			1,140			475		
27...	872			1,530	7	29	475		
28...	760			1,120	1	3	547		
29...	760	2	4	1,070			495		
30...	735			1,610	41	s 280	475		
31...	802			2,000	77	s 433	--	--	--
Total	35,186	--	1,580	34,911	--	1,110	25,214	--	943

Total discharge for year (cfs-days) 1,013,729
Total load for year (tons) 210,435

s Computed by subdividing day.

1-5670. JUNIATA RIVER AT NEWPORT, PA.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Sampling point	Water temperature (°F)	Discharge (cfs)	Sediment concentration (ppm)	Suspended sediment: Percent finer than size indicated, in millimeters										Method of analysis
						0.001	0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Jan. 22, 1959	1000		35	7,000	729		26	44	65	80	90	93					BWC
Jan. 22	1310		33	10,500	602		45	66	76	89	94	97					BWC
Feb. 11	1400		37	12,100	289		17	29	41	57	70	78					BWC
Apr. 30	0800		50	13,400	114		11	25	37	54	70	91					BWC

SUSQUEHANNA RIVER BASIN--Continued

1-5675. BIXLER RUN NEAR LOYSVILLE, PA.

LOCATION.--At bridge on State Highway 850, 400 feet downstream from gaging station, 2.3 miles upstream from mouth, and 3.6 miles west of Loysville, Perry County.
DRAINAGE AREA.--15.0 square miles.
RECORDS AVAILABLE.--Water temperatures: November 1956 to September 1959.
Sediment records: February 1954 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 80°F June 27, Aug. 15, 22, 28; minimum, freezing point on several days during December and January.
Sediment concentrations: Maximum daily, 484 ppm July 2; minimum daily, 1 ppm on several days during November.
Sediment loads: Maximum daily, 266 tons Jan. 22; minimum daily, less than 0.05 ton on many days.
EXTREMES, 1954-59.--Water temperatures (1956-59): Maximum, 85°F July 27, 1957; minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 986 ppm June 10, 1954; minimum daily, 0 ppm Oct. 29-30, 1956.
Sediment loads: Maximum daily, 650 tons Nov. 1, 1956; minimum daily, 0 tons Oct. 29, 30, 1956.
REMARKS.--Records of specific conductance and pH of periodic sediment samples available in subdistrict office at Harrisburg, Pa. Records of discharge for water year October 1958 to September 1959 given in WSP 1622. Flow affected by ice Nov. 30, Dec. 6, 7, 10, 21, 22, 25-27, Jan. 5, 6, 17, 18, 21-24, Feb. 1-3, 6, 7, 10, 12, 19-21, Mar. 12, 13.

Chemical analyses, in parts per million, October 1958, August 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 7, 1958.....	3.4	7.9	0.02	38	7.3	1.5	1.3	126	18	1.9	0.0	5.3	146	125	22	233	7.6	5
Aug. 4, 1959.....	3.4	5.0	.01	39	5.6	3.3	.2	126	16	2.8	.0	4.2	150	121	17	241	7.5	5

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 9 a.m.)

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	--	--	--	--	--	--	45	49	52	65	55	55	52	52	58	65	62	51	55	55	55	53	65	--	55	51	47	50	52	52	57	--
November...	57	47	43	49	52	49	45	46	52	45	46	48	49	48	--	55	51	53	56	54	48	45	45	40	43	46	41	36	37	35	--	47
December...	34	36	35	37	39	33	32	33	33	32	32	34	32	34	36	34	34	35	35	33	32	35	33	34	34	35	35	36	36	36	33	34
January....	33	--	39	36	32	32	33	34	33	33	33	35	34	34	36	34	32	33	33	33	33	34	33	33	39	35	34	36	36	39	36	34
February...	34	34	35	34	35	35	35	38	33	36	34	39	37	39	36	39	42	41	37	33	33	37	36	37	40	40	45	37	--	--	--	37
March.....	45	40	41	42	41	35	35	43	45	42	41	36	37	43	43	45	41	41	51	55	48	44	47	55	55	52	45	46	47	40	50	44
April.....	60	44	45	53	57	52	49	53	60	51	51	40	50	55	60	51	--	62	60	53	59	50	50	60	55	65	55	50	49	61	--	54
May.....	65	51	65	68	53	55	55	63	50	69	70	64	63	56	54	50	64	63	60	74	75	68	67	70	50	68	70	67	67	67	74	63
June.....	64	68	60	60	62	72	75	75	66	75	75	67	62	64	58	57	55	60	66	62	73	66	66	70	74	75	80	70	72	77	--	68
July.....	72	70	69	64	75	69	63	75	64	70	67	67	64	70	70	67	75	70	73	68	65	70	71	73	69	76	68	69	77	--	71	70
August.....	70	75	68	64	72	67	65	65	73	74	68	65	65	68	80	70	75	75	76	73	66	80	69	65	77	74	75	80	74	75	70	71
September..	73	75	74	68	63	74	69	72	--	76	66	58	68	57	64	59	52	50	50	62	67	60	68	70	60	63	67	64	70	67	--	65

SUSQUEHANNA RIVER BASIN--Continued

1-5675. BIXLER RUN NEAR LOYSVILLE, PA.--Continued

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	3.8			4.0	4	(t)	5.8		
2...	3.6			5.7	9	s 0.2	5.6	2	(t)
3...	3.6			16	37	s 2.0	5.3		
4...	3.6	4	(t)	6.3	8	.1	5.8		
5...	3.6			4.9			11	6	0.2
6...	3.4			4.4			8.0		
7...	3.4			4.0	2	(t)	5.8	5	.1
8...	3.6			3.8			5.3		
9...	3.4			3.8			5.1		
10...	3.4	3	(t)	3.8			4.4		
11...	3.2			3.6			3.9	3	(t)
12...	3.4			3.6	2	(t)	4.2		
13...	3.4			3.6			4.2		
14...	3.4	4	(t)	3.6			3.8		
15...	3.6			4.0			4.0	6	.1
16...	3.4			4.7			3.6		
17...	3.6			4.4			4.0		
18...	3.8			4.2			4.0		
19...	3.6	3	(t)	4.0	3	(t)	4.2	3	(t)
20...	3.8			3.6			4.4		
21...	3.8			3.6			3.4		
22...	8.3	13	0.4	3.6			3.0		
23...	9.5	13	.3	3.4			3.8		
24...	5.1	6	.1	3.4			4.2	3	(t)
25...	4.7			3.6	1	(t)	3.2		
26...	6.3	3	(t)	3.8			2.8		
27...	4.9			3.6			3.2		
28...	6.3			8.3	6	.1	3.4		
29...	5.1	5	.1	15	10	.4	3.8	3	(t)
30...	4.4			6.6	4	.1	4.0		
31...	4.2			--	--	--	4.0		
Total	133.2	--	2.1	150.9	--	3.4	141.2	--	1.6

Day	January			February			March		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	4.8	2	(t)	3.8			6.1		
2...	27	20	1.5	3.0	4	(t)	6.3		
3...	11	16	.5	2.8			6.1	4	0.1
4...	8.2	8	.2	52	173	s 40	6.6		
5...	4.9			10	24	.6	5.6		
6...	4.0			6.0			133	311	s 183
7...	3.8	4	(t)	5.0	5	.1	33	20	1.8
8...	3.8			5.6			22	11	.7
9...	3.6			5.1			20	9	.5
10...	3.4			18	138	s 41	18	6	.3
11...	3.2			52	104	s 32	15		
12...	3.4	3	(t)	12	12	.4	14	8	.3
13...	3.8			13	9	.3	12		
14...	4.0			37	54	s 7.4	13		
15...	6.6	23	s .6	36	38	s 5.4	20	15	.8
16...	33	73	s 9.4	16			36	32	3.1
17...	6.6	8	.1	13	6	.2	27		
18...	4.9			13			21		
19...	4.4	4	.1	8.5			20	6	.3
20...	5.6			6.6			20		
21...	50	186	26	6.3	5	.1	20		
22...	190	230	s 266	6.8			17		
23...	14	14	.5	6.8			15		
24...	8.8	12	.3	11	15	.4	14	6	.2
25...	8.2			7.2			13		
26...	7.1	7	.1	6.3	4	.1	12		
27...	6.1			6.1			20	--	a 1.0
28...	5.1			5.8			21	--	a 1.0
29...	4.9			--	--	--	16		
30...	8.9	18	.4	--	--	--	17	5	.2
31...	6.4	17	.3	--	--	--	16		
Total	459.5	--	307.0	374.7	--	129.6	635.7	--	197.0

s Computed by subdividing day.
t Less than 0.05 ton.
a Computed from partly estimated concentration graph.

SUSQUEHANNA RIVER BASIN--Continued

1-5675. BIXLER RUN NEAR LOYSVILLE, PA.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	15	7	0.3	26			4.9	8	0.1
2...	52	149	s 40	21			12	24	s 1.0
3...	45	30	3.6	24	9	0.5	8.9	22	.5
4...	37	23	2.3	20			5.7	13	.2
5...	28	13	1.0	17			6.0	9	.1
6...	23	10	.6	16			6.2	9	.1
7...	19	7	.4	14	7	.3	4.7		
8...	17	8	.4	13			4.2		
9...	16			12			3.9	14	.2
10...	24			14			3.9		
					9	.3			
11...	26			16			4.2		
12...	21	7	.5	13			50	445	s 225
13...	26			17	13	.6	35	437	s 51
14...	24			15	8	.3	12	88	2.9
15...	21			12			9.1	13	.3
16...	19			11	12	.3	7.6		
17...	17	11	.5	12			7.3	7	.1
18...	16			9.7			6.7		
19...	15			9.1			6.2		
20...	17			8.2			5.2		
								8	.1
21...	14			7.9			5.2		
22...	11			7.3	14	.3	5.2		
23...	11			7.6			6.0	15	.2
24...	9.7	8	.2	7.9			4.9		
25...	9.1			6.5			4.7	13	.2
26...	9.1			6.2			6.0		
27...	14	15	.6	6.0			4.9		
28...	21	22	s 1.6	5.7	10	.1	4.4	13	.1
29...	34	19	1.7	5.2			3.9		
30...	26	13	.9	5.2			3.7		
31...	--	--	--	4.9			--		
Total	636.9	--	60.5	370.4	--	9.4	252.6	--	284.1

	July			August			September		
1...	3.7	12	0.1	4.8	64	0.8	4.9	9	0.1
2...	15	484	s 32	3.4	17	.2	6.1	17	.3
3...	4.2	50	.6	3.2	13	.1	5.7	34	.5
4...	3.7	24	.2	3.4			3.9	15	.2
5...	3.4	14	.1	7.3	33	.6	3.7		
6...	9.2	116	s 5.6	5.4	26	.4	3.4	10	.1
7...	8.4	253	s 6.8	4.4	25	.3	3.4		
8...	4.4	42	.5	9.8	40	1.1	3.4		
9...	3.9	29	.3	6.5	17	.3	3.2		
10...	3.9	23	.2	4.9			3.2	14	.1
11...	3.7	21	.2	4.2	12	.1	6.6	67	s 1.5
12...	10	144	s 8.9	3.7			3.7	18	.2
13...	7.6	132	s 4.3	3.2			3.4		
14...	5.7	45	.7	3.2			3.4		
15...	5.7	19	.3	3.0	14	.1	3.2		
								10	.1
16...	4.7	17	.2	2.9			3.2		
17...	4.4	12	.1	21	--	a 4.8	3.2		
18...	4.2	15	.2	11	49	1.5	3.2		
19...	14	92	s 11	5.7			3.2		
20...	21	196	s 17	4.4			3.0		
					14	.2		11	.1
21...	11	141	s 5.4	3.9			3.0		
22...	7.0	25	.5	4.4			2.9		
23...	6.2			26	170	s 18	2.9		
24...	5.7			9.7	37	1.0	2.9		
25...	4.9	20	.3	7.6	11	.2	2.9		
26...	4.7			6.0			2.9	8	.1
27...	4.4			6.0	10	.2	3.0		
28...	4.2			5.2			3.0		
29...	3.9	18	.2	4.9			3.2		
30...	4.2			5.4	17	.2	4.6	9	.1
31...	5.5	30	.4	4.9			--	--	--
Total	202.5	--	97.6	199.4	--	32.1	108.3	--	5.2

Total discharge for year (cfs-days) 3,665.3
Total load for year (tons) 1,129.6

s Computed by subdividing day.
a Computed from partly estimated-concentration graph.

SUSQUEHANNA RIVER BASIN--Continued

1-5675. BIXLER RUN NEAR LOYSVILLE, PA.--Continued

Particle-size analyses of suspended sediment, water years October 1957 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Sampling point	Water temperature (°F)	Discharge (cfs)	Sediment concentration (ppm)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
						0.001	0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
Dec. 20, 1957	1745		51	192	575		--	40	42	69	81	92	98		100		SBWC
Jan. 21, 1959	1710		35	250	273		--	20	52	68	83	94	--				BWC
Feb. 10	1615		36	152	267		17	24	47	72	90	97	--				BWC
Mar. 6	0930		37	281	382		30	45	72	84	93	98	--				BWC
Apr. 2	1240		43	109	712		44	48	61	80	93	97	--				BWC
Apr. 2	1240		43	109	712		9	17	39	56	84	--	--				BN
June 12	1740		67	232	3,550		55	60	70	84	92	96	99				SBWC
July 2	0645		70	22	739		73	87	97	--	--	--	100				SBWC
Aug. 23	1115		69	68	236		32	37	66	95	98	99	--	100			SBWC

SUSQUEHANNA RIVER BASIN--Continued

1-5705. SUSQUEHANNA RIVER AT HARRISBURG, PA.

LOCATION.--At Walnut Street Bridge in Harrisburg, Dauphin County, 3,700 feet upstream from gaging station.
DRAINAGE AREA.--24,100 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: Composites of daily samples collected from east channel station 1180, October 1944 to September 1946.
Cross-section samples collected one to three times monthly, October 1944 to September 1949.
Monthly cross-section samples collected November 1950 to January 1953, March to July 1956, October 1956 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Station	Mean discharge (cfs)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
													Calcium, magnesium	Noncarbonate			
Oct. 15, 1958....	East channel	7,980															
	120				23		24	189	8.0		3.0		180	161	428	6.5	3
	600				10		32	105	7.0		1.3		124	98	302	6.5	2
	1,180				8.5		20	60	5.0		.9		68	52	186	6.5	3
	West channel																
	600				6.2		22	54	5.0		.7		68	50	176	6.5	3
	1,100				24		94	69	13		.5		116	39	328	7.5	3
	1,320				10		168	20	12		3.2		156	19	339	7.5	6
Nov. 19.....	East channel	19,000															
	120				7.8		12	127	8.0		4.5		140	130	337	6.5	5
	600				10		32	82	6.0		2.5		100	74	260	6.6	3
	1,180				3.0		28	55	6.0		2.1		84	61	196	6.6	4
	West channel																
	600				6.0		20	52	4.0		1.3		64	48	169	6.5	5
	1,100				12		70	52	10		2.0		100	43	260	7.0	3
	1,320				11		162	29	12		4.5		160	27	350	7.5	3
Feb. 16, 1959....	East channel	60,700															
	120				5.1		11	61	5.0		4.2		72	63	190	6.6	15
	600				8.7		32	35	5.0		3.3		53	27	143	6.7	20
	870				1.4		10	27	2.5		3.4		39	31	107	6.1	15
	West channel																
	600				5.1		19	29	2.5		2.7		40	25	108	6.4	---
	1,100				5.8		42	23	4.5		5.6		57	23	145	6.5	45
	1,320				4.8		67	22	4.5		8.6		81	26	187	6.7	35

Mar. 19, 1959.....	East channel	60,700														
	120			5.1		23	54	5.0		5.1		75	56	193	6.4	3
	600			6.2		38	37	6.0		4.3		68	37	168	6.7	3
	1,180			4.1		20	35	4.0		3.2		52	36	134	6.3	2
	West channel															
	600			1.6		10	36	2.0		2.3		47	39	117	6.1	2
	1,100			3.4		38	25	2.0		4.5		56	25	126	6.7	3
	1,320			13		70	36	4.0		7.6		78	21	198	7.2	3
Apr. 16.....	East channel	59,300														
	120			6.7		20	53	5.0		4.8		68	52	173	6.5	2
	600			5.5		36	32	5.0		2.7		60	31	152	7.3	3
	1,180			5.5		28	32	4.0		2.3		52	29	130	6.9	3
	West channel															
	600			5.1		18	33	3.0		1.8		44	29	114	6.6	3
	1,100			5.1		44	22	4.0		3.2		56	20	132	7.0	2
	1,320			8.0		84	20	5.0		5.7		84	15	189	7.6	3
May 18.....	East channel	25,900														
	120			8.0		24	94	9.0		2.1		114	95	285	6.5	3
	600			9.0		40	63	10		1.4		94	61	239	6.6	3
	1,180			5.5		16	54	4.0		1.6		64	51	162	6.8	3
	West channel															
	600			5.8		36	40	7.0		1.6		70	41	162	6.7	3
	1,100			6.4		50	24	5.0		3.9		62	21	151	6.7	3
	1,320			6.0		104	19	8.0		5.5		108	23	225	7.4	2
June 15.....	East channel	12,900														
	120			15		24	141	12		2.7		152	133	382	6.7	3
	600			14		44	98	14		1.2		128	92	336	6.5	3
	1,180			8.0		57	46	4.0		1.8		84	38	217	7.3	6
	West channel															
	600			8.5		74	31	5.5		1.8		84	24	210	6.8	10
	1,100			4.8		52	22	1.5		3.8		60	18	150	7.6	--
	1,320			7.4		155	20	5.5		5.2		144	17	301	7.8	5

SUSQUEHANNA RIVER BASIN--Continued

1-5705. SUSQUEHANNA RIVER AT HARRISBURG, PA.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Station	Mean discharge (cfs)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
													Calcium, magnesium	Noncarbonate			
July 17, 1959....	East channel	6,080															
	120				18		23	187	9.0		1.9		188	169	441	6.6	1
	600				11		32	116	8.0		.9		136	110	337	6.7	2
	1,180				11		39	65	5.5		.9		84	52	219	7.0	4
	West channel																
	600				14		91	46	7.0		1.0		104	30	261	7.9	6
	1,100				9.4		122	25	4.5		4.9		116	16	263	8.0	14
	1,320				9.7		131	18	7.0		6.4		120	13	265	7.5	9
Aug. 19.....	East channel	3,880															
	120				11		6	239	10		2.1		245	240	547	6.2	2
	600				14		19	179	10		1.1		186	171	453	6.8	3
	1,180				12		43	107	9.0		.8		134	99	347	7.3	4
	West channel																
	600				14		67	69	10		.7		112	57	302	7.6	5
	1,100				4.6		104	21	6.0		2.9		108	23	244	8.0	6
	1,320				6.0		88	20	6.0		2.1		90	18	212	8.0	6
Sept. 16.....	East channel	3,360															
	120				12		26	174	9.0		2.3		190	169	438	6.9	3
	600				14		44	123	10		.6		148	112	362	8.2	4
	1,180				14		55	85	9.0		1.6		118	73	302	7.7	3
	West channel																
	600				18		76	76	11		.5		118	56	317	7.5	5
	1,100				14		124	31	11		4.5		122	21	292	7.9	5
	1,320				9.7		118	22	11		2.7		116	20	265	7.9	5

1-5730. SWATARA CREEK AT HARPER TAVERN, PA.

LOCATION.--At bridge on State Highway 934, at Harper Tavern, Lebanon County, 6 miles northwest of Annville, and 8.5 miles downstream from Little Swatara Creek.
DRAINAGE AREA.--333 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1949 to September 1950, October 1958 to September 1959.
Sediment records: May to September 1959.
Water temperatures: October 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 165 ppm July 12 to Aug. 5; minimum, 70 ppm Mar. 7, 9-14, 16-21, 23-28, 31, Apr. 1-4, 6-11.
Hardness: Maximum, 95 ppm July 12 to Aug. 5; minimum, 40 ppm Jan. 22, 24-28, Apr. 1-4, 6-11.
Specific conductance: Maximum daily, 260 micromhos July 30; minimum daily, 79 micromhos Sept. 3.
Water temperatures: Maximum, 91°F Aug. 16; minimum, freezing point on many days during December and January.
Sediment concentrations: Maximum daily, 568 ppm Sept. 2; minimum daily, 2 ppm May 18-31, Sept. 25-30.
Sediment loads: Maximum daily, 8,780 tons Sept. 3; minimum daily, less than 0.50 ton Aug. 6, Sept. 25-30.
REMARKS.--Records of specific conductance of daily samples available in district office at Philadelphia, Pa. Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-4, 6-11, 1958.	340	--	--	--	--	3.2	--	34	29	3.8	--	8.1	--	63	35	169	7.3	2
Oct. 12-23.....	180	7.5	0.01	21	7.8	4.4	2.0	37	56	3.6	0.0	6.1	133	85	54	211	6.8	3
Oct. 24-31, Nov. 1-2.	352	--	--	--	--	6.0	--	30	40	4.0	--	5.4	--	63	39	159	6.8	5
Nov. 3-9.....	1,130	--	--	--	--	--	--	23	16	--	--	--	--	--	--	127	6.7	5
Nov. 10-26, 28.....	269	--	--	--	--	2.3	--	27	38	3.6	--	5.8	--	66	44	160	6.6	3
Nov. 29-30, Dec. 1-10	851	--	--	--	--	3.4	--	18	26	3.6	--	6.9	85	45	30	119	7.1	3
Dec. 11-22.....	387	--	--	--	--	4.1	--	20	38	3.5	--	6.5	108	57	41	148	7.1	3
Dec. 23-31, Jan. 1, 1959.....	194	--	--	--	--	3.9	--	21	47	3.3	--	6.1	125	67	50	167	7.1	2
Jan. 3.....	1,300	--	--	--	--	--	--	10	25	--	--	--	--	--	--	100	7.1	--
Jan. 7-10, 12-21.....	286	--	--	--	--	4.6	--	20	44	3.8	--	5.1	118	62	46	159	7.0	3
Jan. 22, 24-28.....	1,380	--	--	--	--	4.4	--	12	30	3.3	--	4.8	80	40	30	112	6.9	15
Jan. 29-31, Feb. 2-4.	575	--	--	--	--	4.1	--	15	38	3.3	--	4.6	105	51	39	134	7.2	5
Feb. 5-8, 12-14, 16, 18-21, 23-26.....	418	7.3	.03	11	3.9	2.8	2.0	15	31	3.0	.1	4.7	82	44	31	119	6.9	5
Feb. 28, Mar. 1-5....	266	--	--	--	--	3.7	--	18	37	6.2	--	3.6	96	57	42	145	6.9	2
Mar. 6.....	2,140	--	--	--	--	--	--	17	32	--	--	--	--	--	--	253	6.0	--
Mar. 7, 9-14, 16-21, 23-28, 31.....	689	--	--	--	--	3.4	--	17	29	3.3	--	5.2	70	45	31	119	6.6	2

SUSQUEHANNA RIVER BASIN--Continued

1-5730. SWATARA CREEK AT HARPER TAVERN, PA.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Apr. 1-4, 6-11, 1959	1,360	7.5	0.00	9.8	3.8	1.5	1.2	12	27	3.4	0.2	5.0	70	40	30	108	6.5	3
Apr. 13-15, 17-18, 20-25, 27-29.....	561	--	--	--	--	4.1	--	20	37	2.4	--	3.4	84	52	36	134	6.9	1
May 8-9, 11-16, 18-21.....	301	--	--	--	--	3.2	--	18	38	2.1	--	1.8	101	52	37	130	6.9	1
May 22-31, June 1-2.	188	6.9	.00	16	6.2	3.5	1.5	24	47	2.6	.1	1.1	100	66	46	158	6.7	3
June 3-5.....	1,220	--	--	--	--	--	--	15	24	--	--	--	--	--	--	108	6.6	--
June 6, 8, 10-15....	317	--	--	--	--	6.4	--	17	48	3.4	--	3.5	98	58	44	154	6.9	3
June 16-28...	162	--	--	--	--	6.4	--	21	60	3.5	--	3.3	116	73	56	186	7.4	1
June 29-30, July 1-11.....	101	--	--	--	--	5.8	--	25	69	4.2	--	2.6	147	88	68	217	6.8	4
July 12-31, Aug. 1-5	72	8.6	.00	23	9.0	5.5	2.5	28	74	4.8	.3	3.8	165	95	72	234	7.0	3
Aug. 6-14, 16-26....	95	8.0	.01	23	7.1	5.6	3.5	37	57	5.0	.1	4.7	133	87	56	220	7.0	5
Aug. 27-31, Sept. 1.	130	--	--	--	--	6.7	--	40	47	5.0	--	5.5	127	79	46	201	7.4	10
Sept. 2-6.....	2,110	--	--	--	--	4.8	--	14	32	3.6	--	7.1	86	45	34	123	6.8	10
Sept. 7-14.....	184	--	--	--	--	4.4	--	24	46	4.4	--	6.3	128	69	50	169	7.2	6
Sept. 15-30, Oct. 1.	132	--	--	--	--	4.8	--	31	61	4.6	--	3.8	160	88	63	212	6.5	5
Time-weighted average.....	415	--	--	--	--	4.3	--	24	44	3.7	--	4.7	103	65	46	163	--	4
Analyses of additional samples																		
Apr. 22, 1959.....	434	8.4	0.07	12	5.4	2.3	1.0	17	37	2.2	0.0	3.5	a85	52	38	126	7.5	2
Aug. 26.....	345	8.2	.03	25	7.3	6.7	3.5	48	53	5.5	.1	5.7	151	93	53	233	6.9	6

a Includes 0.31 parts per million of manganese (Mn).

SUSQUEHANNA RIVER BASIN--Continued

1-5730. SWATARA CREEK AT HARPER TAVERN, PA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	59	56	54	61	--	52	49	52	56	59	58	58	53	52	56	55	57	61	58	50	50	52	54	55	56	53	49	42	47	47	48	54
November...	52	48	43	41	46	49	48	44	48	47	45	46	46	46	51	54	52	52	53	48	46	44	41	40	39	42	--	33	33	34	--	45
December...	32	34	35	35	38	36	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	33	32	32	34	33	34	32	33
January....	32	--	33	--	--	--	32	32	32	32	--	32	32	33	33	33	32	32	32	32	32	35	--	32	35	34	33	32	32	34	37	33
February...	--	32	32	32	34	37	35	37	--	--	--	32	35	38	--	33	--	37	33	32	32	--	33	34	32	39	--	42	--	--	--	--
March.....	44	40	40	40	39	--	38	--	38	40	38	34	32	38	--	38	39	36	37	41	46	--	38	40	45	49	46	43	--	--	41	40
April.....	46	52	45	48	--	49	47	51	58	55	51	--	42	47	51	--	56	63	--	58	52	52	53	51	63	--	59	52	48	--	--	52
May.....	58	58	--	61	59	61	64	--	66	--	61	66	69	61	58	61	--	57	63	66	70	72	76	76	71	65	68	73	75	86	79	67
June.....	70	67	63	66	71	73	--	77	--	82	78	76	74	69	76	65	64	67	68	76	74	79	81	79	78	76	80	84	89	86	--	75
July.....	85	84	82	86	82	78	71	81	84	72	79	79	72	80	77	79	81	79	80	79	83	82	--	--	81	77	83	81	86	85	85	80
August.....	87	80	83	71	73	71	77	72	78	77	80	82	84	86	--	91	83	83	85	82	84	84	73	73	81	85	78	82	83	80	78	80
September..	79	77	75	71	76	--	71	79	82	78	72	71	70	69	64	64	64	61	65	--	69	74	75	77	73	69	72	75	72	76	--	72

SUSQUEHANNA RIVER BASIN--Continued

1-5730. SWATARA CREEK AT HARPER TAVERN, PA.--Continued

Suspended sediment, May to September 1959

Day	May			June			July		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	--	--	--	117	5	2	104	7	2
2...	--	--	--	599	104	s 384	162	19	8
3...	--	--	--	2,320	293	s 2,170	137	9	3
4...	--	--	--	804	38	83	104		
5...	--	--	--	550	32	48	89	6	1
6...	--	--	--	535	49	71	83		
7...	--	--	--	421	--	a 25	89		
8...	304			333	16	14	89	8	2
9...	276	4	3	280	--	a 8	74		
10...	272			252			80	55	12
11...	292			221	6	4	92	13	3
12...	292	3	2	221			92	10	2
13...	366	8	8	425	35	40	98	17	5
14...	515	18	25	333	24	22	104		
15...	354	8	8	217			77		
16...	304	5	4	176	6	3	71	7	1
17...	272	3	2	172			71		
18...	252			179			64		
19...	232			172	4	2	80	26	s 7
20...	225	2	1	176			130	10	4
21...	205			162			114	8	2
22...	198			137			86		
23...	187			144	3	1	69		
24...	176			144			64		
25...	165	2	1	148	--	e 36	61	6	1
26...	151			209	60	34	58		
27...	144			154	30	12	56		
28...	140			127	18	6	48	13	2
29...	134	2	1	114			46		
30...	127			98	6	2	48		
31...	124			--	--	--	86	50	12
Total	5,707	--	74	9,940	--	2,990	2,626	--	87

Day	August			September		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	69			111	42	13
2...	44	9	1	1,520	568	s 2,650
3...	37			6,260	510	s 8,780
4...	33			1,550	98	s 419
5...	103	38	s 16	741	60	120
6...	120	98	s 33	486	38	50
7...	71	53	10	270		
8...	69	24	4	210		
9...	100	14	4	200		
10...	235	48	s 35	180	15	7
11...	158	50	21	170		
12...	95	34	9	160		
13...	74	20	4	148	4	2
14...	61	9	1	137		
15...	51	4	1	124	5	2
16...	48	3	(t)	114		
17...	104	24	s 10	117	8	3
18...	124	80	27	111		
19...	90	42	10	95		
20...	61	24	4	92		
21...	48	14	2	89	4	1
22...	50	21	s 3	89		
23...	94	20	s 6	92		
24...	115	38	s 14	89		
25...	106	55	16	82		
26...	71	42	8	80		
27...	288	339	320	64	2	(t)
28...	143	192	s 79	69		
29...	89	70	17	69		
30...	74	60	12	71		
31...	77	38	8	--		
Total	2,902	--	678	13,590	--	12,100

e Estimated.
s Computed by subdividing day.
t Less than 0.50 tons.
a Computed from partly estimated-concentration graph.

1-5730. SWATARA CREEK AT HARPER TAVERN, PA.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time (24 hour)	Sampling point	Water temperature (°F)	Discharge (cfs)	Sediment concentration (ppm)	Suspended sediment: Percent finer than size indicated, in millimeters											Method of analysis
						0.001	0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.500	1.000	
June 3, 1959.....	0900		63	2,900	273		30	42	62	79	88	93	94	--	--		SBWC
Sept. 3.....	1240		76	4,370	1,450		24	39	56	88	90	92	95	97	99		SBWC
Sept. 3.....	0732		73	7,630	583		28	53	64	73	85	89	92	95	98		SBWC

SUSQUEHANNA RIVER BASIN--Continued

1-5765. CONESTOGA CREEK AT LANCASTER, PA.

LOCATION.--At raw-water intake for Lancaster, Lancaster County, 500 feet upstream from gaging station, at Pennsylvania Railroad bridge, and 0.75 mile east of Lancaster.
DRAINAGE AREA.--322 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1947 to September 1950, October 1958 to September 1959.
Water temperatures: October 1947 to September 1950, October 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 269 ppm Sept. 10-30; minimum, 171 ppm Apr. 1-5, 7-9, 11-13, 15.
Hardness: Maximum, 207 ppm Sept. 10-30; minimum, 128 ppm Apr. 1-5, 7-9, 11-13, 15.
Water temperatures: Maximum, 83°F June 30 to July 3; minimum, freezing point on many days during winter months.
EXTREMES, 1947-50, 1958-59.--Dissolved solids (1947-49, 1958-59): Maximum, 276 ppm July 11-20, 1948; minimum, 156 ppm Apr. 11-20, 1948.
Hardness: Maximum, 207 ppm Sept. 10-30, 1959; minimum, 109 ppm May 21-31, 1950.
Water temperatures: Maximum, 83°F June 30 to July 3, 1959; minimum, freezing point on many days during winter months.
REMARKS.--Records of specific conductance of daily samples available in district office at Philadelphia, Pa. Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 6-23, 1958.....	127	9.2	0.01	55	15	7.0	2.5	183	34	6.4	0.0	21	242	199	49	408	7.7	3
Oct. 24-26.....	221	--	--	--	--	--	--	116	36	--	--	--	--	--	--	296	7.7	6
Oct. 27-31, Nov. 2-9	261	--	--	--	--	4.1	--	144	42	7.9	--	8.1	--	170	52	339	7.7	10
Nov. 10, 12-28.....	162	--	--	--	--	7.6	--	168	33	8.0	--	16	--	180	43	376	7.7	6
Nov. 29-30.....	962	--	--	--	--	--	--	74	--	--	--	--	--	--	--	228	7.3	--
Dec. 1-4, 6-8.....	332	--	--	--	--	7.6	--	124	35	7.6	--	20	200	148	47	316	7.6	8
Dec. 9-24, 26-30, Jan. 1, 1959.....	179	--	--	--	--	7.1	--	166	33	8.3	--	24	239	186	50	387	7.8	4
Jan. 2-3.....	1,220	--	--	--	--	--	--	81	--	--	--	--	--	--	--	236	7.4	--
Jan. 6-12, 14-15, 17-21.....	213	--	--	--	--	7.4	--	158	30	8.5	--	23	240	175	46	383	7.8	5
Jan. 22-24.....	705	--	--	--	--	--	--	68	--	--	--	--	--	--	--	239	7.3	--
Jan. 25-31, Feb. 1-4	248	--	--	--	--	4.1	--	148	32	8.5	--	21	216	175	54	361	7.7	3
Feb. 5-7.....	332	--	--	--	--	--	--	87	--	--	--	--	--	--	--	253	6.7	--
Feb. 9-10.....	168	--	--	--	--	--	--	156	--	--	--	--	--	--	--	354	7.7	--
Feb. 11-14, 16-20...	489	10	.06	32	8.3	5.4	4.8	90	30	8.1	.3	14	178	114	40	264	7.6	23
Feb. 21-27, Mar. 1-6	284	--	--	--	--	4.8	--	143	26	8.0	--	21	204	162	45	338	7.9	3
Mar. 7-8.....	587	--	--	--	--	--	--	79	--	--	--	--	--	--	--	243	6.8	--

Mar. 9-23, 25-31, 1959	334	--	--	--	--	7.8	--	136	29	8.6	--	17	198	150	39	320	7.5	5
Apr. 1-5, 7-9, 11-13 11-13, 15	450	--	--	--	--	8.0	--	116	28	6.2	--	16	171	128	33	277	7.4	4
Apr. 16-30, May 1-4	295	--	--	--	--	6.4	--	133	27	7.6	--	14	206	145	36	305	7.5	7
May 5-20	203	9.5	.01	42	11	6.9	1.2	143	26	7.4	.0	13	206	150	33	328	7.2	5
May 21-24, 26-31, June 1, 3	242	--	--	--	--	11	--	172	27	8.5	--	15	220	170	29	363	7.8	3
June 5-19	140	--	--	--	--	12	--	154	30	8.4	--	15	221	156	30	336	7.5	5
June 20-30	100	--	--	--	--	5.8	--	166	29	8.9	--	15	228	178	42	378	8.0	5
July 1-31	87	--	--	--	--	3.7	--	164	33	9.7	--	14	248	186	52	396	7.9	10
Aug. 1-3	88	--	--	--	--	--	--	126	32	--	--	--	--	--	--	318	7.4	--
Aug. 4-17	195	--	--	--	--	7.8	--	148	39	9.4	--	14	226	170	49	370	7.2	8
Aug. 18-21	242	--	--	--	--	--	--	118	37	--	--	--	--	--	--	309	7.3	--
Aug. 22-30	115	--	--	--	--	6.2	--	168	42	9.2	--	14	248	192	55	411	7.7	10
Aug. 31, Sept. 1-2	237	--	--	--	--	--	--	123	31	--	--	--	--	--	--	310	7.4	--
Sept. 3-4	1,680	--	--	--	--	--	--	75	29	--	--	--	--	--	--	227	6.9	--
Sept. 10-30	107	14	.01	60	14	12	3.0	193	40	9.5	.0	20	269	207	49	442	7.6	7
Time-weighted average	238	--	--	--	--	6.8	--	150	32	8.3	--	17	224	170	44	354	--	6
Analyses of additional samples																		
Oct. 16, 1958	104	--	--	--	--	13	--	192	42	13	--	23	--	210	53	452	7.5	4
Apr. 20, 1959	331	6.8	0.00	41	11	5.7	1.9	a132	24	7.6	0.1	14	185	148	40	309	8.3	5

a Includes equivalent of 1 part per million of carbonate (CO_3).

SUSQUEHANNA RIVER BASIN--Continued

1-5765. CONESTOGA CREEK AT LANCASTER, PA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	--	--	--	--	--	58	57	56	58	58	58	60	55	56	55	57	60	60	60	59	58	57	57	60	60	58	58	55	54	54	53	57
November...	--	52	50	50	50	52	49	--	50	--	--	--	50	51	50	54	53	54	58	54	50	50	46	46	49	46	46	45	40	35	--	49
December...	32	34	35	35	--	--	39	39	38	38	36	35	32	--	32	33	33	33	32	32	33	32	35	34	--	32	33	37	37	37	--	35
January....	38	39	32	--	41	40	44	39	35	40	34	35	--	34	35	--	33	35	34	34	34	43	37	35	41	39	42	41	41	44	42	38
February...	36	35	33	34	35	36	38	--	36	39	41	41	40	42	--	41	41	39	41	--	42	35	35	34	35	38	40	--	--	--	--	38
March.....	45	45	46	46	45	47	47	41	43	44	44	45	40	41	43	44	46	40	40	46	46	46	47	42	49	50	50	50	46	45	49	45
April.....	50	53	53	50	50	--	52	50	54	--	54	54	48	--	55	55	59	60	60	62	60	57	55	56	56	64	60	55	53	55	--	55
May.....	56	52	60	63	63	62	66	67	66	62	64	66	66	64	63	60	60	60	61	--	70	70	75	73	--	72	71	72	72	74	75	66
June.....	75	--	66	--	71	70	70	67	77	76	77	77	72	71	68	67	68	64	69	69	68	71	73	73	75	74	77	74	82	83	--	72
July.....	83	83	83	82	78	74	75	76	75	76	77	77	75	75	73	71	75	76	76	77	72	71	70	79	79	77	79	79	79	79	--	77
August.....	80	77	75	72	71	69	68	69	70	71	70	72	72	73	74	81	81	76	77	77	77	77	77	74	74	75	76	77	76	78	74	75
September..	73	75	74	74	75	73	77	75	--	76	76	76	66	66	64	64	60	62	--	60	63	63	65	68	65	68	67	--	68	72	--	69

1-5970. CRABTREE CREEK NEAR SWANTON, MD.

LOCATION.--Temperature recorder at gaging station, 0.9 mile upstream from Middle Fork, 1.0 mile downstream from Springlick Run, and 5.0 miles northeast of Swanton, Garrett County.
DRAINAGE AREA.--16.7 square miles.
RECORDS AVAILABLE.--Water temperatures: February 1952 to December 1955, July 1956 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 81°F June 30, July 1; minimum, freezing point on many days during November to February.
EXTREMES, 1952-59.--Water temperatures: Maximum, 82°F Aug. 2, 3, 1955; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Temperature (°F) of water, water year October 1958 to September 1959
/Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph/

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	57	53	53	57	55	51	51	54	57	58	54	53	52	57	57	57	57	56	52	50	50	50	54	54	50	48	47	47	48	48	48	53
Minimum.....	51	48	49	50	49	46	45	47	51	53	49	49	47	52	52	50	51	50	46	43	45	48	50	49	47	46	44	45	46	43	43	48
November																																
Maximum.....	48	48	48	48	48	48	45	42	43	42	44	45	47	47	47	51	52	52	51	45	42	41	39	42	40	40	36	35	34	32	--	44
Minimum.....	43	46	44	43	43	45	42	39	40	41	41	41	42	43	46	47	51	48	45	41	39	37	35	37	36	36	35	33	32	32	--	41
December																																
Maximum.....	32	32	33	34	35	34	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Minimum.....	32	32	32	33	34	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
January																																
Maximum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	38	38	33	35	36	36	33	33	33	37	35	33
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33	32	32	35	33	32	32	31	33	34	32
February																																
Maximum.....	34	32	32	35	36	35	32	35	35	42	41	40	42	42	42	41	42	40	37	33	33	33	36	36	36	40	40	39	--	--	--	37
Minimum.....	32	32	32	32	34	32	32	32	35	35	37	35	39	41	40	38	39	37	33	33	33	33	33	34	33	34	36	36	--	--	--	35
March																																
Maximum.....	38	39	38	40	37	38	38	41	41	40	38	35	38	44	45	42	40	40	45	45	42	39	43	45	48	45	45	43	39	41	46	41
Minimum.....	37	35	35	35	34	35	36	35	37	38	33	33	33	34	38	37	36	35	34	36	39	34	33	36	37	40	40	36	34	38	39	36
April																																
Maximum.....	52	49	49	45	50	49	52	56	51	50	50	46	43	49	51	53	54	51	53	51	53	49	50	55	51	53	53	52	54	56	--	51
Minimum.....	40	44	41	42	40	44	41	46	48	49	46	39	40	40	42	43	44	46	49	49	47	43	45	43	45	49	51	48	47	48	--	45
May																																
Maximum.....	57	59	61	59	61	64	65	60	57	60	65	62	59	57	51	52	55	55	61	64	65	67	66	62	62	60	63	65	69	69	67	61
Minimum.....	49	46	50	53	49	50	54	51	48	51	53	56	57	49	48	47	46	49	52	55	58	59	58	55	52	55	56	58	59	60	62	53
June																																
Maximum.....	69	63	66	66	66	67	68	70	70	70	72	71	70	65	63	62	56	56	63	63	67	69	67	69	72	71	72	77	80	81	--	68
Minimum.....	62	60	59	55	56	57	58	57	59	61	62	62	60	56	54	53	54	52	52	55	57	60	61	59	62	64	65	65	67	69	--	59
July																																
Maximum.....	81	74	73	74	70	73	73	74	74	71	72	68	70	71	69	74	73	73	75	73	75	75	76	75	70	72	70	72	74	72	77	73
Minimum.....	68	66	61	61	62	65	62	59	61	64	61	63	62	63	64	64	64	64	65	67	64	66	68	67	67	65	65	65	67	68	67	64
August																																
Maximum.....	78	75	73	68	75	73	73	69	71	73	73	74	76	76	76	77	76	76	77	77	76	77	77	78	80	79	75	78	75	72	76	75
Minimum.....	67	64	60	66	67	65	65	66	65	65	64	63	65	65	66	68	68	69	67	64	65	69	70	71	70	69	71	69	71	70	70	67
September																																
Maximum.....	72	75	75	72	71	67	73	73	74	72	67	65	65	63	64	60	60	58	58	60	64	66	67	65	65	67	63	67	64	64	--	67
Minimum.....	69	68	67	64	60	63	65	66	65	65	62	56	55	55	54	57	54	50	49	50	54	56	59	58	58	60	59	59	59	62	--	59

POTOMAC RIVER BASIN--Continued

1-6065. SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, W. VA.

LOCATION.--At the Potomac Edison powerplant, 1,000 feet upstream from gaging station, and 2.5 miles west of Petersburg, Grant County.
DRAINAGE AREA.--642 square miles.
RECORDS AVAILABLE.--Water temperatures: January 1947 to September 1953, November 1954 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 83°F June 30; minimum, freezing point on many days during December to February.
EXTREMES, 1947-53, 1954-59.--Water temperatures: Maximum, 84°F June 27, July 23, 1952, Aug. 3, 1955; minimum, freezing point on many days during winter months.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Temperature (°F) of water, water year October 1958 to September 1959
/Once-daily measurements/

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	66	66	65	65	62	60	60	60	59	60	60	58	59	60	60	61	62	60	61	60	60	60	59	59	60	59	57	56	55	53	51	60
November...	50	50	48	48	47	46	46	45	45	43	42	40	40	41	42	42	43	42	42	43	42	41	40	40	39	39	38	39	38	36	--	43
December...	35	34	33	32	33	33	34	33	32	32	32	32	33	32	32	32	32	33	34	33	32	33	34	34	33	32	32	33	34	35	36	33
January....	37	36	35	34	32	32	32	33	33	32	33	32	33	34	34	33	32	32	33	33	34	33	32	33	36	38	37	35	37	40	40	34
February...	38	33	33	37	38	37	37	38	39	44	40	38	40	43	44	42	40	40	36	32	33	36	35	38	39	39	40	40	--	--	--	38
March.....	42	41	41	40	40	40	39	39	40	41	40	40	39	40	44	43	42	40	42	43	46	46	48	48	49	52	54	48	45	46	48	43
April.....	52	54	53	48	49	50	51	55	59	57	55	46	42	46	49	51	53	54	55	57	55	50	51	53	54	55	57	56	55	57	--	53
May.....	58	58	60	63	64	65	67	65	61	63	67	67	65	60	58	56	59	60	61	63	69	71	72	70	68	67	68	70	71	73	72	65
June.....	70	66	64	65	67	68	70	69	71	72	73	75	73	69	66	66	64	64	64	66	68	70	74	73	76	77	77	80	82	83	--	71
July.....	82	80	76	75	76	76	77	76	76	77	78	76	74	72	70	72	75	75	76	76	77	78	78	76	76	75	74	75	75	76	76	76
August.....	76	76	77	78	77	76	76	77	78	78	79	78	78	77	78	78	77	76	77	78	79	79	79	78	77	78	78	78	77	78	78	78
September..	78	79	79	78	78	79	78	77	76	75	74	74	74	75	76	76	77	76	75	75	75	75	75	74	74	73	72	72	71	70	--	75

POTOMAC RIVER BASIN--Continued

1-6116. CACAPON RIVER AT GREAT CACAPON, W. VA.

LOCATION.--At the Potomac Edison hydroplant, 1 mile south of Great Cacapon, Morgan County, 2.5 miles upstream from mouth, and 4 miles downstream from gaging station.
DRAINAGE AREA.--681 square miles upstream from powerplant; 677 square miles upstream from gaging station.
RECORDS AVAILABLE.--Water temperatures: October 1946 to September 1954, October 1958 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 84°F June 30; minimum, freezing point on several days during December and February.
EXTREMES, 1946-54, 1958-59.--Water temperatures: Maximum, 96°F July 23, 1952; minimum, freezing point on many days during winter months some years.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Temperature (°F) of water, water year October 1958 to September 1959

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October....	64	60	60	--	--	58	56	58	60	62	--	--	68	66	66	62	62	--	--	56	54	54	56	56	--	52	50	50	52	52	--	--
November...	--	--	48	46	46	48	48	--	--	42	40	40	40	40	--	--	52	54	52	50	50	--	--	48	46	46	44	40	--	--	--	--
December...	35	38	36	34	34	--	--	34	32	32	32	32	--	--	32	32	33	32	32	--	--	32	36	34	34	32	--	--	36	34	34	--
January....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
February...	--	34	34	32	36	36	--	--	32	32	33	36	36	--	--	35	34	34	32	36	--	--	34	36	38	36	36	--	--	--	--	--
March.....	--	40	38	38	36	40	40	--	40	40	40	40	38	38	--	38	40	40	40	42	42	--	42	42	42	42	--	44	--	44	44	40
April.....	44	44	44	44	--	46	47	48	50	52	55	--	50	50	48	48	48	49	--	50	52	53	54	54	55	--	55	55	55	55	--	50
May.....	55	--	55	55	55	56	56	56	56	--	57	57	59	59	59	59	--	60	60	60	60	60	60	--	60	62	62	65	66	--	--	59
June.....	68	68	66	66	66	66	--	66	68	68	68	68	69	--	66	64	64	64	64	65	--	66	66	68	69	71	73	--	80	84	--	68
July.....	80	78	--	78	--	76	76	76	78	80	81	--	82	80	80	78	78	78	--	78	78	78	79	80	--	--	80	80	80	80	80	79
August.....	--	--	80	80	80	78	78	--	--	76	76	76	78	80	80	--	80	80	80	80	80	--	--	80	81	81	81	81	--	--	81	--
September..	80	80	80	79	--	--	--	78	78	78	76	--	--	76	74	70	68	67	--	64	64	65	67	68	70	72	--	72	74	74	--	--

POTOMAC RIVER BASIN--Continued

1-6130. POTOMAC RIVER AT HANCOCK, MD.

LOCATION.--Temperature recorder at gaging station, 0.2 mile downstream from Little Tonoloway Creek, 0.5 mile downstream from bridge on U.S. Highway 522 at Hancock, Washington County, and 1.1 miles upstream from Tonoloway Creek (formerly called Great or Big Tonoloway Creek).
DRAINAGE AREA.--4,073 square miles.
RECORDS AVAILABLE.--Water temperatures: July 1952 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 91°F Aug. 15, 16; minimum, freezing point on many days during December to February.
EXTREMES, 1952-59.--Water temperatures: Maximum, 93°F July 22, 1952; minimum, freezing point on many days during winter months.
REMARKS.--Recorder stopped Aug. 14-17; range 82°F to 91°F during tbis period. Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Temperature (°F) of water, water year October 1958 to September 1959
/Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph/

Month	Day																													Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	66	65	61	65	65	62	62	63	65	67	65	64	60	62	65	67	68	68	65	63	60	59	61	65	61	59	57	54	57	56	56	62
Minimum.....	63	60	60	59	59	56	54	56	59	63	60	59	57	57	58	60	62	62	59	57	56	58	58	59	58	57	54	53	53	53	50	58
November																																
Maximum.....	54	53	53	53	54	55	53	49	50	49	50	52	53	54	53	54	54	57	58	54	52	49	47	48	47	46	44	40	38	36	--	50
Minimum.....	52	51	49	48	48	52	49	47	47	48	47	47	51	50	52	52	54	54	54	52	49	46	44	44	44	44	40	38	36	33	--	47
December																																
Maximum.....	33	34	34	36	38	37	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	33
Minimum.....	33	33	33	34	36	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
January																																
Maximum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
Minimum.....	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32
February																																
Maximum.....	32	32	32	32	34	35	35	36	36	35	35	37	37	37	38	38	38	38	38	36	34	35	36	38	38	39	41	41	--	--	--	36
Minimum.....	32	32	32	32	32	34	33	36	35	35	35	35	37	37	37	38	38	38	36	34	33	33	36	36	36	38	39	39	--	--	--	35
March																																
Maximum.....	42	43	43	43	42	42	41	40	40	41	41	40	38	40	42	42	42	41	41	42	42	44	44	46	48	51	51	50	49	48	49	43
Minimum.....	41	41	41	40	41	38	39	38	39	40	40	37	37	37	40	42	40	40	39	41	42	42	42	44	46	48	51	47	47	47	47	42
April																																
Maximum.....	54	54	53	51	52	53	54	56	58	58	57	56	50	48	49	52	54	56	57	57	57	57	57	57	59	59	59	59	56	56	--	55
Minimum.....	49	53	51	50	49	51	51	53	56	57	56	50	48	46	46	49	52	54	56	57	55	55	55	55	56	58	59	55	54	55	--	53
May																																
Maximum.....	58	59	62	64	64	66	67	67	67	70	70	70	70	66	63	60	58	60	65	69	70	73	75	75	73	72	73	76	78	80	79	68
Minimum.....	56	58	59	61	62	62	65	66	64	63	66	68	66	63	60	57	56	57	60	65	68	70	73	72	70	70	69	72	74	76	77	65
June																																
Maximum.....	77	74	70	68	67	70	72	74	77	80	81	81	81	76	71	70	67	66	70	72	77	80	79	80	82	86	86	88	88	90	--	77
Minimum.....	74	70	68	65	65	67	69	70	74	76	77	78	76	71	68	67	65	64	64	66	69	74	75	72	74	77	79	80	81	83	--	72
July																																
Maximum.....	89	84	83	83	83	82	85	85	87	83	84	82	84	84	79	82	83	83	85	82	86	87	87	87	85	86	85	87	85	85	86	84
Minimum.....	80	77	76	76	75	77	76	76	76	79	77	77	76	79	77	75	77	79	79	79	78	79	81	82	81	79	81	79	79	79	81	78
August																																
Maximum.....	88	86	85	82	84	85	82	78	78	80	83	85	88	--	--	--	90	89	90	90	90	88	85	82	86	90	88	89	84	82	81	85
Minimum.....	82	81	77	79	79	79	78	72	73	76	77	77	79	80	--	--	--	82	81	81	81	82	80	77	77	81	83	81	74	80	79	79
September																																
Maximum.....	82	82	85	83	84	83	81	85	86	86	82	80	80	77	78	75	72	70	70	70	73	75	79	80	79	76	76	78	76	75	--	79
Minimum.....	79	79	79	79	75	76	76	77	79	80	76	72	70	70	70	68	65	63	62	62	64	68	70	71	72	73	72	71	73	71	--	72

1-6425. LINGANORE CREEK NEAR FREDERICK, MD.

LOCATION.--Temperature recorder at gaging station, 2.2 miles upstream from mouth and 4 miles east of Frederick, Frederick County.
DRAINAGE AREA.--82.3 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1951 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 90°F June 30; minimum, freezing point on many days in December.
EXTREMES, 1951-59.--Water temperatures: Maximum, 90°F June 30, 1959; minimum, freezing point on many days during winter months.
REMARKS.--Recorder out of order Dec. 1-3, 7-21; range 32°F to 36°F during this period. Records of discharge for water year October 1958 to September 1959 given in WSP 1622.

Temperature (°F) of water, water year October 1958 to September 1959
/Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph/

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	63	61	59	63	63	59	58	61	64	66	62	60	57	56	62	63	64	63	58	58	55	55	60	62	60	58	54	52	53	53	53	59
Minimum.....	60	57	58	59	57	54	51	54	57	60	58	55	53	55	54	56	58	58	53	50	51	54	55	58	56	53	50	51	50	49	48	55
November																																
Maximum.....	52	52	49	50	51	52	50	47	49	48	48	49	52	52	52	54	54	56	56	52	48	45	44	47	46	46	44	40	39	38	--	49
Minimum.....	49	48	48	46	47	49	47	43	45	46	44	45	48	48	50	52	54	54	52	48	45	43	40	42	43	44	40	39	39	35	--	46
December																																
Maximum.....	--	--	--	40	42	41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	32	32	32	33	33	33	33	33	32	34	--
Minimum.....	--	--	--	35	40	35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	32	32	32	33	33	33	33	33	33	33	--
January																																
Maximum.....	34	34	34	35	34	34	34	34	34	34	34	34	34	34	34	33	34	34	34	34	35	38	36	35	35	35	35	35	35	40	40	35
Minimum.....	33	33	34	34	34	34	34	34	34	34	34	34	34	34	33	33	33	34	34	34	33	35	35	35	35	35	35	35	35	35	37	34
February																																
Maximum.....	37	35	35	35	37	37	36	36	36	39	40	37	40	41	40	39	40	40	39	34	34	35	34	39	38	39	41	42	--	--	--	38
Minimum.....	35	35	35	35	35	34	34	34	35	35	37	34	36	40	39	35	37	39	34	34	34	33	33	34	34	34	36	37	--	--	--	35
March																																
Maximum.....	44	44	42	45	41	45	44	42	44	45	43	41	39	41	44	46	43	42	45	48	48	46	46	49	52	52	50	48	45	44	49	45
Minimum.....	40	41	37	39	38	41	40	37	39	43	39	37	35	37	40	40	39	36	35	40	44	40	38	40	43	47	45	42	39	42	43	40
April																																
Maximum.....	55	53	51	50	53	54	55	60	65	62	57	52	47	52	57	60	62	62	63	62	61	52	58	62	64	66	64	59	62	68	--	59
Minimum.....	45	48	46	47	45	49	46	51	56	57	52	43	42	45	48	50	52	55	59	56	53	53	54	50	53	59	55	53	52	58	--	51
May																																
Maximum.....	68	67	71	71	69	71	73	70	65	66	72	76	71	66	61	61	62	65	69	75	75	77	75	74	72	68	76	79	81	82	77	71
Minimum.....	60	57	63	64	65	60	63	64	59	59	63	66	63	62	57	54	54	57	63	65	69	70	70	68	63	64	65	69	71	72	72	64
June																																
Maximum.....	72	68	67	72	70	73	77	78	80	82	82	83	77	74	70	67	66	63	72	76	77	80	79	78	80	85	85	88	89	90	--	77
Minimum.....	68	65	64	63	65	64	67	67	69	72	73	75	70	66	63	62	61	60	61	65	68	70	73	70	72	74	77	78	78	80	--	69
July																																
Maximum.....	86	86	84	83	82	76	82	82	83	78	80	76	82	77	75	80	80	82	80	78	82	83	85	82	80	81	81	85	83	85	84	81
Minimum.....	79	77	72	70	71	72	70	69	69	75	72	73	71	74	73	72	72	73	76	75	73	76	76	77	76	74	75	74	77	77	77	74
August																																
Maximum.....	87	82	80	75	79	75	74	71	78	79	80	81	83	84	85	85	85	81	84	84	84	83	80	76	82	84	82	84	80	78	78	81
Minimum.....	77	72	67	71	72	72	71	70	70	71	70	71	72	74	75	76	75	75	75	73	74	77	73	73	74	75	77	76	77	76	75	73
September																																
Maximum.....	80	78	82	81	79	80	76	81	82	80	76	73	71	69	71	68	65	63	64	64	68	71	72	73	73	70	74	75	76	74	--	74
Minimum.....	76	76	75	74	71	72	73	73	74	75	69	65	62	62	63	62	59	56	55	56	58	62	64	65	66	68	68	69	72	72	--	67

1-6452. WATTS BRANCH AT ROCKVILLE, MD.

LOCATION.--Temperature recorder at gaging station, 0.2 mile south of State Highway 28, and 1.3 miles west of post office in Rockville, Montgomery County.
DRAINAGE AREA.--3.70 square miles.
RECORDS AVAILABLE.--Water temperatures: September 1957 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 88°F June 29, 30; minimum, 33°F Jan. 4, 5, 20, 21.
EXTREMES, 1957-59.--Water temperatures: Maximum, 88°F June 29, 30, 1959; minimum, 33°F on several days during winter months.

Temperature (°F) of water, water year October 1958 to September 1959
/Recorder with temperature attachment, continuous ethyl alcohol-actuated thermograph/

Month	Day																													Aver-age
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October																																
Maximum.....	60	59	56	62	62	56	57	60	63	65	59	57	56	56	62	62	62	60	55	55	54	55	59	61	56	54	52	51	53	53	53	58
Minimum.....	56	53	55	56	54	50	49	52	54	57	54	51	50	54	54	53	55	54	51	48	50	53	55	54	53	50	47	49	47	47	46	52
November																																
Maximum.....	52	51	52	50	52	53	50	47	50	48	49	49	52	52	52	54	53	54	53	49	47	46	44	49	47	47	44	39	39	37	--	49
Minimum.....	47	47	47	44	45	47	44	42	46	45	43	44	47	47	49	51	52	52	47	43	43	41	39	41	42	43	39	39	37	34	--	44
December																																
Maximum.....	36	38	39	42	44	40	35	36	38	35	34	35	35	34	35	34	34	35	35	35	34	35	36	37	36	35	35	36	38	42	40	37
Minimum.....	34	34	36	39	40	35	34	34	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	35	34	34	34	34	36	38	35	35
January																																
Maximum.....	36	39	39	38	34	34	34	34	34	34	34	35	35	36	38	38	34	34	34	34	41	43	37	37	42	42	37	37	41	46	43	37
Minimum.....	35	36	34	33	33	34	34	34	34	34	34	34	34	34	34	34	34	34	34	33	33	35	35	35	35	37	35	35	36	39	38	35
February																																
Maximum.....	39	37	36	37	43	41	41	40	40	47	45	41	43	43	45	42	45	45	40	36	38	41	40	42	43	44	46	49	--	--	--	42
Minimum.....	35	35	35	35	36	35	35	36	38	38	38	35	38	43	40	36	39	40	35	35	35	35	36	38	35	35	36	38	--	--	--	37
March																																
Maximum.....	49	45	47	50	45	50	47	48	49	49	45	44	44	48	51	50	46	47	51	54	56	50	51	56	58	56	50	52	48	46	57	50
Minimum.....	42	40	36	39	38	43	40	36	39	43	40	39	36	38	42	41	38	36	36	39	45	39	37	39	43	47	45	41	38	43	45	40
April																																
Maximum.....	62	55	57	54	59	58	61	66	68	62	57	53	51	58	62	65	67	65	66	61	62	64	56	65	66	68	63	57	66	70	--	61
Minimum.....	45	47	44	46	43	48	44	50	56	57	53	43	43	44	45	47	49	52	57	55	51	50	50	47	50	57	57	51	50	53	--	49
May																																
Maximum.....	68	69	73	71	70	72	74	69	66	64	74	76	65	68	59	65	65	61	74	76	73	74	76	73	72	68	76	80	81	81	71	71
Minimum.....	56	52	59	59	53	55	58	58	53	56	60	61	61	57	53	51	50	54	58	61	63	64	63	62	57	59	60	63	66	66	67	59
June																																
Maximum.....	65	66	70	74	74	75	78	79	80	81	82	81	76	72	69	66	65	66	71	76	77	80	75	77	79	83	83	85	88	88	--	76
Minimum.....	63	62	61	58	60	59	62	62	63	65	66	68	63	58	56	56	56	55	57	60	62	64	68	63	65	67	69	70	71	72	--	63
July																																
Maximum.....	85	84	81	80	78	75	81	81	82	75	77	72	78	74	72	78	78	81	84	78	81	83	86	83	78	81	80	82	83	84	83	80
Minimum.....	72	73	65	64	63	65	64	63	64	68	66	67	66	69	68	67	67	68	72	70	69	71	72	72	71	70	71	70	72	72	72	68
August																																
Maximum.....	86	81	80	72	80	74	70	69	78	78	79	79	81	82	84	85	86	86	85	84	85	84	77	79	84	86	82	87	81	79	76	81
Minimum.....	71	67	63	67	68	68	68	68	67	68	67	67	67	69	70	71	72	74	73	69	70	73	72	71	71	72	74	73	74	73	72	70
September																																
Maximum.....	80	77	80	79	77	78	77	79	79	77	73	72	71	68	70	66	66	65	66	66	69	72	74	75	75	69	75	76	75	71	--	73
Minimum.....	72	72	71	70	68	70	70	70	70	70	67	62	60	60	60	61	57	56	54	54	57	59	62	62	64	66	66	66	70	70	--	65

RAPPAHANNOCK RIVER BASIN

1-6640. RAPPAHANNOCK RIVER AT REMINGTON, VA.

LOCATION.--At gaging station at bridge on U. S. Highway 29 at Remington, Fauquier County, 0.3 mile upstream from Tinpot Run, 0.4 mile downstream from Ruffans Run, 2.5 miles downstream from Hazel River, and at mile 35.2.
DRAINAGE AREA.--616 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1951 to September 1956.
Water Temperatures: May 1951 to September 1956, October 1958 to September 1959.
Sediment records: April 1951 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 84°F June 30; minimum, freezing point on many days during December, January and February.
Sediment concentrations: Maximum daily, 812 ppm June 13; minimum daily, 2 ppm Jan. 10.
Sediment loads: Maximum daily, 8,590 tons June 3; minimum daily, 1 ton Dec. 18, Jan. 10, Aug. 16.
EXTREMES, 1951-59.--Water temperatures (1951-56, 58-59): Maximum, 84°F June 30, 1959; minimum, freezing point on one to many days during each winter.
Sediment concentrations: Maximum daily, 1,240 ppm June 10, 1951; minimum daily, 1 ppm on many days.
Sediment loads: Maximum daily, 23,400 tons June 10, 1951; minimum daily, less than 0.50 ton on many days.
REMARKS.--Records of specific conductance of daily samples available in district office at Raleigh, N. C. Records of discharge for water year October 1958 to September 1959 given in WSP 1622. No gage-height record Oct. 2-14, Dec. 16 to Mar. 19 (stage-discharge relation probably affected by ice Dec. 16, 17, Jan. 6-10, 22-25); discharge estimated on basis of 4 discharge measurements, recorded range in stage, and sum of records for station near Warrenton and Hazel River at Rixeyville.

Temperature (°F) of water, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	48	32	39	36	45	53	69	70	83	80	76
2	53	50	33	41	32	41	57	59	62	81	72	76
3	53	46	47	37	32	39	47	66	66	74	66	76
4	55	45	40	38	35	41	52	68	64	72	71	74
5	51	46	45	32	36	41	47	60	66	70	73	77
6	50	55	38	32	38	46	52	61	67	72	74	75
7	46	56	32	32	35	45	53	67	71	70	73	74
8	52	41	32	34	42	37	60	69	72	67	72	72
9	55	50	34	32	42	44	71	68	72	69	72	73
10	51	55	34	33	43	48	69	68	74	76	72	72
11	52	48	32	32	52	43	61	66	75	72	71	71
12	55	47	32	33	35	42	49	72	76	72	70	78
13	--	51	32	38	42	43	40	69	72	71	73	63
14	56	45	32	34	50	46	42	62	66	73	75	60
15	48	49	32	43	--	47	59	55	61	71	76	63
16	60	55	32	48	38	46	55	58	63	--	77	64
17	53	61	32	32	41	41	57	59	60	71	80	60
18	65	60	32	32	44	37	61	58	68	74	80	56
19	55	60	33	32	35	36	60	61	69	77	80	55
20	50	46	38	34	35	46	65	71	70	71	75	55
21	54	48	32	--	32	49	57	70	72	74	77	59
22	55	61	33	38	33	42	55	74	70	75	80	65
23	58	40	34	35	37	40	53	75	76	76	82	68
24	59	57	36	45	41	44	49	70	70	78	79	68
25	56	50	35	39	38	51	58	63	73	66	77	70
26	52	48	32	48	38	60	61	64	76	76	76	73
27	52	--	--	49	40	55	70	68	78	75	80	72
28	50	38	33	35	--	45	59	71	83	76	78	73
29	51	37	40	35	--	39	52	75	75	76	77	76
30	51	38	41	47	--	46	58	74	84	76	73	75
31	45	--	39	43	--	46	--	71	--	73	73	--
Average	53	49	35	37	39	44	56	66	71	74	75	69

RAPPAHANNOCK RIVER BASIN--Continued

1-6640. RAPPAHANNOCK RIVER AT REMINGTON, VA.--Continued

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	148	19	8	144	14	5	218	18	11
2...	200	18	10	158	12	5	223	15	9
3...	150	21	9	340	10	9	214	14	8
4...	140	23	9	344	10	9	275	44	33
5...	130	8	3	255	10	7	328	17	15
6...	120	16	5	223	10	6	270	13	9
7...	120	20	6	205	10	6	214	18	10
8...	120	20	6	185	11	5	200	27	15
9...	120	14	5	177	10	5	170	6	3
10...	120	13	4	177	8	4	150	15	6
11...	115	16	5	173	13	6	140	8	3
12...	110	19	6	165	12	5	140	13	5
13...	105	16	5	158	8	3	140	10	4
14...	100	12	3	158	8	3	140	6	2
15...	106	9	3	162	6	3	140	7	3
16...	109	8	2	169	9	4	150	11	4
17...	109	8	2	177	11	5	170	5	2
18...	106	9	3	177	10	5	180	3	1
19...	100	12	3	185	8	4	210	89	50
20...	100	12	3	177	9	4	220	69	41
21...	103	12	3	162	10	4	200	3	2
22...	202	20	11	158	11	5	190	48	25
23...	800	76	s169	154	12	5	200	46	25
24...	553	22	33	154	16	7	230	38	24
25...	290	11	9	154	15	6	200	22	12
26...	223	11	7	151	11	4	150	28	11
27...	197	12	6	154	10	4	170	7	3
28...	181	13	6	154	10	4	190	60	31
29...	169	14	6	274	56	s51	270	28	20
30...	158	12	5	344	32	30	480	10	13
31...	151	9	4	--	--	--	350	8	8
Total	5,455	--	359	5,768	--	223	6,522	--	408
	January			February			March		
1...	300	8	6	320	11	10	290	18	14
2...	800	10	22	280	14	11	240	14	9
3...	600	18	29	300	33	27	230	16	10
4...	450	20	24	400	11	12	250	17	11
5...	340	20	18	540	28	41	450	45	55
6...	290	10	8	480	23	30	1,800	366	1,780
7...	260	6	4	370	23	23	1,200	28	91
8...	240	8	5	420	18	20	900	27	66
9...	230	5	3	380	20	21	700	41	77
10...	210	2	1	380	14	14	600	26	42
11...	210	3	2	380	9	9	550	27	40
12...	210	7	4	320	12	10	850	26	60
13...	220	75	45	350	12	11	800	24	52
14...	230	53	33	400	19	21	680	31	57
15...	270	25	18	470	12	15	580	25	39
16...	350	29	27	400	14	15	500	23	31
17...	400	18	19	380	17	17	460	16	20
18...	400	55	59	370	18	18	440	22	26
19...	350	17	16	320	18	16	400	27	29
20...	350	20	19	250	18	12	379	22	23
21...	450	68	83	290	10	8	367	17	17
22...	1,200	307	995	310	90	75	350	22	21
23...	800	27	58	320	26	22	316	27	23
24...	560	44	67	330	20	18	300	25	20
25...	450	33	40	280	17	13	295	24	19
26...	400	27	29	260	17	12	285	22	17
27...	370	10	10	260	20	14	290	30	23
28...	350	15	14	250	21	14	350	30	28
29...	340	22	20	--	--	--	306	28	23
30...	330	15	13	--	--	--	285	30	23
31...	310	15	13	--	--	--	300	28	23
Total	12,270	--	1,704	9,810	--	529	15,743	--	2,769

s Computed by subdividing day.

RAPPAHANNOCK RIVER BASIN--Continued

1-6640. RAPPAHANNOCK RIVER AT REMINGTON, VA.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	285	22	17	644	10	17	316	120	102
2...	316	12	10	566	18	28	2,860	753	s8,420
3...	683	53	s105	508	17	23	6,690	408	s8,590
4...	865	78	s182	501	16	22	2,080	55	309
5...	787	40	85	445	17	20	1,300	44	154
6...	624	33	56	490	20	22	995	58	156
7...	534	30	43	385	15	16	800	50	108
8...	475	33	42	344	18	17	664	65	117
9...	439	30	36	311	20	17	560	80	121
10...	427	25	29	300	21	17	482	80	104
11...	872	85	s246	295	12	10	427	65	75
12...	1,740	43	202	290	13	10	385	40	42
13...	2,150	32	186	573	81	s168	1,300	812	s3,850
14...	2,080	45	253	995	108	s306	780	425	s956
15...	1,510	27	110	579	72	113	457	40	49
16...	1,260	26	88	439	55	65	379	58	59
17...	1,060	29	83	379	50	51	333	42	38
18...	930	28	70	344	36	33	316	20	17
19...	832	29	65	350	30	28	300	10	8
20...	774	26	54	328	28	25	275	10	7
21...	702	22	42	290	16	13	246	10	7
22...	618	30	50	270	17	12	228	40	25
23...	572	27	42	295	25	20	223	35	21
24...	560	31	47	373	161	s162	246	36	24
25...	494	29	39	270	38	28	232	30	19
26...	457	18	22	232	20	13	205	30	17
27...	433	28	33	223	24	14	205	30	17
28...	546	11	16	218	25	15	165	18	9
29...	995	12	32	210	28	16	165	7	3
30...	800	12	26	333	214	s445	148	8	3
31...	--	--	--	427	482	s645	--	--	--
Total	24,820	--	2,311	12,126	--	2,391	23,782	--	23,427

Day	July			August			September		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	130	27	9	430	83	s110	290	78	61
2...	127	27	9	205	55	30	177	34	16
3...	169	20	9	134	55	20	375	68	s100
4...	130	9	3	109	58	17	262	44	31
5...	106	20	6	112	55	17	134	35	13
6...	100	16	4	112	43	13	100	40	11
7...	115	12	4	103	20	6	310	81	s79
8...	124	29	10	118	48	15	250	47	32
9...	100	27	7	115	50	16	162	38	17
10...	88	26	6	118	50	16	121	34	11
11...	90	20	5	103	37	10	100	37	10
12...	170	111	s276	85	18	4	85	12	3
13...	924	768	s2,640	75	41	8	73	18	4
14...	205	49	27	67	35	6	71	38	7
15...	165	80	36	61	28	5	69	30	6
16...	158	70	30	55	10	1	67	32	6
17...	134	58	21	49	36	5	63	36	6
18...	118	60	19	47	35	4	61	30	5
19...	106	60	17	43	33	4	59	30	5
20...	103	57	16	38	30	3	57	33	5
21...	115	55	17	36	30	3	57	22	3
22...	121	44	14	34	30	3	55	23	3
23...	115	40	12	32	34	3	53	22	3
24...	112	50	15	32	30	3	49	21	3
25...	309	283	s295	139	37	s16	45	21	3
26...	250	90	61	95	34	9	43	19	2
27...	379	236	s245	57	25	4	41	20	2
28...	192	115	60	45	28	3	41	29	3
29...	130	55	19	135	53	s26	47	30	4
30...	258	205	s163	362	120	s123	64	31	5
31...	832	530	s1,200	342	73	s84	--	--	--
Total	6,175	--	5,255	3,488	--	587	3,381	--	459

Total discharge for year (cfs-days).....129,340
Total load for year (tons).....40,422

s Computed by subdividing day.

RAPPAHANNOCK RIVER BASIN--Continued

1-6640. RAPPAHANNOCK RIVER AT REMINGTON, VA.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; M, mechanically dispersed; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time	Discharge (cfs)	Water temperature (° F)	Suspended sediment											Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters									
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	
Jan. 22, 1959	5:02 p.m.	1,230		315	795	20	34	52	71	85	91	96	98		99	100	BCMSW
July 28.....	4:10 p.m.	137		62	168	66	78	88	92	93	96	97	99		100		BCMSW

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
ANDROSCOGGIN RIVER BASIN																					
1-535. ANDROSCOGGIN RIVER AT ERROL, N.H.																					
Nov. 11-12, 1958.....	a 1,920	3.5		0.11		3.2	1.2	1.0	0.8	9	4.8	2.0	0.0	0.6	26	13	6		30	6.0	12
Dec. 11.....	a 2,270	3.4		.07		4.0	1.3	2.3	.5	13	5.3	1.5	.1	.2	26	16	5		29	7.1	5
Apr. 7, 1959.	a 639	4.8		.22		4.2	1.2	1.4	.5	7	6.7	1.7	.0	2.5	39	16	10		36	5.8	27
MERRIMACK RIVER BASIN																					
1-895. SUNCOOK RIVER AT NORTH CHICHESTER, N.H.																					
Nov. 12, 1958.	a 76	5.7		0.17		4.0	1.2	4.5	1.2	6	7.7	8.0	0.0	0.8	46	15	10		56	5.8	30
Apr. 7, 1959..	a 1,570	4.1		.03		1.8	.6	1.8	.6	3	5.8	2.6	.0	.5	29	7	5		29	5.7	15
PAWCATUCK RIVER BASIN																					
1-1180. WOOD RIVER AT HOPE VALLEY, R.I.																					
Nov. 10, 1958.	a 187	7.9		0.14		2.4	0.5	3.2	1.1	5	4.5	5.6	0.1	0.7	36	8	4		38	5.8	23
Dec. 10.....	a 159	8.4		.17		2.8	1.2	3.5	.9	5	6.3	4.8	.2	.5	38	12	8		39	5.7	20
Apr. 6, 1959..	a 424	4.6		.04		2.8	.4	2.4	.7	3	6.6	3.1	.0	.7	34	9	6		33	5.6	28
CONNECTICUT RIVER BASIN																					
1-1715. MILL RIVER AT NORTHAMPTON, MASS.																					
Nov. 10, 1958.	a 66	8.4		0.13		8.0	0.8	2.5	1.5	21	8.6	3.0	0.1	1.1	50	24	7		69	6.5	1
Dec. 10.....	a 63	8.3		.20		8.0	1.3	2.8	1.0	19	9.5	4.0	.2	1.2	50	26	10		64	6.3	5
Apr. 6, 1959.	a 405	5.6		.03		5.4	.8	1.7	.7	11	7.5	2.2	.0	1.0	38	17	8		43	6.6	8
HOUSATONIC RIVER BASIN																					
1-1975. HOUSATONIC RIVER NEAR GREAT BARRINGTON, MASS.																					
Nov. 10, 1958.	a 850	4.2		0.19		24	7.7	4.2	1.7	96	14	6.0	0.0	1.3	120	92	13		206	7.0	7
Dec. 9.....	a 526	4.4		.12		26	10	4.6	1.2	103	17	7.5	.1	2.0	128	106	22		216	7.1	5
Apr. 6, 1959..	a 2,060	3.0		.05		16	4.9	2.7	1.0	58	11	4.2	.0	1.9	84	60	13		132	6.9	10
HUDSON RIVER BASIN																					
MOHAWK RIVER AT REXFORD, N.Y.																					
Mar. 30, 1959.	--	4.4		0.12		30	5.1	4.2	1.3	92	20	6.0	0.2	3.1	127	96	21		215	7.1	7
July 1.....	--	3.5		.09		34	5.7	9.5	1.6	98	30	12	.3	4.7	152	109	28		260	8.0	4

a Discharge at time of sampling.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
DELAWARE RIVER BASIN																					
1-4398. BIG FLAT BROOK NEAR HAINESVILLE, N.J.																					
May 4, 1959..	40.1							1.8		12	12	0.0		0.5		19	9		52	6.4	8
Sept. 15.....	3.09							4.8		28	17	1.0		.6		32	9		78	6.5	5
1-4399. LITTLE FLAT BROOK AT HAINESVILLE, N.J.																					
May 4, 1959..	16.1							3.4		51	13	0.0		1.2		49	7		111	6.7	32
Sept. 15.....	1.84							1.6		94	16	2.0		1.1		94	17		187	7.5	10
1-4401. VANCAMPENS BROOK NEAR MILLBROOK, N.J.																					
May 6. 1959..	12.4	3.8		0.00	0.00	7.3	1.5	2.0	0.5	14	15	1.8	0.0	0.4	60	24	13		63	6.2	3
Sept. 18.....	2.76							2.8		32	14	1.5		.5		37	11		84	7.2	2
1-4433. PAULINS KILL AT LAFAYETTE, N.J.																					
May 4, 1959..	52.8							7.1		167	35	7.0		5.2		172	35		351	7.2	29
Sept. 15.....	10.7							4.6		213	38	10		7.7		224	50		446	7.6	15
1-4434. CULVERS CREEK AT BRANCHVILLE, N.J.																					
May 4, 1959..	14.9							3.2		17	16	3.0		0.5		28	14		81	6.4	15
Sept. 15.....	1.29							3.2		27	15	7.0		1.8		42	20		109	7.1	10
1-4551. LOPATCONG CREEK AT PHILLIPSBURG, N.J.																					
May 5, 1959..	13							8.7		126	36	4.0		7.9		134	31		287	7.9	4
Sept. 15.....	7.92							1.6		152	33	5.0		9.3		170	46		338	7.9	5
1-4553. POHATCONG CREEK AT CARPENTERSVILLE, N.J.																					
May 4, 1959..	44.3							7.6		94	27	3.5		5.7		98	21		220	7.6	5
Sept. 15.....	12.4							5.1		143	37	6.0		8.7		160	43		330	7.7	7

1-4581. HAKIHOKAKE CREEK AT MILFORD, N.J.																				
May 4, 1959..	15.5							5.8		60	28	3.5		4.6		74	25		180	7.4	4
Sept. 15.....	7.36							5.8		92	29	3.0		6.3		102	27		245	7.5	8
1-4584. HARIHOKAKE CREEK NEAR FRENCHTOWN, N.J.																				
May 4, 1959..	5.85							19		b 57	27	4.0		3.2		60	0		190	8.9	3
Sept. 15.....	1.82							6.2		64	32	7.0		4.1		86	34		193	7.2	7
1-4586. NISHISAKAWICK CREEK AT FRENCHTOWN, N.J.																				
May 4, 1959..	7.53							5.5		40	28	4.0		5.6		60	27		157	7.3	4
Sept. 15.....	1.07							7.1		67	21	6.0		2.5		72	17		181	7.4	7
1-4587. LITTLE NISHISAKAWICK CREEK AT FRENCHTOWN, N.J.																				
May 4, 1959..	1.31							7.4		43	46	7.5		5.5		82	47		208	7.0	4
Sept. 15.....	.22							13		69	51	12		.4		98	42		243	6.9	3
1-4609. LOCKATONG CREEK NEAR RAVEN ROCK, N.J.																				
May 4, 1959..	9.56							9.0		31	36	5.0		1.9		52	27		157	7.2	6
Sept. 15.....	1.82							9.0		38	33	6.0		4.1		58	27		167	7.4	10
1-4613. WICKECHEOKE CREEK AT STOCKTON, N.J.																				
May 4, 1959..	12.7							13		30	38	6.0		3.7		48	24		165	7.0	4
Sept. 15.....	3.06							18		44	47	8.0		4.1		60	24		214	7.4	8
1-4619. ALEXAUKEN CREEK NEAR LAMBERTVILLE, N.J.																				
May 4, 1959..	9.50							8.5		48	40	5.5		1.9		72	33		189	7.3	4
Sept.16......	.76							11		77	57	7.0		.2		108	45		263	7.6	7

b Includes 21 parts per million of carbonate (CO_3)

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
DELAWARE RIVER BASIN--Continued																					
1-4622. MOORE CREEK NEAR TITUSVILLE, N.J.																					
May 4, 1959..	5.04							13		58	39	6.0		1.5		70	23		194	8.2	3
Sept. 16.....	.64							14		72	38	10		5.1		86	27		245	7.4	8
1-4628. JACOBS CREEK AT SOMERSET, N.J.																					
May 4, 1959..	7.00							11		53	43	8.0		2.6		78	35		209	7.1	4
Sept. 16.....	.47							11		c 68	45	10		.1		94	37		239	8.4	5
1-4645.4. CRAFTS CREEK AT HEDDING, N.J.																					
May 7, 1959..	1.15							9.4		12	33	16		4.4		50	40		167	6.1	4
Sept. 11.....	1.42							8.7		21	27	16		4.1		52	35		163	6.6	8
1-4645.8. ASSISCUNK CREEK NEAR COLUMBUS, N.J.																					
May 7, 1959..	1.27							6.2		7	46	7.5		1.7		52	47		160	5.7	2
Sept. 11.....	1.09							5.1		12	35	9.0		2.4		50	40		148	6.2	10
1-4658.5. SOUTH BRANCH RANCOCAS CREEK AT VINCENTOWN, N.J.																					
May 6, 1959..	89.1							2.8		2	12	2.0		1.5		12	11		54	5.0	80
Sept. 11.....	52.5									1	16	4.0		2.5		14	13		53	4.8	200
1-4659. SOUTHWEST BRANCH RANCOCAS CREEK AT EAYRESTOWN, N.J.																					
May 5, 1959..	91.8							3.7		14	18	3.5		2.5		29	18		85	6.3	43
Sept. 11.....	48.5							5.1		11	18	4.0		2.2		24	15		71	6.0	85
1-4670.2. MILL CREEK AT LEVITTOWN, N.J.																					
May 6 1959..	2.45							5.8		6	35	12		7.2		52	47		154	6.0	2
Sept. 11.....	.52							10		17	30	20		5.9		56	42		174	6.6	10

c Includes equivalent of 2 parts per million of carbonate (CO_3).

1-4670.7. NORTH BRANCH PENNSAUKEN CREEK AT MAPLE SHADE, N.J.																							
May 3. 1959..	5.96						5.3		17	51	12		2.1		74	60		197	6.3	5
Sept. 11.....	6.24						7.4		32	43	11		2.1		72	46		187	6.7	10
1-4671.5. COOPER RIVER AT HADDONFIELD, N.J.																							
May 5, 1959..	16.3						9.4		20	23	8.5		9.7		40	24		143	6.1	33
Sept. 11.....	15.4						7.4		28	20	10		7.2		48	25		152	6.3	20
1-4673.5. NORTH BRANCH BIG TIMBER CREEK TRIBUTARY LAUREL SPRINGS, N.J.																							
May 5, 1959..	17.4						15		14	33	6.0		5.0		25	14		88	6.2	17
Sept. 11.....	9.66						7.4		21	14	6.0		2.7		26	9		84	6.6	30
1-4771. RACCOON CREEK NEAR MULLICA HILL, N.J.																							
May 6. 1959..	16.7						6.0		17	23	9.5		9.0		46	32		132	6.5	5
Sept. 10.....	7.54						4.1		23	22	9.0		5.4		50	31		132	6.7	20
1-4829. COOL RUN NEAR ALLOWAY, N.J.																							
May 6. 1959..	5.04						7.1		17	12	13		8.3		36	22		117	6.4	6
Sept. 10.....	4.08						7.8		23	8.3	15		5.7		36	17		111	6.6	15
1-4829.5. CEDAR BROOK NEAR ALLOWAY, N.J.																							
May 6, 1959..	4.57						4.1		2	11	4.0		2.1		11	10		57	5.0	19
Sept. 10.....	2.34						5.3		1	14	6.0		2.0		14	13		51	5.0	20
1-4835. LEIPSIG RIVER NEAR CHESWOLD, DEL.																							
Feb. 6, 1959.				0.53	0.05		8.3		23	18	12		5.7	100	40	21		129	6.4	17
Mar. 9.....				.64	.00		13		26	16	19		7.3	117	42	21		153	6.9	25

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
SUSQUEHANNA RIVER BASIN																					
1-5435. SINNEMAHONING CREEK AT SINNEMAHONING, PA.																					
Oct. 30, 1958..	327	--	--	--	--	--	--	3.0	--	10	32	4.0	--	0.9	--	41	33	--	102	6.5	3
Dec. 10.....	630	6.1	--	0.01	0.33	8.4	3.2	2.0	0.9	3	34	1.0	0.1	.2	69	34	32	--	101	5.2	2
Apr. 16, 1959..	980	--	--	--	--	--	--	14	--	1	55	2.8	--	.4	99	32	31	--	104	4.8	3
Apr. 23.....	820	5.2	0.0	.05	.05	6.5	2.3	3.0	.7	0	30	4.0	.1	.2	50	26	26	0.4	72	4.1	2
May 27.....	455	5.6	1.8	.04	.31	8.2	5.7	3.0	1.3	0	60	5.0	.3	.4	136	44	44	.5	201	3.8	3
July 14.....	116	6.2	2.6	.03	.72	16	4.5	5.5	1.7	0	78	9.0	.2	1.4	158	59	59	.5	268	3.7	3
Aug. 17.....	34	11	2.4	.16	1.9	20	10	12	1.8	0	141	9.0	--	.4	--	91	91	1.2	396	3.7	4
1-5475. NORTH BALD EAGLE CREEK AT BLANCHARD, PA.																					
Oct. 28, 1958..	191	5.4		0.00		38	15	4.7	1.6	165	19	6.5	0.2	7.5	185	157	22		321	7.4	3
Dec. 14.....	185	--		--		--	--	4.6	--	132	20	6.2	--	5.7	--	132	24		272	7.8	3
Apr. 14, 1959..	837	5.6		.00		20	6.3	3.5	1.5	73	19	3.7	.0	3.0	116	76	16		170	7.7	3
July 16.....	154	10		.00		41	14	5.5	1.7	170	21	8.0	.0	4.8	238	160	21		330	8.1	3
Aug. 20.....	127	--		--		--	--	3.2	--	172	19	8.5	--	5.2	--	170	29		343	7.7	3
MIDDLE CREEK AT TREMONT, PA.																					
Apr. 24, 1959.				0.36						0	404	3.0		0.1	497	285	285	1.6	801	3.6	5
Aug. 26..		14	17	1.4	1.0	88	60	5.5	2.0	0	597	1.4		.4	944	466	466	2.9	1,310	3.1	2
GOOD SPRING CREEK AT TREMONT, PA.																					
Apr. 24, 1959.	10.2			0.06							148	2.0		0.1	225	128	128	0.5	392	4.0	2
Aug. 26.....	1.74	18	4.8	2.3	3.5	39	30	3.5	2.0	0	276	3.8		.5	448	221	221	1.2	690	3.2	3
LORBERRY CREEK AT LORBERRY JUNCTION, PA.																					
Apr. 21, 1959..	14.3			0.03				9.4		2	80	1.0	0.1	0.1	111	66	65		181	4.7	3
Aug. 26.....	1.58	11		.01	.48	20	13	3.3	1.3	4	105	1.0	.1	.2	164	104	100		241	6.1	5

SWATARA CREEK AT RAVINE, PA.

Apr. 22, 1959..	114	10	--	0.14	2.0	46	2.2	1.8	0.8	0	134	2.0	0.0	0.3	204	124	124	1.7	325	4.10	3
Aug. 26.....	13.8	12	4.3	.10	3.6	41	23	4.3	1.5	0	237	3.1	.1	.8	369	197	197	.7	557	3.60	2

LOWER LITTLE SWATARA CREEK AT MARSTOWN, PA.

Apr. 22, 1959..	38.5	7.1		0.07	0.01	4.0	1.7	2.1	0.5	12	2.4	1.8	0.0	7.3	33	17	7		43	7.1	2
Aug. 26.....	3.04	6.8		.02	.00	4.1	2.4	2.2	1.5	22	5.1	2.6	.0	.7	48	20	2		53	6.7	3

LITTLE SWATARA CREEK NEAR MOUNT AETNA, PA.

Apr. 22, 1959..	22.7	7.5		0.16	0.01	13	3.4	2.3	1.0	36	13	2.9	0.0	6.5	69	46	17		95	7.9	3
Aug. 27.....	20.3	6.2		.35	.09	20	3.6	3.3	--	60	15	4.8	.1	6.8	130	65	16		155	6.9	110

LITTLE SWATARA CREEK NEAR JONESTOWN, PA.

Apr. 22, 1959..	73.2	7.1		0.08	0.01	17	4.4	3.5	1.4	53	15	3.6	0.0	9.6	92	61	17		133	8.1	4
Aug. 27.....	215	6.8		.27	.04	16	2.1	3.3		39	15	4.0	.1	8.3	111	49	17		134	6.7	110

SWATARA CREEK AT JONESTOWN, PA.

Apr. 22, 1959..	286	9.0		0.01	0.67	9.6	6.6	1.8	0.9	4	49	1.2	0.0	1.7	80	51	48		127	5.4	2
Aug. 27.....	76.4	6.9		.06	.02	16	6.7	3.3	2.5	6	59	2.9	.1	4.0	135	68	63		175	5.8	17

QUITTAPAHILLA CREEK AT SYNER, PA.

Apr. 22, 1959..	85.0	7.9		0.04	0.03	72	15	16	4.4	206	71	13	0.0	18	321	241	72		511	7.9	5
Aug. 26.....	47.2	9.6		.02	.00	78	15	18	6.0	218	78	15	.1	24	361	256	78		560	7.7	5

MANADA CREEK AT SANDBEACH, PA.

Apr. 23, 1959..	28.4	8.6		0.07	0.02	8.4	2.7	2.5	1.0	30	7.1	1.9	0.0	3.9	54	32	8		74	7.8	3
Aug. 27.....	21.7	7.5		.06	.00	16	3.5	3.3	2.5	56	13	4.0	.2	2.9	90	55	9		136	7.4	20

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color
																Calcium, magnesium	Noncarbonate				
SUSQUEHANNA RIVER BASIN--Continued																					
SPRING CREEK NEAR UNION DEPOSIT, PA.																					
Apr. 23, 1959.	29.9	12		0.04	0.00	59	6.9	4.9	2.1	170	29	5.8	0.0	18	217	176	36		365	8.0	5
Aug. 26.....	37.5	9.6		.02	.00	56	7.7	7.4	4.5	166	32	7.9	.2	16	232	171	35		378	7.4	7
BEAVER CREEK AT HUMMELSTOWN, PA.																					
Apr 23, 1959	17.5	5.4		0.06	0.02	25	6.6	5.8	1.5	c74	28	6.8	0.1	9.6	127	90	31		201	8.5	2
Aug. 27.....		9.8		.09	.01	25	5.1	5.5	3.0	70	24	7.3	.1	6.1	138	84	26		206	6.8	23
SWATARA CREEK AT MIDDLETOWN, PA.																					
Apr. 23, 1959.	502	5.2		0.14	0.04	24	5.8	4.0	1.6	57	34	4.5	0.0	14	126	84	38		200	7.4	3
Aug. 27.....	427	7.1		.03	.00	34	7.2	7.4	3.8	96	32	7.3	.2	8.8	172	115	35		271	7.2	10

c Includes equivalent of 2 parts per million of carbonate (CO_3).

PASQUOTANK RIVER BASIN

2-438.52. PASQUOTANK RIVER NEAR ELIZABETH CITY, N. C.

LOCATION.--At end of county road, 4.6 miles northwest of Elizabeth City, Pasquotank County, and 4.0 miles downstream from Lake Drummond Canal.
DRAINAGE AREA.--275 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1959.
Water temperatures: October 1957 to September 1959.
EXTREMES, 1958-59.--Chloride: Maximum, 1,630 ppm Nov. 29; minimum, 10 ppm Apr. 1-30.
Specific conductance: Maximum daily, 5,020 micromhos Nov. 10; minimum daily, 66 micromhos May 1, 5.
Water temperatures: Maximum, 90°F June 8, 29; minimum, 34°F Jan. 9.
EXTREMES, 1957-59.--Chloride: Maximum, 1,630 ppm Nov. 29, 1958; minimum, 7.7 ppm Mar. 1-10, 1958.
Specific conductance: Maximum daily, 5,020 micromhos Nov. 10, 1958; minimum daily, 60 micromhos May 20, 1958.
Water temperatures: Maximum, 90°F July 31, 1958, June 8, 29, 1959; minimum, 33°F Feb. 18, 1958.
REMARKS.--Daily samples were composited for chemical analyses unless otherwise noted. When specific conductance values indicated salt-water encroachment, only specific conductance and chloride were determined on individual samples. The individual specific conductance and chloride determinations are tabulated separately from the composite chemical analyses. Records of specific conductance of samples collected from October 1957 to September 1958 available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
															Calcium, magnesium	Noncarbonate			
Oct. 1-29, 1958....		9.8	0.31	7.2	1.7	9.2	1.5	7	17	13	0.2	1.4	130	64	25	19	101	5.4	250
Jan. 1-31, 1959....		11	.41	8.0	1.5	7.3	.8	7	15	12	.3	1.1	127	60	26	20	96	6.3	210
Feb. 1-28.....		8.8	.46	6.4	2.1	7.5	.6	6	14	12	.2	.9	115	56	25	20	92	5.6	280
Mar. 1-31.....		7.5	.47	5.6	2.0	7.4	.7	6	12	12	.2	1.1	122	52	22	18	66	5.4	300
Apr. 1-30.....		6.9	.62	4.6	2.7	7.1	.6	7	13	10	.2	.8	119	50	23	17	82	5.6	550
May 1-31.....		8.0	.94	5.5	1.7	8.0	.8	6	12	14	.3	1.3	129	56	20	16	78	5.2	520
June 1-30.....		8.0	.37	6.4	2.4	11	1.1	8	13	18	.3	1.0	140	66	26	19	108	5.6	320
July 1-31.....		7.1	.41	5.0	2.9	11	1.4	8	13	18	.3	1.0	137	64	24	18	115	5.9	340
Aug. 1-31.....		10	.65	5.1	2.9	10	1.7	11	18	15	.3	.6	127	69	25	16	97	5.9	320
Sept. 1-30.....		9.4	.38	5.6	2.5	10	2.1	12	14	16	.3	.9	117	67	24	14	100	6.2	300
Time-weighted average.....		8.6	0.50	5.9	2.2	8.9	1.2	8	14	14	0.3	1.0	126	60	24	18	95	---	340

PASQUOTANK RIVER BASIN--Continued

2-438.52. PASQUOTANK RIVER NEAR ELIZABETH CITY, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1958 to September 1959

Day	October		November		December		January	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	110		1,170	326	1,640	456	92	
2	87		2,980	900	2,500	725	103	
3	86		4,200	1,280	1,530	434	93	
4	92		1,730	500	681	169	93	
5	97		830	218	2,210	635	94	
6	95		1,100	310	3,690	1,090	100	
7	94		1,020	290	2,110	580	96	
8	97		3,010	910	1,020	278	99	
9	99		2,880	865	1,810	504	106	
10	101		5,020	1,540	1,800	498	124	
11	101		2,430	715	1,180	314	101	
12	102		1,630	476	1,510	418	94	
13	102		1,280	364	2,220	635	96	
14	101		1,430	424	1,010	276	95	
15	102	13	1,280	366	1,390	388	94	
16	101		1,090	316	922	240	92	12
17	102		892	241	553	141	91	
18	100		697	183	765	195	90	
19	101		1,020	294	881	225	91	
20	102		2,870	865	1,130	310	99	
21	106		2,970	925	1,200	320	95	
22	110		3,680	1,140	342	72	94	
23	107		3,140	960	594	152	87	
24	108		3,280	980	796	207	103	
25	100		3,200	970	891	231	101	
26	111		2,940	890	370	84	88	
27	110		3,020	925	461	110	89	
28	112		3,710	1,180	411	94	89	
29	110		5,000	1,630	303	66	92	
30	810	201	2,380	710	108	16	95	
31	1,320	362	--	--	96	14	94	

Day	February		March		April		May	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	99		93		90		66	
2	99		97		88		67	
3	96		95		82		67	
4	96		97		84		68	
5	88		92		85		66	
6	77		87		82		67	
7	80		79		85		68	
8	85		72		84		69	
9	87		78		79		71	
10	89		79		82		72	
11	89		79		86		72	
12	89		82		79		73	
13	87		82		96		74	
14	88		85		87		76	
15	90	12	85		86	10	76	14
16	89		84	12	82		78	
17	90		83		79		77	
18	88		84		79		77	
19	90		86		79		77	
20	89		86		79		77	
21	91		87		81		78	
22	91		87		76		80	
23	89		85		78		81	
24	93		87		78		82	
25	92		86		82		84	
26	93		87		73		85	
27	95		84		77		85	
28	98		83		73		84	
29	--	--	82		71		86	
30	--	--	80		72		87	
31	--	--	80		--	--	88	

PASQUOTANK RIVER BASIN--Continued

2-438.52. PASQUOTANK RIVER NEAR ELIZABETH CITY, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1958 to September 1959--Continued

Day	June		July		August		September	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	91		120		95		113	
2	91		128		94		113	
3	96		120		110		111	
4	96		120		107		111	
5	99		120		98		110	
6	102		121		91		110	
7	100		121		85		101	
8	100		124		96		96	
9	101		124		99		96	
10	102		150		91		91	
11	100		151		91		91	
12	101		132		93		92	
13	101		110		98		92	
14	108		100		100		93	
15	109	18	102	18	102	15	94	16
16	109		94		101		91	
17	110		90		102		92	
18	110		90		105		94	
19	111		100		103		91	
20	112		100		98		93	
21	113		100		107		97	
22	114		92		102		100	
23	120		96		102		101	
24	116		98		100		102	
25	118		100		103		109	
26	119		97		104		108	
27	118		99		108		108	
28	119		100		106		108	
29	119		100		109		172	
30	121		100		108		140	
31	--	--	100		108		--	--

PASQUOTANK RIVER BASIN--Continued

2-438.52. PASQUOTANK RIVER NEAR ELIZABETH CITY, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 9 a.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	56	50	47	46	46	57	67	75	84	87	84
2	65	56	50	48	46	46	55	66	76	85	89	84
3	65	57	51	48	45	49	56	68	75	82	81	83
4	64	55	53	50	48	49	55	69	74	80	75	82
5	64	55	51	44	45	48	55	67	76	80	79	82
6	61	58	52	48	45	50	60	69	83	80	76	82
7	65	59	45	41	45	50	62	71	80	84	76	80
8	65	56	50	40	45	52	64	70	90	85	81	79
9	71	56	47	34	47	53	67	69	85	83	80	78
10	66	56	45	39	51	53	67	69	89	80	80	78
11	52	56	43	39	51	50	70	72	84	80	79	71
12	51	54	39	38	50	51	62	77	82	80	79	71
13	63	56	40	39	52	51	54	74	86	77	79	74
14	63	56	40	40	51	50	52	72	75	77	82	77
15	65	59	40	46	50	50	57	72	82	76	86	74
16	65	60	40	46	51	55	60	68	79	77	85	75
17	67	59	41	40	53	54	66	66	72	77	84	74
18	66	60	46	37	50	53	62	65	74	77	85	74
19	65	60	45	40	45	52	64	76	78	81	89	74
20	65	60	43	45	45	55	67	78	75	82	84	69
21	65	58	36	45	45	54	65	79	79	81	84	76
22	65	54	38	44	46	51	59	78	81	82	85	73
23	67	56	41	48	48	52	57	76	84	82	83	74
24	66	65	43	46	45	60	61	78	80	84	85	75
25	64	56	40	47	45	57	63	74	80	89	84	83
26	65	60	40	49	47	60	65	76	85	81	89	76
27	65	55	36	49	46	57	66	77	84	84	84	71
28	64	55	45	45	48	52	66	78	82	83	85	75
29	59	55	47	49	--	56	65	80	90	86	85	78
30	59	51	48	51	--	56	65	86	89	82	80	75
31	56	--	47	49	--	55	--	80	--	84	83	--
Average	64	57	44	44	48	52	61	73	81	81	83	77

PASQUOTANK RIVER BASIN--Continued

2-438.62. PASQUOTANK RIVER AT ELIZABETH CITY, N. C.

LOCATION.--At bridge, draw section on U. S. Highway 158 at Elizabeth City, Pasquotank County.
DRAINAGE AREA.--303 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1959.
Water temperatures: October 1957 to September 1959.
EXTREMES, 1958-59.--Chloride: Maximum, 8,020 ppm Oct. 30 (bottom); minimum, 15 ppm Mar. 13 (bottom), 16 (top), 17, 18 (top).
Specific conductance: Maximum daily, 20,800 micromhos Oct. 29 (bottom); minimum daily, 86 micromhos May 1 (bottom).
Water temperatures: Maximum, 89°F July 29, 30, (top); minimum, freezing point Dec. 14, 15, (top).
EXTREMES, 1957-59.--Chloride: Maximum, 8,020 ppm Oct. 30 (bottom), 1958; minimum, 11 ppm May 1 (top), 2-3, 4-5 (top), 8-31, 1958.
Specific conductance: Maximum daily, 20,800 micromhos Oct. 29 (bottom), 1958; minimum daily, 69 micromhos May 21 (bottom), 1958.
Water temperatures: Maximum, 89°F July 29, 30, (top) 1959; minimum, freezing point on several days during winter months.
REMARKS.--Top (T) and bottom (B) samples were collected and composited once daily (10:30 a.m.) unless otherwise noted. When specific conductance values indicated salt-water encroachment, only specific conductance and chloride were determined on individual samples. The individual chloride determinations are tabulated separately from the composite chemical analyses. Records of specific conductance of samples collected available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-27, 1958.....		3.0	0.12	6.0	3.2	14	2.2	14	13	22	0.2	1.7	a123	28	17	130	6.5	150
Apr. 4-8,12-18,21-30		6.4	.42	6.3	1.8	10	1.1	10	13	16	.2	.5	b120	23	15	101	6.0	380
May 1-5,6-7(B),8-9..		6.8	.26	6.1	2.4	10	1.2	10	12	17	.2	1.2	c110	25	17	95	5.8	280
May 6-7 (T), 10-15..		6.8	.27	6.7	.7	19	1.6	11	13	30	.2	1.3	139	20	11	150	5.8	280
Sept. 1-5, 6 (T), 10-11 (B), 13-16 (B), 18-19 (B), 20-21, 22 (T), 23 (B), 24 (T), 25-27		5.8	.31	7.5	18	138	7.1	24	45	240	.3	1.3	530	93	74	870	6.5	260
Sept. 6 (B), 24 (B), 28-30.....		5.9	.19	7.5	24	185	9.2	10	61	330	.2	.9	d629	117	109	1,250	6.2	140
Sept. 7-9, 10-11(T), 12, 13-16 (T), 17, 18-19 (T), 22 (B), 23 (T).....		6.0	.32	7.3	11	86	5.2	14	30	145	.3	1.6	368	62	51	570	6.1	260

a Organic matter present; sum of mineral constituents 72 parts per million.
b Organic matter present; sum of mineral constituents 61 parts per million.
c Organic matter present; sum of mineral constituents 62 parts per million.
d Calculated from determined constituents.

PASQUOTANK RIVER BASIN--Continued

2-438.62. PASQUOTANK RIVER AT ELIZABETH CITY, N. C.--Continued

Chloride, in parts per million, water year October 1958 to September 1959

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom
1			1,730	7,720	2,210	2,180	440	1,810	211	1,180	64	346	34	40			65	156	--	265	106	106		
2			985	7,570	2,220	2,210	735	1,770	220	1,180	63	344	78	78			--	--	310	250	97	167		
3			965	7,470	2,150	2,230	292	1,770	310	890	104	254	76	78	17		78	100	232	233	100	162		240
4			910	7,170	2,190	2,230	1,080	1,690	546	920	47	92					62	78	215	217	98	166	240	
5			1,550	7,070	2,200	2,210	825	1,720	320	360	38	406				17	47	110	234	308	55	88		
6			1,540	7,120	2,140	2,120	300	1,320	170	192	286	284	16	16	30		64	91	237	340	53	90		330
7			1,710	7,080	2,080	2,100	290	1,350	154	294	29	31			30		65	62	255	284	99	182		
8			1,650	6,730	2,130	2,120	191	1,450	123	795	17	17			17		67	62	236	239	165	186	145	145
9			1,570	6,730	1,960	2,040	160	1,400	120	815	16	17	20	64	17		114	69	245	342	163	166		
10			1,540	6,730	1,950	2,040	304	1,190	430	870	16	24	20	57			110	72	372	380	162	165		
11			2,200	6,230	1,940	2,050	205	1,360	49	92	24	72	18	82			188	140	334	336	82	194	145	240
12			2,160	6,250	1,990	2,060	213	1,340	70	386	37	38			30	30	204	87	300	300	88	169		145
13			1,920	6,200	1,980	2,050	572	885	102	330	16	15					193	43	300	300	133	138		
14	22	22	1,970	6,220	1,790	2,060	167	1,290	38	354	20	22					102	98	233	241	59	122		
15			1,590	5,000	1,800	2,090	625	1,320	30	336	16	117	16	16			95	104	220	221	116	53		240
16			1,550	6,110	1,930	1,020	1,000	1,020	29	356	15	119			29	35	206	215	160	183	38	108	145	
17			1,570	6,230	1,870	2,100	440	960	32	452	15	15			39	65	190	190	139	114	34	138		145
18			1,560	6,130	1,600	2,070	334	1,290	31	442	15	16			37	64	199	224	88	74	106	88		
19			2,070	6,020	1,530	2,120	332	1,290	49	84	22	118	32	22	43	83	171	220	116	54	108	89		
20			1,490	5,910	2,100	2,130	255	1,410	112	188	16	340	32	24	42	84	244	298	119	72	84	100		240
21			1,840	5,640	1,590	2,050	304	1,420	47	520	18	322			48	36	282	240	118	72	140	105	240	
22			1,980	5,670	1,520	2,040	175	1,320	37	645	28	32			61	37	282	235	72	57	126	110		145
23			1,780	5,490	1,460	2,000	169	1,320	37	640	28	30			65	48	211	302	72	55	120	88	145	240
24			1,750	5,510	1,460	2,040	178	1,340	47	94	139	177			42	56	205	300	72	43	124	153		330
25			1,920	5,140	1,150	1,780	233	1,520	62	306	63	170			42	65	192	274	66	38	126	152		
26			1,800	5,050	1,300	1,880	174	1,500	34	122	63	284	16	16	84	123	222	282	92	45	172	130	240	240
27			2,020	3,930	1,910	1,220	1,420	1,380	46	380	69	239			85	128	233	248	137	122	170	149		
28	4,690	7,990	1,900	4,300	945	2,020	1,410	1,380	83	330	74	69			70	84	228	276	140	121	189	203		
29	4,640	7,870	2,150	2,230	940	2,020	199	1,220	--	--	102	126			81	76	233	272	132	122	237	236	330	330
30	6,930	8,020	2,240	2,230	940	970	118	1,240	--	--	102	125			80	98	284	314	128	120	238	234		
31	1,400	7,770	--	--	680	1,360	193	1,200	--	--	44	42	--	--	63	158	--	--	98	102	238	234	--	--

2-438.62. PASQUOTANK RIVER AT ELIZABETH CITY, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
/Top and bottom once-daily measurements at approximately 10:30 a.m./

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom
1	73	73	61	65	49	48	45	44	44	45	49	48	57	57	68	67	76	76	86	83	85	85	84	84
2	67	66	59	63	51	50	46	44	43	44	49	48	60	58	70	68	--	--	87	84	83	83	86	84
3	68	67	59	63	51	50	47	44	42	43	48	47	60	58	73	69	78	77	82	82	82	81	86	85
4	67	66	57	58	52	51	47	46	45	44	50	49	58	58	74	70	79	78	82	82	81	81	84	84
5	67	65	57	62	48	52	47	46	46	45	50	49	59	59	72	69	78	77	83	82	81	81	83	83
6	67	65	60	63	52	50	38	37	46	46	55	53	59	59	73	70	79	78	84	82	82	81	83	83
7	65	65	59	61	48	46	39	38	46	46	53	52	60	60	73	70	79	78	83	82	82	80	82	82
8	66	66	59	62	46	45	40	38	50	48	54	52	63	62	73	71	78	79	82	82	80	81	82	81
9	68	67	59	62	43	44	38	--	51	50	55	53	64	63	72	71	83	80	85	82	82	82	81	81
10	70	67	59	62	42	43	37	38	50	48	54	54	68	66	73	72	82	79	79	78	82	82	81	81
11	68	68	58	60	42	43	37	36	52	51	54	53	68	64	74	73	82	78	81	80	82	82	80	80
12	64	65	58	60	37	38	37	36	49	48	49	48	60	62	74	73	85	79	80	79	84	82	79	79
13	64	65	59	60	38	39	41	38	50	49	--	51	59	60	73	72	85	79	80	79	84	81	77	77
14	67	65	59	61	32	38	40	38	52	--	49	53	55	56	75	73	78	78	80	79	83	81	77	78
15	66	66	60	--	32	37	42	40	52	52	53	52	57	57	73	72	78	78	79	78	84	82	78	77
16	68	66	62	62	38	36	44	42	51	51	53	52	60	59	71	72	78	77	79	78	83	81	77	77
17	68	67	62	62	39	38	38	37	52	51	50	49	62	60	71	70	75	74	80	79	84	82	74	74
18	68	66	64	62	40	38	35	37	50	50	50	49	64	59	73	71	76	75	83	80	84	83	73	72
19	66	65	64	64	39	38	35	37	48	50	52	52	64	61	73	73	76	75	81	78	83	83	72	72
20	65	64	62	60	41	39	45	42	47	46	54	54	65	62	74	73	76	76	82	80	84	83	74	72
21	62	62	61	60	39	38	46	40	45	46	56	54	64	63	71	70	77	79	82	80	85	83	73	73
22	65	66	60	60	40	39	43	44	48	48	53	51	59	59	78	--	77	79	83	81	84	83	72	74
23	66	65	59	61	43	41	43	44	50	49	52	50	60	59	77	70	82	79	83	81	83	85	75	--
24	68	66	59	61	42	42	44	46	51	50	55	55	61	59	79	77	81	78	83	81	86	84	77	74
25	66	66	58	60	39	39	45	46	49	49	57	55	63	60	78	76	81	79	82	81	86	84	77	74
26	65	64	59	61	39	39	46	46	48	47	59	57	64	63	77	76	82	80	83	81	85	84	79	74
27	65	64	55	57	39	40	45	46	48	48	59	57	65	64	78	77	78	81	87	83	--	--	80	75
28	64	64	54	57	42	40	44	44	48	48	49	53	65	65	78	77	87	82	83	80	85	85	75	80
29	64	64	54	54	44	41	45	46	--	--	56	55	67	66	78	78	88	83	89	84	86	--	78	77
30	64	64	50	49	46	44	--	46	--	--	57	56	67	66	78	78	87	83	89	84	84	84	78	77
31	60	65	--	--	--	43	46	45	--	--	56	55	--	--	--	77	--	--	84	84	83	82	--	--
Average	66	66	59	60	42	42	42	42	48	48	53	52	62	61	74	72	80	78	83	81	83	82	79	78

PERQUIMANS RIVER BASIN

2-438.92. PERQUIMANS RIVER AT HERTFORD, N. C.

LOCATION.--At bridge draw section on U. S. Highway 17 at Hertford, Perquimans County.
DRAINAGE AREA.--94.2 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1959.
Water temperatures: October 1957 to September 1959.
EXTREMES, 1958-59.--Chloride: Maximum, 1,290 ppm Dec. 25; minimum, 14 ppm Apr. 3-15, 17-30.
Specific conductance: Maximum daily, 4,290 micromhos Dec. 25; minimum daily, 76 micromhos Apr. 24.
Water temperatures: Maximum, 87°F Aug. 7; minimum, 34°F Jan. 11-13.
EXTREMES, 1957-59.--Chloride: Maximum, 1,290 ppm Dec. 25, 1958; minimum, 9.0 ppm May 11-20, 1958.
Specific conductance: Maximum daily, 4,290 micromhos Dec. 25, 1958; minimum daily, 72 micromhos May 13, 1958.
Water temperatures: Maximum, 87°F Aug. 7, 1958; minimum, freezing point Feb. 18, 1958.
REMARKS.--Daily samples were composited for chemical analyses unless otherwise noted. When specific conductance values indicated salt-water encroachment, only specific conductance and chloride were determined on individual samples. The individual specific conductance and chloride determinations are tabulated separately from the composite chemical analyses. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-30, 1958.....		8.5	0.19	6.4	2.7	10	2.4	16	13	15	0.2	1.6	100	27	14	120	6.7	120
Apr. 3-15, 17-30, 1959.....		4.2	.32	4.8	2.8	8.7	1.2	14	9.1	14	.2	.8	a91	24	12	94	6.4	240
July 16-31.....		7.5	.33	7.2	2.2	12	1.9	16	9.1	20	.1	.8	112	27	14	120	6.2	220
Aug. 1-7, 11-19.....		7.5	.39	5.0	3.4	15	2.4	16	9.3	25	.2	.5	102	26	13	131	6.4	160
Aug. 8-10, 20-31....		6.4	.31	5.8	4.4	29	3.1	16	13	51	.2	.5	142	33	20	222	6.3	160
Sept. 1-30.....		4.9	.18	5.0	6.9	47	4.0	15	14	85	.2	.6	210	41	28	349	6.8	120

a Organic matter present; sum of mineral constituents 53 parts per million.

PERQUIMANS RIVER BASIN--Continued

2-438.92. PERQUIMANS RIVER AT HERTFORD, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1958 to September 1959

Day	October		November		December		January	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	169		1,900	548	1,020	272	2,340	675
2	163		950	252	1,190	322	2,070	590
3	147		420	99	1,270	344	1,910	544
4	139		1,310	376	1,210	332	2,000	574
5	119		2,190	645	1,330	376	610	152
6	101		1,990	576	1,210	340	431	106
7	103		2,100	615	1,060	296	389	94
8	105		2,830	835	1,360	384	819	219
9	102		2,410	715	1,300	366	1,810	508
10	105		1,410	406	1,230	334	1,800	510
11	111		1,960	570	1,000	266	1,700	480
12	111		3,180	965	892	233	1,980	570
13	110		3,070	925	2,060	585	1,890	534
14	118		3,080	925	1,030	284	1,800	504
15	112	15	2,900	875	1,910	546	1,530	432
16	117		2,720	805	3,090	915	1,300	356
17	113		2,410	715	2,850	850	1,180	316
18	122		2,270	665	2,930	860	1,870	530
19	117		2,030	595	3,000	885	2,160	635
20	113		2,120	625	3,450	1,010	2,010	590
21	131		1,510	434	3,860	1,150	1,810	506
22	130		1,540	454	3,420	1,020	1,730	488
23	134		1,840	540	4,000	1,200	1,200	326
24	134		1,280	360	3,430	1,020	1,430	396
25	131		1,150	324	4,290	1,290	1,320	364
26	126		833	224	4,170	1,260	1,290	350
27	135		891	236	4,040	1,220	1,400	386
28	135		941	252	3,610	1,090	1,220	334
29	125		921	246	2,980	865	1,300	358
30	130		1,090	310	2,320	665	1,520	432
31	2,220	625	--	--	1,520	420	1,490	410

Day	February		March		April		May	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	1,570	424	467	126	332	76	102	16
2	1,390	390	609	176	280	66	88	13
3	1,210	320	673	194	103		109	17
4	952	256	388	102	112		140	26
5	800	215	639	182	89		125	19
6	1,100	300	556	157	90		126	20
7	649	159	107	19	92		128	21
8	588	150	582	166	114		152	30
9	642	156	93	12	112	14	161	34
10	948	252	557	156	110		230	52
11	510	122	492	135	98		164	32
12	590	147	290	77	118		178	37
13	191	40	203	49	95		184	40
14	348	80	571	167	83		230	51
15	112	18	510	144	88		200	42
16	120	18	236	60	162	33	321	77
17	700	176	319	86	95		328	78
18	748	187	140	31	88		331	78
19	608	144	551	160	98		318	72
20	312	70	472	132	94		290	69
21	736	182	441	118	82		270	64
22	802	205	239	62	81		289	69
23	670	167	314	86	77	14	252	57
24	464	114	290	77	76		259	58
25	580	148	464	130	77		212	45
26	397	92	499	150	79		265	62
27	486	120	433	118	88		344	83
28	492	117	177	42	84		292	70
29	--	--	352	94	103		308	70
30	--	--	311	78	90		341	82
31	--	--	281	50	--	--	342	82

PERQUIMANS RIVER BASIN--Continued

2-438.92. PERQUIMANS RIVER AT HERTFORD, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1958 to September 1959--Continued

Day	June		July		August		September	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	404	95	550	132	97		340	
2	401	91	542	119	96		323	
3	410	94	508	121	98		315	
4	355	76	493	111	118	25	330	
5	332	74	488	109	116		330	
6	361	80	476	108	103		350	
7	280	62	512	117	104		342	
8	297	65	528	125	204	51	311	
9	289	66	563	130	200	51	320	
10	300	66	602	144	181	51	317	
11	356	79	570	138	165		341	
12	350	78	528	122	158		341	
13	299	66	416	96	137		342	
14	439	101	308	68	129		345	
15	488	114	200	40	158	25	368	
16	558	134	149		148		359	85
17	490	113	100		152		373	
18	532	126	109		166		351	
19	540	126	129		172		370	
20	572	137	149		200		367	
21	574	139	143		203		382	
22	590	144	111		192		383	
23	591	142	120		198		371	
24	589	140	123	20	208		378	
25	--	--	112		205	51	367	
26	550	135	181		211		355	
27	554	133	101		264		353	
28	613	148	101		222		341	
29	561	136	98		262		406	
30	569	138	107		291		520	
31	--	--	138		301		--	--

PERQUIMANS RIVER BASIN--Continued

2-438.92. PERQUIMANS RIVER AT HERTFORD, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 7:30 a.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69	56	46	40	41	46	52	59	71	83	82	82
2	66	56	45	43	40	45	53	59	72	83	81	83
3	69	55	46	43	39	44	53	--	71	82	80	83
4	65	54	47	45	41	43	53	--	77	80	80	83
5	63	54	47	40	41	44	54	--	75	78	79	83
6	60	54	47	38	41	46	53	63	76	80	79	83
7	58	54	45	37	41	45	--	63	76	82	87	82
8	60	54	43	38	42	46	--	66	78	80	85	81
9	60	55	43	35	43	48	55	64	78	82	82	80
10	62	54	42	35	43	49	56	65	78	80	81	81
11	63	53	40	34	44	49	58	65	79	80	81	80
12	60	52	37	34	45	49	57	66	82	79	81	79
13	60	53	35	34	45	46	52	67	81	79	81	77
14	61	54	35	35	46	47	52	67	79	79	81	76
15	61	54	35	36	47	48	51	65	77	78	83	72
16	63	56	35	38	46	47	51	64	76	78	82	71
17	63	57	35	35	47	48	51	63	76	76	82	70
18	63	58	35	35	47	46	51	64	75	77	82	71
19	62	58	36	35	47	47	53	65	75	79	82	71
20	60	55	37	35	44	47	55	65	75	79	82	70
21	59	55	35	38	43	45	56	68	77	79	83	70
22	60	55	36	42	43	48	55	69	77	79	83	71
23	62	54	37	42	44	49	53	70	78	80	84	72
24	62	55	38	40	44	49	52	72	79	81	84	74
25	61	54	37	40	44	50	53	69	79	81	84	74
26	60	54	36	41	45	52	53	68	80	82	84	75
27	59	53	36	43	45	54	56	70	80	81	84	76
28	58	51	38	42	44	52	56	71	82	80	83	75
29	57	50	39	41	--	51	57	71	82	80	84	76
30	57	45	39	42	--	52	58	71	84	81	83	77
31	56	--	39	42	--	52	--	72	--	82	83	--
Average	61	54	39	39	44	48	54	66	78	80	82	77

CHOWAN RIVER BASIN

2-532.44. CHOWAN RIVER AT WINTON, N. C.

LOCATION.--At drawbridge on U. S. Highway 158 and State Highway 97, at Winton, Hertford County, and 2.7 miles downstream from Meherrin River.
DRAINAGE AREA.--4,198 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1954 to September 1959.
Water temperatures: October 1954 to September 1959.
EXTREMES, 1958-59.--Chloride: Maximum, 398 ppm Dec. 15; minimum, 5.0 ppm May 1-13.
Specific conductance: Maximum daily, 1,400 micromhos Dec. 13, 15; minimum daily, 49 micromhos Apr. 17.
Water temperatures: Maximum, 81°F June 28-30, July 1, 29, 31; minimum, 33°F Jan. 12.
EXTREMES, 1954-59.--Chloride: Maximum, 398 ppm Dec. 15, 1958; minimum, 2.9 ppm Apr. 1-30, 1958.
Specific conductance: Maximum daily, 1,400 micromhos Dec. 13, 15, 1958; minimum daily, 36 micromhos May 12, 1958.
Water temperatures: Maximum, 87°F Aug. 5, 7, 8, 1955, July 27, 1957; minimum, 33°F Jan. 8, 9, 1958, Jan. 12, 1959.
REMARKS.--Daily samples were composited for chemical analyses unless otherwise noted. When specific conductance values indicated salt-water encroachment, only specific conductance and chloride were determined on individual samples. The individual specific conductance and chloride determinations are tabulated separately from the composite chemical analyses. Records of suspended matter of composite samples from October 1954 to September 1955 and records of specific conductance of samples collected from October 1954 to September 1958 available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-26, 29-31, 1958		14	0.21	7.2	1.3	13	1.6	38	5.0	10	0.2	1.1	79	23	0	110	7.0	80
Oct. 27-28		17	.20	8.0	2.2	28	1.9	59	11	23	.3	.3	a121	29	0	191	6.6	--
Nov. 1-25		16	.18	6.0	2.7	14	2.1	38	6.6	12	.2	.5	91	26	0	108	6.9	100
Nov. 26-30		17	.21	12	15	116	5.4	39	40	195	.2	1.1	a421	91	59	702	6.7	70
Jan. 1-31, 1959		12	.06	4.0	1.6	8.1	1.5	17	6.9	8.5	.2	1.1	67	16	2	76	7.3	110
Feb. 1-28		13	.15	4.8	1.6	8.0	1.2	19	4.9	9.0	.1	1.0	69	18	3	79	6.6	90
Mar. 1-31		11	.30	5.6	1.3	8.6	1.2	22	4.8	9.0	.1	1.2	60	19	1	80	6.6	65
Apr. 1-30		8.8	.13	5.0	1.4	4.7	1.1	18	3.1	7.0	.2	1.0	57	18	3	58	6.5	110
May 1-13		11	.30	5.6	2.1	4.4	1.1	24	3.1	5.0	.1	1.5	57	23	3	70	6.9	85
May 16-26		12	.23	6.4	1.6	6.2	1.2	27	2.4	7.0	.1	1.8	60	23	0	72	6.7	70
June 1-30		14	.26	7.8	2.0	18	1.7	43	9.0	17	.2	1.0	105	28	0	139	7.0	110
July 1-9		13	.15	7.6	1.7	16	1.8	41	8.1	15	.2	1.3	98	26	0	131	7.0	85
July 10-13, 17-31		11	.07	6.7	1.3	7.7	1.8	24	9.2	7.0	.2	1.6	72	22	2	94	6.5	60
July 14-16		14	.17	10	2.0	40	3.0	84	16	20	.5	1.7	a148	34	0	297	7.1	160
Aug. 1-31		12	.15	5.5	1.8	8.2	1.8	26	5.6	8.5	.2	.9	75	21	0	79	6.6	90
Sept. 1-15		14	.13	6.8	1.6	14	2.0	34	4.1	13	.3	2.0	89	24	0	113	6.9	90
Sept. 16-30		14	.16	7.1	1.9	22	2.4	42	7.2	20	.3	1.1	109	26	0	158	7.0	110
Time-weighted average		13	0.18	6.1	1.9	13	1.7	29	6.4	13	0.2	1.1	83	23	2	106	--	90

a Calculated from determined constituents.

CHOWAN RIVER BASIN--Continued

2-532.44. CHOWAN RIVER AT WINTON, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1958 to September 1959

Day	October		November		December		January	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	76		96		1,260	350	78	
2	76		96		1,260	346	80	
3	78		95		753	207	61	
4	80		125		421	100	61	
5	80		128		807	201	62	
6	83		149		929	251	51	
7	83		133		925	237	50	
8	91		116		670	162	54	
9	97		116		672	161	54	
10	109		115		1,050	284	63	
11	109		121		1,050	284	62	
12	110		115		1,070	290	62	
13	106		103	12	1,400	394	69	
14	104	10	102		1,390	382	81	
15	102		98		1,400	398	80	
16	102		100		1,180	316	85	8.5
17	140		97		1,090	296	83	
18	139		96		609	146	82	
19	140		96		600	144	95	
20	139		98		609	146	86	
21	127		98		580	142	88	
22	132		99		697	174	86	
23	118		98		651	159	83	
24	118		98		650	161	95	
25	146		98		650	158	99	
26	146		689		639	154	94	
27	204	23	718		635	153	74	
28	182	23	697	195	650	158	74	
29	141	10	692		651	155	82	
30	140	10	691		169	30	82	
31	136	10	--	--	169	30	79	

Day	February		March		April		May	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	79		77		69		61	
2	95		77		65		66	
3	95		84		64		64	
4	95		89		62		70	
5	91		86		62		68	
6	90		85		66		68	
7	85		78		59		70	5.0
8	85		75		57		71	
9	70		74		58		71	
10	72		80		56		71	
11	70		69		56		71	
12	67		69		62		70	
13	67		69		62		70	
14	74		75		62		115	10
15	75	9.0	75		58		110	10
16	75		74	9.0	52	7.0	73	
17	77		71		49		74	
18	76		76		54		74	
19	74		76		54		74	
20	74		76		53		76	
21	73		81		57		74	7.0
22	73		80		57		74	
23	75		80		57		86	
24	80		86		53		87	
25	--		85		54		88	
26	75		90		53		86	
27	84		90		56		105	8.7
28	84		95		55		109	9.5
29	--	--	95		59		105	8.9
30	--	--	95		56		116	10
31	--	--	93		--	--	117	11

CHOWAN RIVER BASIN--Continued

2-532.44. CHOWAN RIVER AT WINTON, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1958 to September 1959--Continued

Day	June		July		August		September	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	116		138		76		91	
2	109		141		75		92	
3	119		135		71		88	
4	118		127		74		103	
5	131		129	15	79		108	
6	132		129		80		108	
7	135		131		75		108	
8	141		127		72		110	13
9	139		121		70		101	
10	138		109		69		102	
11	130		109	7.0	70		137	
12	129		112		71		137	
13	141		111		77		137	
14	149		278	20	75		137	
15	141	17	282	20	75	8.5	129	
16	150		285	20	74		--	
17	171		100		73		140	
18	148		99		80		155	
19	141		99		84		161	
20	139		96		84		163	
21	140		73		96		160	
22	140		70		88		172	
23	145		75		89		173	20
24	145		76	7.0	87		--	
25	145		75		92		178	
26	142		76		94		155	
27	141		75		92		163	
28	148		69		91		158	
29	144		74		88		123	
30	140		72		87		122	
31	--	--	76		87		--	--

CHOWAN RIVER BASIN--Continued

2-532.44. CHOWAN RIVER AT WINTON, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 9 a.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	67	61	55	39	37	47	57	65	71	81	80	79
2	66	61	54	38	37	47	58	68	71	80	79	78
3	65	60	53	40	37	47	57	66	70	78	79	78
4	66	60	54	38	38	48	57	67	70	80	78	78
5	65	60	54	37	39	49	57	68	70	79	78	78
6	66	60	53	36	39	50	58	68	71	78	78	77
7	66	60	53	36	39	49	59	67	72	79	78	77
8	66	60	52	36	39	50	60	67	73	78	77	77
9	65	59	51	36	39	50	60	68	75	79	78	76
10	65	59	51	35	40	50	62	69	76	79	77	75
11	66	58	50	34	40	51	63	69	77	79	77	75
12	65	58	50	33	41	50	60	68	78	78	77	72
13	65	58	50	35	40	49	60	69	77	78	76	70
14	64	58	49	35	39	51	60	68	76	77	76	69
15	65	59	48	36	40	52	60	67	76	77	77	68
16	65	59	47	36	39	53	61	68	76	78	76	--
17	65	59	45	35	40	53	63	67	75	77	76	66
18	65	59	46	34	40	52	63	68	70	78	77	69
19	64	59	45	34	39	53	63	68	70	79	78	66
20	64	58	44	36	39	53	64	69	72	79	77	66
21	63	58	43	37	38	54	63	70	73	79	79	65
22	63	58	40	36	39	54	62	70	74	78	80	65
23	63	58	39	37	40	53	62	70	73	79	80	66
24	63	57	38	37	40	55	63	72	75	80	80	--
25	63	57	38	36	--	56	63	72	76	80	80	65
26	62	57	38	37	44	57	64	72	80	79	79	65
27	62	57	38	37	46	57	64	72	79	79	79	66
28	62	56	39	38	47	57	64	73	81	79	80	66
29	62	55	39	38	--	56	65	73	81	81	79	66
30	61	54	39	38	--	56	65	72	81	80	78	66
31	61	--	39	37	--	56	--	72	--	81	78	--
Average	64	58	46	36	40	52	61	69	75	79	78	71

CHOWAN RIVER BASIN--Continued

2-536.52. CHOWAN RIVER NEAR EDENHOUSE, N. C.

LOCATION.--At draw section on U. S. Highway 17 bridge, 0.8 mile northeast of Edenhouse, Bertie County.
DRAINAGE AREA.--4,871 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1959.
Water temperatures: October 1957 to September 1959.
EXTREMES, 1958-59.--Chloride: Maximum, 9,140 ppm Nov. 11 (bottom); minimum, 7.3 ppm Oct. 1-28, 29 (top), 30.
Specific conductance: Maximum daily, 23,500 micromhos Nov. 11 (bottom); minimum daily, 61 micromhos Oct. 11, 13-14, (bottom).
Water temperatures: Maximum, 91°F June 11 (top); minimum, 39°F Jan. 9-11 (bottom), 12, 17 (bottom).
EXTREMES, 1957-59.--Chloride: Maximum, 9,140 ppm Nov. 11 (bottom), 1958; minimum, 4.0 ppm May 1-31, 1958.
Specific conductance: Maximum daily, 23,500 micromhos Nov. 11 (bottom), 1958; minimum daily, 44 micromhos May 16 (top), 1958.
Water temperatures: Maximum, 91°F June 11 (top), 1959; minimum, 35°F Feb. 17 (top), 1958.
REMARKS.--Top (T) and bottom (B) samples were collected and composited once daily (3 p.m.) unless otherwise noted. When specific conductance values indicated salt-water encroachment, only specific conductance and chloride were determined on individual samples. The individual chloride determinations are tabulated separately from the composite chemical analyses. Records of specific conductance of samples collected available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-28, 29 (T), 30, 1958		6.9	0.13	3.6	2.2	7.5	1.7	16	6.0	7.3	0.2	2.3	63	18	5	68	5.8	50
Feb. 1-8, 1959		10	.17	7.4	8.4	64	4.2	14	20	115	.1	1.5	271	53	41	478	6.7	85
Feb. 9-18		11	.13	5.6	3.7	28	2.6	17	12	48	.1	1.8	136	29	15	227	6.6	80
Feb. 19-28		12	.16	5.1	2.8	20	2.0	18	9.4	32	.1	1.4	107	24	10	163	6.6	80
Mar. 1-31		11	.12	4.6	2.0	14	1.7	17	6.3	21	.1	1.5	91	20	6	122	6.6	90
Apr. 1-14		9.5	.16	4.5	1.8	13	1.5	18	8.5	18	.2	1.7	82	19	4	110	6.7	85
Apr. 15-30		7.5	.22	4.8	1.3	7.8	1.3	16	4.5	12	.2	.9	70	17	4	78	6.6	110
May 1-31		5.3	.18	3.8	2.0	9.5	1.5	16	5.9	14	.1	1.1	65	18	5	86	6.6	80
June 1-30		5.3	.09	3.2	2.5	15	2.0	17	6.2	22	.1	1.5	85	18	4	120	6.9	80
July 1-31		6.4	.11	3.8	2.4	15	2.0	21	6.2	20	.1	1.3	85	20	2	121	6.6	80
Aug. 1-31		9.8	.05	4.7	2.6	13	2.3	24	7.5	15	.2	1.9	83	22	3	112	7.2	65
Sept. 1-30		11	.18	5.0	2.5	13	2.2	24	7.8	14	.2	1.4	77	23	3	109	6.8	90

2-536.52. CHOWAN RIVER NEAR EDENHOUSE, N. C.--Continued

Chloride, in parts per million, water year October 1958 to September 1959

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom
1			62	58	950	950	1,200	1,180																
2			67	4,570	925	1,500	1,180	1,180																
3			176	195	835	830	--	--																
4			177	6,730	1,060	4,260	1,100	1,160																
5			168	162	7,280	7,040	950	950	115	115														
6			183	4,740	1,050	6,040	725	965																
7			304	300	1,000	1,750	695	1,000																
8			340	3,020	940	2,000	532	965					18	18										
9			344	3,510	1,010	7,160	590	635																
10			430	3,900	1,020	5,500	478	476																
11			490	9,140	1,090	1,140	476	480																
12			502	5,240	1,060	1,120	404	404																
13			504	2,930	1,000	1,000	404	402																
14			500	2,260	1,010	1,010	420	414	48	48														
15	7	7	520	522	1,060	1,080	414	412															14	14
16			522	520	1,060	1,070	314	316			21	21			14	14	22	22	20	20	15	15		
17			504	510	1,060	1,040	312	510																
18			516	510	1,050	1,070	350	350																
19			570	560	1,100	1,100	302	444																
20			548	552	1,100	1,120	300	446																
21			562	566	1,120	1,110	334	330																
22			578	4,090	1,080	1,180	195	197					12	12										
23			635	635	1,100	1,090	191	386	32	32														
24			605	6,680	1,040	1,090	204	203																
25			670	655	1,150	1,140	243	208																
26			640	3,110	1,100	1,180	197	196																
27			690	690	1,090	1,080	150	148																
28			725	5,050	1,080	1,060	148	147																
29		7,970	885	875	1,070	1,070	170	232	--	--														
30		7	940	1,480	1,160	1,150	152	152	--	--														
31	53	8,350	--	--	1,180	1,160	148	150	--	--			--	--			--	--					--	--

CHOWAN RIVER BASIN--Continued

2-536.52. CHOWAN RIVER NEAR EDENHOUSE, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Top and bottom once-daily measurements at approximately 3 p.m.)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom
1	69	68	62	63	51	51	42	40	47	46	50	49	58	58	70	68	76	77	83	80	84	84	84	83
2	68	67	60	61	51	50	42	41	44	44	--	--	59	58	70	68	79	78	83	80	84	84	85	82
3	69	68	60	61	51	50	--	--	42	42	51	50	59	58	70	68	79	78	80	83	80	80	85	83
4	68	69	59	60	54	54	48	46	48	47	50	49	59	58	73	72	79	78	80	79	80	80	85	83
5	70	68	59	60	54	54	41	41	48	47	50	49	59	58	73	72	79	78	80	79	84	83	85	83
6	68	69	60	61	52	54	42	42	46	45	53	52	59	58	73	72	79	77	83	82	84	83	83	85
7	68	67	60	61	50	50	43	42	46	45	53	52	59	58	73	72	79	77	83	82	83	82	83	85
8	68	67	--	60	48	49	41	40	46	48	52	51	59	58	74	73	81	79	80	80	83	83	81	83
9	69	68	--	--	50	54	40	39	46	45	54	53	59	58	73	72	81	79	80	80	83	83	81	83
10	69	68	58	58	46	50	40	39	46	45	54	53	59	58	73	72	81	71	81	80	85	83	80	80
11	69	68	59	59	40	41	40	39	46	45	52	51	62	61	77	75	91	89	81	80	83	85	80	80
12	68	67	60	59	40	41	39	39	46	45	52	51	59	58	77	75	83	81	79	79	83	85	79	78
13	68	67	61	59	40	41	41	40	46	46	52	51	57	57	77	75	83	81	79	79	84	83	79	78
14	70	68	62	60	41	41	41	40	52	51	53	52	57	57	75	76	77	77	81	81	84	83	77	77
15	70	68	61	59	41	40	41	40	52	51	53	52	61	60	71	71	77	77	81	81	86	84	77	77
16	70	69	61	59	41	40	41	40	51	50	53	52	61	60	71	71	79	77	80	79	84	86	79	78
17	70	69	61	59	40	40	40	39	51	50	53	52	64	63	72	71	77	79	80	79	84	83	79	78
18	70	69	61	59	41	40	41	40	52	51	54	52	64	63	72	71	73	75	83	82	84	83	72	72
19	69	68	61	60	41	40	41	40	52	51	54	52	66	65	75	74	73	73	83	82	85	83	72	72
20	69	68	61	59	42	42	42	41	48	49	51	50	66	65	75	74	78	76	81	81	85	83	72	72
21	70	69	60	59	42	42	46	45	48	49	51	50	64	64	78	77	78	76	81	81	87	85	71	73
22	70	69	60	60	41	40	46	45	48	47	53	52	64	64	78	77	81	78	87	85	87	85	71	73
23	70	69	60	60	40	40	46	45	48	47	53	52	67	66	79	78	82	79	80	85	87	85	71	73
24	70	69	61	61	43	42	46	45	50	50	58	55	69	66	79	78	82	--	86	85	87	85	71	73
25	66	65	61	60	43	42	49	47	50	48	58	55	67	66	76	75	82	79	86	85	87	85	71	73
26	66	65	59	59	42	42	49	47	50	49	59	58	66	66	76	75	83	80	86	85	87	85	79	77
27	64	63	59	59	42	42	49	47	50	49	53	52	66	66	80	78	83	80	88	80	87	85	79	77
28	64	63	57	58	42	42	49	47	50	49	50	50	66	66	80	78	83	80	88	86	87	85	77	75
29	65	65	57	58	42	42	48	47	--	--	50	50	66	66	80	79	89	87	86	85	83	83	77	75
30	66	65	51	51	42	42	48	47	--	--	56	55	66	66	80	79	80	83	86	85	83	83	80	79
31	62	63	--	--	42	40	47	46	--	--	56	55	--	--	80	79	--	--	86	80	84	83	--	--
Average	68	67	60	59	44	44	44	43	48	48	53	52	62	62	75	74	80	79	83	82	84	84	78	78

ROANOKE RIVER BASIN

2-660. ROANOKE RIVER AT RANDOLPH, VA.

LOCATION.--At bridge on State Highway 746 (old 26), 2.8 miles northwest of Randolph, Charlotte County, 3.6 miles upstream from Roanoke Creek and at mile 227.3.
DRAINAGE AREA.--3,000 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: April 1929 to March 1930, October 1950 to September 1956.
Water temperatures: October 1950 to September 1956.
Sediment records: January 1954 to September 1959.
EXTREMES, 1954-57.--Sediment concentrations: Maximum daily, 2,060 ppm May 20, 1957; minimum daily, 6 ppm Dec. 28-31, 1955.
Sediment loads: Maximum daily, 71,500 tons Mar. 2, 1954; minimum daily, 13 tons Sept. 21, 22, 1956.
REMARKS.--Sediment samples collected daily from January 1954 to June 1957, and at approximately ten-day intervals and during flood stages from July 1957 to September 1959. Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	1,510	116	s551	1,170	--	--	1,720	--	--
2...	1,960	230	1,220	1,300	--	--	1,440	--	--
3...	1,540	--	--	1,500	--	--	1,300	--	--
4...	1,470	--	--	1,610	--	--	1,360	--	--
5...	1,400	--	--	1,540	--	--	1,400	15	57
6...	1,300	--	--	1,400	--	--	1,440	--	--
7...	1,200	--	--	1,300	30	105	1,330	--	--
8...	1,170	--	--	1,260	--	--	1,230	--	--
9...	1,120	--	--	1,230	--	--	1,200	--	--
10...	1,100	--	--	1,230	--	--	1,170	--	--
11...	1,080	--	--	1,200	--	--	1,170	--	--
12...	1,060	--	--	1,170	--	--	900	--	--
13...	1,040	--	--	1,200	--	--	800	--	--
14...	1,000	--	--	1,200	--	--	750	--	--
15...	1,050	25	71	1,200	--	--	700	--	--
16...	1,050	--	--	1,200	--	--	700	--	--
17...	1,050	--	--	1,230	--	--	1,000	--	--
18...	1,050	--	--	1,230	25	83	1,400	--	--
19...	1,020	--	--	1,230	--	--	1,400	--	--
20...	1,020	--	--	1,260	--	--	1,400	--	--
21...	1,020	--	--	1,200	--	--	1,300	--	--
22...	1,020	--	--	1,170	--	--	1,300	--	--
23...	1,260	--	--	1,170	--	--	1,300	--	--
24...	1,470	--	--	1,170	--	--	1,300	--	--
25...	1,540	--	--	1,170	--	--	1,330	--	--
26...	1,400	--	--	1,170	18	57	1,230	--	--
27...	1,260	--	--	1,170	--	--	1,170	--	--
28...	1,170	25	79	1,170	--	--	1,580	--	--
29...	1,170	--	--	1,330	--	--	14,400	798	s39,200
30...	1,200	--	--	1,610	--	--	29,400	870	s68,400
31...	1,170	--	--	--	--	--	27,700	556	s43,500
Total	37,870	--	1,921	37,990	--	245	105,820	--	151,157

s Computed by subdividing day.

ROANOKE RIVER BASIN--Continued

2-660. ROANOKE RIVER AT RANDOLPH, VA.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	January			February			March		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	8,480	--	--	2,200	--	--	1,680	--	--
2...	5,720	--	--	2,100	--	--	1,680	--	--
3...	6,060	--	--	2,100	22	125	1,640	--	--
4...	5,090	--	--	2,200	--	--	1,610	--	--
5...	3,500	--	--	2,600	--	--	1,610	--	--
6...	2,500	--	--	2,500	--	--	2,650	88	s960
7...	2,000	--	--	2,000	--	--	9,020	594	s14,700
8...	2,300	--	--	1,800	--	--	6,460	--	--
9...	2,500	--	--	1,700	--	--	4,450	--	--
10...	2,000	--	--	1,700	--	--	3,610	--	--
11...	1,800	--	--	1,700	--	--	2,950	--	--
12...	1,800	--	--	1,700	--	--	2,730	--	--
13...	1,900	--	--	2,000	--	--	2,510	--	--
14...	2,200	--	--	2,600	--	--	2,400	--	--
15...	2,200	--	--	2,800	--	--	2,210	--	--
16...	2,200	45	267	2,500	--	--	2,120	--	--
17...	2,000	--	--	2,300	60	373	2,040	55	303
18...	1,800	--	--	2,200	--	--	1,960	--	--
19...	1,600	--	--	2,100	--	--	1,890	--	--
20...	2,000	--	--	2,040	--	--	1,820	--	--
21...	2,500	--	--	1,890	--	--	1,820	--	--
22...	4,000	40	432	1,750	--	--	1,820	--	--
23...	5,190	271	s4,390	1,820	--	--	1,750	--	--
24...	5,990	--	--	1,890	--	--	1,720	--	--
25...	3,500	--	--	1,890	--	--	1,640	30	133
26...	3,100	--	--	1,820	--	--	1,640	--	--
27...	2,800	--	--	1,750	35	165	1,980	--	--
28...	2,600	--	--	1,680	--	--	3,610	--	--
29...	2,500	--	--	--	--	--	3,610	--	--
30...	2,400	--	--	--	--	--	3,280	--	--
31...	2,300	--	--	--	--	--	3,940	--	--
Total	96,530	--	5,089	57,330	--	663	83,850	--	16,096

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	3,940	--	--	3,060	--	--	1,750	--	--
2...	3,500	--	--	2,730	--	--	1,890	--	--
3...	3,940	--	--	2,510	--	--	3,940	--	--
4...	4,450	--	--	2,400	--	--	7,660	--	--
5...	4,350	--	--	2,300	60	373	4,450	--	--
6...	3,830	--	--	2,800	--	--	2,730	--	--
7...	3,390	88	805	2,840	--	--	2,040	--	--
8...	2,950	--	--	2,120	--	--	1,750	--	--
9...	2,620	--	--	1,960	--	--	1,580	--	--
10...	2,510	--	--	1,820	--	--	1,470	--	--
11...	2,300	--	--	1,820	--	--	1,360	85	312
12...	3,390	--	--	1,750	--	--	1,260	--	--
13...	10,400	670	s17,900	1,720	--	--	1,230	--	--
14...	12,700	485	16,600	1,820	--	--	1,300	--	--
15...	7,980	--	--	2,120	--	--	1,200	--	--
16...	5,900	--	--	1,960	--	--	1,100	--	--
17...	4,820	--	--	1,720	--	--	1,050	--	--
18...	4,000	--	--	1,640	--	--	1,050	--	--
19...	3,600	--	--	1,720	55	255	1,020	--	--
20...	6,620	--	--	1,680	--	--	1,000	--	--
21...	6,380	261	s4,580	1,680	--	--	980	--	--
22...	5,180	115	1,610	1,720	--	--	960	--	--
23...	5,450	--	--	1,820	--	--	920	50	124
24...	7,180	--	--	1,720	--	--	900	--	--
25...	7,100	--	--	1,610	--	--	960	--	--
26...	5,630	--	--	1,470	--	--	1,030	--	--
27...	4,640	--	--	1,360	--	--	950	--	--
28...	4,150	--	--	1,330	--	--	880	--	--
29...	3,720	--	--	1,300	45	158	820	--	--
30...	3,390	--	--	1,360	--	--	760	--	--
31...	--	--	--	1,500	--	--	--	--	--
Total	150,010	--	41,495	59,360	--	786	49,990	--	436

s Computed by subdividing day.

ROANOKE RIVER BASIN--Continued

2-660. ROANOKE RIVER AT RANDOLPH, VA.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	July			August			September		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	760	--	--	1,360	--	--	2,960	242	s2,270
2...	800	--	--	1,470	--	--	5,000	782	s10,600
3...	760	--	--	1,260	--	--	3,170	--	--
4...	740	--	--	1,890	--	--	2,040	--	--
5...	700	--	--	1,260	--	--	1,500	--	--
6...	660	40	71	1,930	--	--	1,230	--	--
7...	640	--	--	2,620	755	s5,380	1,140	--	--
8...	640	--	--	1,640	--	--	1,640	161	713
9...	700	--	--	1,500	--	--	3,830	--	--
10...	835	--	--	2,400	--	--	1,960	--	--
11...	1,020	--	--	1,580	--	--	1,400	--	--
12...	1,540	--	--	1,140	--	--	1,170	--	--
13...	1,200	--	--	960	--	--	1,050	--	--
14...	1,080	--	--	885	--	--	935	--	--
15...	2,730	--	--	835	--	--	885	--	--
16...	2,510	--	--	785	--	--	885	--	--
17...	1,820	590	2,900	760	--	--	860	--	--
18...	1,230	--	--	710	50	96	810	--	--
19...	1,050	--	--	685	--	--	785	--	--
20...	990	--	--	685	--	--	785	--	--
21...	3,000	--	--	685	--	--	760	--	--
22...	5,490	--	--	710	--	--	760	30	62
23...	2,010	--	--	660	--	--	710	--	--
24...	1,400	--	--	760	--	--	710	--	--
25...	1,360	--	--	1,700	--	--	710	--	--
26...	1,230	--	--	1,540	--	--	685	--	--
27...	1,080	--	--	935	--	--	660	--	--
28...	1,540	318	1,320	785	--	--	660	--	--
29...	1,680	--	--	735	--	--	660	--	--
30...	1,470	--	--	760	--	--	1,080	--	--
31...	1,440	--	--	760	60	123	--	--	--
Total	44,105	--	4,291	36,385	--	5,599	41,430	--	13,645

Total discharge for year (cfs-days).....800,670
Total measured load for year (tons).....240,991
Estimated load for days not sampled (tons).....283,886
Estimated load for year (tons).....524,877

s Computed by subdividing day.

ROANOKE RIVER BASIN--Continued

2-660. ROANOKE RIVER AT RANDOLPH, VA.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; M, mechanically dispersed; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time	Discharge (cfs)	Water temperature (° F)	Suspended sediment												Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters										
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	
Dec. 29, 1958.	3:54 p.m.	18,500		758	1,540	16	27	39	50	62	71	85	95		99	100	BSWCM
Mar. 7, 1959..	7:07 a.m.	9,200		748	1,297	21	27	34	43	51	60	68	72		91	100	BSWCM
Apr. 13.....	2:55 p.m.	12,200		507	1,160	22	32	40	50	61	75	89	96		99	100	BSWCM
July 17.....	12:08 p.m.	3,080		513	1,330	52	65	80	89	93	95	97	98		100	--	BSWCM

ROANOKE RIVER BASIN--Continued

2-755. DAN RIVER AT PACES, VA.

LOCATION.--At gaging station at highway bridge, 0.5 mile southeast of Paces, Halifax County, 0.5 mile upstream from Big Toby Creek, 2.7 miles upstream from Birch Creek, and at mile 36.0.
DRAINAGE AREA.--2,550 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1955 to August 1956.
Water temperatures: January 1954 to September 1956.
Sediment records: January 1954 to September 1959.
EXTREMES, 1954-57.--Sediment concentrations: Maximum daily, 2,260 ppm July 13, 1955, Sept. 18, 1957; minimum daily, 10 ppm Jan. 17, 1956.
Sediment loads: Maximum daily, 94,200 tons Sept. 18, 1957; minimum daily, 11 tons Sept. 23, 1956.
REMARKS.--Sediment samples collected daily from January 1954 to June 1957, and at approximately ten-day intervals and during flood stages from July 1957 to September 1959.
Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	2,240	370	s2,720	1,300	--	--	1,610	--	--
2...	3,480	520	s4,900	1,500	--	--	1,250	--	--
3...	3,000	--	--	1,730	--	--	1,350	--	--
4...	1,970	--	--	1,790	--	--	1,350	--	--
5...	1,550	--	--	1,610	--	--	1,400	40	151
6...	1,300	--	--	1,450	--	--	1,450	--	--
7...	1,200	--	--	1,400	--	--	1,350	--	--
8...	1,350	--	--	1,350	--	--	1,150	--	--
9...	1,300	--	--	1,300	--	--	1,050	--	--
10...	1,300	--	--	1,150	--	--	1,250	--	--
11...	1,300	--	--	1,050	--	--	1,250	--	--
12...	1,180	--	--	1,250	--	--	1,200	--	--
13...	1,000	--	--	1,250	--	--	1,080	--	--
14...	950	--	--	1,250	--	--	1,020	--	--
15...	1,180	70	223	1,250	--	--	1,180	--	--
16...	1,180	--	--	1,250	--	--	1,020	--	--
17...	1,200	--	--	1,120	--	--	1,050	35	99
18...	1,200	--	--	1,080	35	102	1,180	--	--
19...	1,180	--	--	1,300	--	--	1,400	--	--
20...	1,000	--	--	1,300	--	--	1,400	--	--
21...	900	--	--	1,300	--	--	1,450	--	--
22...	1,180	--	--	1,250	--	--	1,200	--	--
23...	1,400	--	--	1,250	--	--	1,080	--	--
24...	1,450	--	--	1,020	--	--	1,300	--	--
25...	1,450	--	--	1,080	--	--	1,300	--	--
26...	1,350	--	--	1,300	40	140	1,300	--	--
27...	1,080	--	--	1,300	--	--	1,020	--	--
28...	1,020	40	110	1,250	--	--	3,800	--	--
29...	1,300	--	--	1,450	--	--	21,800	1,290	s74,100
30...	1,300	--	--	1,670	--	--	29,000	658	s51,200
31...	1,250	--	--	--	--	--	13,000	242	s10,700
Total	43,740	--	7,953	39,550	--	242	101,240	--	136,250

s Computed by subdividing day.

ROANOKE RIVER BASIN--Continued

2-755. DAN RIVER AT PACES, VA.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	January			February			March		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	4,000	--	--	2,040	--	--	1,670	--	--
2...	4,500	--	--	1,330	--	--	1,450	--	--
3...	4,500	--	--	1,500	55	223	1,500	--	--
4...	3,800	--	--	1,910	--	--	1,670	--	--
5...	2,680	--	--	3,560	--	--	1,500	--	--
6...	2,110	--	--	3,800	--	--	2,770	152	s1,770
7...	1,910	--	--	2,840	--	--	9,580	962	s25,400
8...	2,040	--	--	2,180	--	--	5,240	--	--
9...	2,180	--	--	1,850	--	--	3,160	--	--
10...	2,040	--	--	1,910	--	--	2,530	--	--
11...	1,790	--	--	2,180	--	--	2,180	--	--
12...	1,450	--	--	2,040	--	--	2,250	--	--
13...	1,610	--	--	2,040	--	--	2,110	--	--
14...	2,110	--	--	2,680	--	--	2,040	--	--
15...	2,250	--	--	3,080	--	--	1,850	--	--
16...	2,460	50	332	2,920	--	--	1,670	--	--
17...	3,160	--	--	2,390	70	452	1,670	50	225
18...	3,000	--	--	2,250	--	--	1,730	--	--
19...	1,850	--	--	2,180	--	--	1,670	--	--
20...	1,790	--	--	2,040	--	--	1,670	--	--
21...	2,320	--	--	1,850	--	--	1,670	--	--
22...	3,400	280	s2,770	1,790	--	--	1,670	--	--
23...	5,000	370	s4,840	1,550	--	--	1,450	--	--
24...	4,200	--	--	1,730	--	--	1,500	--	--
25...	2,760	--	--	1,910	--	--	1,550	40	167
26...	2,250	--	--	1,850	--	--	1,550	--	--
27...	2,110	--	--	1,790	40	193	1,670	--	--
28...	2,110	--	--	1,730	--	--	2,110	--	--
29...	2,040	--	--	--	--	--	2,320	--	--
30...	1,970	--	--	--	--	--	1,910	--	--
31...	1,910	--	--	--	--	--	2,110	--	--
Total	81,300	--	7,942	60,920	--	868	69,420	--	27,562

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	2,530	--	--	2,920	--	--	1,400	--	--
2...	2,320	--	--	2,390	--	--	1,730	--	--
3...	3,100	--	--	2,250	--	--	2,460	--	--
4...	4,120	--	--	1,910	--	--	3,960	--	--
5...	3,080	--	--	2,460	592	s4,100	2,920	--	--
6...	2,320	--	--	2,920	--	--	2,180	--	--
7...	2,110	70	399	2,390	--	--	1,550	--	--
8...	2,040	--	--	1,970	--	--	1,220	--	--
9...	1,970	--	--	1,790	--	--	1,150	--	--
10...	1,850	--	--	1,730	--	--	1,220	--	--
11...	1,910	--	--	1,450	--	--	1,200	85	275
12...	2,760	--	--	1,450	--	--	1,150	--	--
13...	9,650	832	s21,200	1,610	--	--	1,150	--	--
14...	12,200	--	--	1,670	--	--	1,120	--	--
15...	5,480	--	--	2,250	--	--	975	--	--
16...	3,800	--	--	1,910	--	--	825	--	--
17...	3,000	--	--	1,610	--	--	875	--	--
18...	2,680	--	--	1,300	--	--	950	--	--
19...	2,680	--	--	1,300	95	333	950	--	--
20...	6,040	--	--	1,670	--	--	925	--	--
21...	5,000	335	s4,570	1,670	--	--	925	--	--
22...	4,200	202	s2,300	1,970	--	--	675	--	--
23...	5,080	--	--	1,850	--	--	725	45	88
24...	5,720	--	--	1,670	--	--	850	--	--
25...	4,440	--	--	1,300	--	--	960	--	--
26...	3,400	--	--	1,180	--	--	1,000	--	--
27...	2,760	--	--	1,350	--	--	1,100	--	--
28...	2,530	--	--	1,350	--	--	1,000	--	--
29...	3,800	--	--	1,350	60	219	800	--	--
30...	4,200	--	--	1,300	--	--	700	--	--
31...	--	--	--	1,400	--	--	--	--	--
Total	116,770	--	28,469	55,340	--	4,652	38,645	--	363

s Computed by subdividing day.

ROANOKE RIVER BASIN--Continued

2-755. DAN RIVER AT PACES, VA.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	July			August			September		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	800	--	--	1,350	--	--	3,400	566	s5,430
2...	800	--	--	1,790	--	--	4,680	778	s9,700
3...	800	--	--	1,430	--	--	4,360	835	s10,000
4...	900	--	--	1,550	--	--	2,250	--	--
5...	900	--	--	1,380	--	--	1,610	--	--
6...	760	58	119	1,550	--	--	2,250	--	--
7...	600	--	--	1,300	330	s1,210	8,810	--	--
8...	600	--	--	1,200	--	--	16,000	880	s38,100
9...	700	--	--	1,350	--	--	5,000	--	--
10...	962	--	--	1,300	--	--	3,000	--	--
11...	1,400	--	--	975	--	--	2,320	--	--
12...	1,450	--	--	975	--	--	1,850	--	--
13...	950	--	--	975	--	--	1,790	--	--
14...	1,100	--	--	900	--	--	1,180	--	--
15...	3,800	--	--	900	--	--	1,300	--	--
16...	2,820	--	--	900	--	--	1,350	--	--
17...	1,450	395	s1,620	650	--	--	1,350	--	--
18...	1,150	--	--	675	75	137	1,300	--	--
19...	1,180	--	--	750	--	--	1,250	--	--
20...	1,050	--	--	850	--	--	1,300	--	--
21...	900	--	--	900	--	--	975	--	--
22...	2,740	--	--	850	--	--	1,150	90	279
23...	2,390	--	--	850	--	--	1,000	--	--
24...	1,550	--	--	975	--	--	1,300	--	--
25...	1,250	--	--	1,500	--	--	975	--	--
26...	1,100	--	--	1,350	--	--	1,120	--	--
27...	1,450	--	--	1,080	--	--	1,250	--	--
28...	1,790	--	--	1,100	--	--	700	--	--
29...	1,850	530	2,650	1,450	--	--	675	--	--
30...	1,550	--	--	1,100	--	--	3,210	--	--
31...	1,350	--	--	1,300	208	s635	--	--	--
Total	42,092	--	4,389	35,205	--	1,982	78,705	--	63,509

Total discharge for year (cfs-days).....762,927
Total measured load for year (tons).....284,181
Estimated load for days not sampled (tons).....317,536
Estimated load for year (tons).....601,717

s Computed by subdividing day.

ROANOKE RIVER BASIN--Continued

2-755. DAN RIVER AT PACES, VA.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; M, mechanically dispersed; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time	Discharge (cfs)	Water temperature (° F)	Suspended sediment											Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters									
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	
Dec. 29, 1958	1:40 p.m.	22,400		1,310	2,770	25	36	46	58	66	70	78	86		94	99	BSWCM
Mar. 7, 1959	10:18 a.m.	10,600		964	2,789	32	40	50	61	76	82	91	96		99	100	BSWCM
Apr. 13	5:25 p.m.	12,400		898	1,880	22	28	35	43	52	60	71	80		91	99	BSWCM
May 5	1:57 p.m.	2,680		1,180	3,450	50	65	77	90	95	98	99	100		--	--	BSWCM
July 17	3:50 p.m.	1,400		323	762	69	80	88	92	95	97	98	99		100	--	BSWCM
Sept. 1	11:00 a.m.	3,080		466	1,260	46	59	74	83	90	93	97	99		100	--	BSWCM
Sept. 8	1:30 p.m.	17,300		1,120	2,500	38	50	61	72	81	86	90	95		99	100	BSWCM

2-810.94. ROANOKE RIVER AT JAMESVILLE, N. C.

LOCATION.--At boat dock in Jamesville, Martin County, and 1 mile downstream from lower mouth of Devils Gut.
DRAINAGE AREA.--9,247 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1954 to September 1959.
Water temperatures: October 1955 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 78 ppm Sept. 1-30; minimum, 62 ppm Apr. 1-30.
Hardness: Maximum, 43 ppm Sept. 1-30; minimum, 30 ppm Feb. 1-28, Mar. 1-31.
Specific conductance: Maximum daily, 166 micromhos June 24; minimum daily, 76 micromhos Jan. 3, Mar. 12.
Water temperatures: Maximum, 84°F July 2, 4, 8, Aug. 21; minimum, 35°F Jan. 13, 14.
EXTREMES, 1955-59.--Dissolved solids: Maximum, 91 ppm June 1-10, 1956; minimum, 54 ppm June 1-30, 1957.
Hardness: Maximum, 45 ppm Sept. 21-30, 1956; minimum, 13 ppm June 1-30, 1957.
Specific conductance: Maximum daily, 166 micromhos June 24, 1959; minimum daily, 66 micromhos Mar. 3, 1958.
Water temperatures: Maximum, 88°F July 6, 1956; minimum, 33°F Feb. 18-20, 1958.
REMARKS.--Records of suspended matter of composite samples from October 1955 to September 1956 and records of specific conductance of samples collected from October 1955 to September 1959 available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-31, 1958.....		7.4	0.08	10	2.6	6.8	1.7	48	5.2	4.8	0.1	1.3	66	37	0	100	7.2	25
Nov. 1-30.....		8.9	.11	11	2.6	7.7	1.8	51	4.7	4.6	.1	1.4	74	37	0	112	6.7	22
Dec. 1-31.....		9.9	.17	11	2.7	8.0	1.5	51	5.6	5.8	.0	1.0	76	38	0	115	7.4	25
Jan. 1-31, 1959.....		10	.09	8.7	2.3	7.4	1.8	44	4.8	4.9	.1	1.7	72	31	0	101	6.8	35
Feb. 1-28.....		10	.07	8.4	2.2	6.5	2.0	38	5.4	5.0	.1	2.5	70	30	0	95	6.8	37
Mar. 1-31.....		10	.09	8.7	2.0	6.5	2.1	38	5.8	4.9	.1	2.9	70	30	0	97	6.8	35
Apr. 1-30.....		10	.17	8.5	2.3	6.5	1.9	38	4.7	5.0	.1	2.4	62	31	0	95	6.8	50
May 1-31.....		6.7	.04	9.9	2.7	5.2	1.5	44	4.2	5.0	.1	1.7	68	37	1	101	7.5	30
June 1-30.....		9.3	.01	15	1.0	6.5	1.6	51	5.7	5.0	.0	1.7	74	40	0	120	7.2	20
July 1-31.....		9.0	.09	13	3.2	6.6	1.8	52	5.2	4.0	.1	1.5	69	42	0	119	7.1	25
Aug. 1-31.....		12	.14	13	2.5	7.0	2.2	55	5.0	4.5	.1	1.9	77	42	0	122	7.5	40
Sept. 1-30.....		9.4	.10	13	2.6	7.9	2.2	58	4.1	5.0	.1	1.5	78	43	0	131	7.6	25
Time-weighted average.....		9.4	0.10	11	2.4	6.9	1.8	47	5.0	4.9	0.1	1.8	71	37	0	109	--	31

ROANOKE RIVER BASIN--Continued

2-810.94. ROANOKE RIVER AT JAMESVILLE, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 4 p.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	73	60	52	40	43	45	56	65	74	82	80	80
2	73	59	51	45	42	45	56	65	74	84	80	82
3	69	60	50	45	42	45	55	66	73	80	80	61
4	68	59	51	40	42	46	56	67	71	84	78	82
5	67	59	50	42	42	47	56	67	72	82	77	83
6	66	58	50	40	42	49	58	67	73	83	76	82
7	65	57	49	40	43	51	58	67	74	83	75	81
8	65	57	48	40	43	51	60	67	74	84	75	79
9	65	57	47	39	44	51	60	67	73	79	77	79
10	66	56	46	39	43	51	61	67	74	78	77	79
11	66	56	45	37	44	52	63	67	75	76	77	79
12	66	55	42	36	44	50	62	68	77	77	76	78
13	65	56	42	35	45	49	60	68	78	77	77	77
14	65	56	40	35	45	50	57	68	76	76	77	75
15	65	57	40	38	46	--	58	69	75	77	78	75
16	66	58	39	40	47	50	58	69	75	77	78	75
17	67	58	39	40	48	51	55	69	76	76	80	73
18	65	58	39	40	49	50	55	69	75	75	80	73
19	65	56	39	40	49	50	57	69	74	76	82	72
20	64	59	39	37	45	52	58	69	74	77	81	72
21	64	57	40	38	43	51	60	69	76	78	84	72
22	64	57	40	41	43	52	60	69	77	78	82	73
23	64	56	42	41	43	52	58	70	79	78	82	73
24	64	56	40	41	43	52	58	71	77	78	81	72
25	64	57	40	41	44	54	58	73	79	78	81	73
26	64	56	40	42	44	54	61	73	79	78	81	73
27	64	55	40	44	44	54	62	73	80	79	81	74
28	62	55	40	43	43	56	63	73	80	80	82	74
29	63	54	40	44	--	55	63	75	82	80	82	75
30	63	54	40	43	--	55	64	74	80	80	60	75
31	62	--	40	43	--	56	--	74	--	80	80	--
Average	65	57	43	40	44	51	59	69	76	79	79	76

ALBEMARLE SOUND

2-811.53. ALBEMARLE SOUND NEAR EDENTON, N. C.

LOCATION.--At draw section on State Highway 32 bridge, 7.6 miles southeast of Edenton, Chowan County.
DRAINAGE AREA.--14,600 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1959.
Water temperatures: October 1957 to September 1959.
EXTREMES, 1958-59.--Chloride: Maximum, 12,100 ppm Nov. 3-6 (bottom); minimum, 12 ppm May 1-31.
Specific conductance: Maximum daily, 30,600 micromhos Nov. 6 (bottom); minimum daily, 75 micromhos May 6 (top).
Water temperatures: Maximum, 85°F June 28, 29, (top); minimum, 34°F Jan. 18, 19.
EXTREMES, 1957-59.--Chloride: Maximum, 12,100 ppm Nov. 3-6 (bottom), 1958; minimum, 4.7 ppm Apr. 1-30, 1958.
Specific conductance: Maximum daily, 30,600 micromhos Nov. 6 (bottom), 1958; minimum daily, 50 micromhos May 20 (bottom), 1958.
Water temperatures: Maximum, 85°F on several days during August 1958 and June 1959; minimum, 33°F Feb. 18 (top), 1958.
REMARKS.--Top (T) and bottom (B) samples were collected and composited once daily (12 m.) unless otherwise noted. When specific conductance values indicated salt-water encroachment, only specific conductance and chloride were determined on individual samples. The individual chloride determinations are tabulated separately from the composite chemical analyses. Records of specific conductance of samples collected available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-3, 6-9,13-16, 22-23, 1958.....		7.5	0.04	4.4	2.9	14	1.9	24	7.9	20	0.1	1.2	86	23	3	124	6.5	55
Mar. 1-31, 1959.....		10	.04	7.1	4.1	28	2.5	26	11	46	.1	2.4	135	34	13	231	6.7	40
Apr. 1-3,6-14,18-30.		11	.08	5.2	3.4	15	1.7	24	8.6	22	.1	1.7	93	27	7	131	6.7	40
May 1-31.....		9.3	.06	4.0	2.4	9.5	1.5	22	6.1	12	.1	1.0	59	20	2	88	6.9	55
June 1-26.....		9.5	.10	3.8	2.9	13	1.9	23	7.2	19	.1	1.0	78	22	3	119	7.3	60
July 1-4, 7, 9, 11, 13(T), 14, 15(B), 23(B), 26-28(B), 29(T).....		9.0	.04	6.7	3.4	32	2.6	20	12	54	.1	.7	143	31	14	251	6.5	40
July 5-6, 8, 10, 12, 13(B),15(T),16-22, 23(T),24,25-28(T).		8.8	.05	5.0	2.7	22	2.2	20	8.4	32	.1	.9	100	24	7	170	6.6	40
July 25 (B), 30-31..		9.2	.02	5.8	10	80	4.7	20	27	135	.1	1.1	a283	56	40	560	7.3	40
July 29 (B).....		--	--	--	--	--	--	16	81	820	--	.9	--	309	296	2,910	7.2	--
Aug. 1-5, 22 (B)....		11	.09	4.5	6.9	46	3.7	23	17	75	.2	.9	a176	39	21	328	7.0	50
Aug. 6-9 (T), 10-15, 16-18 (T), 19-21, 22 (T), 23-31.....		9.9	.15	4.0	4.3	24	2.7	24	8.9	37	.2	.6	113	28	8	188	7.1	70
Aug. 6 (B).....		--	--	--	--	--	--	24	28	328	--	.4	--	63	43	1,220	7.4	--
Aug. 7-9(B),16-18(B)		11	.11	4.9	10	68	4.6	20	24	125	.1	.6	280	54	38	500	6.9	50
Sept. 1-10, 16.....		11	.15	5.6	3.9	21	2.4	32	8.7	28	.2	.8	116	30	4	170	7.4	60
Sept.11-14,15(T),17, 18(T), 25-26(T), 27, 28(T).....		11	.13	6.0	7.0	48	3.6	28	16	80	.2	.8	192	44	21	340	7.1	55

a Calculated from determined constituents.

ALBEMARLE SOUND--Continued

2-811.53. ALBEMARLE SOUND NEAR EDENTON, N. C.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Sept. 15(B), 18(B), 19-22, 23-24(T), 26(B),28(B),29-30.		11	0.11	6.3	11	80	4.7	27	25	135	0.2	0.6	300	60	38	538	6.9	50
Sept. 23-25(B).....		9.5	.04	12	44	320	14	17	94	590	.2	.5	a1,090	211	197	2,100	6.6	40

a Calculated from determined constituents.

2-811.53. ALBEMARLE SOUND NEAR EDENTON, N. C.--Continued

Chloride, in parts per million, water year October 1958 to September 1959

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom
1			528	11,500	1,290	1,240	930	1,020	240	284														
2	20	20	546	10,800	1,400	1,400	910	950	241	284			22	22					54	54				
3			715	12,100	1,480	1,520	--	650	241	380											75	75		
4	51	67	725	12,100	1,480	1,510	645	660	306	390			43	46										
5	49	66	526	12,100	890	1,280	650	670	330	615			44	44										
																			32	32			28	28
6			518	12,100	875	1,280	685	680	382	396													328	
7	20	20	545	11,100	865	1,280	720	725	392	394									54	54				
8			544	11,300	915	1,400	690	695	390	390									32	32			125	
9			4,080	775	1,200	1,280	765	775	296	426									54	54				
10	52	54	4,260	780	1,200	1,290	750	740	298	426			22	22					32	32				
11	63	64	760	11,500	1,440	1,460	745	735	454	484									54	54				
12	64	64	765	11,900	1,440	1,460	670	680	446	446									32	32			37	80
13			805	11,800	1,020	1,370	660	685	284	296									54	32			80	
14			905	11,600	1,020	1,350	528	675	284	296							19	19	54	54				
15	20	20	655	11,100	925	985	580	680	168	166			54	60					32	54				135
16			655	11,400	920	975	695	690	170	166	46	46	38	55	12	12							28	28
17	58	57	790	5,030	900	1,690	690	695	140	140			31	32									125	80	80
18	58	58	740	5,250	890	1,700	640	655	88	88													80	135
19	57	58	900	2,170	740	1,720	635	640	90	88									32	32	37			
20	60	58	870	1,910	925	1,770	620	615	60	60													37	135	135
21	58	58	975	4,740	1,120	1,160	880	890	88	88														
22	20	20	950	4,790	1,140	1,130	880	885	32	37													75	
23			825	825	845	850	905	905	131	132			22	22						54			135	
24	150	151	825	825	900	905	815	900	112	112										32			135	590
25	149	150	990	990	920	925	775	875	129	127									32	135				
26	115	114	900	900	915	915	675	1,120	50	48													80	135
27	116	116	1,020	1,020	890	1,090	538	825	50	49							33	61		54			37	80
28	366	9,260	1,000	1,000	925	935	530	715	50	50							30	61						135
29	496	1,040	1,400	1,450	965	1,060	528	715	--	--							31	64	54	820				
30	226	202	1,400	1,450	990	1,010	536	1,140	--	--			--	--			33	126	135	135			135	135
31	--	--	--	--	940	1,040	550	560	--	--			--	--			--	--	135	135			--	--

ALBEMARLE SOUND--Continued

2-811.53. ALBEMARLE SOUND NEAR EDENTON, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
Top and bottom once-daily measurements at approximately 12 m.

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom
1	74	74	62	62	48	48	42	42	41	41	45	45	55	55	65	65	75	75	84	83	--	--	84	84
2	62	62	62	62	48	48	44	44	41	41	45	45	56	56	67	67	75	75	84	83	--	--	84	84
3	63	63	61	61	48	48	--	40	44	45	47	47	56	56	69	69	75	--	83	83	80	80	83	83
4	63	63	61	61	48	48	39	39	45	--	47	47	53	57	69	69	76	76	83	83	80	80	82	82
5	63	--	61	61	47	47	38	38	--	44	47	47	57	57	68	67	76	76	84	84	79	79	82	82
6	63	63	61	61	47	47	38	36	44	44	48	48	61	61	69	69	76	76	84	84	80	80	82	81
7	63	63	60	60	46	47	38	38	44	44	48	48	61	61	69	69	74	74	82	82	82	81	81	81
8	63	63	60	60	45	46	46	44	44	48	48	48	63	63	71	71	74	72	79	79	82	81	81	81
9	63	63	57	57	44	44	38	38	48	48	48	48	63	63	71	71	79	79	80	80	82	81	81	81
10	63	63	57	57	44	44	38	38	48	44	48	48	64	64	71	71	78	78	79	79	82	81	81	81
11	64	64	57	57	38	38	38	38	44	44	48	48	64	64	71	71	79	79	82	82	81	81	80	80
12	64	64	57	57	38	38	41	40	44	44	50	50	64	64	74	74	80	79	82	82	82	81	79	78
13	64	64	60	60	37	37	40	40	44	44	48	48	52	52	73	73	76	76	79	80	82	81	72	77
14	64	64	59	59	37	37	40	40	44	44	50	50	54	54	74	74	76	76	80	79	82	81	77	77
15	64	64	62	62	35	35	40	40	47	47	50	50	54	54	68	68	76	76	--	--	82	81	76	76
16	64	64	62	62	35	35	40	40	46	46	50	50	61	64	70	70	76	76	--	--	82	81	75	75
17	64	64	61	61	39	39	35	35	50	50	50	50	60	60	70	70	76	76	80	79	82	81	73	73
18	63	63	61	61	39	39	34	34	49	49	48	48	57	57	72	72	76	76	80	79	81	81	77	77
19	63	63	58	58	39	39	34	34	46	46	50	50	57	58	72	72	75	74	81	81	82	81	75	78
20	63	63	58	58	39	39	39	39	43	43	51	51	57	57	72	72	75	74	81	81	83	83	72	72
21	62	62	58	58	36	36	43	43	44	44	50	50	58	57	74	73	78	77	81	81	84	83	70	70
22	64	64	58	58	37	37	49	49	44	44	50	50	58	59	74	74	78	77	81	81	84	82	71	71
23	64	64	59	59	39	39	40	40	47	47	52	52	59	57	74	74	77	77	82	81	84	83	71	71
24	64	64	59	59	41	41	41	41	47	47	53	53	63	62	74	74	77	77	82	81	84	83	72	72
25	64	64	57	57	38	38	42	42	45	45	55	56	63	63	74	74	82	80	83	83	84	84	73	75
26	63	63	57	57	37	37	42	42	45	45	56	56	66	63	74	74	84	82	83	83	84	84	75	75
27	63	63	55	55	38	38	42	42	45	45	56	56	64	63	74	74	84	82	83	82	84	84	76	76
28	60	61	55	55	40	40	42	42	45	45	54	54	64	64	75	75	85	83	83	82	84	83	75	75
29	59	59	49	49	43	43	42	42	--	--	54	54	--	--	75	75	85	83	83	83	84	83	76	76
30	59	59	49	49	43	43	44	44	--	--	54	54	--	--	75	75	--	--	84	84	83	83	76	76
31	--	--	--	--	42	42	44	44	--	--	55	55	--	--	75	75	--	--	83	83	83	83	--	--
Average	63	63	58	58	41	41	40	40	45	45	50	50	59	59	74	72	78	77	82	82	82	82	77	77

2-830. FISHING CREEK NEAR ENFIELD, N. C.

LOCATION.--Temperature recorder at gaging station on right bank 15 feet downstream from bridge on U. S. Highway 301, 2,000 feet downstream from Atlantic Coast Line Railroad bridge, 2 miles southwest of Enfield, Halifax County, and 4 3/4 miles downstream from Rocky Creek.
DRAINAGE AREA.--521 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1948 to September 1949.
Water temperatures: October 1948 to September 1949, October 1953 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 86°F June 30, July 1, 2; minimum, 33°F on several days during December.
EXTREMES, 1948-49, 1953-59.--Water temperatures: Maximum, 86°F July 27-29, 1955, June 30, July 1, 2, 1959; minimum, 33°F Dec. 28, 1948 and on several days during December 1958.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Temperature (°F) of water, water year October 1958 to September 1959
(Continuous ethyl alcohol-actuated thermograph)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	65	63	54	53	48	45	44	44	44	44	45	44	54	52	68	67	75	74	86	84	77	76	76	76
2	64	61	53	52	45	42	44	44	44	42	45	45	55	54	69	67	75	73	86	84	76	76	77	76
3	61	60	52	52	42	42	44	44	42	40	46	45	55	55	70	68	73	72	84	82	76	75	78	76
4	60	58	52	52	42	42	44	43	40	40	47	45	56	55	70	69	72	71	82	75	75	75	77	74
5	58	58	52	52	44	42	43	40	40	40	47	46	56	56	70	69	73	71	75	74	76	74	74	73
6	58	58	53	52	44	43	40	37	41	40	51	47	57	56	70	68	74	72	75	73	76	75	74	73
7	58	57	54	53	43	42	37	36	41	40	52	51	58	57	70	68	74	72	78	75	76	75	74	73
8	58	58	54	53	42	42	36	36	40	40	52	50	60	58	70	69	76	73	77	75	77	76	74	73
9	59	58	53	53	42	41	36	35	41	40	50	49	63	60	70	68	77	74	77	76	77	76	73	73
10	61	59	53	53	41	40	35	34	44	41	49	48	67	63	70	68	78	75	77	76	78	76	73	72
11	61	60	53	52	40	35	34	34	46	44	49	48	68	66	69	68	79	76	77	76	78	77	72	72
12	62	60	52	52	35	34	34	34	46	46	48	48	67	60	71	69	79	77	76	74	78	77	72	71
13	61	60	52	51	35	34	34	34	46	46	48	48	60	52	72	70	80	78	74	73	79	77	71	70
14	60	59	51	51	34	34	34	34	48	46	49	47	52	50	72	71	80	77	73	72	79	76	70	69
15	59	59	53	51	34	34	36	34	50	48	49	48	50	49	71	68	77	75	72	72	80	78	69	68
16	59	59	54	53	34	33	38	36	50	50	50	49	54	50	68	67	76	76	72	72	81	78	69	68
17	60	59	55	54	33	33	38	38	50	50	51	50	56	54	67	66	76	73	72	72	81	79	69	68
18	60	60	57	55	33	33	38	36	50	49	51	50	60	56	66	66	73	71	73	72	82	80	68	67
19	60	59	58	57	33	33	36	35	49	47	51	50	61	60	67	66	73	71	76	73	83	80	68	66
20	59	59	58	57	33	33	35	34	47	44	50	49	62	61	69	66	74	71	77	75	82	61	66	65
21	59	59	57	56	33	33	38	34	44	42	51	50	62	62	70	68	74	72	77	74	83	81	65	65
22	59	59	56	54	33	33	43	38	42	40	53	51	62	60	72	69	76	73	74	74	84	81	66	65
23	59	59	54	52	33	33	44	43	41	40	53	52	60	58	74	71	78	75	76	74	84	82	66	65
24	61	59	52	51	33	33	43	42	43	41	53	51	58	56	75	73	78	77	78	76	83	82	67	66
25	61	60	52	51	34	33	42	41	43	43	55	52	57	56	75	74	77	76	80	78	84	82	68	67
26	60	59	52	51	34	34	41	41	43	43	57	54	59	57	75	73	80	77	79	78	83	81	69	68
27	59	58	52	51	34	34	41	41	43	43	58	57	61	59	75	73	81	80	79	76	82	80	70	69
28	59	57	51	51	38	34	41	41	44	43	58	57	64	61	76	73	83	80	78	76	82	81	70	69
29	57	56	51	50	44	38	41	41	--	--	57	55	66	64	76	74	85	82	76	75	81	80	70	70
30	56	55	50	48	44	44	43	41	--	--	55	54	67	66	77	75	86	83	76	75	80	78	72	70
31	55	54	--	--	45	44	44	43	--	--	54	52	--	--	76	75	--	--	76	76	79	78	--	--
Average	60	59	53	52	38	37	39	38	44	43	51	50	60	57	71	70	77	75	77	75	80	78	71	70

PAMLICO RIVER BASIN--Continued

2-835. TAR RIVER AT TARBORO, N. C.

LOCATION.--At gaging station on U. S. Highway 64, in Tarboro, Edgecombe County, 6.5 miles downstream from Fishing Creek.
DRAINAGE AREA.--2,140 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1944 to September 1945, October 1953 to September 1954.
Water temperatures: October 1944 to September 1945, October 1953 to September 1954.
Sediment records: January 1958 to September 1959.
EXTREMES, 1958-59.--Sediment concentrations: Maximum daily, 287 ppm July 14; minimum daily, 8 ppm Dec. 17.
Sediment loads: Maximum daily, 3,940 tons July 14; minimum daily, 9 tons June 24.
EXTREMES, January 1958 to September 1959.--Sediment concentrations: Maximum daily, 353 ppm July 17, 1958; minimum daily, 8 ppm Dec. 17, 1958.
Sediment loads: Maximum daily, 6,130 tons May 12, 1958; minimum daily, 9 tons June 24, 1959.
REMARKS.--Records of suspended matter of composite samples from October 1944 to September 1945, October 1953 to September 1954 available in district office at Raleigh, N. C. Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Feb. 6, 1959.....	5,780	8.7	0.11	3.2	1.3	4.2	1.3	13	3.3	4.3	0.1	1.3	34	13	3	49	5.9	55
Sept. 16.....	936	18	.46	5.5	1.8	7.2	1.8	24	3.3	8.0	.0	1.7	60	21	1	70	7.1	

PAMLICO RIVER BASIN--Continued

2-835. TAR RIVER AT TARBORO, N. C.--Continued

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	380	14	14	910	18	44	830	11	25
2...	565	72	110	1,120	29	88	990	12	32
3...	766	47	97	1,680	40	181	970	11	29
4...	3,160	118	s1,060	1,910	40	206	890	10	24
5...	4,380	73	863	1,910	32	165	850	9	21
6...	4,140	44	492	1,770	30	143	830	12	27
7...	3,040	39	320	1,590	28	120	850	12	28
8...	2,280	35	215	1,420	22	84	830	12	27
9...	1,770	31	148	1,380	20	75	830	12	27
10...	1,420	27	104	1,250	20	68	770	15	31
11...	1,200	24	78	1,160	15	47	790	12	26
12...	1,030	21	58	1,070	16	46	810	10	22
13...	890	21	50	990	15	40	830	10	22
14...	790	20	43	910	12	29	850	10	23
15...	692	12	22	910	15	37	910	10	25
16...	673	12	22	870	16	38	970	10	26
17...	636	13	22	850	17	39	930	8	20
18...	600	13	21	850	13	30	1,070	15	43
19...	600	14	23	830	14	31	1,070	22	64
20...	548	12	18	850	12	28	1,160	30	94
21...	582	10	16	830	12	27	1,250	14	47
22...	673	13	24	830	12	27	1,380	18	67
23...	1,010	38	104	790	11	23	1,420	17	65
24...	1,420	53	203	750	11	22	1,460	14	55
25...	1,590	31	133	770	14	29	1,550	14	59
26...	1,510	24	98	711	15	29	1,550	16	67
27...	1,290	22	77	750	15	30	1,460	12	47
28...	1,160	20	63	750	17	34	1,420	13	50
29...	1,200	21	68	770	15	31	3,880	148	s1,730
30...	1,030	17	47	750	15	30	6,600	139	2,480
31...	1,010	18	49	--	--	--	8,220	108	2,400
Total	42,035	--	4,662	31,931	--	1,821	48,220	--	7,703

Day	January			February			March		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	9,120	105	2,590	1,910	21	108	2,130	19	109
2...	11,500	97	3,010	1,770	20	96	2,180	19	112
3...	13,100	81	2,860	1,730	11	51	2,860	29	224
4...	13,900	58	2,180	1,980	49	s313	3,250	28	246
5...	11,700	52	1,640	4,520	108	1,320	3,420	26	240
6...	9,160	36	890	6,120	68	1,120	4,500	109	s1,420
7...	6,550	28	495	6,850	61	1,130	6,400	107	1,850
8...	4,390	25	296	7,330	86	1,700	7,060	69	1,320
9...	3,310	23	206	6,990	50	944	7,620	71	1,460
10...	2,920	19	150	6,200	39	653	7,760	63	1,320
11...	2,700	18	131	4,160	34	382	6,820	40	737
12...	2,430	11	72	3,420	27	249	5,320	30	431
13...	2,230	10	60	2,980	23	185	3,950	26	277
14...	2,230	13	78	3,200	27	233	3,200	20	173
15...	2,280	10	62	3,660	30	296	2,700	20	146
16...	2,280	9	55	4,260	42	483	2,430	20	131
17...	2,330	10	63	4,320	37	432	2,280	19	117
18...	2,230	15	90	4,620	58	723	2,130	21	121
19...	2,280	15	92	4,320	84	980	1,950	18	95
20...	2,180	13	77	3,540	49	468	1,820	17	84
21...	1,950	12	63	3,030	31	254	1,730	17	79
22...	2,180	37	218	2,590	25	175	1,730	16	75
23...	2,810	58	440	2,330	20	126	1,680	18	82
24...	3,250	42	369	2,380	20	129	1,640	18	80
25...	3,720	69	693	2,380	20	129	1,640	16	71
26...	3,140	97	822	2,380	18	116	1,730	14	65
27...	2,700	68	496	2,380	17	109	1,730	13	61
28...	2,430	45	295	2,230	17	102	1,910	41	211
29...	2,230	32	193	--	--	--	2,330	43	271
30...	2,090	28	158	--	--	--	2,480	27	181
31...	2,000	23	124	--	--	--	3,030	35	286
Total	137,320	--	18,968	103,580	--	13,006	101,410	--	12,075

s Computed by subdividing day.

PAMLICO RIVER BASIN--Continued

2-835. TAR RIVER AT TARBORO, N. C.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	3,660	35	346	2,540	30	206	565	13	20
2...	4,500	56	680	2,280	32	197	530	16	23
3...	5,450	95	1,400	2,000	32	173	1,130	45	137
4...	5,980	54	872	1,770	33	158	1,820	119	585
5...	6,380	54	930	1,590	27	116	1,820	107	526
6...	6,320	77	1,310	1,550	26	109	1,860	88	442
7...	4,770	43	554	1,550	24	100	1,910	75	387
8...	3,590	36	349	1,420	22	84	1,380	65	242
9...	2,980	35	282	1,290	23	80	1,010	63	172
10...	2,430	34	223	1,120	26	79	810	61	133
11...	2,180	32	188	1,070	23	66	673	35	64
12...	2,560	82	s640	1,030	20	56	600	30	49
13...	5,500	100	1,490	1,030	19	53	565	30	46
14...	7,770	68	1,430	990	22	59	462	24	30
15...	9,170	54	1,340	1,070	25	72	459	19	24
16...	10,600	60	1,720	1,680	36	163	430	20	23
17...	12,200	52	1,710	1,640	29	128	548	21	31
18...	12,700	40	1,370	1,290	41	143	530	20	29
19...	10,300	30	834	1,070	37	107	452	25	31
20...	9,210	32	796	1,030	28	78	394	11	12
21...	8,530	40	921	1,030	24	67	371	14	14
22...	9,210	53	1,320	1,070	27	78	348	13	12
23...	10,600	50	1,430	1,030	22	61	348	12	11
24...	12,100	38	1,240	1,120	26	79	322	10	9
25...	12,000	32	1,040	1,120	27	82	368	20	20
26...	10,400	30	842	930	21	53	478	22	28
27...	8,000	30	648	750	21	43	415	22	25
28...	5,680	29	445	692	18	34	443	29	35
29...	3,960	34	364	654	19	34	406	19	21
30...	3,080	34	283	618	17	28	359	17	16
31...	--	--	--	548	15	22	--	--	--
Total	211,810	--	26,997	38,572	--	2,808	21,806	--	3,197

Day	July			August			September		
1...	317	17	15	5,650	58	885	2,040	66	364
2...	388	21	22	5,910	74	1,180	2,090	60	339
3...	711	75	144	5,850	66	1,040	2,040	64	353
4...	618	90	150	4,300	60	697	2,180	109	642
5...	801	68	147	2,920	77	607	4,260	104	1,200
6...	1,290	68	237	1,990	63	338	6,200	109	1,820
7...	990	60	160	1,730	55	257	6,850	74	1,370
8...	673	67	122	1,640	55	244	7,130	58	1,120
9...	512	69	95	1,550	64	268	6,790	50	917
10...	478	63	81	1,290	48	167	5,560	73	1,100
11...	565	67	102	1,200	43	139	3,430	63	583
12...	1,320	88	314	1,380	49	183	2,210	57	340
13...	3,360	240	s2,340	1,070	33	95	1,680	48	218
14...	5,090	287	3,940	910	30	74	1,330	49	176
15...	6,840	136	2,510	810	27	59	1,120	39	118
16...	7,620	82	1,690	711	24	46	970	38	100
17...	7,620	76	1,560	618	23	38	870	35	82
18...	7,400	60	1,200	548	20	30	790	33	70
19...	7,130	50	963	530	20	29	730	28	55
20...	6,790	53	972	478	20	26	673	22	40
21...	5,470	44	650	582	23	36	673	21	38
22...	3,570	69	665	495	17	23	565	21	32
23...	3,840	89	923	436	16	19	548	21	31
24...	4,080	110	1,210	409	14	15	565	22	34
25...	3,200	92	795	383	11	11	512	18	25
26...	2,810	137	1,040	345	13	12	495	19	25
27...	2,700	65	474	403	14	15	478	17	22
28...	3,590	115	1,110	462	18	22	440	13	15
29...	5,430	127	1,860	505	23	31	443	14	17
30...	5,980	66	1,070	2,190	179	s1,150	530	19	27
31...	5,980	64	1,030	2,210	110	656	--	--	--
Total	107,163	--	27,591	49,505	--	8,392	64,192	--	11,273

Total discharge for year (cfs-days).....957,544
Total load for year (tons).....138,493

s Computed by subdividing day.

757-048 O - 65 - 16

PAMLICO RIVER BASIN--Continued

2-835. TAR RIVER AT TARBORO, N. C.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; M, mechanically dispersed; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time	Discharge (cfs)	Water temperature (° F)	Suspended sediment											Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters											
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	
Dec. 31, 1958	1:35 p.m.	7,906		82	581	46	68	79	86	87	90	92	98		100		BCMSW
Apr. 17, 1959	4:52 p.m.	12,450		39	250	58	65	68	73	76	78	82	90		99	100	BMNS

PAMLICO RIVER BASIN--Continued

2-841.24. TAR RIVER NEAR (YANKEE HALL LANDING) PACTOLUS, N. C.

LOCATION.--At Yankee Hall Landing about 1-1/2 miles southeast of Pactolus, Pitt County.
DRAINAGE AREA.--2,680 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1956 to September 1959.
Water temperatures: October 1956 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 77 ppm Aug. 1-2, 5-6, 21-31; minimum, 47 ppm Sept. 1-6, 8-15.
Hardness: Maximum, 66 ppm May 30; minimum, 15 ppm Apr. 1-30.
Specific conductance: Maximum daily, 147 micromhos May 30; minimum daily, 48 micromhos Sept. 6.
Water temperatures: Maximum, 94°F June 29; minimum, freezing point Dec. 14, Jan. 9-12.
EXTREMES, 1956-59.--Dissolved solids: Maximum, 85 ppm Oct. 1-31, 1957; minimum, 47 ppm Sept. 1-6, 8-15, 1959.
Hardness: Maximum, 66 ppm May 30, 1959; minimum, 13 ppm Dec. 21-31, 1956.
Specific conductance: Maximum daily, 200 micromhos Oct. 30, 1957; minimum daily, 45 micromhos Mar. 29, 1958.
Water temperatures: Maximum 94°F June 29, 1959; minimum, freezing point on several days during winter months.
REMARKS.--Records of specific conductance of samples collected available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in part per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-31, 1958.....		14	0.28	7.0	1.1	7.0	2.5	21	7.1	8.9	0.1	3.0	75	22	5	90	6.6	55
Nov. 1-30.....		16	.23	6.8	2.0	8.6	2.0	25	5.1	10	.1	2.7	72	25	5	94	7.0	50
Dec. 1-31.....		15	.30	5.6	2.4	7.4	1.8	23	5.4	8.5	.1	2.8	67	24	5	87	6.8	40
Jan. 1-31, 1959.....		12	.04	7.2	1.0	4.8	1.3	15	7.6	7.0	.1	2.5	66	22	10	78	6.3	40
Feb. 1-28.....		11	.14	4.8	1.5	5.6	1.4	14	5.6	8.5	.1	2.2	61	18	7	66	6.6	55
Mar. 1-17, 19-31....		10	.04	4.8	1.8	6.0	1.5	18	5.4	7.5	.1	2.8	55	19	4	66	6.6	35
Mar. 18.....		--	--	--	--	--	--	73	6.4	9.0	--	3.1	--	60	0	131	7.4	--
Apr. 1-30.....		9.1	.12	4.0	1.3	4.8	1.3	14	6.0	6.0	.2	2.2	55	15	4	61	6.6	60
May 1-29, 31.....		14	.20	6.3	.8	6.5	1.4	25	4.2	7.5	.1	2.7	67	19	0	79	6.5	45
May 30.....		--	--	--	--	--	--	76	6.7	6.5	--	3.5	--	66	3	147	8.1	--
June 1-30.....		13	.02	5.1	2.6	8.1	1.8	27	6.1	9.5	.2	2.1	68	23	1	93	7.0	25
July 1-31.....		11	.07	5.6	1.7	5.8	1.7	20	6.0	6.8	.1	2.3	64	21	5	80	7.2	45
Aug. 1-2, 5-6, 21-31		13	.14	7.4	2.0	8.0	2.3	24	11	9.0	.2	3.6	77	27	7	101	7.2	40
Aug. 3-4, 7-20.....		14	.36	5.3	1.8	5.9	1.9	21	4.3	7.0	.2	1.9	70	20	3	74	6.8	80
Sept. 1-6, 8-15.....		12	.06	4.3	1.2	4.6	2.4	16	4.8	5.0	.2	1.9	47	16	3	64	7.2	50
Sept. 7, 16-30.....		18	.09	5.9	1.8	7.8	2.3	24	4.4	8.5	.2	2.5	70	22	2	93	7.2	40
Time-weighted average.....		13	0.15	5.7	1.6	6.5	1.8	21	5.9	7.9	0.1	2.5	65	21	4	81	--	46

PAMLICO RIVER BASIN--Continued

2-841.24. TAR RIVER NEAR (YANKEE HALL LANDING) PACTOLUS, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 12 m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	58	49	50	40	42	56	65	80	83	80	86
2	65	58	47	48	40	50	59	69	72	84	76	85
3	64	58	43	51	43	50	56	70	76	82	70	85
4	64	59	42	52	42	51	57	71	75	83	76	86
5	65	59	52	41	42	49	60	72	79	85	75	85
6	70	58	50	42	40	54	65	72	--	83	81	86
7	70	59	52	43	52	54	65	75	79	85	80	82
8	71	56	50	42	56	52	60	75	78	81	81	83
9	70	56	47	32	46	54	65	76	79	79	80	82
10	68	55	42	32	49	54	67	77	79	80	85	79
11	69	56	35	32	49	54	50	77	78	81	79	73
12	65	56	36	32	48	52	65	69	80	80	80	73
13	67	55	36	35	52	52	67	68	85	80	81	72
14	68	61	32	40	52	50	56	74	84	81	81	70
15	65	--	35	40	54	53	56	73	80	80	79	72
16	65	61	36	39	53	53	59	75	75	76	79	72
17	65	62	37	39	53	50	59	75	77	77	85	73
18	65	60	36	41	52	51	60	71	79	77	85	70
19	64	61	36	43	46	53	59	74	79	79	87	70
20	65	60	39	40	45	54	60	76	81	78	84	70
21	64	60	38	40	48	57	59	76	82	76	85	72
22	65	--	39	49	46	56	60	76	84	79	90	72
23	65	--	39	49	45	56	59	79	84	81	89	73
24	65	--	40	41	41	--	60	84	85	82	82	75
25	64	61	39	41	41	56	59	85	84	82	83	73
26	65	62	39	43	47	60	60	79	82	81	90	75
27	65	59	40	43	45	54	59	79	82	82	89	75
28	61	57	39	41	50	56	60	74	92	82	84	76
29	61	55	49	46	--	58	65	72	94	82	83	78
30	62	51	48	43	--	55	60	82	89	81	86	79
31	61	--	49	42	--	--	--	82	--	82	85	--
Average	65	58	42	42	47	53	60	75	81	81	82	77

2A-841.71. TAR RIVER AT GRIMESLAND, N. C.

LOCATION.--At bridge on county road, 1 mile northeast of Grimesland, Pitt County, 0.3 mile upstream from Chicod Creek, and 1.8 miles upstream from Grindle Creek.
DRAINAGE AREA.--2,740 square miles.
RECORDS AVAILABLE.--Chemical analyses: September 1954 to September 1959.
Water temperatures: October 1954 to September 1956, October 1957 to September 1958.
EXTREMES, 1958-59.--Chloride: Maximum daily, 111 ppm Oct. 25; minimum, 4.7 ppm July 15-16, 18-31.
Specific conductance: Maximum daily, 459 micromhos Oct. 25; minimum daily, 48 micromhos Jan. 7, 8.
EXTREMES, 1954-59.--Chloride: Maximum, 5,790 ppm Oct. 15 (p.m.), 1954; minimum, 3.0 ppm July 21, 1955, Nov. 28, 1958.
Specific conductance: Maximum daily, 15,600 micromhos Oct. 15 (p.m.), 1954; minimum daily, 38 micromhos May 16, 1958.
REMARKS.--Records of specific conductance of daily samples available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-6,8-9,11-13, 15-24,26,28-31, 1958		14	0.22	6.0	1.7	7.3	2.2	21	5.7	8.6	0.1	2.2	73	22	5	90	6.5	50
Oct. 7, 10, 14		12	.11	7.2	3.2	21	4.1	64	10	8.0	.2	5.1	a103	31	0	161	6.9	40
Oct. 25		--	--	--	--	--	--	23	26	111	--	2.5	--	60	41	459	6.9	--
Nov. 1-2,4-15,17-23, 25-27,29-30		15	.28	6.8	1.9	7.8	1.9	26	7.1	8.0	.1	1.8	73	25	4	89	6.7	60
Nov. 3, 16, 24		14	.44	8.0	2.9	18	3.3	58	6.8	10	.3	3.6	a96	32	0	143	6.4	40
Dec. 1-4,6-8,10-27, 29-31		16	.31	6.0	1.9	8.0	1.5	26	4.5	8.5	.1	2.5	71	23	2	85	7.1	35
Dec. 28		--	--	--	--	--	--	66	6.5	10	--	5.1	--	32	0	151	7.6	--
Jan. 1-29, 31, 1959		11	.06	6.0	.4	4.1	1.4	15	6.1	5.5	.1	1.5	61	17	4	64	6.5	40
Jan. 30		--	--	--	--	--	--	35	5.0	18	--	3.3	--	22	0	104	7.0	--
Feb. 1-2,4-10,12-28		11	.13	4.8	1.5	5.6	1.4	18	5.2	7.5	.1	1.9	53	18	3	69	6.5	55
Mar. 1-31		10	.02	4.5	2.1	6.7	1.4	21	4.9	7.5	.1	2.7	58	20	3	74	6.8	35
Apr. 1-16, 18-30		9.4	.07	4.2	1.7	5.0	1.3	18	4.1	6.5	.2	1.9	55	17	2	61	6.6	70
Apr. 17		--	--	--	--	--	--	47	7.5	6.0	--	2.9	--	23	0	112	7.3	--
May 1-31		16	.05	6.1	2.1	6.5	1.4	26	5.1	6.0	.1	1.8	63	24	3	76	6.7	35
June 1-30		14	.06	6.3	1.8	7.5	1.4	27	6.1	8.5	.1	1.3	70	23	1	90	7.0	30
July 1-14, 17		12	.03	6.1	2.4	7.5	1.7	26	6.1	8.0	.1	1.7	68	25	4	94	7.1	30
July 15-16,18-31		10	.06	4.9	1.4	3.6	1.6	14	5.1	4.7	.1	1.4	56	18	6	57	6.6	60
Aug. 1-17		13	.43	4.9	1.1	4.8	1.9	21	4.8	6.0	.2	.9	60	17	0	64	7.1	100
Aug. 18-31		16	.24	6.8	2.6	8.0	2.1	27	7.6	9.5	.2	1.7	73	28	5	92	7.3	60
Sept. 1-2,4-5,18-30		17	.15	5.9	1.9	7.5	2.2	26	4.6	8.5	.2	1.7	72	23	1	91	7.3	40
Sept. 3, 6-17		13	.09	4.6	1.2	4.7	2.3	18	5.3	5.0	.2	1.9	51	17	2	64	7.2	60
Time-weighted average		13	0.14	5.6	1.7	6.6	1.7	23	5.6	7.6	0.1	1.9	64	21	3	80	--	48

a Calculated from determined constituents.

2-872.24. NEUSE RIVER NEAR MILBURNIE, N. C.

LOCATION.--At bridge on county road, 2.5 miles south of U. S. Highway 401, 0.5 mile below Hodges Mill Creek, and 3.4 miles north of Milburnie, Wake County.
DRAINAGE AREA.--857 square miles.
RECORDS AVAILABLE.--Chemical analyses: January 1958 to September 1959.
Water temperatures: January 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 154 ppm Dec. 2-10; minimum, 30 ppm July 10-13.
Hardness: Maximum, 33 ppm Nov. 1, 5-8; minimum, 14 ppm July 10-13.
Specific conductance: Maximum daily, 271 micromhos Nov. 7; minimum daily, 38 micromhos July 10.
Water temperatures: Maximum, 84°F June 28-30, July 1; minimum, freezing point Dec. 11, 25, 27.
EXTREMES, January 1958 to September 1959.--Dissolved solids: Maximum, 154 ppm Dec. 2-10, 1958; minimum, 30 ppm July 10-13, 1959.
Hardness: Maximum, 33 ppm Nov. 1, 5-8, 1958; minimum, 13 ppm May 6-10, 1958.
Specific conductance: Maximum daily, 271 micromhos Nov. 7, 1958; minimum daily, 35 micromhos May 6, 1958.
Water temperatures: Maximum, 84°F June 28-30, July 1, 1959; minimum, freezing point Dec. 11, 25, 27, 1958.
REMARKS.--Records of suspended matter of composite samples and records of specific conductance of samples collected available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-2, 7-10, 1958		16	0.09	6.8	2.3	29	2.3	40	7.2	33	0.1	2.9	a120	27	0	195	6.7	25
Oct. 3-6		16	.09	5.2	2.2	16	2.1	33	5.8	14	.2	2.4	a80	22	0	118	7.4	20
Oct. 11, 14-19		18	.10	6.0	2.9	28	2.0	40	6.8	33	.1	2.8	a120	27	0	190	6.7	15
Oct. 12-13, 20		18	.01	7.2	1.9	11	2.0	40	3.8	7.5	.1	1.6	a73	26	0	100	6.7	5
Oct. 21-31		21	.20	6.8	2.9	28	3.0	47	4.5	32	.2	1.2	131	29	0	200	6.9	30
Nov. 1, 5-8		23	.17	8.7	2.9	36	3.0	51	6.1	38	.2	3.7	a148	33	0	235	7.7	30
Nov. 2-4, 9-10		24	.19	7.4	3.1	16	2.3	46	6.2	14	.1	1.8	a99	31	0	132	7.4	30
Nov. 11-20		30	.19	8.0	2.7	28	2.3	52	4.5	33	.1	2.4	151	31	0	212	7.0	30
Nov. 21-30		26	.15	7.6	2.9	32	2.4	53	5.4	32	.1	2.6	142	31	0	200	7.4	30
Dec. 1		--	--	--	--	--	--	51	3.7	12	--	--	--	29	0	121	7.6	--
Dec. 2-10		20	.16	7.0	2.3	30	2.4	22	5.1	34	.4	29	154	27	9	198	7.6	25
Dec. 11-20		21	.17	6.7	2.5	26	1.9	42	4.0	29	.1	4.1	119	27	0	185	7.4	30
Dec. 21-28		20	.12	6.9	2.9	20	2.1	43	3.5	19	.1	4.1	106	29	0	158	7.0	20
Dec. 29-31		--	--	3.6	1.9	4.5	2.2	15	4.7	1.7	--	--	--	17	5	52	6.1	--
Jan. 1-10, 1959		13	.04	5.4	1.2	7.4	1.9	18	5.5	8.3	.2	2.4	65	18	4	77	7.1	30
Jan. 11-20		16	.01	5.5	2.6	11	1.9	23	5.8	16	.0	2.9	88	25	6	102	6.3	20
Jan. 21-31		14	.04	5.9	1.6	9.6	1.4	23	6.9	9.2	.1	2.0	73	21	2	91	6.8	25
Feb. 1, 5-10		13	.05	6.1	.8	6.1	1.2	18	5.5	6.2	.2	2.3	62	19	4	75	6.7	35
Feb. 2-4		15	.06	5.2	2.0	13	1.4	27	5.3	15	.1	2.5	a73	21	0	114	6.6	37
Feb. 11-20		14	.03	5.7	1.6	7.2	1.0	20	7.1	6.5	.1	2.5	66	21	4	82	6.9	35
Feb. 21-28		15	.07	6.4	1.6	5.5	1.1	23	5.0	8.0	.0	2.0	71	23	4	95	6.9	35
Mar. 1-10		14	.02	5.1	1.9	8.1	1.2	22	6.1	7.5	.1	1.9	62	21	3	83	7.0	30
Mar. 11-20		15	.01	5.9	1.5	10	1.1	25	4.6	9.5	.1	1.8	66	21	1	95	6.9	20
Mar. 21-31		15	.01	5.8	1.1	12	1.2	30	4.1	11	.2	2.3	74	19	0	108	7.3	20

a Calculated from determined constituents.

NEUSE RIVER BASIN--Continued

2-872.24. NEUSE RIVER NEAR MILBURNIE, N. C.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Apr. 1-10, 1959.....		14	0.01	4.1	2.6	7.3	0.9	23	3.2	7.0	0.1	2.0	64	21	2	84	7.4	30
Apr. 11-20.....		11	.04	3.8	2.1	4.6	1.0	19	5.0	4.0	.1	1.5	54	18	3	64	7.4	45
Apr. 21-30.....		13	.06	4.6	2.0	5.8	.9	21	3.6	5.5	.2	1.6	60	20	3	72	7.5	40
May 1, 4-8.....		18	.03	6.1	1.7	11	1.1	30	3.9	12	.1	1.9	76	22	0	103	6.8	25
May 2-3, 9-10.....		18	.16	5.7	1.8	7.1	1.2	31	2.6	6.0	.0	2.1	a60	21	0	80	7.4	--
May 11-13, 16, 18-20		18	.04	5.6	2.6	18	1.6	32	3.8	21	.1	1.8	89	25	0	139	7.6	25
May 14-15, 17.....		18	.18	7.0	1.2	9.3	1.4	30	1.6	9.5	.0	2.6	a66	22	0	89	6.2	--
May 21, 25-30.....		19	.04	5.7	2.9	15	1.4	34	2.4	17	.2	2.8	94	26	0	130	7.2	30
May 22-24, 31.....		17	.16	6.3	1.7	7.3	1.4	29	2.4	5.5	.1	3.1	a59	22	0	82	7.5	--
June 1-3, 8-10.....		16	.03	5.7	2.0	12	1.3	25	5.9	12	.2	1.8	80	23	2	105	6.5	30
June 4-7.....		11	.10	4.8	1.5	3.7	1.0	18	3.6	4.5	.1	1.3	a41	18	3	59	6.1	--
June 11-15.....		17	.12	5.6	2.0	10	1.3	29	3.0	9.5	.1	2.3	78	22	0	100	6.6	35
June 16-20.....		19	.06	5.9	2.6	21	1.5	34	4.0	27	.2	2.2	114	25	0	171	6.6	30
June 21-22, 28-29...		19	.00	6.0	2.5	12	1.4	40	2.8	11	.1	1.6	82	25	0	111	6.8	20
June 23-27, 30.....		19	.01	8.1	1.8	29	1.3	41	4.7	35	.2	2.4	a123	28	0	201	6.6	--
July 1-2.....		--	.40	7.2	3.1	--	--	44	5.3	50	--	3.8	--	31	0	270	7.0	--
July 3-9.....		14	.03	6.7	1.9	7.0	1.6	29	5.0	6.0	.1	2.0	a59	25	1	100	6.8	--
July 10-13.....		8.2	.04	3.2	1.4	1.6	1.2	14	4.2	1.8	.1	1.3	a30	14	2	51	6.5	--
July 14-19.....		14	.16	4.5	2.1	6.1	1.1	23	7.1	7.3	.1	1.1	a55	20	1	88	7.2	--
July 20-25.....		14	.02	5.6	1.8	9.0	1.4	24	3.4	9.5	.1	2.0	a59	21	2	100	7.4	--
July 26-31.....		12	.06	4.2	1.8	4.4	1.2	20	3.5	4.0	.1	1.7	a43	18	2	76	7.3	--
Aug. 1-10.....		16	.12	5.6	2.1	7.5	1.1	29	2.9	9.5	.1	2.1	78	23	0	93	7.3	20
Aug. 11-17.....		18	.08	6.3	1.9	12	1.1	31	4.1	15	.1	2.4	85	23	0	117	7.5	20
Aug. 18-20.....		20	.14	6.7	2.3	21	2.0	39	3.5	27	.1	2.2	a104	26	0	171	7.6	--
Aug. 21-22, 25-29...		19	.07	7.4	2.5	24	2.0	44	4.2	26	.1	2.2	123	29	0	181	7.5	20
Aug. 23-24, 30-31...		16	.03	5.9	.7	8.7	2.2	34	1.8	8.0	.1	1.8	a62	18	0	94	6.6	--
Sept. 1, 6-10.....		12	.09	4.4	1.6	4.6	1.8	20	2.7	6.5	.1	1.8	a46	17	1	71	6.9	--
Sept. 2-5.....		16	.03	4.5	1.8	12	2.1	21	3.8	16	.1	6.4	a73	18	1	110	7.1	--
Sept. 11-20.....		19	.14	5.8	1.9	13	2.0	34	3.1	14	.2	1.9	a79	22	0	122	7.0	40
Sept. 21, 27-28, 30.		20	.03	6.5	2.0	10	2.4	36	2.0	9.5	.1	2.4	a73	25	0	103	7.1	--
Sept. 22-26, 29.....		22	.18	6.3	3.0	28	2.6	42	5.1	32	.1	2.7	a123	28	0	198	7.4	--
Time-weighted average.....		17	0.08	5.9	2.1	14	1.6	31	4.5	16	0.1	3.0	86	23	1	123	--	--

a Calculated from determined constituents.

NEUSE RIVER BASIN--Continued

2-872.24. NEUSE RIVER NEAR MILBURNIE, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
/Once-daily measurement at approximately 5:30 p.m./

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	52	43	45	44	50	59	69	74	84	76	76
2	58	54	44	45	41	48	58	70	71	83	77	79
3	58	53	46	46	40	49	57	70	73	78	77	78
4	60	53	48	45	41	48	58	71	67	77	75	76
5	61	54	49	40	43	47	58	70	69	77	71	75
6	59	54	46	38	42	53	60	71	68	78	78	76
7	61	54	42	37	41	54	61	71	68	78	76	76
8	68	56	41	38	44	58	64	71	72	78	79	76
9	64	54	41	37	45	49	67	67	73	77	78	76
10	68	53	40	35	50	50	69	68	73	73	77	77
11	67	51	32	36	48	49	68	71	75	75	78	73
12	56	51	34	36	47	49	55	73	77	73	77	73
13	57	53	33	38	49	50	53	71	78	73	78	69
14	61	55	35	37	50	50	52	69	73	73	77	69
15	63	59	35	43	52	51	52	67	74	74	78	70
16	64	60	33	42	52	52	54	65	73	75	79	71
17	67	61	34	38	50	53	57	69	70	75	80	67
18	65	62	35	35	50	50	61	68	69	77	80	70
19	62	60	36	36	47	50	62	69	70	78	79	64
20	59	54	39	39	44	52	64	71	73	78	81	62
21	58	52	37	46	43	53	63	72	77	77	81	65
22	63	53	38	45	44	54	60	71	78	77	82	67
23	64	52	37	46	45	44	57	74	79	78	82	69
24	61	54	42	43	47	55	58	75	78	79	81	69
25	58	53	32	44	43	58	59	73	76	80	83	70
26	57	54	34	43	47	59	62	73	79	76	82	70
27	55	50	32	45	47	50	66	74	83	76	81	70
28	54	50	43	43	49	57	65	75	84	76	81	72
29	53	48	41	44	--	55	66	74	84	79	81	72
30	53	42	42	46	--	53	68	76	84	78	81	74
31	54	--	44	47	--	55	--	73	--	76	71	--
Average	60	54	39	41	46	52	60	71	75	77	79	72

NEUSE RIVER BASIN--Continued

2-875.66. NEUSE RIVER AT SMITHFIELD, N. C.

LOCATION.--At bridge on U. S. Highway 70 at Smithfield, Johnston County, and 1.7 miles upstream from Swift Creek.
DRAINAGE AREA.--1,201 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1954 to September 1955, October 1958 to September 1959.
REMARKS.--Records of discharge for gaging station near Clayton for water year October 1958 to September 1959 given in WSP 1623. No appreciable inflow between sampling point and gaging station except during period of heavy local rains.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 2, 1958.....	565	14	0.05	5.4	1.4	17	3.3	32	4.9	17	0.2	3.0	a83	19	0	129	6.9	30
Nov. 2.....	436	18	.12	5.9	1.7	16	3.1	32	9.7	17	.1	4.1	96	22	0	129	6.8	35
Nov. 30.....	336	20	.04	6.4	1.9	24	2.3	45	4.5	24	.1	3.9	112	24	0	163	6.8	25
Jan. 3, 1959.....	5,320	8.4	.11	3.6	1.6	5.0	2.2	12	6.7	5.2	.2	2.1	58	15	6	62	5.7	50
Feb. 2.....	594	15	.13	5.2	1.5	10	1.5	23	3.6	12	.1	3.7	72	19	0	96	6.4	30
Mar. 1.....	697	14	.02	5.6	1.9	10	1.2	25	7.9	10	.1	2.9	70	22	2	94	6.5	20
Apr. 1.....	1,820	13	.09	4.5	1.8	6.2	1.2	26	2.6	6.3	.1	1.9	58	18	0	71	6.9	40
Apr. 30.....	1,020	16	.03	3.2	2.6	8.5	1.2	24	3.9	8.5	.0	1.0	67	19	0	81	6.2	15
June 2.....	662	17	.13	5.5	2.1	10	1.7	30	3.2	10	.0	3.1	77	22	0	101	6.5	16
July 1.....	228	12	.02	6.6	2.1	19	2.5	35	4.2	20	.2	2.9	94	25	0	146	6.5	15
Aug. 2.....	2,060	11	.05	3.4	1.8	5.0	2.3	16	6.2	5.2	.1	2.1	60	16	3	64	6.4	60
Sept. 2.....	1,190	11	.04	3.5	1.5	5.1	2.0	16	4.2	5.4	.2	1.5	57	15	2	59	6.5	50

a Calculated from determined constituents.

2-883.64. NEUSE RIVER NEAR ROSEWOOD, N. C.

LOCATION.--At bridge on county road (Asylum Road), 3.5 miles southwest of Goldsboro, Wayne County, and 6.5 miles upstream from Little River.
DRAINAGE AREA.--2,037 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 2, 1958.....		16	0.08	5.4	2.5	16	2.9	34	4.1	18	0.1	1.5	84	24	0	127	6.9	30
Nov. 2.....		15	.26	4.0	2.2	9.6	2.5	25	2.7	9.9	.1	1.6	66	19	0	88	6.7	50
Dec. 1.....		14	.16	5.2	1.2	11	1.7	29	2.8	11	.1	1.1	72	18	0	89	6.7	30
Jan. 3, 1959.....		7.4	.05	2.6	1.5	3.7	2.2	10	5.0	5.1	.1	1.2	50	13	4	50	6.0	60
Feb. 2.....		11	.17	3.6	1.3	7.5	1.2	16	4.6	7.7	.1	1.9	60	14	1	71	6.3	30
Mar. 1.....		9.1	.16	3.4	1.6	7.3	1.1	17	4.2	8.0	.1	1.9	58	15	1	69	6.3	40
Apr. 1.....		8.9	.15	3.2	1.7	5.9	1.2	22	1.7	6.5	.1	1.1	50	15	0	62	6.6	50
Apr. 30.....		9.9	.11	3.7	1.2	4.9	1.4	20	2.8	3.7	.2	.6	57	14	0	54	6.4	60
June 2.....		15	.02	4.3	2.0	10	1.4	27	2.7	10	.1	.8	74	19	0	97	6.8	40
July 1.....		13	.08	5.5	1.9	14	2.0	31	5.2	14	.2	1.5	79	21	0	116	6.5	20
Aug. 2.....		9.2	.04	2.1	1.7	3.7	1.8	14	4.9	5.0	.2	1.1	54	12	1	52	6.4	80
Sept. 2.....		9.7	.04	3.0	1.6	4.3	2.0	16	4.7	3.7	.1	1.6	55	14	1	52	6.6	50

NEUSE RIVER BASIN--Continued

2-888.21. NEUSE RIVER AT GOLDSBORO, N. C.

LOCATION.--At bridge on U. S. Highway 117, 2 miles southwest of Goldsboro, Wayne County, and 1.7 miles upstream from gage.
DRAINAGE AREA.--2,370 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1948 to September 1949, October 1958 to September 1959.
REMARKS.--Records of discharge for gaging station near Goldsboro for water year October 1958 to September 1959 given in WSP 1623. No appreciable inflow between sampling point and gaging station except during periods of heavy local rains.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 2, 1958	634	14	0.02	6.4	1.2	13	3.0	32	5.4	14	0.1	2.0	78	21	0	110	6.4	25
Nov. 2	965	15	.15	4.4	2.9	9.5	2.4	25	9.0	10	.1	1.9	68	23	3	85	6.7	40
Dec. 1	720	14	.22	4.0	1.5	12	1.8	26	3.7	11	.1	1.8	75	16	0	93	6.8	40
Jan. 3, 1959	7,980	7.5	.07	3.0	.6	3.7	2.1	8	4.6	5.4	.1	1.2	50	10	3	48	6.2	60
Feb. 2	1,930	11	.10	4.0	1.0	7.4	1.2	14	4.7	8.1	.0	2.7	58	14	3	71	6.7	30
Mar. 1	2,580	9.2	.10	3.4	1.5	7.0	1.0	15	5.0	7.7	.1	2.0	54	15	2	65	6.3	30
Apr. 1	3,570	9.1	.09	3.3	1.3	5.9	1.2	20	2.8	6.5	.1	1.6	49	14	0	61	6.7	40
Apr. 30	8,510	9.4	.09	3.6	1.1	4.4	1.4	16	3.2	4.8	.1	.4	53	14	0	52	6.3	60
June 2	1,110	13	.31	4.6	1.8	10	1.6	26	3.5	11	.1	1.4	62	19	0	89	6.4	40
July 1	470	13	.06	5.3	2.2	12	2.0	30	4.9	12	.2	1.6	74	22	0	107	6.5	20
Aug. 2	6,940	8.9	.05	2.4	1.2	3.4	1.6	12	4.4	4.5	.2	.9	50	11	1	48	6.5	80
Sept. 2	3,210	10	.03	2.9	1.5	4.1	1.9	15	3.7	4.0	.2	1.3	43	13	1	51	6.5	50

2-890. NEUSE RIVER NEAR GOLDSBORO, N. C.

LOCATION.--At gaging station at highway bridge, 0.2 mile upstream from Stony Creek, 1.5 miles downstream from Atlantic Coast Line Railroad bridge, 3.2 miles south of Wayne County Courthouse in Goldsboro, and 4.3 miles downstream from Little River.
DRAINAGE AREA.--2,390 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1954 to September 1955, October 1958 to September 1959.
Water temperatures: October 1958 to June 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 92 ppm June 1-9; minimum, 38 ppm Sept. 1-10.
Hardness: Maximum, 37 ppm June 1-9; minimum, 12 ppm Jan. 1-10, Mar. 1-10, 11, April 11-20.
Specific conductance: Maximum daily, 177 micromhos Mar. 13; minimum daily, 43 micromhos Apr. 8.
Water temperatures (October 1958 - June 1959): Maximum, 89°F June 30; minimum, freezing point on several days during December and January.
REMARKS.--Records of suspended matter of composite samples and specific conductance of samples collected from October 1958 to September 1959 available in district office at Raleigh, N. C. Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-10, 1958	2,653	10	0.09	3.2	1.9	5.9	1.7	12	5.9	7.8	0.1	2.1	a45	16	6	65	6.1	35
Oct. 11-20	841	13	.08	4.4	1.7	9.7	2.0	21	6.1	9.3	.1	3.3	70	18	1	93	6.8	25
Oct. 21-31	1,314	12	.10	4.0	1.7	8.8	2.1	22	5.2	9.5	.1	2.1	69	17	0	86	7.2	35
Nov. 1-10	1,212	14	.21	4.4	1.4	9.1	1.8	22	4.5	9.0	.2	2.6	69	17	0	91	6.9	45
Nov. 11-20	804	15	.33	5.1	1.2	11	1.9	25	2.7	12	.2	2.4	71	17	0	101	7.3	50
Nov. 21-30	708	16	.43	6.3	.9	12	1.8	29	2.2	12	.2	2.8	75	19	0	109	7.1	45
Dec. 1-10	746	16	.14	4.4	1.5	12	1.7	26	3.7	12	.0	3.1	75	17	0	100	7.0	40
Dec. 11-20	859	16	.17	4.4	1.1	11	1.5	21	4.3	12	.1	2.7	69	15	0	90	7.1	20
Dec. 21-31	2,104	14	.16	4.0	1.5	9.6	1.5	18	3.5	11	.1	2.5	62	16	2	83	6.6	40
Jan. 1-10, 1959	7,715	9.3	.18	3.8	.6	4.3	2.3	12	4.9	5.0	.2	1.7	53	12	2	54	6.8	70
Jan. 11-20	2,250	13	.10	5.1	.4	7.5	1.4	14	4.5	8.0	.2	2.9	60	15	3	71	6.8	30
Jan. 21-31	2,596	12	.09	3.7	1.3	7.2	1.4	16	4.5	7.5	.2	2.1	56	15	2	70	6.9	35
Feb. 1-10	5,013	10	.12	4.9	.7	4.6	1.4	10	5.9	7.0	.1	2.2	59	15	7	62	6.0	40
Feb. 11-20	6,161	9.0	.09	3.9	1.2	4.8	1.5	10	6.2	5.5	.1	2.4	57	15	7	62	6.0	40
Feb. 21-28	3,131	11	.08	4.6	.9	6.4	1.1	14	6.5	5.5	.2	2.6	58	15	4	68	6.5	35
Mar. 1-10	5,903	8.9	.07	3.1	1.1	6.0	1.2	13	3.7	6.0	.2	2.1	50	12	2	58	6.5	45
Mar. 11	8,850	--	--	--	--	--	--	7	5.8	5.0	--	--	--	12	6	51	6.6	--
Mar. 23-31	2,129	10	.15	3.8	1.6	6.8	1.2	16	3.0	7.2	.2	2.8	57	16	3	70	6.3	45
Apr. 1-10	4,902	7.8	.05	3.0	1.4	4.4	1.2	13	3.0	4.0	.3	2.3	53	13	2	56	7.0	65
Apr. 11-20	8,601	6.8	.09	2.6	1.3	3.3	1.2	12	3.7	3.5	.3	1.6	48	12	2	46	6.4	65
Apr. 21-30	11,400	7.7	.06	3.2	1.7	3.8	1.2	19	1.9	3.0	.2	1.6	52	15	0	53	6.8	60
May 1-31	1,889	13	.06	4.6	1.8	6.6	1.1	24	3.2	7.0	.1	2.5	63	19	0	76	7.5	30
June 1-9	3,056	13	.04	11	2.4	5.0	3.3	19	2.5	4.0	.1	1.1	92	37	21	112	6.3	25
June 10	5,310	--	--	--	--	--	--	14	2.8	2.7	--	--	--	13	1	54	7.3	--

a Calculated from determined constituents.

NEUSE RIVER BASIN--Continued

2-890. NEUSE RIVER NEAR GOLDSBORO, N. C.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
June 11-20, 1959....	1,222	13	0.01	8.7	2.1	6.1	2.2	19	16	6.7	0.1	3.5	78	31	15	105	6.4	25
June 21-30.....	531	15	.05	4.6	2.3	11	3.6	27	6.0	10	.1	2.9	75	21	0	109	6.8	25
Sept. 1-10.....	3,634	11	.07	3.4	1.2	4.3	2.0	18	1.5	3.2	.2	1.7	38	13	0	56	6.4	45
Sept. 11-20.....	3,073	15	.15	4.3	1.2	5.4	2.0	18	1.8	4.5	.2	2.0	a46	16	1	64	6.6	45
Sept. 21-30.....	677	18	.23	4.5	1.9	9.6	2.1	28	2.1	9.0	.1	2.6	a65	19	0	95	7.4	40

a Calculated from determined constituents.

NEUSE RIVER BASIN--Continued

2-890. NEUSE RIVER NEAR GOLDSBORO, N. C.--Continued

Temperature (°F) of water, October 1958 to June 1959
(Once-daily measurement at approximately 7:30 a.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	--	59	41	49	38	48	50	58	--			
2	--	--	49	--	39	40	49	56	69			
3	--	55	50	--	42	41	52	58	70			
4	--	52	51	42	43	45	52	60	72			
5	--	55	50	32	39	42	54	66	73			
6	--	55	50	32	40	40	59	67	70			
7	60	56	49	32	38	48	49	69	76			
8	66	54	--	38	37	49	50	70	74			
9	60	54	65	32	48	49	50	70	78			
10	70	55	64	--	50	50	51	71	79			
11	65	55	32	--	50	50	52	70	79			
12	60	55	32	32	45	40	49	70	70			
13	61	50	33	35	41	48	48	70	72			
14	59	56	32	38	42	41	50	60	73			
15	65	60	32	32	40	46	50	66	69			
16	60	65	32	40	50	48	51	68	70			
17	65	60	47	38	51	49	52	69	73			
18	66	65	40	32	48	42	55	70	70			
19	67	65	40	32	45	50	50	70	70			
20	64	60	41	35	42	51	49	70	70			
21	60	60	38	32	40	59	51	70	72			
22	65	53	40	45	48	52	50	72	79			
23	66	60	41	38	48	50	52	72	80			
24	64	55	42	45	41	54	55	74	80			
25	61	60	39	40	40	51	51	74	80			
26	65	60	39	48	42	53	53	75	80			
27	59	52	40	40	43	58	56	76	80			
28	58	50	41	39	45	59	65	73	80			
29	55	51	49	38	--	55	59	75	81			
30	50	46	48	45	--	56	63	77	89			
31	55	--	46	41	--	52	--	78	--			
Average	62	56	43	38	43	49	53	69	73			

NEUSE RIVER BASIN--Continued

2-891.16. NEUSE RIVER NEAR WHITEHALL, N. C.

LOCATION.--At bridge on State Highway 111, 4.2 miles northwest of Whitehall, Wayne County, and 4.0 miles upstream from Walnut Creek.
DRAINAGE AREA.--2,455 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 2, 1958		15	0.02	5.3	1.6	13	2.7	30	7.2	14	0.2	1.6	79	20	0	109	6.7	25
Nov. 1		15	.18	4.4	2.7	9.0	2.3	20	9.6	11	.1	1.5	74	22	6	83	6.8	40
Dec. 1		16	.26	4.8	1.8	12	1.8	28	4.5	13	.1	2.3	77	20	0	102	7.2	50
Jan. 3, 1959		7.6	.09	2.5	1.1	3.7	2.2	8	7.3	5.3	.1	1.2	53	11	4	50	5.7	70
Feb. 2		11	.14	3.8	1.6	7.1	1.2	16	5.0	8.0	.0	2.0	58	16	3	70	6.2	40
Mar. 1		9.0	.15	3.8	1.1	6.8	1.0	15	5.4	6.8	.0	1.8	52	14	2	64	6.3	30
Apr. 1		8.8	.07	3.4	1.3	6.4	1.2	20	2.7	7.2	.0	1.1	48	14	0	64	6.6	40
Apr. 30		8.9	.12	3.6	1.1	4.6	1.4	18	3.9	3.6	.1	.5	54	13	0	53	6.2	70
June 2		12	.14	4.8	1.8	11	1.7	27	4.1	12	.0	1.5	66	20	0	102	6.4	33
July 1		12	.03	5.0	2.0	11	1.9	28	4.6	10	.2	2.0	70	21	0	101	6.5	15
Aug. 2		8.8	.06	2.0	1.8	4.0	1.6	11	5.4	5.0	.2	1.0	49	12	3	50	6.2	80
Sept. 2		11	.07	3.2	1.6	6.3	2.0	18	4.1	7.0	.1	1.6	60	14	0	66	6.5	40

2-891.92. NEUSE RIVER AT WHITEHALL, N. C.

LOCATION.--At bridge on paved county road at Whitehall, Wayne County, and 3.5 miles downstream from Walnut Creek.
DRAINAGE AREA.--2,492 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 2, 1958.....		15	0.06	5.1	2.0	13	2.7	30	4.3	16	0.1	1.8	75	21	0	112	6.4	25
Nov. 1.....		15	.14	4.6	1.6	9.8	2.3	21	8.3	12	.1	1.7	73	18	1	87	6.7	40
Dec. 1.....		13	.08	4.4	1.9	12	1.7	25	4.8	13	.1	.6	72	19	0	92	6.7	30
Jan. 1, 1959.....		7.5	.09	2.8	.9	3.8	2.2	10	4.1	4.4	.1	1.2	a54	11	2	51	7.2	80
Feb. 2.....		11	.14	4.4	.9	7.1	1.2	14	5.3	7.7	.0	2.5	58	15	3	69	6.2	30
Mar. 1.....		8.9	.12	3.8	1.2	6.6	1.0	14	5.5	7.8	.1	1.4	54	14	3	63	7.0	30
Apr. 1.....		8.9	.10	3.4	1.3	6.6	1.2	20	2.0	7.5	.1	1.3	50	14	0	64	7.0	40
Apr. 30.....		8.8	.12	3.0	1.1	4.2	1.4	15	3.4	3.1	.2	.5	53	12	0	52	6.2	65
June 2.....		13	.02	4.6	1.8	8.7	1.5	24	4.4	8.0	.0	1.1	64	19	0	88	6.6	30
July 1.....		12	.01	5.9	1.6	12	1.9	34	5.4	9.9	.2	.6	71	21	0	105	6.5	15
Aug. 2.....		8.9	.06	2.5	1.4	3.6	1.6	12	3.9	4.3	.1	1.0	52	12	2	50	6.7	80
Sept. 2.....		11	.09	3.8	1.9	8.0	2.2	20	5.2	8.5	.1	1.4	64	17	1	76	6.6	40

a Organic matter present; sum of mineral constituents 32 parts per million.

NEUSE RIVER BASIN--Continued

2-895. NEUSE RIVER AT KINSTON, N. C.

LOCATION.--At bridge on U. S. Highway 258, 0.2 mile south of Kinston, Lenoir County, and 0.9 mile downstream from gaging station.
DRAINAGE AREA.--2,690 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1949 to September 1950, January 1955 to September 1956, October 1958 to September 1959.
REMARKS.--Records of discharge for gaging station at Kinston for water year October 1958 to September 1959 given in WSP 1623. No appreciable inflow between sampling point and gaging station except during periods of heavy local rains.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 2, 1958	697	14	0.02	5.4	1.6	9.5	2.5	29	2.7	12	0.1	1.2	69	20	0	98	6.5	30
Nov. 1	1,350	13	.35	5.2	3.0	8.9	2.3	20	10	11	.1	1.6	69	25	9	81	6.6	50
Dec. 1	955	12	.08	4.4	2.3	11	1.6	24	4.2	12	.2	.9	68	21	1	90	6.6	30
Jan. 3, 1959	5,730	7.9	.09	2.9	1.0	4.8	2.3	8	5.2	6.1	.2	1.9	60	11	5	51	6.2	60
Feb. 2	2,400	10	.11	3.8	1.2	6.9	1.2	13	6.0	8.4	.1	2.2	56	14	4	70	6.5	30
Feb. 18	6,070	8.8	.10	3.3	1.3	5.9	1.3	13	5.0	6.2	.1	1.3	a39	13	3	58	6.3	45
Mar. 1	3,120	9.0	.10	3.6	1.6	6.6	1.0	14	5.6	7.0	.0	1.9	52	15	4	65	6.4	30
Apr. 1	3,300	8.4	.10	3.9	1.0	7.2	1.3	20	4.9	8.3	.1	1.7	53	14	0	70	6.7	40
Apr. 30	850	8.3	.12	2.9	1.6	4.2	1.4	17	3.4	3.2	.1	.4	51	14	0	49	6.0	75
June 2	1,240	12	.01	4.8	1.6	7.4	1.5	23	4.6	6.8	.1	1.3	66	19	0	82	6.6	30
July 1	670	11	.01	5.6	1.8	12	1.9	29	4.7	11	.2	1.5	70	21	0	102	6.4	15
Aug. 2	7,050	8.6	.11	3.3	1.1	4.1	1.5	13	3.8	4.7	.2	.6	50	13	2	48	6.9	50
Sept. 2	2,240	10	.06	4.0	2.0	10	1.9	22	6.3	12	.2	1.0	69	18	0	94	6.6	50
Sept. 15	6,160	11	.20	2.7	1.6	4.4	1.6	16	4.1	4.2	.2	.5	a38	14	0	55	6.3	70

a Calculated from determined constituents.

NEUSE RIVER BASIN--Continued

2-918.14. NEUSE RIVER NEAR FORT BARNWELL, N. C.

LOCATION.--At county bridge off State Highway 55 between Fort Barnwell and Vanceboro, Craven County.
DRAINAGE AREA.--3,897 square miles.
RECORDS AVAILABLE.--Chemical analyses: September 1954 to September 1959.
Water temperatures: September 1954 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 78 ppm Nov. 1-30; minimum, 50 ppm Apr. 1-30.
Hardness: Maximum, 23 ppm July 1-14; minimum, 14 ppm Feb. 1-28, Mar. 1-31.
Specific conductance: Maximum daily, 121 micromhos Oct. 27; minimum daily, 47 micromhos Apr. 30.
Water temperatures: Maximum, 95°F June 28, 29; minimum, freezing point Dec. 11.
EXTREMES, 1954-58.--Dissolved solids: Maximum, 186 ppm Sept. 26-27, 1954; minimum, 48 ppm Apr. 1-30, 1958.
Hardness: Maximum, 171 ppm Oct. 12, 15, 1954; minimum, 12 ppm Mar. 21-31, 1956.
Specific conductance: Maximum daily, 673 micromhos Aug. 21, 1955; minimum daily, 46 micromhos May 17, 18, 1958.
Water temperatures: Maximum, 95°F June 28, 29, 1959; minimum, freezing point Jan. 13, 1955, Dec. 11, 1958.
REMARKS.--Records of specific conductance of samples collected available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-31, 1958		11	0.20	5.3	1.3	7.2	2.5	15	7.8	8.8	0.2	2.2	69	19	6	85	6.6	50
Nov. 1-30		11	.26	5.6	1.7	8.5	1.8	19	7.0	10	.1	2.5	78	21	5	87	6.1	50
Dec. 1-31		12	.24	5.2	1.7	8.8	1.5	21	5.3	9.5	.1	3.2	66	20	3	84	7.0	40
Jan. 1-31, 1959		10	.08	3.6	1.7	5.2	1.4	13	7.1	7.0	.1	2.1	60	16	5	69	6.6	50
Feb. 1-28		8.9	.11	4.3	.8	5.7	1.3	12	4.7	8.0	.1	1.7	53	14	4	60	6.5	55
Mar. 1-31		7.7	.06	3.7	1.3	5.9	1.3	13	5.6	8.0	.1	2.8	51	14	4	62	6.6	50
Apr. 1-30		7.5	.08	3.8	1.6	4.9	1.1	12	5.4	6.5	.1	1.8	50	16	6	56	6.0	45
May 1-31		10	.09	4.6	1.3	7.0	1.4	18	4.5	8.0	.1	2.2	56	17	2	70	6.9	50
June 1-30		11	.16	6.0	1.5	8.2	1.6	23	5.6	10	.1	1.8	64	21	2	88	7.0	45
July 1-14		9.1	.06	5.9	2.0	8.2	2.1	29	7.8	9.7	.2	2.6	71	23	0	100	6.7	45
July 15-31		7.8	.11	4.1	1.2	3.8	1.5	12	4.3	5.5	.2	1.9	a60	15	5	56	7.0	80
Aug. 1-31		11	.08	5.5	1.8	6.6	2.1	21	8.1	7.5	.1	1.9	64	21	4	76	6.7	55
Sept. 1-3, 20-30		14	.14	6.0	1.5	10	2.2	25	6.4	10	.2	2.2	68	21	1	93	6.6	45
Sept. 4-19		11	.11	4.2	1.4	4.8	2.1	15	5.7	6.5	.2	1.7	54	16	4	62	6.8	65
Time-weighted average		10	0.13	4.8	1.5	6.8	1.7	17	6.1	8.2	0.1	2.2	61	18	4	74	--	50

a Organic matter present; sum of mineral constituents 36 parts per million.

NEUSE RIVER BASIN--Continued

2-918.14. NEUSE RIVER NEAR FORT BARNWELL, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 6 p.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	71	55	48	48	47	50	59	66	80	86	79	83
2	68	55	49	47	42	46	59	67	79	83	81	85
3	68	50	52	49	39	47	59	70	80	80	80	86
4	69	55	53	39	41	48	57	70	79	77	80	83
5	79	56	45	38	49	56	58	71	79	83	79	82
6	67	57	50	41	45	50	61	72	79	84	79	79
7	68	58	49	40	47	52	63	73	75	82	81	79
8	68	57	45	38	49	55	65	73	82	80	80	80
9	71	57	45	36	47	56	62	73	81	79	79	80
10	70	56	43	42	54	55	68	71	81	80	83	81
11	69	58	32	42	46	54	66	72	81	82	81	75
12	65	56	33	40	46	53	61	72	82	84	80	75
13	64	57	34	43	54	52	62	72	81	78	81	73
14	67	60	33	41	55	53	58	73	76	76	81	72
15	65	58	35	43	54	54	58	72	74	75	82	74
16	65	63	37	38	51	54	59	71	82	75	82	78
17	68	63	39	37	50	55	59	72	80	76	83	74
18	68	68	38	40	53	53	60	72	82	82	82	72
19	64	64	38	39	47	55	60	73	82	80	84	69
20	61	67	39	44	41	55	63	74	78	79	85	72
21	63	58	39	50	43	57	63	74	81	83	86	75
22	64	58	40	43	54	55	62	74	81	85	87	75
23	66	56	36	45	50	56	63	76	85	85	86	74
24	64	60	38	45	50	57	63	77	85	86	86	75
25	62	56	39	50	48	60	64	75	82	85	86	75
26	65	58	42	50	49	60	63	77	87	79	86	77
27	63	58	40	52	48	60	64	77	89	81	85	80
28	58	53	44	45	52	55	62	77	95	81	84	74
29	68	52	47	51	--	56	62	78	95	82	86	75
30	68	51	49	48	--	58	66	80	87	82	82	72
31	66	--	48	49	--	59	--	81	--	81	82	--
Average	67	58	42	44	48	54	62	73	82	81	83	77

2-918.2. CORE CREEK NEAR FORT BARNWELL, N. C.

LOCATION.--At bridge on State Highway 55, 3 3/4 miles southeast of Fort Barnwell, Craven County, and 6.5 miles above mouth.
DRAINAGE AREA.--59.2 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Diasolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1, 1958		8.8	0.09	18	1.0	4.5	0.1	29	20	7.7	0.2	0.8	95	48	24	122	8.3	60
Nov. 1		8.2	.18	14	.5	4.1	.7	33	7.4	8.8	.1	1.3	85	37	10	86	8.7	100
Dec. 1		8.3	.13	20	.8	5.3	.6	54	6.1	8.0	.0	.2	102	54	10	130	7.1	100
Jan. 3, 1959		5.6	.08	7.8	.8	4.4	.6	16	6.5	6.7	.2	1.4	88	23	10	84	8.8	100
Feb. 2		5.0	.07	9.5	1.2	4.1	.2	23	5.0	6.8	.2	.7	72	28	10	77	6.3	80
Mar. 2		3.6	.07	8.0	1.1	3.5	.3	17	6.0	6.8	.1	.4	a64	25	11	65	6.6	80
Apr. 1		3.6	.09	8.0	1.0	3.7	.4	25	3.1	5.7	.1	.4	a85	24	4	85	8.8	100
Apr. 30		5.0	.16	8.3	1.6	4.0	.8	26	4.2	5.5	.2	.3	b78	27	8	69	8.2	150
June 2		7.7	.31	28	1.7	4.9	.7	83	4.3	5.2	.1	1.8	110	76	8	188	6.9	90
July 1		5.3	.02	37	1.9	5.7	1.4	109	6.0	6.5	.2	1.6	128	99	10	209	7.2	20
Aug. 2		5.5	.20	5.1	1.7	2.1	.5	16	4.4	4.8	.3	.5	c78	20	6	49	6.2	240
Sept. 2		9.1	.40	21	3.0	4.2	.7	62	4.0	7.5	.2	1.2	122	66	15	129	7.1	160

a Organic matter present; sum of mineral constituents 38 parts per million.
b Organic matter present; sum of mineral constituents 43 parts per million.
c Organic matter present; sum of mineral constituents 33 parts per million.

2-918.31. NEUSE RIVER AT COWEN LANDING, NEAR VANCEBORO, N.C.

LOCATION.--At Cowen Landing, 6.0 miles southeast of Vanceboro, Craven County.
DRAINAGE AREA.--4,027 square miles.
RECORDS AVAILABLE.--Chemical analyses: September 1954 to September 1959.
Water temperatures: October 1954 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 77 ppm July 1-3; minimum, 50 ppm Apr. 1-30.
Hardness: Maximum, 55 ppm Nov. 2 (p.m.), 30 (a.m.); minimum, 16 ppm Feb. 1-28, Mar. 1-31, Aug. 1-15.
Specific conductance: Maximum daily, 350 micromhos Oct. 21 (p.m.); minimum daily, 53 micromhos Apr. 30 (p.m.).
Water temperatures: Maximum, 91°F June 29 (p.m.); minimum, freezing point Dec. 16 (a.m.).
EXTREMES, 1954-59.--Dissolved solids: Maximum, 6,270 ppm Oct. 15 (p.m.), 1954; minimum, 50 ppm Apr. 1-30, 1959.
Hardness: Maximum, 1,550 ppm Aug. 12 (p.m.), 1955; minimum, 12 ppm July 16 (p.m.), 17-20, 1955.
Specific conductance: Maximum daily, 12,900 micromhos Aug. 12 (p.m.), 1955; minimum daily, 41 micromhos Sept. 20 (p.m.), 1955.
Water temperatures: Maximum, 92°F July 28 (p.m.), 1955; minimum, freezing point Dec. 16 (a.m.), 1958.
REMARKS.--Samples were collected twice daily (7:30 a.m. and 4:30 p.m.) and were composited unless otherwise noted. Records of specific conductance of samples collected available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-20, 21(a.m.), 22-31, 1958		9.5	0.13	5.6	1.9	7.6	2.1	18	7.9	9.7	0.2	2.8	72	22	7	88	6.4	50
Oct. 21 (p.m.)		--	--	--	--	--	--	20	17	82	--	2.2	--	45	29	350	7.0	--
Nov. 1, 2 (a.m.), 3-29, 30 (p.m.)		12	.41	7.1	1.4	9.3	1.9	21	9.1	11	.1	2.9	71	24	7	94	7.0	60
Nov. 2 (p.m.), 30 (a.m.)		12	--	18	2.7	--	--	44	7.2	23	--	--	--	55	19	169	7.2	45
Dec. 1-31		12	.19	6.0	2.4	8.6	1.5	22	5.4	10	.0	3.7	66	25	7	90	6.8	30
Jan. 1-31, 1959		10	.11	4.0	1.9	6.4	1.7	14	10	7.5	.1	2.6	67	18	7	72	6.4	50
Feb. 1-28		8.9	.11	3.8	1.6	6.1	1.6	12	6.0	8.5	.1	2.5	57	16	6	69	6.3	55
Mar. 1-31		7.1	.07	4.8	1.0	5.8	1.4	12	6.7	8.0	.1	3.5	56	16	6	68	6.5	50
Apr. 1-30		6.6	.09	5.1	1.3	5.1	1.4	13	4.6	7.5	.1	2.7	50	18	7	64	5.8	70
May 1-31		10	.28	5.6	1.8	7.0	1.5	21	3.9	9.0	.1	3.0	63	21	4	77	7.0	70
June 1-30		10	.09	5.9	1.9	8.0	2.0	24	6.4	9.5	.1	2.4	71	23	3	88	7.0	55
July 1-3		12	.02	7.3	1.8	13	2.5	30	8.2	14	.2	3.3	a77	26	1	118	6.8	30
July 4-31		8.0	.15	6.1	1.3	5.7	1.6	17	6.9	7.0	.2	2.5	68	20	6	80	6.9	80
Aug. 1-15		10	.39	4.5	1.3	5.4	2.1	15	5.8	6.5	.2	1.6	64	16	4	64	7.2	110
Aug. 16-31		12	.21	6.6	2.0	8.8	2.4	28	6.3	10	.2	2.6	70	25	2	98	7.3	80
Sept. 1-30		12	.16	5.5	1.3	8.2	2.7	20	4.2	8.5	.2	2.6	62	19	2	77	6.8	50
Time-weighted average		9.8	0.17	5.5	1.6	7.1	1.8	18	6.5	9.0	0.1	2.8	64	21	6	81	--	60

a Calculated from determined constituents.

2-918.31. NEUSE RIVER AT COWEN LANDING, NEAR VANCEBORO, N.C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
/Twice-daily measurements at approximately 7:30 a.m. and 4:30 p.m./

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.
1	71	74	57	55	49	55	42	45	43	42	49	52	58	60	64	67	79	80	89	90	80	81	81	82
2	70	71	56	57	49	51	44	46	40	47	49	48	61	62	65	87	78	80	87	86	79	80	81	84
3	68	69	55	53	50	51	38	40	43	44	45	49	58	60	66	69	77	80	85	85	76	79	81	84
4	66	67	55	57	50	52	44	45	45	45	47	51	58	60	67	70	76	77	80	79	78	79	82	82
5	66	68	56	57	51	54	39	38	46	47	48	50	57	61	67	69	75	78	76	78	76	79	80	80
6	64	67	56	58	50	52	36	37	45	48	57	55	59	65	65	69	75	77	78	80	77	79	81	79
7	63	65	57	58	49	50	35	38	43	46	49	52	59	64	67	72	75	81	79	82	76	78	78	81
8	64	65	55	58	48	48	37	38	46	48	50	55	62	67	70	72	76	77	80	82	76	79	78	80
9	63	65	56	58	48	48	35	36	47	49	49	59	64	69	69	71	75	78	80	81	76	79	78	80
10	64	66	56	57	46	43	36	37	50	53	51	55	66	69	70	71	75	78	78	80	77	80	76	79
11	64	66	55	57	38	40	34	35	52	53	51	54	66	70	70	72	74	79	79	77	78	80	78	77
12	62	64	54	57	37	39	33	35	47	49	53	54	66	65	70	74	76	78	79	80	78	80	74	75
13	62	64	54	59	37	39	33	36	50	53	49	51	60	61	73	71	75	78	77	77	78	81	74	78
14	61	64	56	59	36	38	35	36	52	53	50	53	58	58	72	74	75	76	76	75	79	82	71	75
15	62	64	58	60	38	39	36	39	52	53	53	54	55	60	70	72	75	73	76	77	80	82	73	73
16	62	66	59	62	32	38	41	39	50	53	52	53	56	61	70	66	74	76	75	76	80	81	71	74
17	63	67	60	61	33	36	36	35	52	54	51	54	57	62	69	74	75	76	75	78	80	84	71	70
18	65	68	62	64	36	37	34	35	52	54	48	52	60	64	71	73	73	76	75	77	80	85	69	72
19	65	66	63	65	34	37	33	35	51	52	49	53	60	65	73	74	72	77	76	75	82	85	78	78
20	64	64	60	63	36	37	35	37	47	48	51	55	64	66	73	76	75	79	76	77	82	86	87	72
21	63	63	59	62	35	37	40	44	45	47	54	58	68	66	73	75	76	80	76	77	83	85	67	73
22	64	65	56	58	36	37	44	43	46	49	54	56	60	59	74	77	78	81	76	77	83	87	68	74
23	64	65	56	60	37	38	41	43	47	50	52	59	56	60	74	76	79	86	76	78	83	88	71	75
24	63	65	57	60	38	39	40	42	48	51	52	56	54	66	77	80	80	81	76	79	84	85	72	77
25	63	65	56	58	37	39	41	44	48	47	55	59	58	64	77	79	81	83	77	80	83	85	73	74
26	62	64	57	59	36	34	41	44	48	49	58	60	60	65	76	77	80	85	78	79	81	85	75	78
27	61	62	56	56	36	39	43	45	48	46	61	67	63	67	76	80	81	87	79	80	83	86	75	80
28	56	63	55	57	40	42	43	44	47	50	58	60	65	67	75	78	85	89	78	80	83	82	76	79
29	58	59	53	54	41	42	42	43	---	---	56	57	65	66	75	80	85	91	77	79	84	85	77	80
30	56	58	51	57	41	40	43	45	---	---	58	59	64	66	76	80	88	88	80	81	82	84	79	80
31	55	59	---	---	44	43	45	44	---	---	57	59	--	--	79	80	--	--	78	81	81	82	--	--
Average	63	65	57	59	41	42	39	40	48	49	52	55	61	64	71	74	77	80	78	79	80	82	75	77

NEUSE RIVER BASIN--Continued

2-918.36. NEUSE RIVER AT STREETS FERRY, NEAR VANCEBORO, N.C.

LOCATION.--At Streets Ferry, 1 1/2 miles east of Lima, Craven County.
DRAINAGE AREA.--4,040 square miles.
RECORDS AVAILABLE.--Chemical analyses: September 1954 to September 1959.
Water temperatures: October 1954 to September 1959.
EXTREMES, 1958-59.--Chloride: Maximum, 1,080 ppm Oct. 21; minimum, 5.0 ppm July 14-31.
Specific conductance: Maximum daily, 3,570 micromhos Oct. 21; minimum daily, 46 micromhos Apr. 29, 30, (bottom), May 1.
Water temperatures: Maximum, 92°F June 29, 30, (top); minimum, 36°F Dec. 15, 18, (bottom).
EXTREMES, 1954-59.--Chloride: Maximum, 6,630 ppm Oct. 15(m.), 1954; minimum, 4.3 ppm Sept. 21 (m., p.m.), 22-25, 29-30, 1956.
Specific conductance: Maximum daily, 17,800 micromhos Oct. 15 (m.), 1954; minimum daily, 44 micromhos May 19 (bottom), 1958.
Water temperatures: Maximum, 92°F June 29, 30, (top), 1959; minimum, 33°F Feb. 19 (bottom), 1958.
REMARKS.--Top (T) and bottom (B) samples were collected and composited once daily (12 m.) unless otherwise noted. Integrated samples were collected three times daily (6 a.m., 12 m., 6 p.m.) from September 1954 to September 1957. Records of specific conductance of samples collected available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-18, 20,22-31, 1958		9.6	0.17	6.0	1.5	7.9	2.2	18	7.9	10	0.2	2.1	75	21	6	90	6.4	50
Oct. 19		--	--	--	--	--	--	--	--	96	--	--	--	--	--	384	--	80
Oct. 21		--	--	--	--	--	--	--	--	1,060	--	--	--	--	--	3,570	--	70
Nov. 1-30		13	.18	6.4	1.9	10	2.2	23	5.8	12	.1	2.4	81	24	5	98	7.0	45
Dec. 1-31		12	.27	5.6	1.9	9.3	1.7	22	6.1	10	.1	3.1	69	22	4	97	6.7	40
Jan. 1-31, 1959		10	.09	4.4	1.2	5.0	1.4	13	5.5	7.5	.1	2.1	66	16	5	72	6.5	50
Feb. 1-28		9.3	.07	4.3	1.4	6.2	1.6	14	5.3	7.5	.1	2.3	54	16	5	67	6.5	55
Mar. 1-31		7.3	.04	4.3	1.3	6.0	1.3	13	6.7	7.5	.1	2.5	53	16	5	65	6.5	50
Apr. 1-30		7.1	.07	4.4	1.0	4.9	1.2	14	5.4	6.0	.1	1.9	43	15	4	56	6.3	50
May 1-7		8.2	.22	4.5	1.1	4.6	1.4	16	3.2	6.0	.1	1.1	52	16	2	53	6.7	100
May 8-28, 30-31		11	.28	5.6	1.4	7.7	1.5	22	4.2	9.0	.1	2.4	60	20	2	75	6.8	60
May 29		11	.18	6.3	1.5	12	3.3	22	3.8	16	.1	5.1	a70	22	4	114	6.5	40
June 1-30		11	.20	5.4	1.8	7.6	1.6	23	5.2	10	.1	2.0	69	21	2	94	6.8	45
July 1-13		8.5	.07	7.0	1.9	9.1	2.1	24	7.9	11	.2	2.2	75	25	6	100	6.9	45
July 14-31		7.8	.07	5.2	1.1	3.9	1.5	14	4.7	5.0	.2	1.8	59	17	6	59	6.8	80
Aug. 1-15		10	.37	4.8	.9	4.9	1.8	16	3.1	6.0	.2	.7	60	16	3	62	6.7	70
Aug. 16-31		12	.25	9.9	.7	8.3	2.2	29	7.3	9.0	.1	1.6	71	28	4	97	7.5	50
Sept. 1-3, 18 (T), 22-30		13	.33	6.5	2.1	8.3	2.4	25	7.7	10	.2	2.1	73	25	4	96	6.9	55
Sept. 4-17, 18 (B), 19-21		11	.11	4.6	1.1	5.2	2.0	17	6.2	6.5	.2	1.6	55	16	2	66	6.8	60
Time-weighted average		10	0.16	5.4	1.4	6.9	1.7	19	5.8	12	0.1	2.1	64	19	4	89	--	55

a Calculated from determined constituents.

2-918.36. NEUSE RIVER AT STREETS FERRY, NEAR VANCEBORO, N.C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Top and bottom once-daily measurements at approximately 12 m.)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom
1	73	72	59	58	50	50	48	48	48	47	52	51	80	59	67	86	79	79	91	89	79	79	83	82
2	69	69	59	58	51	50	50	49	48	47	48	47	62	61	67	67	80	79	90	89	79	80	83	84
3	68	67	59	58	52	51	51	50	43	43	50	49	81	60	71	70	78	78	82	82	78	78	82	85
4	67	67	58	57	51	50	50	49	48	47	51	50	61	60	71	70	77	76	78	78	77	76	83	84
5	65	66	59	58	54	53	46	45	48	48	52	50	82	61	71	70	78	77	78	78	78	78	82	82
6	66	85	59	58	53	52	43	43	50	49	58	55	62	61	70	70	78	77	79	78	77	77	81	80
7	65	64	59	58	52	51	43	42	48	47	54	53	65	64	71	70	78	77	80	79	80	80	80	79
8	65	64	58	57	49	48	44	44	48	48	59	58	67	66	72	71	79	78	80	80	78	77	80	80
9	67	66	60	59	50	49	41	42	49	48	58	55	66	65	71	70	78	77	79	79	78	78	79	79
10	68	57	58	57	48	47	41	41	54	54	57	56	88	87	71	70	78	77	81	81	79	79	79	79
11	66	65	57	59	44	43	42	42	53	53	55	54	88	88	73	72	78	77	80	79	80	79	78	78
12	85	64	59	58	40	39	41	40	52	51	54	55	66	68	74	73	78	77	79	79	80	80	75	75
13	64	63	58	59	40	39	42	42	52	52	53	53	60	61	76	75	78	77	77	77	81	81	74	73
14	64	63	58	57	40	39	42	41	54	54	53	52	59	59	75	74	76	75	76	76	82	82	72	72
15	65	64	60	59	39	38	45	44	55	54	58	54	57	57	73	72	74	74	76	78	83	81	72	71
16	67	65	61	60	41	40	46	46	53	53	54	53	80	59	71	70	75	74	75	76	83	83	78	78
17	68	66	82	62	41	39	41	43	56	55	55	54	61	81	70	70	75	74	77	76	84	83	70	70
18	88	67	64	63	39	38	40	40	60	59	55	54	63	61	74	73	77	76	76	76	84	83	70	70
19	66	65	67	65	40	39	43	43	52	52	55	54	61	80	75	74	76	75	76	76	83	83	69	89
20	65	64	65	64	40	39	44	42	51	51	56	55	85	64	75	74	80	79	78	77	84	83	70	89
21	63	63	65	64	41	40	47	47	46	46	57	56	64	63	77	76	79	78	79	78	84	83	75	70
22	85	85	62	61	41	41	49	48	47	48	55	54	81	60	77	76	83	82	78	77	88	86	75	72
23	66	85	60	59	44	42	49	48	49	48	56	55	61	61	78	78	88	84	80	79	88	88	76	74
24	68	55	59	58	45	44	48	47	50	49	56	55	81	61	80	79	88	85	80	79	87	88	79	78
25	65	64	60	59	44	44	48	47	50	50	61	59	81	60	79	78	84	83	80	79	88	85	78	78
26	64	63	60	59	43	44	49	48	48	48	81	60	64	63	78	77	85	84	81	80	85	84	79	78
27	52	62	58	57	43	43	50	49	50	49	83	82	65	64	80	80	87	--	80	79	88	85	79	77
28	62	61	58	57	45	44	49	48	51	50	60	60	88	85	80	79	88	86	80	79	85	84	78	77
29	59	58	57	58	47	45	49	48	--	--	61	60	86	66	80	78	92	88	81	80	84	83	78	78
30	60	59	54	55	49	48	49	49	--	--	59	59	88	66	83	81	92	89	81	80	84	83	79	79
31	80	59	--	--	48	48	49	49	--	--	80	59	--	--	80	79	--	--	79	80	82	82	--	--
Average	65	64	60	59	45	44	46	45	50	50	58	55	63	82	75	74	80	79	80	79	82	82	77	77

2-920. SWIFT CREEK NEAR VANCEBORO, N. C.

LOCATION.--At gaging station at highway bridge, 2 1/2 miles upstream from bridge on State Highway 118, 2 1/2 miles downstream from Clayroot Swamp, and 3 1/2 miles northwest of Vanceboro, Craven County.
DRAINAGE AREA.--182 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1950 to September 1952, January 1955 to September 1959.
Water temperatures: October 1951 to September 1952, July 1954 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 358 ppm July 1, 4, 9; minimum, 30 ppm Mar. 7-10.
Hardness: Maximum, 70 ppm July 3; minimum, 14 ppm Mar. 7-10.
Specific conductance: Maximum daily, 1,190 micromhos July 3; minimum daily, 42 micromhos Mar. 8.
Water temperatures: Maximum, 84°F June 30; minimum, freezing point on several days during December.
EXTREMES, 1951-52, July 1954 to September 1959.--Dissolved solids (1951-52, 1955-59): Maximum, 358 ppm July 1, 4, 9, 1959; minimum, 30 ppm Mar. 7-10, 1959.
Hardness (1951-52, 1955-59): Maximum, 96 ppm Jan. 1-10, 1955; minimum, 14 ppm Mar. 7-10, 1959.
Specific conductance (1955-59): Maximum daily, 1,190 micromhos July 3, 1959; minimum daily, 30 micromhos Sept. 21, 1955.
Water temperatures: Maximum, 87°F July 29, 1952; minimum, freezing point on several days during December 1958.
REMARKS.--Records of suspended matter of composite samples from October 1951 to September 1952 and records of specific conductance of samples collected from January 1955 to September 1959 available in district office at Raleigh, N. C. Records of discharge for water year October 1958 to September 1959 given in WSP 1623. Temperature Record: Clock stopped, no record Oct. 1-8.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-2,4-10, 1958.	310	8.9	0.18	9.6	2.2	12	2.4	15	21	18	0.2	3.1	108	33	21	145	6.7	50
Oct. 3.....	170	--	--	--	--	--	--	24	17	96	--	4.0	--	43	23	412	7.1	--
Oct. 11-16, 19-20...	57	13	.13	13	1.6	18	2.3	26	18	26	.1	2.7	116	38	17	182	6.6	37
Oct. 17-18.....	36	11	.07	14	2.4	52	2.6	31	21	79	.2	2.7	a200	46	21	334	7.2	30
Oct. 21-31.....	183	11	.14	11	1.4	12	2.2	22	17	18	.2	2.0	103	32	14	144	6.6	60
Nov. 1-10.....	106	17	.11	11	2.7	14	1.9	28	19	18	.2	2.2	116	38	15	152	6.5	35
Nov. 11-20.....	48	14	.17	13	2.7	15	1.8	34	19	20	.2	1.3	117	43	15	165	7.0	35
Nov. 21-30.....	38	25	.35	15	2.9	16	1.9	49	15	19	.2	1.8	143	49	9	183	7.0	40
Dec. 1-10.....	40	15	.30	14	2.9	15	1.7	35	19	21	.1	2.2	121	47	18	169	7.1	35
Dec. 11-20.....	61	12	.18	13	2.7	15	1.6	33	17	22	.1	2.2	113	43	16	164	7.0	25
Dec. 21-31.....	351	9.5	.13	10	1.7	8.5	1.6	14	18	12	.1	2.2	89	32	21	111	6.8	40
Jan. 1-10, 1959.....	602	9.8	.13	7.6	2.2	5.3	1.0	12	17	9.0	.1	2.3	84	28	18	91	6.4	60
Jan. 11-20.....	132	11	.12	10	2.0	7.4	.8	16	20	12	.1	1.8	90	33	20	111	6.5	40
Jan. 21-31.....	85	9.9	.18	11	1.9	8.8	.8	23	15	14	.1	1.4	97	35	16	124	6.5	40
Feb. 1-10.....	500	9.0	.13	8.3	1.8	7.2	1.2	15	13	12	.1	3.1	80	28	16	102	6.3	60
Feb. 11-20.....	388	9.4	.14	7.9	1.7	6.9	1.1	12	15	11	.1	1.9	74	26	17	99	6.3	55
Feb. 21-28.....	234	9.1	.14	8.8	1.8	7.9	.9	16	17	13	.1	1.8	79	30	16	108	6.4	55
Mar. 1-6.....	701	7.3	.03	5.9	2.1	5.9	1.0	11	11	10	.1	3.1	66	24	15	86	6.4	45

a Calculated from determined constituents.

Mar. 7-10, 1959.....	1,912	4.7	.07	4.2	.8	2.6	1.2	8	5.3	4.5	.2	2.0	a30	14	7	45	6.4	95
Mar. 11-20.....	676	7.1	.07	6.7	1.5	5.7	1.1	12	10	8.5	.2	2.3	67	23	13	80	6.5	70
Mar. 21-31.....	206	7.1	.06	9.1	1.8	9.2	1.0	20	12	14	.2	2.4	82	30	14	118	6.7	45
Apr. 1-7.....	443	6.7	.04	7.5	1.5	6.6	1.0	14	11	10	.2	2.3	72	25	13	88	6.6	60
Apr. 8-11.....	204	8.3	.07	9.5	1.3	13	1.0	19	13	20	.2	2.0	a77	29	13	128	6.6	50
Apr. 12-20.....	868	7.3	.06	6.6	1.3	5.6	1.0	14	9.1	9.0	.2	2.0	66	22	10	76	6.6	80
Apr. 21-29.....	648	7.3	.08	6.6	1.1	5.6	1.0	11	9.5	8.5	.2	2.2	68	21	12	76	6.4	65
Apr. 30.....	240	--	--	--	--	--	--	15	17	20	--	3.1	--	28	15	123	6.8	--
May 1-6.....	147	10	.27	9.9	1.3	9.7	1.2	20	13	14	.2	2.2	86	30	14	115	7.0	65
May 7-13.....	55	12	.33	13	1.9	17	1.4	29	14	24	.2	2.5	111	39	15	163	7.2	55
May 14-21.....	38	12	.28	14	1.7	38	2.2	33	14	58	.2	2.4	167	42	15	277	7.0	55
May 22.....	61	--	--	--	--	--	--	28	13	18	--	3.0	--	34	11	138	7.6	--
May 23-31.....	24	11	.13	13	1.6	30	2.2	33	14	44	.2	3.4	138	40	13	231	6.7	50
June 1-3, 6, 8-9, 11	44	12	.20	14	2.4	50	2.4	36	15	75	.1	1.8	208	44	14	346	7.1	50
June 4-5, 7, 10.....	80	9.9	.07	9.2	1.8	13	1.8	20	11	22	.2	2.5	a81	30	14	131	6.8	45
June 12.....	12	--	--	--	--	--	--	33	17	24	--	4.1	--	40	13	183	7.8	--
June 13-14, 18-19...	9.6	12	.22	15	2.5	43	2.5	45	17	63	.1	2.4	a180	47	10	320	7.0	40
June 15-17, 20.....	7.8	12	.25	15	2.7	81	3.4	44	17	125	.2	3.5	a282	49	13	531	7.1	45
June 21-27, 29-30...	5.1	10	.23	18	1.9	8.4	4.0	52	18	128	.2	1.6	306	52	9	549	7.2	40
June 28.....	5.6	--	--	--	--	--	--	70	11	43	--	4.1	--	68	10	291	7.5	--
July 1, 4, 9.....	24	10	.13	21	2.6	104	5.6	37	22	170	.2	4.0	a358	64	34	702	7.6	50
July 2.....	3.4	--	--	--	--	--	--	23	3.2	44	--	4.6	--	26	7	228	7.1	--
July 3.....	26	--	--	--	--	--	--	65	20	310	--	4.7	--	70	17	1,190	7.9	--
July 5-7, 10-11.....	88	8.9	.15	15	2.8	46	4.0	28	25	75	.2	3.1	a194	49	26	359	6.8	40
July 8, 12-24.....	1,085	9.7	.20	8.7	.7	4.0	1.1	17	8.2	5.5	.2	.8	80	25	11	77	6.3	120
July 25-31.....	231	11	.28	10	1.3	8.7	1.7	24	11	12	.2	2.1	91	31	12	110	6.8	80
Aug. 1-5, 10-14.....	482	9.3	.23	6.7	1.0	6.2	1.7	7	15	8.5	.2	.9	69	21	15	79	6.5	100
Aug. 6-9, 15-21, 24-26, 28, 30-31.....	85	13	.50	11	1.4	14	2.5	32	13	20	.2	1.6	100	33	7	147	6.8	70
Aug. 22-23, 27, 29..	45	14	.31	12	2.5	36	2.8	33	15	55	.2	1.2	a155	40	13	278	7.1	60
Sept. 1-6.....	92	12	.11	10	1.8	18	3.0	25	16	28	.2	2.3	113	33	13	172	7.1	50
Sept. 7-10.....	357	9.6	.14	6.6	1.3	5.4	2.3	13	11	10	.2	1.5	a54	22	11	88	6.3	75
Sept. 11-16.....	86	14	.17	11	1.9	14	1.8	24	17	22	.2	1.9	112	34	15	142	7.0	60
Sept. 17-20.....	38	15	.13	14	1.5	26	2.1	34	15	40	.2	1.7	a133	41	13	220	7.0	50
Sept. 21-30.....	23	16	.11	15	2.4	18	2.2	41	18	24	.2	2.0	125	46	13	192	7.2	50
Time-weighted average.....	272	11	0.18	11	1.9	17	1.8	25	15	27	0.2	2.1	112	35	14	168	--	60

a Calculated from determined constituents.

NEUSE RIVER BASIN--Continued

2-920. SWIFT CREEK NEAR VANCEBORO, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Continuous ethyl alcohol-actuated thermograph)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	--	--	54	53	47	45	47	46	45	42	46	45	54	51	66	64	71	71	83	82	75	75	76	76
2	--	--	55	54	45	45	47	46	42	39	46	40	54	53	67	64	71	71	82	80	75	75	77	76
3	--	--	56	55	47	45	48	47	39	38	42	38	56	49	70	67	71	71	80	75	75	73	77	77
4	--	--	56	55	50	47	47	46	41	38	44	41	56	52	70	68	71	69	75	73	73	71	77	77
5	--	--	57	55	52	50	46	39	45	41	44	43	57	52	68	66	70	68	73	73	73	71	77	76
6	--	--	59	57	52	50	39	36	45	44	51	44	61	55	67	64	70	68	74	73	73	73	76	76
7	--	--	59	58	50	45	36	36	44	42	51	51	63	57	67	65	70	68	75	74	73	72	76	76
8	--	--	59	56	45	43	37	36	42	41	51	49	68	59	68	67	70	69	75	75	73	73	76	75
9	64	63	58	56	43	42	37	37	44	42	49	47	70	64	68	67	71	70	75	75	76	73	75	75
10	66	64	58	58	42	41	37	35	49	44	48	47	71	66	67	66	72	71	75	74	76	76	76	75
11	66	64	58	54	41	36	35	35	50	49	48	48	71	66	66	66	73	72	74	73	76	75	76	74
12	64	60	54	53	36	34	35	35	50	46	48	48	69	58	68	66	73	73	73	73	75	75	74	73
13	60	57	56	54	34	34	38	35	48	46	48	45	58	53	68	68	74	72	73	73	75	75	73	72
14	59	57	58	56	34	32	38	37	50	48	48	44	53	51	69	68	74	73	73	73	75	75	72	70
15	60	59	62	58	32	32	44	38	51	50	48	48	53	51	69	67	73	71	73	73	76	75	70	70
16	62	60	64	62	32	32	45	42	51	48	50	48	56	53	67	64	71	71	73	73	76	75	70	70
17	63	62	64	64	32	32	42	36	49	48	50	48	60	56	64	64	71	71	73	73	76	74	70	70
18	63	63	65	64	32	32	36	35	48	48	50	46	62	60	64	64	71	69	73	73	75	74	70	68
19	64	63	65	65	33	32	35	34	48	44	48	42	62	62	67	64	69	68	74	73	75	75	68	66
20	63	61	65	60	36	33	38	34	44	40	50	46	67	62	68	66	69	68	74	74	75	75	66	65
21	61	61	60	56	36	35	49	38	40	38	54	50	67	64	69	68	71	69	74	74	75	75	65	65
22	63	61	56	53	36	36	51	48	40	38	54	51	65	58	71	69	73	71	75	74	76	75	66	65
23	65	63	53	52	40	36	48	42	43	40	51	44	58	56	72	71	75	73	75	75	76	76	67	66
24	65	65	55	53	44	40	42	38	47	43	54	45	56	54	73	72	76	75	76	75	76	76	68	67
25	65	63	55	55	44	40	42	39	46	42	58	49	57	56	73	72	76	76	77	76	76	76	69	68
26	63	61	55	54	40	37	43	41	44	42	60	54	60	57	72	70	77	76	77	76	76	76	69	69
27	61	59	55	53	38	36	45	43	43	42	60	58	64	60	71	69	79	77	77	76	76	75	70	69
28	59	57	53	51	49	38	45	43	45	42	58	52	65	64	70	69	80	79	76	75	76	76	71	70
29	57	55	54	51	48	48	46	43	--	--	52	46	65	65	71	70	62	80	76	75	76	76	72	71
30	55	53	51	47	48	48	46	45	--	--	51	49	68	63	72	71	84	82	76	75	76	76	74	72
31	54	53	--	--	46	47	46	45	--	--	54	60	--	--	71	71	--	--	75	75	76	76	--	--
Average	--	--	58	56	41	39	42	40	45	43	51	47	61	58	69	67	73	72	75	75	75	75	72	71

NEUSE RIVER BASIN--Continued

2-921.22. BATCHELDERS CREEK NEAR STREETS FERRY, N. C.

LOCATION.--At bridge on county road, 2.4 miles south of Streets Ferry, Craven County.
DRAINAGE AREA.--55.3 square miles.
RECORDS AVAILABLE.--Chemical analyses: September 1957 to September 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1, 1958		9.7	0.12	16	1.6	5.2	1.6	39	10	7.4	0.2	1.1	96	47	15	118	6.4	85
Nov. 1		11	.18	15	3.1	5.0	1.2	48	7.7	7.4	.1	1.0	86	51	11	104	7.1	60
Dec. 1		12	.09	23	3.8	9.6	1.2	99	3.3	14	.1	.5	138	89	7	199	7.7	50
Jan. 3, 1959		6.9	.06	8.8	.7	3.8	1.0	23	5.4	6.5	.1	.8	60	25	6	71	6.1	50
Feb. 2		8.8	.09	17	1.4	5.7	.6	50	3.1	8.9	.0	.9	82	48	7	120	7.4	30
Mar. 2		6.8	.09	10	1.0	4.1	.6	30	4.0	6.0	.1	.7	62	30	5	78	6.9	40
Apr. 1		7.0	.08	13	1.3	4.3	.6	44	2.8	6.0	.0	.6	68	38	2	96	7.1	40
Apr. 30		7.1	.09	14	1.4	4.6	.9	48	1.7	5.2	.1	.2	74	41	2	100	6.6	45
June 2		8.7	.05	32	2.1	8.6	1.3	102	3.1	12	.1	.6	122	87	4	205	7.0	30
July 1		8.4	.02	33	3.4	11	1.6	106	3.9	15	.2	1.1	146	95	8	231	7.0	20
Aug. 2		8.3	.11	9.1	1.8	2.3	.9	30	3.2	4.0	.2	.4	73	30	6	71	6.6	140
Sept. 2		13	.13	31	2.6	5.8	1.6	96	4.0	7.7	.1	.4	140	87	9	189	7.0	60

NEUSE RIVER BASIN--Continued

2A-921.62. NEUSE RIVER AT NEW RERN, N. C.

LOCATION.--At bridge on U. S. Highway 17 in New Bern, Craven County.
DRAINAGE AREA.--4,467 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1959.
Water temperatures: October 1956 to September 1959.
EXTREMES, 1958-59.--Chloride: Maximum, 7,770 ppm Aug. 26 (bottom); minimum, 6.3 ppm Apr. 25 (bottom).
Specific conductance: Maximum daily, 20,900 micromhos Aug. 2 (bottom); minimum daily, 52 micromhos May 2 (top).
Water temperatures: Maximum, 87°F June 30 (top), Aug. 26 (top); minimum, 37°F Dec. 16, 22, (top), Jan. 11 (top).
EXTREMES, 1956-59.--Chloride: Maximum, 9,420 ppm Sept. 28 (bottom), 1957; minimum, 6.1 ppm May 16-28, 31, 1958.
Specific conductance: Maximum daily, 25,900 micromhos Sept. 28 (bottom), 1957; minimum daily, 52 micromhos May 16 (top), 1958, May 2 (top), 1959.
Water temperatures: Maximum, 89°F June 17, 22, Aug. 3, 18 (top), 1957; minimum, 33°F Feb. 18 (top), 19, 20, 1958.
REMARKS.--*Top* (T) and *bottom* (B) *samples were collected and composited once daily (11 a.m.) unless otherwise noted. When specific conductance values* indicated salt-water encroachment, only specific conductance and chloride were determined on individual samples. The individual chloride determinations are tabulated separately from the composite chemical analyses. Integrated samples were collected once daily from October to November 1956. Records of specific conductance of samples collected available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, February to July 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Feb. 11 (B), 14-18, 22-26, 27(T), 1959		8.8	0.13	5.1	1.4	8.4	1.4	14	6.8	14	0.1	1.8	69	18	7	89	6.3	70
Mar. 5-30		7.1	.06	5.6	1.2	7.6	1.4	16	5.6	12	.1	2.9	62	19	6	81	6.5	55
Apr. 1-3		7.5	.06	6.6	1.8	9.8	1.2	21	7.8	14	.2	2.7	71	24	7	100	6.7	50
Apr. 6-24, 25 (T), 26-30		6.7	.11	5.5	.9	6.5	1.2	17	6.0	8.5	.2	2.9	62	17	3	74	6.8	80
May 1-5, 6 (T)		7.8	.25	4.6	1.2	5.5	1.4	17	3.6	7.5	.1	.9	57	16	2	58	6.6	120
May 6 (B), 7-14		9.5	.33	6.9	1.6	8.5	1.6	22	4.7	12	.1	2.1	70	24	6	84	6.6	85
May 15-24, 26-31		11	.25	8.0	2.4	11	1.7	28	5.6	16	.2	2.1	75	30	7	110	6.6	65
May 25		8.7	.18	7.6	3.6	24	2.2	27	9.4	40	.1	1.4	a110	34	12	185	6.7	45
July 20-26, 27 (T)		7.8	.21	4.9	1.7	6.2	1.6	15	6.0	9.5	.2	.7	72	19	7	77	6.6	120

a Calculated from determined constituents.

2A-921.62. NEUSE RIVER AT NEW BERN, N. C.--Continued

Chloride, in parts per million, water year October 1958 to September 1959

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom
1	730	1,460	765	6,110	1,240	2,140	234	4,000	4,050	442	1,680	25					56	1,270	2,980	6,430	42	6,870	626	6,230
2	1,040	1,910	1,060	5,990	750	2,380	256	3,350	810	4,200	181	2,310	14	14			22	127	3,840	6,530	500	7,570	464	5,320
3	392	1,940	1,150	6,110	490	2,400	70	3,320	406	3,940	25	1,300					210	350	3,070	6,180	560	7,470	224	5,440
4	424	2,890	1,650	5,090	416	3,070	65	2,080	524	2,610	20	18	25	24	7.5	7.5	100	440	1,960	6,230	444	7,270	212	6,190
5	408	3,240	750	5,020	750	3,370	360	825	199	3,040			17	16			80	1,040	1,810	6,820	130	6,630	990	6,480
6	1,180	3,470	490	4,900	1,210	2,700	378	770	225	3,380							64	1,740	950	5,690	68	6,920	294	6,630
7	1,830	2,620	2,520	4,470	1,150	2,830	27	314	134	2,670							57	1,920	1,130	6,230	55	6,830	290	7,020
8	780	1,370	1,900	4,600	785	3,680	22	2,020	62	1,970							23	2,050	2,500	6,330	28	5,690	308	7,220
9	242	2,500	835	4,430	1,040	3,880	265	1,440	47	2,440							28	2,200	2,460	5,930	29	2,250	1,280	6,970
10	249	2,780	1,530	3,160	1,570	3,590	52	1,320	47	175							60	2,620	1,295	1,650	29	4,660	865	7,070
11	615	3,890	735	2,690	2,310	2,790	54	59	17	14					12	12	33	3,170	980	2,930	98	5,330	725	7,320
12	895	4,190	775	2,800	2,610	2,650	15	2,220	66	2,220							24	2,660	412	2,460	137	4,800	1,940	7,020
13	428	3,990	306	4,000	1,900	2,970	24	27	26	51							14	2,500	184	3,140	123	5,380	1,670	7,420
14	195	3,060	4,130	294	1,400	4,310	14	81									915	1,350	105	2,560	82	5,220	1,470	6,970
15	112	3,730	290	3,920	1,890	4,310	21	2,670									106	850	74	3,320	44	4,940	645	6,820
16	66	3,660	270	3,460	2,010	4,000	20	16	14	14			8.5	8.5			42	625	35	2,110	31	4,800	536	6,140
17	55	3,600	286	3,760	1,370	3,090	25	232			12	12					850	2,010	46	4,210	32	4,930	1,070	6,180
18	70	3,550	267	3,910	444	4,070	52	143									446	2,150	57	3,040	41	5,390	1,060	5,990
19	1,520	2,840	310	3,250	815	4,630	34	3,310	88	1,150							382	2,370	27	94	90	5,620	865	5,840
20	1,810	2,010	1,300	3,650	1,080	4,420	45	3,210	40	116					16	16	476	2,900			524	4,380	730	4,230
21	2,920	3,030	830	4,140	1,180	4,040	43	1,090	26	93							805	3,410			494	4,740	374	3,470
22	725	1,620	635	4,450	392	4,560	19	26									1,170	2,550			552	5,160	294	3,820
23	200	1,440	825	4,750	460	4,300	275	336									875	1,650		10	640	6,290	256	3,000
24	116	2,830	560	4,620	364	3,680	55	2,080									810	2,420	10		900	6,920	228	3,150
25	360	3,870	2,100	4,290	1,890	4,660	29	2,670	14	14				6.3	40	40	528	3,370			1,080	7,270	346	3,010
26	640	4,340	1,480	4,430	1,000	4,520	57	3,550									875	4,750			975	7,770	326	2,870
27	950	4,740	2,140	4,180	985	4,760	55	3,730		1,420							1,520	6,430		5,740	1,730	7,470	394	2,970
28	1,900	5,240	1,760	4,090	466	4,980	173	2,920	22	1,880			8.5	8.5			3,110	7,270	45	6,180	1,500	7,270	565	2,770
29	1,520	5,800	2,950	3,000	426	4,060	300	4,260	--	--					16	16	3,950	6,980	72	5,100	1,900	6,930	1,200	2,100
30	1,320	6,610	2,460	2,470	446	4,440	220	4,490	--	--							2,840	7,520	60	7,170	1,860	6,830	1,610	1,650
31	1,140	6,380	--	--	494	4,000	764	4,410	--	--	21	25	--	--			--	--	98	6,920	1,930	6,480	--	--

NEUSE RIVER BASIN--Continued

2A-921.62. NEUSE RIVER AT NEW BERN, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Top and bottom once-daily measurements at approximately 11 a.m.)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom
1	74	74	58	63	49	51	47	46	50	48	49	48	59	59	67	65	78	77	86	81	81	79	83	81
2	70	71	59	64	49	51	49	47	47	50	48	49	60	60	66	67	74	76	83	80	79	79	83	82
3	69	71	57	64	50	52	48	47	41	46	46	48	59	60	69	67	77	77	84	80	80	79	82	82
4	68	69	58	61	53	53	49	48	46	45	49	48	61	60	69	68	78	78	79	80	78	78	83	82
5	68	69	58	62	53	53	46	47	44	45	48	48	60	59	69	68	77	77	81	80	76	78	82	82
6	67	68	58	62	52	53	42	45	46	46	49	48	59	60	70	68	79	77	82	80	77	79	81	81
7	66	67	59	60	49	50	40	41	45	47	49	48	59	60	69	69	79	77	81	80	78	79	80	81
8	65	66	57	61	47	52	42	43	46	46	48	53	65	64	70	70	81	78	79	79	78	78	79	81
9	66	67	59	61	46	51	40	42	47	47	53	53	66	65	73	73	80	78	78	79	79	78	79	81
10	67	68	58	60	47	49	38	40	48	47	53	53	66	66	70	71	79	77	77	78	79	79	79	80
11	67	68	56	58	44	46	37	38	41	41	54	54	68	67	72	71	79	77	79	78	78	79	80	78
12	65	68	56	58	40	41	38	40	48	48	53	53	67	67	73	72	79	77	80	79	79	79	77	80
13	68	65	58	59	40	42	40	--	48	48	50	51	61	61	74	73	81	78	80	79	81	79	74	80
14	63	65	59	59	38	41	40	40	51	50	51	51	58	58	74	73	78	78	78	79	80	79	74	80
15	64	67	60	59	38	42	41	42	52	52	52	53	58	58	71	72	74	77	77	79	83	79	73	79
16	65	68	64	60	37	42	42	43	51	51	53	53	58	58	71	71	75	76	77	77	81	79	78	74
17	68	68	61	60	40	41	40	43	51	51	52	53	60	58	71	71	73	74	76	78	84	80	73	77
18	66	68	62	60	38	40	39	40	52	52	51	52	60	59	72	72	74	74	77	78	82	80	72	78
19	68	68	64	62	38	41	42	44	51	51	51	52	59	59	74	73	73	75	76	76	85	81	69	76
20	64	65	61	60	40	42	43	43	48	49	53	53	65	64	75	74	76	75	77	76	82	81	68	74
21	63	64	59	59	39	42	43	42	45	46	54	54	62	62	75	74	76	75	76	76	86	82	75	74
22	64	64	59	61	37	42	53	51	46	45	55	55	58	80	75	75	79	76	84	77	84	82	72	75
23	64	64	58	60	43	44	51	51	47	47	53	54	63	63	78	--	83	79	79	79	85	82	74	76
24	65	65	60	61	44	44	48	50	48	48	54	54	65	65	77	77	79	83	80	78	84	82	74	75
25	65	64	59	61	42	43	49	50	48	48	57	58	65	67	77	77	81	78	78	78	83	82	75	75
26	62	64	58	--	41	43	50	51	48	47	59	59	65	65	76	75	81	78	82	78	87	82	76	75
27	62	64	57	60	40	43	50	48	46	48	60	60	65	64	78	76	81	78	80	78	86	82	76	75
28	62	64	55	59	45	45	47	48	47	48	58	59	65	66	79	77	84	78	78	79	85	82	78	76
29	60	64	57	57	45	45	49	51	--	--	57	57	66	65	80	78	85	80	79	79	84	83	76	76
30	61	64	55	55	46	45	51	51	--	--	58	59	66	67	80	78	87	80	80	79	82	82	77	77
31	60	64	--	--	46	45	50	51	--	--	58	59	--	--	80	78	--	--	80	79	82	82	--	--
Average	65	67	59	60	44	46	45	45	47	48	53	53	62	62	73	72	79	77	79	79	82	80	77	76

2-925. TRENT RIVER NEAR TRENTON, N. C.

LOCATION.--At gaging station, 50 feet downstream from Free Bridge, 800 feet downstream from Little Chinquapin Branch, 1 1/2 miles southwest of Phillips Crossroads, and 6.0 miles west of Trenton, Jones County.
DRAINAGE AREA.--168 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1951 to September 1953, January 1955 to September 1959.
Water temperatures: October 1951 to September 1953, January 1955 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 131 ppm July 1-10; minimum, 39 ppm July 18-20.
Hardness: Maximum, 95 ppm July 1-10; minimum, 18 ppm Mar. 2-10.
Specific conductance: Maximum daily, 220 micromhos July 7; minimum daily, 37 micromhos Mar. 10.
Water temperatures: Maximum, 85°F June 28, 30, July 1; minimum, freezing point on several days during December and January.
EXTREMES, 1951-53, 1955-59.--Dissolved solids: Maximum, 153 ppm Sept. 1-10, 1957; minimum, 39 ppm July 18-20, 1959.
Hardness: Maximum, 117 ppm Aug. 11-20, 1957; minimum, 18 ppm Mar. 2-10, 1959.
Specific conductance (1955-59): Maximum daily, 257 micromhos June 17, 1957; minimum daily, 37 micromhos Mar. 10, 1959.
Water temperatures: Maximum, 86°F June 17, 1957; minimum, freezing point on many days during winter months.
REMARKS.--Records of suspended matter of composite samples from October 1951 to September 1953 and records of specific conductance of samples collected from January 1955 to September 1959 available in district office at Raleigh, N. C. Records of discharge for water year September 1958 to October 1959 given in WSP 1623.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-10, 1958.....	348	6.5	0.09	11	1.2	3.6	0.6	22	8.3	6.5	0.2	1.1	a86	33	15	81	6.5	120
Oct. 11-20.....	99	7.4	.16	18	1.5	4.5	.6	47	6.9	6.5	.1	1.7	103	50	12	117	6.7	110
Oct. 21-31.....	422	6.2	.14	10	1.7	3.9	.8	25	7.6	7.0	.2	1.1	82	32	12	77	6.7	120
Nov. 1-10.....	147	7.8	.12	14	1.9	4.6	.6	38	6.1	7.0	.2	1.5	82	43	12	102	7.0	100
Nov. 11-20.....	72	8.3	.17	18	1.7	4.6	.6	49	6.5	6.5	.2	1.8	90	52	12	122	7.0	100
Nov. 21-30.....	51	8.7	.24	20	1.7	5.1	.7	56	5.4	8.0	.2	1.7	102	57	11	133	7.0	100
Dec. 1-10.....	45	8.1	.17	18	1.9	5.5	.5	52	5.3	7.5	.1	2.0	92	52	9	119	7.3	100
Dec. 11-20.....	74	7.3	.17	15	1.7	4.8	.5	42	5.3	7.0	.1	1.9	83	45	11	104	7.1	60
Dec. 21-31.....	436	6.4	.09	10	1.7	4.2	.6	24	6.1	7.0	.1	1.8	70	32	12	77	6.6	70
Jan. 1-10, 1959.....	586	5.7	.17	9.6	.5	2.5	.4	20	5.8	5.5	.2	.4	b69	26	10	65	6.4	110
Jan. 11-20.....	170	6.3	.16	12	1.9	3.1	.2	31	6.7	6.5	.1	1.5	78	38	13	86	6.8	80
Jan. 21-31.....	143	5.8	.16	13	1.2	2.8	.2	34	6.7	6.5	.1	1.5	77	37	9	88	7.2	80
Feb. 1-10.....	473	5.3	.16	9.1	.9	3.7	.6	22	6.1	6.0	.1	.7	63	26	8	70	6.5	110
Feb. 11-20.....	366	4.9	.15	9.1	1.1	3.5	.4	21	5.7	6.5	.2	.8	61	27	10	70	7.0	120
Feb. 21-28.....	226	4.6	.17	11	.9	4.3	.6	26	5.4	7.5	.1	.8	67	32	10	80	6.7	110
Mar. 1.....	289	--	--	--	--	--	--	28	6.7	7.0	--	1.0	--	33	10	77	7.2	--
Mar. 2-10.....	1,943	3.5	.12	5.8	1.0	2.8	.6	14	4.2	4.5	.2	.8	c53	18	7	46	6.7	140
Mar. 11-20.....	545	3.6	.15	8.7	.8	3.0	.5	20	5.0	5.0	.2	.7	d64	25	8	60	6.8	140

a Organic matter present; sum of mineral constituents 50 parts per million.
b Organic matter present; sum of mineral constituents 41 parts per million.
c Organic matter present; sum of mineral constituents 31 parts per million.
d Organic matter present; sum of mineral constituents 38 parts per million.

NEUSE RIVER BASIN--Continued

2-925. TRENT RIVER NEAR TRENTON, N. C.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Mar. 21-31, 1959....	238	3.3	0.15	10	1.7	3.5	0.5	30	4.6	6.0	0.2	0.9	70	33	8	76	6.9	140
Apr. 1-10.....	344	3.3	.15	9.1	.8	3.4	.4	23	4.0	5.5	.1	.7	63	26	7	66	6.9	140
Apr. 11-20.....	712	3.9	.20	8.5	1.0	3.0	.4	22	4.7	4.5	.1	.6	63	25	7	60	7.2	160
Apr. 21-30.....	297	4.3	.23	9.1	1.6	3.5	.4	26	4.3	5.0	.0	.8	69	29	8	71	6.8	160
May 1-8.....	226	5.3	.28	10	.8	3.5	.4	26	4.7	5.0	.1	.7	70	29	8	70	7.0	140
May 9-16.....	74	6.9	.28	15	1.9	4.1	.4	47	3.8	5.5	.1	.9	84	45	7	111	7.4	140
May 17-31.....	62	7.7	.30	17	1.2	2.9	.4	48	4.5	6.5	.1	1.5	89	48	9	96	7.6	140
June 1-10.....	77	7.4	.16	14	1.7	3.9	.5	41	5.5	6.0	.1	1.2	80	42	8	99	7.2	100
June 11-20.....	15	7.6	.18	20	1.8	4.3	.5	56	5.5	7.0	.1	1.9	98	57	11	129	7.3	85
June 21-30.....	5.0	6.3	.13	28	2.8	4.8	.5	83	8.2	7.0	.1	1.9	117	81	13	175	7.6	60
July 1-10.....	5.0	8.3	.02	34	2.2	4.5	.8	99	9.9	6.7	.1	1.7	131	95	14	208	7.4	40
July 11-13.....	34	7.8	.05	29	2.5	4.4	.8	85	7.5	6.5	.1	1.5	e102	82	13	180	8.0	40
July 14-17.....	372	7.5	.12	18	1.5	3.7	.8	39	16	5.0	.2	1.2	e73	52	20	120	7.6	100
July 18-20.....	1,230	5.2	.12	9.3	.8	2.2	.7	17	10	2.5	.2	.4	e39	26	12	64	7.0	140
July 21-25.....	534	6.5	.22	11	.7	2.8	.6	21	7.1	4.5	.2	.7	e44	29	12	71	7.1	200
July 26-31.....	148	8.2	.27	18	1.8	3.5	.4	45	10	4.5	.2	1.3	97	51	14	109	7.7	160
Aug. 1-10.....	90	9.3	.26	19	1.0	4.2	.7	48	7.2	6.0	.2	1.3	90	52	12	113	7.6	120
Aug. 11-20.....	28	10	.29	23	2.6	4.9	.8	66	11	8.5	.2	1.4	113	69	15	149	7.1	120
Aug. 21-31.....	17	9.3	.20	28	2.3	4.6	.9	80	9.6	7.5	.2	2.2	120	79	13	170	7.7	80
Sept. 1-5.....	33	9.2	.18	25	2.3	4.8	1.0	72	10	6.5	.2	1.4	e96	72	13	160	7.2	120
Sept. 6-10.....	121	9.1	.20	15	1.7	3.9	1.1	37	12	6.0	.2	.9	e68	46	15	105	6.7	120
Sept. 11-20.....	42	9.8	.29	18	1.8	4.6	.7	50	7.6	6.5	.2	2.5	100	53	12	128	7.6	65
Sept. 21-30.....	13	9.4	.28	27	2.0	4.6	.8	75	10	6.8	.2	1.3	111	76	14	167	7.8	110
Time-weighted average.....	253	6.8	0.18	16	1.5	3.9	0.6	42	6.7	6.3	0.1	1.3	84	45	11	104	--	110

e Calculated from determined constituents.

NEUSE RIVER BASIN--Continued

2-925. TRENT RIVER NEAR TRENTON, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 8 a.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70	55	44	40	40	60	55	69	74	85	78	79
2	65	56	43	52	45	35	65	65	75	82	78	78
3	60	55	52	--	40	35	48	73	72	83	72	78
4	62	60	52	50	53	42	55	70	70	72	72	79
5	65	63	50	59	42	45	48	67	67	75	72	79
6	63	55	47	32	45	66	50	60	68	75	73	78
7	65	55	41	32	36	45	58	68	67	75	75	78
8	65	56	38	32	43	--	59	68	71	79	75	79
9	64	55	38	32	55	--	69	65	72	78	79	75
10	65	62	38	32	58	48	69	64	73	75	78	72
11	66	58	37	32	66	48	68	68	74	78	78	70
12	60	46	38	32	45	58	60	71	72	75	78	65
13	53	58	35	35	50	35	48	70	73	76	78	70
14	59	63	34	36	59	46	44	70	70	74	78	65
15	58	62	33	49	65	57	46	62	72	74	78	70
16	64	62	32	45	48	55	56	54	73	75	78	70
17	65	60	32	33	52	50	59	62	73	78	79	70
18	68	65	32	35	58	45	63	68	62	75	78	60
19	58	68	32	32	46	40	68	70	62	75	80	59
20	55	56	43	32	35	50	68	74	70	78	80	59
21	60	50	40	52	34	55	68	72	74	78	78	59
22	67	56	35	38	36	55	56	73	75	79	78	60
23	70	56	45	38	35	44	50	74	75	--	78	60
24	62	56	55	40	53	44	48	75	78	80	79	62
25	58	55	38	43	45	63	56	70	78	79	79	60
26	56	48	33	48	45	63	63	65	81	80	78	70
27	55	49	40	49	45	68	68	68	82	80	78	70
28	55	47	58	47	45	42	72	68	85	78	82	72
29	47	55	56	46	--	45	70	70	78	79	80	70
30	48	44	48	52	--	58	64	74	85	78	80	76
31	49	--	46	52	--	55	--	78	--	78	78	--
Average	61	56	41	41	47	50	59	69	73	78	78	70

2-925.56. TRENT RIVER BELOW HILL CREEK, NEAR POLLOCKSVILLE, N. C.

LOCATION.--At end of county road, 2.7 miles downstream from U. S. Highway 17 bridge at Pollocksville, Jones County, and 2.3 miles downstream from Mill Creek.
DRAINAGE AREA.--397 square miles.
RECORDS AVAILABLE.--Chemical analyses: January 1955 to September 1959.
Water temperatures: January 1955 to September 1959.
EXTREMES, 1958-59.--Chloride: Maximum, 1,570 ppm July 5; minimum, 4.5 ppm Mar. 4-17.
Specific conductance: Maximum daily, 5,380 micromhos July 8; minimum daily, 38 micromhos Mar. 11, 12.
Water temperatures: Maximum, 89°F July 2; minimum, 34°F Dec. 16.
EXTREMES, 1955-59.--Chloride: Maximum, 3,050 Jan. 19, 1955; minimum, 4.0 ppm Sept. 21-30, 1955.
Specific conductance: Maximum daily, 9,250 micromhos Jan. 19, 1955; minimum daily, 36 micromhos Sept. 22, 23, 1955.
Water temperatures: Maximum, 89°F July 2, 1959; minimum, freezing point on several days during January and February 1958.
REMARKS.--During period October through November 1958, samples collected at bridge on U. S. Highway 17 at Pollocksville, Jones County, and 0.4 mile upstream from Mill Creek. Daily samples were composited for chemical analyses unless otherwise noted. When specific conductance values indicated salt-water encroachment, only specific conductance and chloride were determined on individual samples. The individual specific conductance and chloride determinations are tabulated separately from the composite chemical analyses. Records of specific conductance of samples collected from January 1955 to September 1958 available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-20,22-31,1958		8.7	0.11	15	1.9	4.3	0.8	38	9.0	7.0	0.2	1.0	93	45	14	108	6.5	110
Oct. 21		--	--	--	--	--	--	55	17	8.5	--	.9	--	78	33	383	7.2	--
Nov. 1-30		9.3	.28	23	2.2	4.2	.6	86	8.1	8.5	.2	1.3	107	66	12	150	7.3	100
Dec. 1-28		8.1	.22	25	2.2	5.7	.7	72	7.4	8.0	.2	1.7	109	71	12	160	7.0	80
Dec. 29-31		8.3	.08	11	1.0	3.7	1.1	27	7.1	7.0	.1	1.3	a52	32	10	82	8.4	100
Jan. 1-31, 1959		6.9	.20	17	1.0	3.1	.2	40	7.4	7.5	.2	.8	90	46	13	110	7.3	120
Feb. 1-28		6.0	.20	13	1.6	4.1	.8	33	7.2	7.5	.1	1.1	78	40	13	95	8.8	140
Mar. 1-3, 18-31		4.2	.22	14	1.4	4.1	.5	38	5.3	8.5	.2	1.0	87	41	10	92	7.1	140
Mar. 4-17		3.7	.16	6.7	1.1	2.8	.6	17	5.1	4.5	.2	.7	b81	21	7	51	8.7	150
Apr. 1-30		5.2	.19	13	.8	3.6	.3	34	5.8	5.0	.1	.7	67	35	7	82	7.3	140
May 1-11		5.9	.30	18	1.3	4.0	.4	45	4.6	5.5	.1	.8	82	44	8	100	7.3	140
May 12-31		7.4	.33	25	3.0	5.1	.5	75	7.1	8.0	.1	.9	110	74	13	159	7.1	110
June 1-10		8.9	.16	27	2.1	5.0	.6	82	6.1	7.5	.2	1.5	120	77	10	189	7.9	70
June 11-20		8.1	.13	25	2.5	5.3	.9	78	7.8	8.0	.2	1.9	118	74	12	187	7.5	70
June 21-30		8.0	.11	29	2.0	8.2	.9	91	7.6	10	.2	1.3	126	82	7	187	7.5	55
July 18-31		8.1	.30	14	1.4	3.3	.5	34	13	5.0	.1	.7	90	41	13	94	8.8	200
Aug. 1-8		7.2	.20	14	1.8	3.9	.7	40	6.8	6.0	.2	.6	86	42	9	97	8.9	140
Aug. 9-28		9.1	.29	25	1.8	5.5	.9	74	8.3	8.0	.2	.8	107	70	9	161	7.0	120

a Calculated from determined constituents.
b Organic matter present; sum of mineral constituents 34 parts per million.

Aug. 29-31, 1959....		8.9	.29	35	14	102	5.5	91	32	190	.2	.6	a433	145	71	805	7.3	100
Sept. 6-20.....		8.2	.28	17	1.4	4.3	1.1	49	6.3	6.5	.2	.6	91	49	11	112	7.4	170
Sept. 21-30.....		10	.29	26	2.0	5.9	.9	74	7.3	9.0	.2	.8	110	72	12	165	7.7	140
Time-weighted average.....		7.1	0.22	19	1.8	5.2	0.7	52	7.6	8.5	0.2	1.0	97	54	12	129	7.1	120

a Calculated from determined constituents.

NEUSE RIVER BASIN--Continued

2-925.56. TRENT RIVER BELOW MILL CREEK, NRAR POLLOCKSVILLE, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1958 to September 1959

Day	October		November		December		January	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	--		109		172		74	
2	121		119		172		--	
3	117		125		170		--	
4	117		129		168		64	
5	109		129		169		71	
6	109		141		169		73	
7	122		133		172		79	
8	110		135		171		83	
9	103		131		172		87	
10	97	7.0	138		175		98	
11	97		139		--		97	
12	98		138		--		100	
13	103		171		--		109	
14	109		142		152		109	
15	122		149	6.5	152	8.0	111	
16	124		149		155		118	7.5
17	125		151		160		121	
18	132		157		160		120	
19	131		160		154		121	
20	140		163		158		123	
21	363	6.5	187		159		128	
22	111		169		150		130	
23	83		167		145		129	
24	91		170		142		130	
25	93		169		139		128	
26	91	7.0	169		130		129	
27	85		163		121		130	
28	85		188		117		131	
29	87		169		98		123	
30	91		177		74	7.0	123	
31	100		--	--	71		130	

Day	February		March		April		May	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	119		107		98		90	
2	121		91	6.5	93		93	
3	119		80		95		89	
4	121		63		95		93	
5	120		57		91		105	
6	84		54		90		105	5.5
7	74		45		89		107	
8	76		45		87		104	
9	77		41		91		110	
10	79		41		94		112	
11	72		38	4.5	99		111	
12	72		38		108		125	
13	79		43		101		131	
14	84		49		85		141	
15	86	7.5	54		70		150	
16	90		61		68	5.0	151	
17	88		69		65		160	
18	92		76		65		160	
19	92		75		64		160	
20	91		79		67		159	
21	96		81		75		152	8.0
22	100		81		75		160	
23	101		80		84		169	
24	101		86	6.5	86		170	
25	109		94		84		176	
26	102		97		87		170	
27	118		102		92		165	
28	109		110		96		159	
29	--	--	100		100		154	
30	--	--	93		91		157	
31	--	--	96		--	--	164	

NEUSE RIVER BASIN--Continued

2-925.56. TRENT RIVER BELOW MILL CREEK, NEAR POLLOCKSVILLE, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1958 to September 1959--Continued

Day	June		July		August		September	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	159		682	128	--		648	129
2	177		922	200	72		687	138
3	182		2,820	775	84		889	200
4	186		4,520	1,300	91		1,720	460
5	178		5,300	1,570	94	6.0	169	20
		7.5						
6	170		3,070	840	104		94	
7	161		2,830	775	110		99	
8	--		5,360	1,560	119		82	
9	161		3,170	885	124		98	
10	159		283	22	131		110	
11	155		226	10	134		112	
12	160		192	8.1	139		114	
13	165		172	7.1	149		120	6.5
14	170		128	7.8	154		121	
15	165		112	6.3	158		122	
		8.0						
16	169		71		160		128	
17	175		76		162		132	
18	171		84		171		139	
19	170		76		176	8.0	139	
20	171		84		181		143	
21	170		76		160		150	
22	174		74		147		152	
23	181		77		164		162	
24	182		82	5.0	163		163	
25	189		90		166		170	
		10						9.0
26	189		100		170		173	
27	190		101		175		173	
28	202		112		182		180	
29	207		125		768		181	
30	201		140		698	190	181	
31	--	--	132		981		--	--

NEUSE RIVER BASIN--Continued

2-925.56. TRENT RIVER BELOW MILL CREEK, NEAR POLLOCKSVILLE, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 1 p.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	--	55	54	48	47	49	57	70	75	85	--	79
2	68	--	54	--	47	49	59	69	77	69	79	80
3	67	52	53	--	46	45	59	69	75	80	86	80
4	67	57	55	48	47	47	59	71	75	78	77	80
5	67	58	53	42	47	47	59	71	80	80	75	78
6	66	59	53	48	48	52	61	70	79	80	77	76
7	68	59	52	42	47	53	62	72	77	80	78	78
8	65	59	80	42	47	53	62	72	--	60	79	78
9	66	59	49	40	48	54	64	71	80	79	79	79
10	68	58	46	36	50	53	66	71	76	78	79	79
11	67	--	--	38	52	59	68	71	79	78	60	76
12	66	56	--	35	50	55	56	72	77	76	60	76
13	64	58	--	36	53	52	67	73	76	75	82	76
14	65	59	38	40	54	52	57	74	76	74	61	75
15	67	59	40	42	55	55	59	73	77	74	62	74
16	68	--	34	43	59	57	56	72	78	74	80	74
17	69	60	36	43	59	57	58	70	76	75	80	73
18	68	62	38	42	55	55	59	74	77	75	60	72
19	64	62	38	40	58	53	60	73	75	75	80	71
20	63	63	38	40	52	53	64	74	77	75	81	72
21	64	61	36	42	49	54	68	73	77	75	79	71
22	65	62	36	43	48	53	68	74	78	77	60	71
23	65	61	40	46	47	54	62	74	78	77	60	72
24	66	59	42	46	49	50	63	75	80	79	62	72
25	65	59	44	46	48	55	60	75	80	76	62	75
26	64	60	43	47	48	57	60	75	81	79	81	73
27	62	57	42	48	48	60	62	75	64	80	81	74
28	80	--	45	47	49	58	64	75	79	79	80	73
29	59	57	45	46	--	57	65	75	84	79	81	75
30	58	80	46	48	--	56	68	75	65	80	79	76
31	58	--	48	49	--	57	--	76	--	60	60	--
Average	68	59	45	42	50	54	62	73	78	78	80	75

2-925.58. TRENT RIVER NEAR NEW BERN, N. C.

LOCATION.--At private pier on north bank of river, 3 miles southwest of New Bern, Craven County, and 100 yards downstream from Haywood Creek.
DRAINAGE AREA.--430 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1959.
Water temperatures: October 1958 to September 1959.
EXTREMES, 1958-59.--Chloride: Maximum, 3,200 ppm July 8; minimum, 7.0 ppm Mar. 4-5, 8-12, 14-20.
Specific conductance: Maximum daily, 10,500 micromhos July 8; minimum daily, 48 micromhos Mar. 11.
Water temperatures: Maximum, 86°F June 30; minimum, 38°F Dec. 12, 23.
REMARKS.--Daily samples were composited for chemical analyses unless otherwise noted. When specific conductance values indicated salt-water encroachment, only specific conductance and chloride were determined on individual samples. The individual specific conductance and chloride determinations are tabulated separately from the composite chemical analyses. No discharge records available for this station.

Chemical analyses, in parts per million, January to July 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Jan. 1-12, 14, 1959.		6.1	0.17	12	1.2	6.4	0.8	29	8.8	11	0.2	0.8	89	38	12	108	6.7	120
Jan. 13,16-21,29-30.		7.1	.17	18	2.2	9.1	.5	52	8.2	17	.2	.9	118	55	12	161	7.0	110
Feb. 7, 9, 11-28....		6.4	.15	13	1.8	6.9	.8	38	8.7	12	.2	1.0	89	41	11	110	7.1	120
Mar. 1-3, 6-7, 13, 21-26, 28-31.....		4.9	.17	15	2.1	9.7	.8	44	6.4	16	.2	.8	100	48	10	134	7.1	140
Mar. 4-5, 8-12,14-20		4.2	.13	8.7	1.4	4.3	.7	24	5.7	7.0	.2	.8	69	27	8	72	6.8	140
Mar. 27.....		--	--	--	--	--	--	59	10	37	--	1.5	--	61	13	236	7.3	--
Apr. 1-13, 26, 29-30		5.0	.17	15	1.8	6.9	.5	43	6.8	10	.2	.8	82	45	10	118	7.0	140
Apr. 14-25, 27-28...		4.8	.25	12	1.3	4.8	.5	33	4.8	8.0	.2	.9	79	35	8	91	6.8	160
May 1-14.....		6.5	.24	17	1.7	8.7	.5	50	5.4	10	.1	.8	95	50	9	129	7.3	140
May 15-31.....		7.8	.21	28	2.5	9.4	.8	80	7.0	14	.1	.3	121	74	8	187	7.6	100
July 16-31.....		8.0	.20	13	2.0	7.7	.8	34	7.8	13	.1	.7	100	41	14	118	6.7	160

NEUSE RIVER BASIN--Continued

2-925.58. TRENT RIVER NEAR NEW BERN, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1958 to September 1959

Day	October		November		December		January	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	392	81	1,490	416	1,360	372	79	
2	649	145	1,750	496	658	156	92	
3	247	42	1,900	546	729	171	75	
4	216	34	3,390	1,040	789	187	182	
5	181	22	1,080	300	850	210	86	
6	477	102	1,400	398	1,490	420	96	
7	979	241	5,110	1,600	3,380	1,050	87	11
8	254	43	4,940	1,520	2,910	900	96	
9	187	27	2,390	720	2,120	610	101	
10	282	50	2,160	635	3,200	975	102	
11	170	22	2,560	735	4,830	1,540	128	
12	316	60	1,400	388	3,020	900	120	
13	147	18	789	190	1,290	360	147	17
14	174	25	1,190	324	2,150	635	120	11
15	187	28	1,300	370	1,020	272	251	43
16	288	56	1,500	410	1,000	264	141	
17	339	65	2,780	825	640	145	152	
18	536	124	2,580	765	1,320	368	148	
19	4,520	1,360	2,100	590	730	175	179	17
20	2,130	608	4,000	1,220	754	180	138	
21	3,810	1,130	2,340	670	2,880	865	179	
22	680	163	3,110	930	1,280	348	560	128
23	389	86	3,300	975	658	152	1,110	282
24	181	32	2,440	700	960	248	206	27
25	200	37	6,000	1,930	4,290	1,360	206	28
26	157	24	3,250	985	1,500	420	228	32
27	140	20	5,610	1,800	1,680	480	240	37
28	307	66	3,450	1,020	662	162	341	62
29	349	76	4,300	1,300	167	26	187	17
30	487	116	4,380	1,320	123	19	182	17
31	1,450	400	--	--	89	11	1,600	420

Day	February		March		April		May	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	1,980	532	147	16	120		111	
2	921	217	122	16	118		112	
3	180	22	114	16	118		130	
4	222	32	88	7.0	120		125	
5	154	15	70	7.0	108		128	
6	210	31	176	16	138		125	
7	94	12	108	16	117	10	125	10
8	190	31	51		112		121	
9	84	12	58		114		133	
10	386	80	53	7.0	111		138	
11	94		48		120		132	
12	89		56		118		133	
13	122		148	16	122		139	
14	131		74		108		151	
15	111		62		96		159	
16	110		75		86		160	
17	109		85	7.0	79		161	
18	109		99		72		168	
19	112		88		70		174	
20	113	12	94		86	8.0	175	
21	129		116		80		177	
22	119		104		80		182	
23	118		104		86		182	14
24	140		162	16	93		196	
25	130		151		101		197	
26	122		156		118	10	200	
27	129		236	37	108	8.0	201	
28	124		152		109	8.0	200	
29	--	--	148	16	118	10	200	
30	--	--	128		112	10	201	
31	--	--	122		--	--	200	

NEUSE RIVER BASIN--Continued

2-925.58. TRENT RIVER NEAR NEW BERN, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1958 to September 1959--Continued

Day	June		July		August		September	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	212	15	7,020	2,090	308	50	3,470	1,010
2	--	--	5,040	1,490	353	66	3,500	1,000
3	219	17	6,510	1,990	245	45	3,520	1,000
4	222	18	8,220	2,520	144	21	4,410	1,310
5	219	16	8,930	2,680	209	36	3,180	900
6	212	14	8,230	2,550	330	67	353	58
7	226	16	8,210	2,500	1,353	370	170	23
8	218	14	10,500	3,200	678	169	180	27
9	211	13	8,510	2,630	541	124	162	21
10	210	13	6,690	2,020	904	223	152	19
11	213	14	4,600	1,340	1,592	446	238	40
12	232	20	1,990	530	1,637	454	1,800	488
13	2,370	650	1,380	332	1,487	406	2,690	750
14	2,300	640	550	104	636	141	1,720	460
15	691	140	208	28	704	159	2,010	540
16	323	43	135		843	202	1,320	334
17	855	189	124		1,165	304	2,420	680
18	1,110	278	118		1,133	292	2,900	825
19	789	168	101		1,368	362	3,600	1,020
20	751	159	100		3,171	940	2,600	735
21	952	217	100		1,555	416	2,000	536
22	2,300	645	106		825	185	945	203
23	2,040	560	97	13	1,842	504	753	166
24	2,510	705	141		4,869	1,500	691	149
25	3,080	870	100		3,752	1,140	960	223
26	2,810	785	100		3,858	1,160	1,290	330
27	2,610	730	107		2,821	815	1,780	470
28	6,280	1,890	112		2,509	715	1,800	468
29	5,090	1,540	140		5,244	1,630	1,550	412
30	4,510	1,310	160		5,113	1,570	1,490	382
31	--	--	161		5,049	1,570	--	--

NEUSE RIVER BASIN--Continued

2-925.58. TRENT RIVER NEAR NEW BERN, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 7:30 a.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	73	58	51	51	48	52	60	67	79	85	78	81
2	68	58	52	51	42	49	61	68	--	85	79	82
3	68	57	52	52	41	49	53	70	77	82	77	82
4	67	57	55	52	49	52	60	71	77	78	77	83
5	69	58	55	42	52	49	54	73	76	81	78	79
6	67	59	50	40	50	60	60	70	76	80	78	79
7	67	62	51	40	49	50	63	71	78	80	78	78
8	66	59	49	40	52	50	63	72	78	79	84	78
9	66	60	49	42	50	50	65	67	--	79	80	78
10	69	59	49	41	59	51	62	73	79	79	79	78
11	68	57	42	40	49	50	64	74	80	80	80	77
12	67	58	36	42	52	51	62	73	82	79	81	72
13	64	59	41	42	49	51	62	74	82	79	81	72
14	65	61	40	42	51	56	59	73	80	78	80	72
15	68	61	40	43	51	50	55	72	76	75	61	75
16	68	62	40	42	50	50	57	71	78	75	81	74
17	70	62	40	42	52	55	57	70	79	75	81	75
18	68	65	43	40	52	53	59	73	77	75	81	71
19	67	65	47	42	49	55	62	75	75	--	62	71
20	64	63	43	43	50	56	60	76	77	77	82	72
21	69	60	42	51	51	60	59	76	78	72	82	69
22	65	60	45	52	50	56	63	78	77	78	81	71
23	68	59	38	48	50	55	61	76	79	78	82	71
24	65	59	45	49	51	59	60	76	80	79	83	73
25	64	59	49	49	44	61	61	76	80	79	83	75
26	65	59	39	49	48	63	63	77	80	81	82	76
27	63	52	39	51	49	64	63	76	82	80	82	76
28	62	56	46	49	53	58	65	77	83	79	83	77
29	61	57	42	50	--	59	67	77	84	79	82	77
30	62	54	50	51	--	59	66	78	86	79	81	76
31	60	--	50	51	--	59	--	78	--	79	81	--
Average	66	59	46	46	50	55	61	74	79	79	81	76

2-935. HAW RIVER NEAR BENAJA, N. C.

LOCATION.--Temperature recorder at gaging station, 200 feet upstream from site of old High Rock Mill, 500 feet upstream from highway bridge, half a mile upstream from county line, 6 miles downstream from Troublesome Creek, and 6 miles east of Benaja, Rockingham County.
DRAINAGE AREA.--168 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1952 to September 1953.
Water temperatures: October 1952 to September 1953, July 1954 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 81°F June 30, July 1, Aug. 23; minimum, freezing point on many days during December and January.
EXTREMES, 1952-53, July 1954 to September 1959.--Water temperatures: Maximum, 84°F Aug. 2, 1953; minimum, freezing point on many days during winter months.
REMARKS.--Recorder stopped; range in temperature from May 21-25, 63° to 70°F. Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Temperature (°F) of water, water year October 1958 to September 1959
(Continuous ethyl alcohol-actuated thermograph)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	63	62	49	47	37	37	40	39	43	39	44	42	58	53	65	62	68	68	81	76	75	75	74	73
2	62	58	50	48	39	37	39	38	39	36	44	43	60	58	66	64	68	68	80	77	76	74	75	74
3	58	57	50	49	43	39	39	39	36	35	43	41	56	54	69	66	69	67	79	75	75	73	75	73
4	58	57	50	49	45	43	39	37	36	35	42	39	57	56	69	67	68	67	76	71	74	73	74	73
5	60	58	50	49	46	43	38	33	39	36	41	40	56	53	68	66	68	66	75	70	75	72	73	72
6	59	57	52	50	44	38	33	32	40	38	48	41	59	56	66	64	67	66	74	70	75	73	72	72
7	57	55	52	50	39	35	32	32	38	35	48	45	59	56	68	64	68	66	75	69	75	74	72	71
8	58	56	50	48	36	35	33	32	38	36	45	42	61	57	69	66	69	66	75	69	75	73	72	71
9	60	56	49	48	36	35	33	33	40	38	45	43	67	61	67	63	70	67	75	71	75	74	72	71
10	62	59	49	48	36	35	33	32	44	40	45	45	67	65	63	62	71	67	75	72	75	73	72	70
11	62	59	48	45	35	33	33	32	47	44	45	44	66	62	67	63	72	68	74	72	75	71	70	69
12	59	55	47	44	34	33	33	32	46	42	47	44	63	53	69	66	73	69	72	71	75	70	69	67
13	56	52	49	46	33	33	32	32	44	42	46	44	53	48	68	67	75	70	74	71	75	70	67	65
14	56	53	51	48	33	33	34	32	47	44	48	45	51	47	68	65	73	66	74	71	75	71	65	63
15	58	54	54	51	33	33	38	34	50	47	49	48	55	50	65	59	70	65	73	71	77	72	63	62
16	59	56	58	54	33	32	40	38	50	46	50	49	57	54	59	56	68	65	73	71	79	73	66	63
17	61	57	59	56	33	32	38	33	46	45	50	48	59	56	60	56	67	64	74	72	78	73	66	63
18	60	58	60	59	33	32	33	32	46	46	48	46	60	59	62	59	66	62	74	72	79	74	64	62
19	59	58	59	52	33	32	33	32	46	40	46	44	60	60	66	62	68	63	77	73	79	74	63	60
20	59	56	53	48	32	32	34	32	40	35	49	45	64	60	--	--	70	63	76	75	79	75	62	59
21	56	54	50	46	32	32	40	34	35	34	53	49	65	63	--	--	71	66	75	73	79	75	61	58
22	55	54	48	44	32	32	46	40	36	34	53	51	63	57	--	--	74	69	73	72	79	76	63	59
23	58	55	48	46	32	32	44	38	42	36	51	48	57	54	--	--	75	71	73	73	81	76	64	61
24	59	57	49	47	36	32	38	35	44	42	52	48	57	54	--	--	75	72	75	73	80	76	66	62
25	58	56	49	47	36	35	37	36	43	40	56	51	59	56	--	--	74	71	76	75	77	76	67	63
26	56	53	48	46	35	33	38	37	41	39	58	55	61	59	69	67	76	72	75	74	78	76	67	64
27	54	52	46	44	33	32	40	38	41	41	58	57	62	61	69	67	79	73	75	74	77	75	67	64
28	52	50	44	42	38	32	40	40	43	41	57	52	62	61	71	66	80	73	75	73	77	75	68	65
29	51	48	42	40	40	38	40	40	--	--	52	48	62	61	73	68	80	74	75	74	77	75	68	67
30	50	47	40	37	40	40	43	40	--	--	50	47	62	60	71	69	81	75	75	75	76	75	70	68
31	50	47	--	--	41	40	44	43	--	--	53	50	--	--	70	68	--	--	75	75	75	74	--	--
Average	58	55	50	48	36	35	37	35	42	40	49	46	60	57	67	64	72	68	75	73	77	74	68	66

CAPE FEAR RIVER BASIN--Continued

2-965. HAW RIVER AT HAW RIVER, N. C.

LOCATION.--At gaging station on left bank at town of Haw River, Alamance County, 650 feet downstream from Southern Railway bridge and 3.0 miles downstream from Stony Creek.
DRAINAGE AREA.--599 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1956 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 14, 1958	74	18	0.11	8.3	2.9	50	5.3	109	18	25	0.6	4.0	201	33	0	308	6.8	30
Nov. 13	125	18	.06	9.6	3.2	66	4.8	117	27	41	.8	5.8	237	37	0	370	6.8	45
Dec. 17	164	25	.12	9.6	5.3	99	6.0	161	35	65	1.7	.5	334	46	0	517	7.0	30
Jan. 15, 1959	358	16	.12	7.5	2.9	18	2.2	39	9.0	16	.1	5.7	108	31	0	155	6.3	30
Feb. 16	1,700	11	.01	6.3	1.8	5.6	1.7	21	8.0	5.2	.2	2.2	68	23	6	80	6.5	50
Mar. 16	326	18	.09	8.0	3.2	25	2.7	58	12	17	.7	3.5	128	33	0	192	7.2	20
Apr. 15	985	15	.07	6.9	2.7	9.9	1.2	37	7.8	8.3	.2	3.6	80	28	0	110	7.0	40
May 14	276	23	.22	10	3.7	49	4.0	85	17	36	2.1	3.4	199	41	0	321	6.6	32
June 15	125	19	.04	10	3.9	29	2.0	82	9.8	15	.7	5.2	145	41	0	228	6.8	22
July 15	552	8.8	.03	5.2	2.0	14	2.4	29	10	8.4	.5	2.7	76	21	0	112	6.2	30
Aug. 16	112	18	.02	10	3.3	20	3.2	59	11	12	.5	4.6	116	39	0	173	6.8	15
Sept. 14	171	18	.09	6.7	2.7	21	3.2	56	9.3	12	.3	2.0	116	28	0	170	7.0	40

CAPE FEAR RIVER BASIN--Continued

2-967.58. ALAMANCE CREEK AT BELLEMONT, N. C.

LOCATION.--At bridge on State Highway 49 at Bellemont, Alamance County, and 1.2 miles upstream from mouth.
DRAINAGE AREA.--157 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 14, 1958		18	0.00	10	4.7	6.5	2.3	62	3.1	6.2	0.1	0.6	85	45	0	120	7.5	10
Nov. 13		17	.00	10	5.1	7.6	1.8	59	5.0	7.5	.0	.3	86	46	0	125	7.0	20
Dec. 17		19	.04	9.8	4.8	9.0	1.2	60	1.8	6.5	.1	.9	86	44	0	125	6.9	15
Jan. 15, 1959		15	.02	7.2	3.1	6.7	1.0	34	5.1	5.3	.2	1.8	69	31	3	87	7.0	10
Feb. 16		12	.02	5.2	2.2	4.1	.9	21	6.4	3.3	.1	1.6	60	22	5	67	6.4	50
Mar. 16		15	.03	7.9	3.0	6.9	.6	40	5.0	6.5	.1	.7	70	32	0	98	7.5	5
Apr. 15		17	.03	5.6	3.2	4.7	.7	31	4.3	4.4	.1	2.0	63	27	2	76	7.4	30
May 14		13	.00	5.1	2.7	4.3	1.3	30	2.6	3.9	.1	1.2	56	24	0	69	6.5	15
June 15		19	.00	7.8	3.7	6.0	1.1	46	4.5	3.8	.1	.5	80	35	0	100	7.1	20
July 15		16	.01	7.2	3.1	6.2	1.5	40	3.9	5.3	.1	.7	65	31	0	89	6.5	10
Aug. 16		16	.01	8.6	4.1	6.5	1.6	50	4.4	5.3	.2	.5	75	38	0	106	7.0	10
Sept. 14		19	.05	8.3	4.1	6.4	1.3	50	3.4	5.0	.0	.5	76	38	0	109	7.4	30

2-969.59. HAW RIVER AT BYNUM, N. C.

LOCATION.--At millrace to textile mill, 100 yards downstream from bridge at Bynum, Chatham County, and 5 1/2 miles upstream from gaging station.
DRAINAGE AREA.--1,280 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1955 to September 1959.
Water temperatures: October 1955 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 228 ppm Oct. 1-10, Nov. 1-10; minimum, 45 ppm Sept. 5-10.
Hardness: Maximum, 44 ppm Nov. 1-10, Aug. 27; minimum, 17 ppm Apr. 21.
Specific conductance: Maximum daily, 448 micromhos Nov. 5; minimum daily, 58 micromhos Apr. 21.
Water temperatures: Maximum, 84°F Aug. 23; minimum, freezing point Dec. 18, Jan. 8, 12.
EXTREMES, 1955-59.--Dissolved solids: Maximum, 355 ppm Aug. 24-25, 1956; minimum, 45 ppm Sept. 5-10, 1959.
Hardness: Maximum, 45 ppm July 9, 1956; minimum, 14 ppm July 24, 1957.
Specific conductance: Maximum daily, 657 micromhos Aug. 24, 1956; minimum daily, 55 micromhos Nov. 26, 1957.
Water temperatures: Maximum, 88°F July 5, 1956; minimum, freezing point on several days during winter months.
REMARKS.--Records of suspended matter of composite samples and records of specific conductance of samples collected available in district office at Raleigh, N. C. Records of discharge for gaging station near Pittsboro for water year October 1958 to September 1959 given in WSP 1623. No appreciable inflow between sampling point and gaging station except during periods of heavy local rains.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-10, 1958.....	281	15	0.04	9.8	4.5	62	4.5	117	23	40	0.4	5.5	228	43	0	358	7.8	25
Oct. 11-20.....	138	13	.02	9.1	3.4	43	4.1	80	14	31	.8	5.2	170	37	0	286	7.9	20
Oct. 21-31.....	162	13	.04	9.8	4.1	55	4.4	96	18	39	.8	5.9	202	41	0	336	8.0	30
Nov. 1-10.....	258	22	.06	10	4.4	61	5.0	108	17	44	1.2	5.7	228	44	0	372	7.6	35
Nov. 11-20.....	185	19	.11	10	3.7	49	4.5	83	15	36	1.7	5.8	197	40	0	308	7.4	35
Nov. 21-30.....	171	19	.12	10	3.4	55	4.3	94	15	40	1.2	4.4	211	40	0	333	7.4	30
Dec. 1-10.....	247	20	.13	11	3.6	55	4.4	95	16	40	1.6	5.7	215	41	0	363	7.5	30
Dec. 11-20.....	217	21	.14	9.5	3.4	43	4.0	78	18	35	1.0	6.8	186	38	0	308	7.3	30
Dec. 21-27.....	255	22	.11	8.5	4.3	45	3.7	79	16	36	1.0	7.8	188	39	0	314	7.2	25
Dec. 28-31.....	7,378	8.3	.06	4.4	2.2	4.9	2.4	16	9.0	4.0	.2	4.7	a48	20	7	74	--	20
Jan. 1-10, 1959.....	1,644	14	.04	5.7	2.5	8.8	1.9	23	10	8.2	.2	3.2	78	25	6	99	6.4	25
Jan 11-20.....	833	20	.04	6.1	4.9	17	2.0	40	16	14	.3	3.5	105	34	2	159	6.8	25
Jan. 21-31.....	1,406	16	.03	4.6	3.4	12	1.7	31	8.2	10	.3	1.8	84	26	1	110	6.6	20
Feb. 1-10.....	1,893	16	.03	7.1	.8	13	1.5	32	8.6	10	.3	3.5	91	21	0	120	7.2	25
Feb. 11-20.....	2,503	14	.03	5.9	2.5	8.7	1.2	25	9.3	6.5	.3	3.1	66	25	4	94	6.9	30
Feb. 21-28.....	877	17	.04	5.9	2.9	13	1.4	36	7.3	11	.3	2.3	84	27	0	118	7.2	20
Mar. 1-10.....	1,463	17	.01	6.1	2.6	14	1.5	36	9.8	8.8	.4	2.4	84	26	0	122	6.7	30
Mar. 11-20.....	733	18	.08	6.0	3.0	15	1.5	38	9.3	10	.4	2.2	88	27	0	129	7.2	30

a Calculated from determined constituents.

Mar. 21-31, 1959....	788	16	.06	7.2	3.3	20	1.7	45	11	15	.6	2.1	101	32	0	158	7.0	25
Apr. 1-10.....	1,343	17	.05	6.2	3.1	11	1.4	36	6.8	8.0	.5	2.4	78	28	0	118	6.9	30
Apr. 11-20.....	4,265	13	.06	4.8	2.8	6.7	1.2	24	4.1	6.0	.3	3.6	68	23	4	84	6.9	45
Apr. 21.....	6,040	--	--	--	--	--	--	16	8.7	2.6	--	--	--	17	4	58	7.2	--
Apr. 22-30.....	2,582	15	.01	5.5	3.1	7.5	1.0	30	5.2	6.0	.3	2.0	72	26	2	92	7.1	30
May 1-10.....	677	17	.13	7.0	1.8	15	1.4	46	4.4	12	.3	3.2	94	25	0	138	7.6	35
May 11-20.....	490	18	.04	7.5	3.6	20	1.9	52	5.8	15	.8	3.5	118	34	0	164	7.6	30
May 21-31.....	562	19	.08	7.9	3.4	23	2.3	54	7.5	18	.8	3.5	132	33	0	181	7.5	35
June 1-3.....	1,892	18	.12	8.7	3.5	25	3.0	58	10	18	1.4	4.8	a122	36	0	188	7.1	--
June 4-10.....	2,184	14	.09	6.7	2.3	9.5	1.8	29	8.5	6.9	.2	3.4	82	26	2	104	7.0	40
June 11-17.....	288	17	.06	7.5	3.0	14	1.8	43	7.0	10	.1	1.6	97	31	0	136	7.2	35
June 18-20.....	186	17	.02	9.5	2.6	24	2.1	63	9.4	17	.5	1.3	a114	34	0	189	7.6	--
June 21-30.....	135	17	.01	8.8	4.2	34	2.8	81	13	22	.7	1.5	152	39	0	249	7.9	30
July 1-10.....	303	15	.02	9.9	4.0	44	4.2	71	16	41	1.0	2.2	178	41	0	308	7.1	25
July 11-20.....	671	15	.04	6.5	2.6	17	3.1	41	9.5	12	.5	4.7	94	27	0	144	6.5	20
July 21-27.....	927	17	.11	7.6	2.0	18	2.9	44	7.7	12	.6	3.7	a94	27	0	152	6.8	--
July 28-31.....	2,295	13	.04	6.5	1.6	6.8	1.8	28	6.5	5.7	.3	1.2	a57	23	0	97	6.8	--
Aug. 1-4.....	1,060	14	.04	6.1	2.0	6.3	1.5	27	5.4	4.0	.2	2.8	a56	23	1	83	7.0	--
Aug. 5-10.....	869	17	.10	7.7	2.4	11	1.9	40	7.2	9.0	.3	2.9	97	29	0	122	6.8	25
Aug. 11-20.....	278	17	.07	7.2	4.0	19	3.1	50	13	14	.4	3.1	113	35	0	169	7.3	40
Aug. 21-26, 28-31...	306	15	.04	8.9	3.4	28	3.0	69	8.8	20	.4	1.6	132	36	0	208	7.3	15
Aug. 27.....	405	--	--	--	--	--	--	103	17	37	--	--	--	44	0	321	7.3	--
Sept. 1-4.....	1,302	14	.07	9.5	2.2	20	3.6	46	12	17	.5	3.4	a105	33	0	182	7.2	--
Sept. 5-10.....	3,274	12	.03	5.0	1.9	2.8	1.6	24	3.4	3.5	.2	2.1	a45	20	1	79	6.8	15
Sept. 11-17.....	569	16	.06	5.9	1.8	9.6	2.7	30	5.2	6.5	.3	2.6	79	22	0	109	7.1	50
Sept. 18-20.....	230	18	.03	8.3	2.8	26	3.2	60	12	16	.4	3.2	a120	32	0	200	7.5	--
Sept. 21-30.....	277	18	.04	8.8	3.6	32	3.2	69	12	22	.7	3.2	140	37	0	242	7.6	10
Time-weighted average.....	1,018	17	0.06	7.6	3.1	25	2.6	55	11	19	0.6	3.5	124	32	1	192	--	30

a Calculated from determined constituents.

CAPE FEAR RIVER BASIN--Continued

2-969.59. HAW RIVER AT BYNUM, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
/Once-daily measurement at approximately 11:30 a.m./

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	65	53	43	41	39	46	53	61	74	83	78	77
2	65	52	41	41	40	47	53	70	70	83	77	76
3	60	52	45	41	40	44	56	72	77	82	75	76
4	62	53	39	40	40	45	57	70	69	79	76	77
5	61	52	46	38	41	46	58	70	66	78	77	79
6	65	54	--	33	41	50	58	69	74	77	76	78
7	62	55	44	35	40	48	62	70	71	78	77	74
8	65	53	38	32	41	49	62	71	72	77	78	73
9	64	52	39	34	43	41	63	69	72	76	77	72
10	67	53	40	33	46	40	66	67	73	78	78	72
11	66	50	35	34	47	47	66	69	74	73	77	72
12	63	49	33	32	--	46	56	71	76	73	77	71
13	62	51	34	34	48	48	51	74	76	73	76	69
14	61	55	33	35	50	49	48	71	77	75	76	69
15	62	56	--	37	52	50	50	66	73	78	--	69
16	64	55	--	40	50	49	--	65	74	77	81	70
17	63	59	36	--	50	50	55	64	73	79	--	69
18	64	61	32	34	51	49	59	66	71	78	80	69
19	65	61	33	33	49	48	--	69	71	80	79	69
20	62	--	36	34	48	48	--	72	74	79	80	69
21	59	50	35	37	46	54	61	71	73	78	81	69
22	58	49	35	44	47	53	58	76	74	78	82	67
23	60	51	36	43	43	50	56	78	78	78	84	69
24	59	51	37	42	44	51	55	79	77	79	81	71
25	60	53	38	43	42	58	60	77	77	81	81	70
26	58	52	34	39	44	59	58	78	76	81	82	71
27	57	--	35	40	46	59	59	72	81	79	81	71
28	56	49	40	41	47	56	62	73	82	77	81	72
29	54	47	42	41	--	52	62	77	83	77	80	73
30	53	42	42	43	--	51	64	76	83	79	79	71
31	53	--	42	40	--	51	--	74	--	78	77	--
Average	61	53	38	38	45	49	58	71	75	78	79	72

CAPE FEAR RIVER BASIN--Continued

2-981.56. NEW HOPE RIVER NEAR NEW HILL, N. C.

LOCATION.--At bridge on county road, 0.2 mile downstream from mouth of Beaver Creek and approximately 4 miles downstream from gaging station near Pittsboro, Chatham County.
DRAINAGE AREA.--340 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1956 to September 1959.
Water temperatures: October 1956 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 139 ppm Dec. 1-10; minimum, 31 ppm Sept. 1, 6-9.
Hardness: Maximum, 48 ppm Oct. 21-31; minimum, 15 ppm Apr. 13-20, 21-24, Sept. 1, 6-9.
Specific conductance: Maximum daily, 284 micromhos Nov. 1; minimum daily, 34 micromhos Sept. 6.
Water temperatures: Maximum, 80°F July 1, 2; minimum, freezing point on several days during November, December and January.
EXTREMES, 1956-59.--Dissolved solids: Maximum, 139 ppm Dec. 1-10, 1958; minimum, 31 ppm Sept. 1, 6-9, 1959.
Hardness: Maximum, 48 ppm Sept. 21-30, Oct. 21-31, 1958; minimum, 8 ppm July 24, 1957.
Specific conductance: Maximum daily, 284 micromhos Nov. 1, 1958; minimum daily, 25 micromhos July 24, 1957.
Water temperatures: Maximum, 80°F July 1, 2, 1959; minimum, freezing point on many days during winter months.
REMARKS.--Records of suspended matter of composite samples and records of specific conductance of samples collected available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-3, 7-8, 1958.		11	0.06	12	3.9	22	4.6	51	20	20	0.3	7.7	a127	46	4	205	6.8	15
Oct. 4-6, 9-10.....		9.9	.05	7.6	3.2	13	3.4	31	19	12	.2	3.6	a87	32	7	130	6.6	20
Oct. 11-20.....		12	.04	9.9	3.8	13	3.8	34	19	13	.3	3.1	102	40	12	152	7.4	20
Oct. 21-31.....		13	.06	11	5.3	23	5.1	55	17	21	.3	6.0	134	48	3	211	7.7	30
Nov. 1-10.....		15	.12	11	4.6	22	5.4	53	16	21	.3	8.0	137	47	4	220	7.2	25
Nov. 11-20.....		15	.08	11	3.4	22	4.9	46	13	19	.3	8.2	137	42	5	198	7.5	30
Nov. 21-30.....		11	.10	10	3.5	22	4.5	50	10	20	.3	6.0	125	40	0	190	7.2	35
Dec. 1-10.....		11	.05	10	4.1	25	4.7	50	10	24	.2	12	139	43	1	210	7.4	30
Dec. 11-20.....		14	.03	9.8	4.0	20	4.1	40	13	19	.4	5.9	123	41	8	195	6.9	20
Dec. 24.....		--	--	--	--	--	--	21	5.2	8.8	--	--	--	23	6	104	--	--
Dec. 21-23, 25-28...		15	.04	9.4	3.6	20	3.9	34	9.6	21	.3	17	123	38	10	193	6.7	15
Dec. 29-31.....		6.2	.13	5.2	1.0	4.4	2.4	12	8.0	5.0	.1	1.3	a40	17	7	58	6.2	55
Jan. 1-10, 1959.....		12	.05	5.4	2.3	7.2	1.8	15	9.3	8.7	.2	2.3	73	23	11	84	6.6	35
Jan. 11-20.....		13	.01	7.4	2.3	10	1.9	21	15	12	.1	3.6	80	28	10	120	7.1	15
Jan. 21-31.....		11	.04	6.1	2.6	8.3	1.6	20	10	9.4	.1	2.7	65	26	10	97	6.9	25
Feb. 1-4.....		12	.10	6.4	2.6	10	1.7	23	9.9	9.5	.2	4.2	a68	27	8	110	7.1	20
Feb. 5-10.....		8.8	.09	4.8	1.2	5.9	1.4	13	8.7	5.0	.2	1.7	a44	17	6	67	6.7	45
Feb. 11-20.....		12	.03	5.1	2.2	6.4	1.3	16	9.1	5.7	.2	2.3	66	22	9	75	6.8	40

a Calculated from determined constituents.

757-048 O - 65 - 19

CAPE FEAR RIVER BASIN--Continued

2-981.56. NEW HOPE RIVER NEAR NEW HILL, N. C.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Feb. 21-28, 1959....		14	0.03	6.3	2.1	7.7	1.1	20	7.9	8.2	0.2	3.3	74	25	8	94	7.1	30
Mar. 1-10.....		12	.02	5.6	1.9	7.7	1.2	17	9.0	7.2	.2	2.2	69	22	8	77	6.6	40
Mar. 11-20.....		14	.02	5.5	2.3	8.7	1.2	22	7.7	7.3	.1	3.0	71	23	5	92	7.1	25
Mar. 21-31.....		11	.11	6.6	2.5	9.0	1.4	27	6.4	9.0	.2	3.3	75	27	5	103	6.6	35
Apr. 1-10.....		12	.04	5.4	1.6	6.8	1.0	20	8.9	5.6	.2	1.0	65	20	3	77	6.3	40
Apr. 11-12.....		13	.23	6.9	1.6	7.6	1.2	25	3.7	7.5	.1	2.8	a57	24	3	89	6.5	--
Apr. 13-20.....		9.1	.12	3.2	1.7	3.9	.9	13	4.8	3.5	.1	1.5	52	15	4	51	7.0	70
Apr. 21-24.....		9.0	.14	3.5	1.4	3.0	1.0	14	5.0	2.7	.1	1.3	a34	15	3	49	6.1	--
Apr. 25-30.....		13	.16	5.1	2.3	5.6	1.0	22	5.1	5.0	.1	2.0	69	22	4	74	6.8	50
May 1-10.....		15	.04	6.7	2.8	8.4	1.4	30	6.4	7.2	.2	3.7	77	28	4	101	6.8	30
May 11-16.....		16	.19	7.3	2.2	8.4	1.1	32	5.1	7.9	.3	2.5	a68	27	1	97	6.7	--
May 17-21.....		16	.18	9.5	2.8	11	1.8	35	8.2	10	.5	5.2	a85	35	6	128	6.5	--
May 22-31, June 1-2.		16	.07	7.6	3.6	11	1.9	35	8.0	9.5	.7	4.2	88	34	5	121	7.3	30
June 3-10.....		11	.11	6.9	1.3	6.8	1.5	21	6.5	5.8	.2	2.7	68	23	5	75	7.0	35
June 11-16.....		15	.04	8.1	2.5	7.5	1.5	30	8.6	7.3	.4	2.7	a70	31	6	101	6.6	--
June 17-20.....		18	.14	9.3	3.4	12	2.3	41	10	10	.6	3.9	a90	37	3	140	6.5	--
June 21-30.....		15	.01	10	3.7	17	2.8	47	15	15	.6	3.4	114	41	2	175	7.0	25
July 1-2, 4-5, 7-10.		16	.07	10	3.2	14	3.1	43	11	12	.7	3.8	111	39	4	169	7.4	15
July 3, 6.....		--	.00	9.3	2.7	--	--	41	10	12	--	3.0	--	34	1	101	7.2	--
July 11-15.....		9.8	.11	6.2	2.1	5.3	1.4	21	7.4	4.0	.4	2.0	a49	24	10	75	6.1	--
July 16-20.....		16	.01	8.0	2.6	8.4	1.8	29	9.3	7.0	.5	3.7	a71	31	7	112	7.0	--
July 21-28.....		13	.16	7.2	2.8	7.3	1.8	28	5.9	7.3	.5	2.7	a64	30	7	100	6.7	--
July 29-31.....		8.8	.12	4.9	1.7	2.5	1.2	16	3.9	2.2	.2	1.6	a36	19	6	58	6.7	--
Aug. 1-4.....		11	.09	5.9	1.6	2.9	1.8	22	3.3	3.2	.3	1.9	a43	21	3	65	6.5	--
Aug. 5-10.....		17	.06	7.9	2.3	7.6	2.4	30	7.1	7.5	.4	3.0	77	29	4	101	7.1	40
Aug. 11-20.....		18	.04	9.5	3.3	7.8	1.9	42	6.5	8.5	.5	3.5	86	37	2	131	7.0	15
Aug. 21-30.....		15	.10	12	3.7	15	3.1	54	13	13	.7	2.7	114	46	2	183	7.5	25
Aug. 31.....		--	--	--	--	--	--	25	4.2	5.5	--	--	--	22	1	88	7.4	--
Sept. 1, 6-9.....		9.6	.11	4.3	.9	2.2	1.7	13	2.8	2.0	.2	1.4	a31	15	4	44	6.8	--
Sept. 2-5, 10.....		12	.14	5.9	1.3	3.1	1.9	19	3.6	3.8	.3	1.7	a43	20	4	66	7.2	--
Sept. 11-20.....		17	.06	7.8	2.0	6.0	1.4	30	4.8	8.0	.3	3.1	81	28	3	103	7.5	25
Sept. 21-30.....		16	.21	10	3.2	12	2.4	40	9.1	12	.6	4.6	104	39	6	142	7.5	20
Time-weighted average.....		13	0.08	7.8	2.8	11	2.4	31	9.6	11	0.3	4.0	87	31	5	124	--	30

a Calculated from determined constituents.

CAPE FEAR RIVER BASIN--Continued

2-981.58. NEW HOPE RIVER NEAR NEW HILL, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
/Once-daily measurement at approximately 8:30 a.m./

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	38	32	43	43	45	53	64	71	80	74	73
2	50	37	32	43	41	47	57	84	73	80	74	74
3	48	38	32	43	39	44	55	66	70	75	73	74
4	45	36	32	43	38	44	55	67	68	73	73	75
5	47	36	32	40	40	44	55	67	67	73	73	74
6	47	37	32	38	41	47	56	86	65	72	73	72
7	45	38	32	33	40	50	56	67	65	73	74	73
8	47	35	32	35	40	48	59	67	66	74	74	73
9	46	36	32	34	42	46	62	66	67	74	75	73
10	47	39	32	33	45	45	69	66	68	74	74	72
11	48	35	32	32	48	45	67	67	70	73	74	71
12	45	34	32	32	47	47	62	68	72	72	74	69
13	47	34	32	32	47	45	50	69	73	72	74	68
14	43	35	32	33	49	45	48	67	73	72	75	66
15	43	38	32	35	51	48	50	65	69	72	75	66
16	44	41	32	40	52	47	53	64	72	70	75	68
17	45	43	32	36	50	48	55	62	69	72	76	68
18	46	45	32	33	50	47	58	63	68	73	76	65
19	47	45	32	32	48	45	60	65	66	75	78	63
20	45	43	32	32	44	46	60	67	67	75	77	61
21	44	37	32	34	39	49	62	69	69	75	78	60
22	44	35	32	42	38	49	61	68	71	75	78	60
23	46	33	32	43	40	49	58	69	73	75	79	62
24	45	36	32	40	43	49	54	70	74	76	79	63
25	43	36	32	38	43	51	55	71	75	76	79	64
26	43	36	32	38	44	53	58	71	74	76	79	65
27	42	35	32	39	44	58	60	70	75	76	78	65
28	39	34	34	41	44	55	62	70	76	76	78	67
29	38	34	45	41	--	52	64	71	77	74	78	69
30	37	32	45	43	--	51	64	72	79	74	77	70
31	36	--	45	44	--	50	--	73	--	74	74	--
Average	45	37	33	38	44	48	58	67	71	74	76	68

CAPE FEAR RIVER BASIN--Continued

2-1025. CAPE FEAR RIVER AT LILLINGTON, N. C.

LOCATION.--Temperature recorder at gaging station near right bank in downstream end of pier of downstream bridge on U. S. Highway 401, 1,800 feet downstream from Norfolk Southern Railway bridge, 0.5 mile north of Lillington, Harnett County, and 1 mile downstream from Neill Creek.
DRAINAGE AREA.--3,440 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: November 1944 to October 1945, October 1954 to September 1955.
Water temperatures: November 1944 to October 1945, October 1954 to September 1955, June to September 1959.
EXTREMES, June to September 1959.--Water temperatures: Maximum, 96°F June 30.
EXTREMES, November 1944 to October 1945, 1954-55, June to September 1959.--Water temperatures: Maximum, 96°F June 30, 1959; minimum, 34°F Dec. 20, 1944 and on several days during January and February 1955.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Temperature (°F) of water, June to September 1959
(Continuous ethyl alcohol-actuated thermograph)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1																	--	--	90	85	78	76	80	78
2																	--	--	92	85	80	76	78	77
3																	--	--	90	83	80	77	80	77
4																	--	--	87	83	80	78	80	78
5																	--	--	87	81	80	77	80	78
6																	--	--	88	82	80	79	79	76
7																	--	--	88	84	80	79	76	75
8																	--	--	86	82	83	80	75	74
9																	--	--	85	82	83	81	76	74
10																	--	--	83	74	81	79	77	74
11																	--	--	74	74	81	78	76	74
12																	--	--	74	74	81	79	75	74
13																	--	--	76	74	83	80	75	74
14																	--	--	76	74	85	82	75	74
15																	--	--	76	74	86	82	75	75
16																	--	--	78	75	88	83	78	75
17																	--	--	78	76	88	83	77	74
18																	--	--	79	78	89	84	74	73
19																	--	--	82	79	90	83	74	73
20																	--	--	82	81	90	85	73	71
21																	--	--	83	80	91	85	74	71
22																	--	--	84	79	92	84	75	72
23																	--	--	84	81	91	86	76	73
24																	85	78	84	82	89	86	77	74
25																	83	78	86	83	91	86	77	74
26																	89	82	86	84	91	89	77	74
27																	90	86	84	78	90	89	76	75
28																	93	86	82	77	90	88	79	74
29																	95	87	81	78	89	84	77	76
30																	96	88	80	78	84	81	78	76
31																	--	--	79	76	81	78	--	--
Average																	--	--	83	79	85	82	77	75

2-1057.71. CAPE FEAR RIVER NEAR ACME, N. C.

LOCATION.--At bridge on State Highway 141, 6.0 miles northwest of Acme, Columbus County.
DRAINAGE AREA.--5,223 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1956 to September 1959.
Water temperatures: October 1956 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 69 ppm Dec. 1-31; minimum, 45 ppm Apr. 1-30, July 1-12.
Hardness: Maximum, 17 ppm Feb. 1-28, June 1-30, July 1-12; minimum, 13 ppm Nov. 1-30, Mar. 1-31.
Specific conductance: Maximum daily, 123 micromhos Dec. 31; minimum daily, 42 micromhos Apr. 15-17.
Water temperatures: Maximum, 85°F Aug. 26; minimum, 38°F Jan. 15-17.
EXTREMES, 1956-59.--Dissolved solids: Maximum, 73 ppm Nov. 21-30, 1957; minimum, 40 ppm Aug. 11-20, 1957.
Hardness: Maximum, 23 ppm Aug. 21-31, 1958; minimum, 11 ppm Mar. 1-10, 1957, Apr. 11-20, 1958.
Specific conductance: Maximum daily, 123 micromhos Dec. 31, 1958; minimum daily, 42 micromhos June 12, 1957, Apr. 15-17, 1959.
Water temperatures: Maximum, 86°F July 18-20, 1957, Aug. 2, 1958; minimum, 33°F Jan. 12, 1958.
REMARKS.--Records of suspended matter of composite samples from October 1956 to September 1958 and records of specific conductance of samples collected from October 1956 to September 1959 available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-31, 1958.....		7.8	0.06	3.6	1.4	9.1	1.4	18	5.4	9.2	0.2	2.0	60	15	0	74	6.7	70
Nov. 1-30.....		7.5	.10	3.4	1.0	9.6	1.2	20	5.2	8.6	.1	1.9	64	13	0	70	6.5	45
Dec. 1-31.....		7.8	.17	4.1	1.3	12	1.4	25	4.3	10	.3	2.1	69	16	0	94	6.8	37
Jan. 1-31, 1959.....		10	.08	3.7	1.7	6.6	1.2	14	8.3	6.6	.1	2.6	62	16	5	68	6.5	55
Feb. 1-28.....		9.5	.09	4.0	1.7	4.4	.9	13	5.7	4.0	.1	1.9	54	17	6	56	6.8	60
Mar. 1-31.....		9.3	.01	3.8	.7	4.0	.5	12	4.0	4.7	.1	2.2	51	13	3	53	6.5	55
Apr. 1-30.....		7.8	.17	3.1	1.4	5.1	1.2	14	3.8	5.0	.1	1.7	45	14	2	51	6.6	80
May 1-31.....		9.1	.17	3.4	1.7	5.9	.6	17	3.2	5.0	.1	1.6	56	15	2	61	7.2	70
June 1-30.....		10	.07	4.9	1.3	4.8	1.3	16	3.1	5.3	.1	3.0	60	17	4	68	6.8	65
July 1-12.....		7.7	.09	4.0	1.8	6.5	.9	21	4.5	6.5	.2	2.2	45	17	0	80	6.5	30
July 13-31.....		8.2	.05	4.0	.9	4.9	1.5	14	8.3	4.2	.2	2.2	52	14	2	59	6.6	--
Aug. 1-28, 30-31....		11	.18	4.2	.8	5.2	1.6	15	3.4	4.5	.1	2.3	56	14	2	56	6.8	80
Aug. 29.....		--	--	--	--	--	--	26	3.5	8.0	--	--	--	14	0	90	7.5	--
Sept. 1-30.....		10	.12	4.5	1.0	5.6	2.0	17	2.3	5.8	.1	2.8	50	15	1	66	6.6	50
Time-weighted average.....		9.0	0.11	3.9	1.3	6.5	1.2	17	4.6	6.2	0.1	2.2	56	15	2	66	--	60

CAPE FEAR RIVER BASIN--Continued

2-1057.71. CAPE FEAR RIVER NEAR ACME, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 9 a.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	71	58	51	44	--	45	54	58	79	79	78	81
2	70	57	51	44	43	45	55	59	79	80	77	80
3	69	57	52	45	44	46	55	59	78	80	75	79
4	68	57	52	45	44	46	55	60	78	80	80	79
5	68	56	52	45	44	46	55	60	78	80	76	78
6	67	56	52	44	44	47	55	61	78	79	77	77
7	67	56	52	44	45	47	55	62	78	80	78	78
8	67	--	51	43	45	48	56	62	78	80	79	77
9	66	56	51	43	43	49	57	63	78	80	80	77
10	66	55	50	43	43	49	58	64	78	80	80	77
11	65	55	49	42	43	49	60	65	78	80	80	76
12	65	55	48	42	44	49	59	66	78	80	79	74
13	65	55	46	40	45	49	59	67	78	79	79	74
14	65	55	44	39	46	49	58	68	78	78	80	73
15	65	55	42	38	48	49	58	69	78	76	80	72
16	65	54	42	38	50	48	58	69	78	76	80	71
17	65	54	42	38	50	48	57	70	79	76	80	71
18	65	54	41	39	49	47	57	70	79	76	80	72
19	65	54	40	39	48	47	56	71	80	76	81	73
20	64	54	40	40	46	49	55	71	81	76	81	73
21	63	53	40	40	45	49	58	72	83	76	82	73
22	63	53	40	41	45	49	59	72	84	76	82	74
23	62	52	40	42	46	49	59	73	84	76	83	75
24	62	52	40	42	45	50	58	73	83	77	83	75
25	62	--	40	42	45	50	57	74	83	78	84	75
26	61	52	40	41	45	51	--	74	83	78	85	75
27	60	--	40	41	45	51	57	75	82	79	83	75
28	60	52	40	40	45	52	57	75	82	79	82	75
29	59	51	41	40	--	52	59	76	82	80	82	75
30	58	51	41	41	--	53	59	77	82	80	81	75
31	58	--	44	42	--	54	--	78	--	81	81	--
Average	64	54	45	42	45	49	57	68	80	78	80	75

2-1080. NORTHEAST CAPE FEAR RIVER NEAR CHINQUAPIN, N. C.

LOCATION.--At bridge on State Highway 41, 540 feet upstream from gaging station, 0.4 mile downstream from Muddy Creeek, and 1 1/4 miles west of Chinquapin, Duplin County.
DRAINAGE AREA.--600 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1950 to September 1951, October 1956 to September 1959.
Water temperatures: October 1950 to September 1951, October 1956 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 89 ppm May 21-31, June 21-30; minimum, 50 ppm Feb. 21-28, Mar. 11-20.
Hardness: Maximum, 29 ppm Oct. 1-10; minimum, 13 ppm Apr. 1-10, 11-20.
Specific conductance: Maximum daily, 140 micromhos June 16; minimum daily, 51 micromhos July 30.
Water temperatures: Maximum, 83°F June 29, 30; minimum, 36°F Dec. 18.
EXTREMES, 1950-51, 1956-59.--Dissolved solids: Maximum, 163 ppm Aug. 11-20, 1957; minimum, 25 ppm Feb. 27-28, 1957.
Hardness: Maximum, 40 ppm Aug. 1-10, 1957; minimum, 10 ppm Mar. 21-31, 1958.
Specific conductance (1956-59): Maximum daily, 267 micromhos Aug. 13, 14, 1957; minimum daily, 39 micromhos Mar. 31, 1958.
Water temperatures: Maximum, 87°F July 1, 1951; minimum, freezing point Feb. 12, 16, 17, 19, 1958.
REMARKS.--Records of suspended matter of composite samples from October 1950 to September 1951, October 1956 to September 1959 and records of specific conductance of samples collected from October 1956 to September 1959 available in district office at Raleigh, N. C. Records of discharge for water year October 1958 to September 1959 available in WSP 1623.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-10, 1958....	1,159	9.9	0.20	8.3	2.0	9.2	0.9	23	7.3	13	0.1	1.3	80	29	10	100	6.7	75
Oct. 11-20.....	242	8.7	.32	5.1	1.2	7.2	1.1	13	5.4	10	.2	1.6	75	18	7	75	6.2	110
Oct. 21-31.....	981	8.6	.27	5.4	1.1	7.7	1.1	15	4.6	11	.1	1.3	72	18	6	76	6.7	100
Nov. 1-10.....	544	9.4	.33	6.8	.9	9.1	1.2	20	3.2	15	.2	1.2	74	21	4	91	6.3	90
Nov. 11-20.....	301	10	.23	4.9	1.8	10	1.0	19	1.5	16	.1	1.0	70	19	4	93	6.8	80
Nov. 21-30.....	244	10	.31	5.9	1.0	9.9	1.0	18	4.2	16	.1	1.1	70	19	4	91	6.8	75
Dec. 1-10.....	242	9.1	.11	4.5	.8	6.8	.7	11	3.0	11	.1	1.0	55	14	5	67	6.2	60
Dec. 11-20.....	421	8.0	.16	5.1	.7	5.7	.9	11	3.4	9.0	.2	1.2	54	15	6	63	6.3	80
Dec. 21-31.....	1,110	6.4	.17	5.4	.4	4.4	1.0	13	3.1	6.2	.2	1.4	55	15	4	56	6.0	90
Jan. 1-10, 1959....	1,493	7.8	.16	4.8	1.3	8.0	.6	13	3.9	14	.1	1.0	59	17	7	73	6.9	60
Jan. 11-20.....	576	7.1	.07	4.6	1.0	8.4	.7	12	4.2	13	.0	1.4	60	15	6	72	6.3	55
Jan. 21-31.....	474	6.6	.07	4.6	.9	7.9	.6	12	5.7	10	.2	1.6	60	15	6	71	6.7	60
Feb. 1-10.....	1,572	4.5	.20	4.0	1.4	6.0	.7	11	4.7	8.0	.2	1.4	54	16	7	62	6.4	90
Feb. 11-20.....	1,543	4.3	.09	4.2	1.0	6.2	.6	10	5.0	9.0	.1	1.2	54	15	6	64	6.0	70
Feb. 21-28.....	907	4.3	.17	4.6	1.0	6.0	.6	11	4.7	9.5	.2	1.4	50	16	7	64	6.3	80
Mar. 1-10.....	5,025	2.7	.21	4.0	.9	4.7	.7	10	3.0	6.3	.2	1.2	a52	14	5	55	6.0	90
Mar. 11-20.....	2,462	2.4	.20	3.4	1.4	5.9	.7	13	3.5	8.0	.2	1.2	50	14	4	58	6.4	90
Mar. 21-31.....	925	2.7	.26	4.1	1.1	6.1	.7	13	3.6	8.0	.2	1.0	56	15	4	57	6.4	120

a Organic matter present; sum of mineral constituents 29 parts per million.

CAPE FEAR RIVER BASIN--Continued

2-1080. NORTHEAST CAPE FEAR RIVER NEAR CHINQUAPIN, N. C.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Apr. 1-10, 1959....	1,490	4.9	0.31	3.4	1.0	5.2	0.7	9	1.6	8.3	0.3	1.3	b62	13	5	58	6.0	130
Apr. 11-20.....	2,949	4.9	.39	4.3	.6	5.2	.6	11	2.3	7.0	.3	1.5	c64	13	4	60	6.5	140
Apr. 21-30.....	1,250	4.9	.37	4.1	1.1	5.1	.6	11	2.4	8.0	.3	1.5	d65	15	6	58	6.9	150
May 1-10.....	611	8.3	.36	6.4	1.9	13	.7	20	2.4	20	.0	1.9	86	24	8	111	6.6	140
May 11-20.....	238	8.2	.31	6.4	1.6	12	.6	21	3.0	19	.1	1.8	83	23	6	109	6.8	140
May 21-31.....	167	8.3	.41	7.2	1.2	11	.7	22	1.4	16	.3	1.6	89	23	5	111	7.1	140
June 1-10.....	461	7.6	.21	8.1	1.5	14	.8	27	3.1	19	.1	1.1	85	26	4	124	6.8	80
June 11-20.....	151	6.7	.19	8.2	1.3	14	.8	25	5.8	21	.2	.8	88	26	5	131	7.0	80
June 21-30.....	67	6.4	.20	8.8	1.3	14	.8	23	5.1	23	.1	.9	89	27	8	135	7.1	80
July 1-10.....	72	6.1	.17	4.4	.8	4.2	.9	6	8.3	8.0	.2	1.4	60	14	10	61	6.3	150
July 11-20.....	1,940	9.1	.54	5.3	.7	6.5	1.0	11	3.3	9.5	.3	1.8	e78	16	7	72	6.8	200
July 21-31.....	1,346	7.9	.47	3.0	1.9	4.5	.8	10	3.1	6.5	.2	1.6	f67	15	8	60	6.6	200
Aug. 1-10.....	1,388	7.7	.21	5.9	.6	5.6	1.3	9	8.6	7.3	.2	1.1	64	17	10	70	6.5	120
Aug. 11-20.....	376	7.9	.20	5.4	1.0	6.2	.4	10	5.9	8.2	.2	1.3	62	18	9	69	6.4	90
Aug. 21-31.....	209	8.4	.27	5.6	.7	2.8	1.1	10	5.6	6.5	.2	1.3	62	17	9	66	6.2	110
Sept. 1-10.....	1,021	6.9	.24	7.3	1.2	7.1	2.0	15	9.8	9.3	.2	1.0	69	23	11	97	7.0	70
Sept. 11-20.....	402	5.7	.14	8.0	.8	6.4	1.4	15	12	7.3	.2	.8	57	23	11	82	6.3	30
Sept. 21-30.....	123	7.8	.16	7.3	1.2	5.7	.9	20	5.6	10	.2	1.2	66	23	7	97	6.8	50
Time-weighted average.....	956	7.0	0.24	5.5	1.1	7.5	0.9	15	4.5	11	0.2	1.3	67	18	7	79	--	100

b Organic matter present; sum of mineral constituents 31 parts per million.
c Organic matter present; sum of mineral constituents 32 parts per million.
d Organic matter present; sum of mineral constituents 34 parts per million.
e Organic matter present; sum of mineral constituents 43 parts per million.
f Organic matter present; sum of mineral constituents 35 parts per million.

CAPE FEAR RIVER BASIN--Continued

2-1080. NORTHEAST CAPE FEAR RIVER NEAR CHINQUAPIN, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 8 a.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69	65	40	40	40	50	55	69	70	81	80	75
2	69	66	40	40	41	50	59	69	70	81	80	76
3	69	63	40	40	41	50	59	69	70	81	80	77
4	69	67	40	40	41	50	59	69	70	81	80	77
5	69	66	40	40	42	50	59	70	70	81	80	74
6	69	68	40	40	42	50	59	70	70	81	79	74
7	69	68	40	40	42	51	59	70	70	80	79	75
8	69	67	40	40	43	51	59	70	70	79	79	75
9	69	67	40	40	44	51	58	70	70	78	79	76
10	69	65	39	40	44	51	58	70	70	76	79	76
11	69	68	39	40	44	51	58	70	70	76	79	76
12	69	57	39	40	44	51	58	70	70	77	79	75
13	69	59	38	40	44	51	59	70	70	79	79	76
14	69	58	38	38	45	51	59	70	71	79	78	75
15	67	58	38	39	45	51	59	74	71	79	78	73
16	67	57	--	39	45	53	60	75	72	79	78	73
17	67	58	39	40	45	53	60	76	72	80	78	72
18	67	58	36	40	45	53	60	78	72	80	78	74
19	67	57	47	41	45	53	60	79	74	80	78	74
20	67	56	47	41	45	53	60	75	75	80	78	74
21	67	56	47	40	45	54	60	76	75	80	78	74
22	65	55	47	43	47	54	60	78	76	80	78	74
23	65	55	46	44	46	--	61	74	77	79	78	74
24	65	57	47	44	46	54	61	77	78	79	78	74
25	60	56	45	40	46	54	64	75	79	78	78	75
26	60	53	46	41	46	54	64	76	80	76	78	75
27	60	50	47	41	46	54	64	77	80	76	78	75
28	60	49	48	41	46	54	64	78	80	76	78	75
29	60	47	47	41	--	--	66	74	83	74	75	75
30	57	47	49	41	--	55	66	77	83	74	75	75
31	57	--	49	41	--	--	--	79	--	74	75	--
Average	66	59	43	40	44	52	60	73	74	79	78	75

2-1086.22. NORTHEAST CAPE FEAR RIVER AT CASTLE HAYNE, N. C.

LOCATION.--At bridge on U. S. Highway 117, 0.8 mile north of Castle Hayne, New Hanover County, and 4.7 miles upstream from Prince George Creek.
DRAINAGE AREA.--1,499 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1954 to September 1959.
Water temperatures: October 1954 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 83 ppm Oct. 1-31; minimum, 60 ppm Feb. 1-28.
Hardness: Maximum, 23 ppm Dec. 1-31; minimum, 14 ppm Mar. 1-31.
Specific conductance: Maximum daily, 89 micromhos July 12; minimum daily, 34 micromhos Mar. 10.
Water temperatures: Maximum, 84°F July 5; minimum, 39°F Jan. 18.
EXTREMES, 1954-59.--Dissolved solids: Maximum, 1,530 ppm Oct. 21-22, 25-27, 29, 1954; minimum, 60 ppm Feb. 1-28, 1959.
Hardness: Maximum, 516 ppm Oct. 15, 1954; minimum, 10 ppm Sept. 21-30, 1955.
Specific conductance: Maximum daily, 5,060 micromhos Oct. 23, 24, 1954; minimum daily, 34 micromhos Sept. 25, 1955, Mar. 10, 1959.
Water temperatures: Maximum, 90°F Aug. 10, 1956; minimum, 37°F Feb. 2, 17, 1958.
REMARKS.--Records of suspended matter of composite samples from October 1954 to September 1957 and records of specific conductance of samples collected from October 1954 to September 1959 available in district office at Raleigh, N. C. No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-31, 1958....		7.4	0.20	5.5	1.3	4.7	0.8	10	7.0	8.5	0.2	1.4	83	42	19	11	64	6.3	200
Nov. 1-30.....		8.0	.13	6.0	1.2	6.2	.8	14	4.2	9.5	.2	1.0	77	44	20	9	65	6.6	200
Dec. 1-31.....		8.2	.20	6.0	1.9	6.4	.8	17	4.5	10	.1	3.2	77	49	23	9	76	6.7	160
Jan. 1-31, 1959....		6.7	.18	5.6	1.0	4.1	.2	10	6.1	7.0	.2	.5	71	37	18	10	62	6.3	150
Feb. 1-28.....		5.1	.17	5.1	1.0	5.0	.7	12	5.6	9.0	.2	.8	60	39	17	7	58	6.0	140
Mar. 1-31.....		3.3	.20	4.6	.7	3.9	.6	10	4.8	6.5	.2	.6	61	30	14	6	47	6.2	190
Apr. 1-30.....		3.8	.27	4.8	.7	4.2	.6	12	3.5	6.5	.1	.4	64	31	15	5	49	6.4	200
May 1-31.....		5.4	.30	6.3	.5	5.3	.4	14	3.2	8.0	.1	.4	71	37	18	6	58	6.8	240
June 1-30.....		6.2	.13	7.5	.7	6.2	.8	17	3.8	10	.1	.8	72	44	22	8	73	6.9	160
July 1-14.....		5.9	.14	7.1	.9	6.2	.6	17	4.4	10	.1	.6	74	44	21	7	78	6.7	140
July 15-31.....		5.1	.33	5.5	.9	3.3	.6	10	10	5.0	.1	.6	80	36	17	9	47	6.4	320
Aug. 1-31.....		7.0	.32	5.1	.8	4.9	.7	12	4.6	6.2	.2	.5	67	36	16	6	51	6.4	280
Sept. 1-30.....		6.2	.22	6.4	1.0	5.3	.9	15	6.5	8.0	.2	.3	76	42	20	8	64	6.4	220
Time-weighted average.....		6.1	0.21	5.8	1.0	5.1	0.7	13	5.1	8.0	0.2	0.9	71	39	18	8	61	--	200

CAPE FEAR RIVER BASIN--Continued

2-1086.22. NORTHEAST CAPE FEAR RIVER AT CASTLE HAYNE, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 6 p.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	--	60	--	47	46	49		--	79	83	--	81
2	74	59	--	49	47	49		--	79	83	80	81
3	72	58	--	48	48	50		--	79	83	80	81
4	70	58	56	47	47	51		--	79	--	80	80
5	68	59	58	46	47	52		--	79	84	81	79
6	67	58	56	46	47	51		75	80	83	81	79
7	66	58	55	45	47	52		75	80	83	80	80
8	66	58	55	44	48	52		75	80	83	81	79
9	66	57	--	42	48	52		75	80	83	80	78
10	66	57	54	41	49	--		74	80	82	80	78
11	65	57	--	40	50	--		74	--	82	80	79
12	85	57	50	40	51	--		75	80	82	79	79
13	65	57	48	40	52	--		75	80	83	79	78
14	64	57	48	40	52	--		75	80	83	87	78
15	64	57	45	40	53	--		75	79	80	80	77
16	65	57	43	40	53	--		75	79	78	81	76
17	65	58	43	40	53	--		75	79	77	81	77
18	65	58	43	39	52	--		76	80	76	81	77
19	65	60	42	40	51	--		76	80	77	81	77
20	85	58	42	41	50	--		76	80	78	82	77
21	65	58	41	42	50	--		76	80	78	82	78
22	64	59	41	44	51	--		76	81	--	82	76
23	62	58	41	45	50	--		76	80	78	82	76
24	64	57	41	45	50	--		77	81	77	82	75
25	64	58	41	46	50	--		77	81	78	81	76
26	64	57	42	47	50	--		77	81	79	81	76
27	63	57	42	46	50	--		77	81	79	80	76
28	62	57	43	46	49	--		78	82	80	80	76
29	61	57	44	47	--	--		78	81	80	81	75
30	61	57	45	46	--	--		78	82	79	80	76
31	60	--	46	45	--	--		78	--	80	81	--
Average	65	58	46	44	50	--		76	80	80	81	78

WACCAMAW RIVER BASIN

2-1095. WACCAMAW RIVER AT FREELAND, N. C.

LOCATION.--At gaging station on left bank 150 feet downstream from New Britton bridge on State Highway 130, 1 mile southwest of Freeland, Brunswick County, and 7 miles downstream from Juniper Creek.
DRAINAGE AREA.--626 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1950 to September 1951, October 1956 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
															Calcium, magnesium	Noncarbonate			
Oct. 14, 1958.....	350	8.5	0.65	3.5	1.0	4.4	0.7	3	7.9	8.8	0.2	1.6	88	38	13	10	48	5.0	240
Nov. 13.....	439	10	.24	11	1.3	6.1	.9	31	3.9	10	.1	2.8	100	61	34	9	93	6.7	200
Dec. 15.....	298	6.0	.08	3.2	.7	4.9	.5	4	3.3	9.2	.0	.3	72	30	11	8	48	5.6	120
Jan. 14, 1959.....	1,000	5.1	.10	2.8	1.0	5.6	.5	5	3.8	9.5	.0	.5	71	31	11	7	51	5.2	140
Feb. 16.....	2,740	3.2	.12	2.2	.8	4.0	.7	4	4.4	6.5	.1	.3	63	24	9	6	46	5.0	120
Mar. 4.....	1,840	2.4	.17	2.0	.7	3.7	.3	4	4.3	6.0	.2	.2	65	22	8	5	42	4.9	140
Apr. 14.....	1,100	1.7	.39	3.4	.9	4.2	.9	13	2.2	6.5	.1	.4	76	27	12	1	45	6.1	210
May 15.....	355	4.2	.58	4.2	.5	4.6	.8	10	2.0	7.1	.2	.3	89	29	13	4	48	5.7	280
June 15.....	111	5.1	.20	4.2	1.5	4.3	.8	14	1.9	6.7	.2	.4	92	32	16	5	55	6.1	240
July 15.....	540	6.3	.09	8.0	1.4	4.9	.7	15	13	5.3	.2	.6	76	47	26	13	74	6.0	100
Aug. 14.....	629	10	.38	5.5	1.0	4.8	.8	11	2.2	8.0	.3	.8	113	39	18	9	52	5.7	240
Sept. 16.....	729	9.3	.57	3.4	1.3	4.1	.6	7	1.5	7.3	.0	.4	103	31	14	8	47	5.4	400

2-1120. YADKIN RIVER AT WILKESBORO, N. C.

LOCATION.--Temperature recorder at gaging station on right bank 150 feet upstream from bridge on U. S. Highway 421 between North Wilkesboro and Wilkesboro, 150 feet downstream from Reddies River, and half a mile northeast of Wilkesboro, Wilkes County.
DRAINAGE AREA.--493 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1947 to September 1948.
Water temperatures: October 1947 to September 1948, October 1957 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 81°F June 30; minimum, freezing point Dec. 18, 19.
EXTREMES, 1947-48, 1957-59.--Water temperatures: Maximum, 83°F June 24, 25, 1948; minimum, freezing point on several days during winter months of 1958.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Temperature (°F) of water, water year October 1958 to September 1959
/Continuous ethyl alcohol-actuated thermograph/

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	62	62	49	47	39	36	43	42	46	43	47	45	60	54	65	61	65	64	80	76	79	75	71	69
2	62	58	49	48	40	37	42	42	43	41	48	44	59	56	67	62	65	64	76	73	77	71	71	68
3	58	56	51	49	42	40	43	42	41	39	47	42	56	51	68	64	65	63	74	70	77	73	72	69
4	61	57	51	49	45	42	42	40	41	39	45	40	56	52	69	64	64	60	75	70	74	71	74	70
5	62	58	50	47	45	43	40	35	43	40	45	41	56	50	69	65	66	62	75	70	75	70	74	70
6	62	59	52	50	43	39	35	33	43	40	46	42	58	52	69	63	68	63	75	70	76	71	72	70
7	59	55	52	50	39	36	35	33	41	37	46	44	59	52	71	65	69	64	75	68	76	72	71	68
8	59	56	50	45	38	35	38	35	41	38	45	42	61	54	71	66	70	64	76	69	75	72	70	67
9	61	57	48	46	37	35	38	36	43	41	44	42	64	58	70	64	70	65	75	71	76	72	71	69
10	64	60	48	47	38	37	36	33	48	43	45	42	64	61	64	60	70	65	75	70	75	70	72	68
11	64	59	47	43	38	36	33	33	48	46	44	42	63	61	66	60	71	66	74	71	75	70	71	68
12	60	55	46	43	36	33	34	33	46	42	46	43	61	50	70	64	73	67	72	69	76	70	69	66
13	57	53	48	45	34	33	40	34	44	42	46	42	50	48	70	66	74	69	74	71	76	70	68	64
14	57	54	49	45	35	34	41	39	49	44	48	42	51	47	66	62	73	67	74	70	77	71	66	63
15	59	55	53	49	34	33	44	40	51	49	48	47	54	49	63	57	70	64	75	71	77	73	63	61
16	61	57	56	53	33	33	44	39	50	46	48	45	57	51	61	55	69	64	75	72	79	73	65	61
17	61	58	58	56	33	33	39	34	47	46	48	44	59	53	62	55	70	64	75	72	79	73	65	62
18	61	58	60	58	34	32	34	33	47	46	48	43	59	56	65	60	69	65	73	70	78	74	63	61
19	60	59	60	53	35	32	34	33	46	42	46	42	58	56	69	63	69	63	76	71	77	72	64	61
20	59	56	53	48	38	35	39	34	42	38	49	44	60	57	69	66	71	64	77	73	77	73	63	60
21	56	53	49	45	38	35	47	39	39	35	52	48	59	57	68	64	72	66	75	72	78	73	64	60
22	56	53	46	44	36	34	46	40	42	36	53	49	57	52	68	65	75	70	75	71	80	75	64	60
23	61	56	45	42	37	34	40	37	47	42	52	47	54	51	71	65	75	71	77	72	80	75	65	61
24	60	57	47	44	40	37	38	36	48	45	54	47	56	51	73	67	74	70	78	72	80	76	66	62
25	58	55	46	45	40	36	40	37	46	42	56	50	59	53	72	66	71	68	77	73	79	75	67	63
26	56	53	46	45	36	33	42	38	44	39	56	53	61	56	66	63	75	68	75	72	78	73	66	63
27	53	51	45	43	33	33	44	42	45	42	55	53	61	59	64	62	78	72	75	73	75	72	66	63
28	54	51	44	42	43	33	44	44	47	42	53	50	62	59	70	64	79	73	74	71	74	72	68	64
29	52	49	42	40	46	43	45	44	--	--	50	45	62	59	71	66	80	74	75	71	75	72	67	65
30	51	48	41	38	45	44	46	45	--	--	51	44	64	57	70	67	81	75	78	72	75	72	65	65
31	50	45	--	--	44	42	47	45	--	--	57	51	--	--	67	65	--	--	78	74	74	71	--	--
Average	59	55	49	47	39	36	40	38	45	42	49	45	59	54	68	63	71	66	75	71	77	72	68	65

PEE DEE RIVER BASIN--Continued

2-1165. YADKIN RIVER AT YADKIN COLLEGE, N. C.

LOCATION.--At gaging station at bridge on U. S. Highway 64, 1 1/2 miles south of Yadkin College, Davidson County, and 6 1/4 miles downstream from Reedy Creek.
DRAINAGE AREA.--2,280 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1943 to September 1944, October 1950 to September 1951, October 1955 to September 1959.
Water temperatures: October 1943 to September 1944, October 1950 to September 1951, October 1955 to September 1959.
Sediment records: January 1951 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 50 ppm July 1-14; minimum, 35 ppm Sept. 1-4, 7-10.
Hardness: Maximum, 26 ppm Mar. 6; minimum, 10 ppm Sept. 1-4, 7-10.
Specific conductance: Maximum daily, 100 micromhos July 3; minimum daily, 31 micromhos Sept. 1.
Water temperatures: Maximum, 88°F Aug. 24; minimum, freezing point Dec. 13-15, 27.
Sediment concentrations: Maximum daily, 1,660 ppm Aug. 30; minimum daily, 11 ppm Dec. 9.
Sediment loads: Maximum daily, 75,700 tons Dec. 29; minimum daily, 38 tons Dec. 27.
EXTREMES, 1943-44, 1950-59.--Dissolved solids (1943-44, 1950-51, 1955-59): Maximum, 85 ppm Nov. 1-10, 1950; minimum, 32 ppm Mar. 21-31, 1944.
Hardness (1943-44, 1950-51, 1955-59): Maximum, 26 ppm Mar. 6, 1959; minimum, 10 ppm July 11-20, 1944, Sept. 1-4, 7-10, 1959.
Specific conductance (1955-59): Maximum daily, 136 micromhos Aug. 17, 1956; minimum daily, 28 micromhos Apr. 29, 1958.
Water temperatures (1943-44, 1950-51, 1955-59): Maximum, 88°F Aug. 24, 1959; minimum, freezing point on many days during winter months.
Sediment concentrations (1951-59): Maximum daily, 2,970 ppm May 26, 1952; minimum daily, 1 ppm Dec. 3, 1953.
Sediment loads (1951-59): Maximum daily, 108,000 tons Jan. 23, 1954; minimum daily, 3 tons Dec. 3, 1953.
REMARKS.--Records of suspended matter of composite samples from October 1943 to September 1944, October 1950 to September 1951 and records of specific conductance of samples collected from October 1955 to September 1959 available in district office at Raleigh, N. C. Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-31, 1958.....	1,499	14	0.03	4.2	1.4	5.0	1.6	26	1.5	4.5	0.1	1.3	48	16	0	58	6.9	10
Nov. 1-30.....	1,444	15	.02	4.5	1.0	5.4	1.6	25	1.5	3.6	.0	1.3	47	15	0	56	7.2	15
Dec. 1-31.....	3,190	14	.00	3.8	1.0	4.1	1.4	22	2.1	2.6	.1	2.0	46	13	0	52	6.8	10
Jan. 1-31, 1959.....	2,881	14	.00	3.5	.9	3.7	.5	18	2.4	2.7	.1	2.2	43	12	0	49	6.6	15
Feb. 1-28.....	2,340	14	.00	3.5	1.3	4.0	1.2	20	2.6	2.1	.1	2.0	44	14	0	52	6.7	12
Mar. 1-5, 7-31.....	2,425	12	.01	3.7	1.1	4.0	1.3	21	1.8	2.4	.1	1.4	43	14	0	50	6.8	4
Mar. 6.....	5,980	--	--	--	--	--	--	31	4.9	6.1	--	--	--	26	0	94	6.8	--
Apr. 1-30.....	4,081	13	.02	3.4	1.0	3.0	.8	18	1.8	3.0	.1	1.9	42	13	0	46	7.0	20
May 1-31.....	2,328	14	.00	4.3	.5	3.6	1.0	22	2.5	1.5	.0	1.9	44	13	0	46	6.6	12
June 1-30.....	1,909	14	.01	3.8	.9	3.4	1.0	20	1.0	3.2	.1	1.5	a39	13	0	55	7.1	15
July 1-14.....	1,185	12	.04	4.7	1.6	5.4	1.8	26	2.1	4.0	.1	1.9	50	18	0	70	7.0	15
July 15-31.....	2,117	14	.02	3.6	1.2	4.1	2.3	18	3.8	3.2	.1	2.2	45	14	0	57	7.1	15
Aug. 1-31.....	2,244	13	.05	4.8	.6	5.1	2.5	20	1.6	3.8	.0	3.0	49	15	0	62	6.8	15
Sept. 1-4, 7-10.....	8,989	10	.07	3.2	.4	2.8	2.2	11	1.8	4.5	.1	2.5	35	10	1	43	6.9	15
Sept. 5-6, 11-30....	1,947	15	.06	4.0	1.5	5.5	2.0	24	.9	4.0	.0	1.6	47	16	0	65	6.9	10
Time-weighted average.....	2,496	14	0.02	4.0	1.0	4.2	1.4	21	1.9	3.1	0.1	1.9	45	14	0	54	--	13

a Calculated from determined constituents.

PEE DEE RIVER BASIN--Continued

2-1165. YADKIN RIVER AT YADKIN COLLEGE, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 9 a.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	67	51	39	42	45	48	54	64	76	83	81	74
2	61	51	33	42	42	45	58	65	76	82	80	74
3	56	51	41	42	40	45	56	70	76	79	76	73
4	56	50	43	42	40	44	57	70	70	80	70	72
5	61	50	41	37	42	44	56	70	71	77	69	72
6	60	51	44	33	41	47	57	68	69	77	78	75
7	60	53	41	33	40	46	57	70	72	76	77	74
8	60	51	39	35	40	47	59	71	71	76	76	77
9	60	52	38	35	43	44	63	70	74	75	78	75
10	68	51	37	33	45	44	66	70	73	75	78	72
11	64	49	35	33	48	43	66	89	75	76	78	73
12	61	46	33	33	45	44	--	70	77	75	80	70
13	59	48	32	35	44	44	53	72	78	75	78	72
14	58	--	32	36	48	45	49	71	76	76	79	65
15	60	53	32	42	46	48	51	64	72	76	80	65
16	60	58	--	41	48	48	53	63	73	76	81	68
17	63	49	--	36	46	48	56	61	71	77	82	66
18	62	60	33	35	50	45	59	65	70	77	80	64
19	63	61	34	36	44	45	60	69	69	78	80	63
20	59	55	34	35	41	47	63	71	71	75	81	63
21	52	54	33	40	39	51	63	72	74	75	81	63
22	55	55	34	44	40	51	60	72	78	76	82	65
23	57	43	35	43	42	50	56	73	80	79	85	65
24	59	43	37	40	45	51	56	75	77	79	88	69
25	56	50	36	41	44	54	53	74	76	80	83	72
26	59	49	35	39	44	57	60	71	77	82	81	71
27	59	46	32	40	44	58	62	70	79	80	79	71
28	52	45	38	42	44	53	63	71	81	76	80	72
29	51	43	42	43	--	51	64	73	82	78	79	72
30	50	41	45	45	--	49	63	75	82	81	78	--
31	50	--	45	46	--	52	--	73	--	77	74	--
Average	59	50	37	39	44	48	58	70	75	78	79	70

PEE DEE RIVER BASIN--Continued

2-1165. YADKIN RIVER AT YADKIN COLLEGE, N. C.--Continued

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	1,700	119	s661	1,340	27	98	1,780	34	163
2...	2,550	245	1,690	1,710	98	452	1,490	23	93
3...	2,320	135	846	1,890	45	230	1,450	20	78
4...	1,760	68	323	1,800	32	156	1,450	18	70
5...	1,710	44	203	1,580	23	98	1,490	15	60
6...	1,620	45	197	1,490	25	101	1,490	15	60
7...	1,450	30	117	1,450	23	90	1,380	15	56
8...	1,380	25	93	1,410	21	80	1,380	14	52
9...	1,380	27	101	1,380	21	78	1,340	11	40
10...	1,380	27	101	1,380	21	78	1,340	13	47
11...	1,340	28	101	1,380	17	63	1,340	20	72
12...	1,280	25	86	1,340	13	47	1,280	18	62
13...	1,240	25	84	1,380	18	67	1,170	23	73
14...	1,280	25	86	1,340	15	54	1,200	a28	91
15...	1,280	25	86	1,380	18	67	1,200	15	49
16...	1,280	22	76	1,340	18	65	1,200	15	49
17...	1,280	22	76	1,340	18	65	1,170	17	54
18...	1,280	24	83	1,410	20	76	1,410	19	72
19...	1,280	25	86	1,380	32	119	1,530	19	78
20...	1,660	72	s355	1,340	22	80	1,530	17	70
21...	1,640	53	235	1,310	20	71	1,410	25	95
22...	1,450	42	164	1,280	20	69	1,340	16	58
23...	1,620	38	166	1,310	18	64	1,340	15	54
24...	1,660	42	188	1,340	18	65	1,340	13	47
25...	1,530	26	107	1,340	17	62	1,310	12	42
26...	1,410	22	84	1,310	18	64	1,280	15	52
27...	1,380	18	67	1,310	21	74	1,170	12	38
28...	1,380	20	75	1,340	19	69	6,340	863	s23,200
29...	1,340	15	54	1,650	66	294	23,400	1,250	s75,700
30...	1,310	16	57	2,080	55	309	25,600	401	s28,400
31...	1,310	16	57	--	--	--	6,740	330	6,010
Total	46,480	--	6,705	43,330	--	3,305	98,890	--	135,085

Day	January			February			March		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	4,160	375	4,210	1,980	36	192	1,760	25	119
2...	5,480	385	5,700	1,890	48	245	1,840	30	149
3...	4,600	205	2,550	1,890	78	398	1,800	22	107
4...	3,450	140	1,300	2,220	58	348	1,710	20	92
5...	2,850	165	1,270	3,250	183	1,610	1,660	32	143
6...	2,360	75	478	2,650	85	608	5,980	696	s12,900
7...	2,030	88	482	2,270	65	398	8,520	582	s13,300
8...	2,220	60	360	2,030	35	192	4,600	548	s6,870
9...	2,410	65	423	2,270	42	257	3,350	175	1,580
10...	2,220	58	348	2,360	51	325	2,850	96	739
11...	1,980	52	278	2,270	50	306	2,550	65	448
12...	1,890	34	174	2,080	50	281	2,410	49	319
13...	2,030	42	230	2,650	128	916	2,360	42	268
14...	2,080	50	281	3,450	196	1,826	2,120	46	263
15...	2,080	58	326	4,160	322	3,617	2,120	35	200
16...	2,640	113	805	3,250	145	1,272	2,170	40	234
17...	3,450	160	1,490	2,650	67	479	2,030	33	181
18...	2,460	119	790	2,460	49	325	1,890	38	194
19...	1,890	65	332	2,320	43	269	1,800	28	136
20...	2,170	76	445	2,120	40	229	1,760	22	105
21...	2,270	51	313	1,940	30	157	1,760	38	181
22...	4,200	563	s7,140	1,840	30	149	1,890	40	204
23...	6,780	1,020	s18,800	2,030	31	170	1,940	40	210
24...	4,270	454	s5,430	2,120	36	206	1,800	40	194
25...	3,250	200	1,760	2,030	44	241	1,710	34	157
26...	2,750	108	802	1,840	45	224	1,710	40	185
27...	2,550	63	434	1,800	22	107	1,940	60	314
28...	2,360	50	319	1,710	30	139	2,650	116	830
29...	2,220	42	252	--	--	--	2,750	71	527
30...	2,120	41	235	--	--	--	2,550	102	702
31...	2,080	45	253	--	--	--	2,750	85	631
Total	89,300	--	58,010	65,530	--	15,486	78,730	--	42,482

s Computed by subdividing day.
a Computed from estimated concentration graph.

PEE DEE RIVER BASIN--Continued

2-1165. YADKIN RIVER AT YADKIN COLLEGE, N. C.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	2,750	73	542	2,950	385	3,070	2,750	152	1,130
2...	3,350	172	s1,870	2,650	150	1,070	3,850	395	s4,320
3...	4,160	335	s3,800	2,460	110	731	4,380	386	s4,540
4...	3,350	142	1,280	2,750	279	s2,180	3,950	305	s3,230
5...	2,850	85	654	2,850	385	2,960	4,410	405	s4,720
6...	2,550	59	406	2,550	310	2,130	2,950	480	s3,880
7...	2,320	62	388	2,220	335	2,010	2,460	178	1,180
8...	2,220	48	288	2,120	135	773	2,170	120	703
9...	2,080	45	253	1,940	85	445	1,980	97	519
10...	2,030	38	208	1,940	50	262	1,800	79	383
11...	2,030	40	219	2,030	73	400	1,710	75	346
12...	3,630	106	s1,290	2,080	75	421	1,660	70	314
13...	14,600	665	s27,300	1,940	68	356	1,580	55	235
14...	10,500	420	s12,600	3,910	462	s5,010	1,490	50	201
15...	5,590	225	3,400	2,750	488	s3,720	1,410	38	145
16...	4,160	135	1,520	2,120	165	944	1,340	40	145
17...	3,550	105	1,010	1,940	95	498	1,310	42	149
18...	3,150	103	876	1,840	73	363	1,310	47	166
19...	3,450	288	s2,740	1,800	64	311	1,280	40	138
20...	5,590	427	s6,350	1,840	69	343	1,310	35	124
21...	4,490	190	2,300	2,620	224	s1,940	1,280	33	114
22...	4,380	160	1,890	3,750	540	s5,590	1,200	35	113
23...	4,710	225	2,860	2,750	296	2,200	1,170	35	111
24...	4,490	142	1,720	2,550	180	1,240	1,170	40	126
25...	3,750	105	1,060	2,120	122	698	1,200	40	130
26...	3,350	85	769	1,890	92	469	1,340	46	166
27...	3,050	70	576	1,840	80	397	1,410	47	179
28...	2,850	75	577	1,940	79	414	1,240	45	151
29...	3,700	656	s7,960	1,940	72	377	1,170	a40	126
30...	3,750	858	s8,920	1,980	74	396	995	32	86
31...	--	--	--	2,120	91	521	--	--	--
Total	122,430	--	95,626	72,180	--	42,239	57,275	--	27,870

Day	July			August			September		
1...	995	23	62	1,890	305	1,560	13,100	1,480	s54,000
2...	930	31	78	3,450	1,100	s10,900	15,500	1,070	s44,800
3...	1,060	60	172	2,650	610	s4,500	7,760	779	s16,000
4...	1,310	70	248	2,410	751	s5,470	3,650	425	s4,280
5...	1,200	45	146	3,950	1,095	11,700	2,650	230	1,650
6...	1,030	33	92	2,650	a612	s4,470	3,000	290	s2,950
7...	960	28	73	2,120	424	s2,700	12,600	1,170	s41,200
8...	960	27	70	5,590	1,050	s16,300	10,800	601	s18,600
9...	930	28	70	2,950	562	s4,600	5,150	607	s8,820
10...	1,310	152	s554	2,030	290	1,590	3,350	260	2,350
11...	1,240	197	660	1,450	180	705	2,850	220	1,690
12...	1,340	93	336	1,280	105	363	2,320	165	1,030
13...	1,490	80	322	1,170	80	253	2,080	135	758
14...	1,840	212	s1,110	1,100	75	223	1,840	130	646
15...	2,850	427	s3,240	1,060	70	200	1,760	125	594
16...	1,660	404	s1,830	1,030	60	167	1,660	105	471
17...	1,280	205	708	1,030	55	153	1,580	95	405
18...	1,310	128	453	995	55	148	1,490	80	322
19...	1,490	185	744	995	50	134	1,410	65	247
20...	1,660	170	762	1,140	65	200	1,410	60	228
21...	3,870	1,040	s11,400	1,170	80	253	1,380	65	242
22...	2,320	489	s3,240	1,060	a80	229	1,340	55	199
23...	1,940	225	1,180	1,100	80	238	1,340	30	109
24...	1,710	150	693	1,100	75	223	1,310	40	141
25...	1,490	120	483	995	55	148	1,240	65	218
26...	1,620	242	s1,160	1,030	90	250	1,280	45	156
27...	1,660	250	1,120	2,930	805	s6,890	1,240	50	167
28...	3,970	1,270	s14,100	2,080	608	s3,370	1,240	60	201
29...	2,410	605	3,940	1,380	405	1,510	1,310	60	212
30...	1,800	220	1,070	8,660	1,660	s46,600	7,110	560	s14,500
31...	2,950	1,070	s9,100	7,120	1,310	s25,600	--	--	--
Total	52,585	--	59,216	69,565	--	151,647	114,750	--	217,186

Total discharge for year (cfs-days)....911,045
Total load for year (tons)....854,861

s Computed by subdividing day.
a Computed from estimated concentration graph.

PEE DEE RIVER BASIN--Continued

2-1165. YADKIN RIVER AT YADKIN COLLEGE, N. C.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; M, mechanically dispersed; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time	Discharge (cfs)	Water temperature (° F)	Suspended sediment												Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters										
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	
Dec. 29, 1958	10:50 a.m.	23,200		1,230	1,930	21	28	36	46	52	56	87	96		100		BCMSW
Aug. 31, 1959	2:42 p.m.	4,820		714	1,370	37	49	60	73	84	90	96	99		100		BCMSW

2-1180. SOUTH YADKIN RIVER NEAR MOCKSVILLE, N. C.

LOCATION.--At gaging station on county highway bridge, 1 mile upstream from Little Creek, 4 miles downstream from Fifth Creek, 4.5 miles upstream from Hunting Creek, and 6.5 miles southwest of Mocksville, Davie County.
DRAINAGE AREA.--313 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1954.
Sediment records: January 1958 to September 1959.
EXTREMES, 1958-59.--Sediment concentrations: Maximum daily, 1,500 ppm Aug. 5; minimum daily, 5 ppm Nov. 23.
Sediment loads: Maximum daily, 4,690 tons Sept. 7; minimum daily, 2 tons Nov. 23.
EXTREMES, January 1958 to September 1959.--Sediment concentrations: Maximum daily, 1,500 ppm Aug. 5, 1959; minimum daily, 5 ppm Nov. 23, 1958.
Sediment loads: Maximum daily, 8,600 tons Apr. 29, 1958; minimum daily, 2 tons Nov. 23, 1958.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Dec. 17, 1958.....	158	17	0.00	4.0	1.9	2.9	1.0	24	1.4	1.3	0.1	0.7	42	17	0	45	6.6	5
July 8, 1959.....	123	17	.07	3.8	1.6	2.5	1.2	25	1.4	2.0	.1	.9	43	16	0	49	6.6	25

PEE DEE RIVER BASIN--Continued

2-1180. SOUTH YADKIN RIVER NEAR MOCKSVILLE, N. C.--Continued

Suspended sediment, water year October 1958 to September 1959

Day	October			November			December		
	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day	Mean discharge (cfs)	Suspended sediment: Mean concentration (ppm)	Suspended sediment: Tons per day
1...	176	74	35	186	15	8	207	12	7
2...	318	85	73	287	69	53	191	17	9
3...	255	138	95	254	42	29	189	20	10
4...	217	100	59	220	27	16	191	15	8
5...	205	45	25	202	17	9	194	14	7
6...	188	33	17	197	14	7	186	12	6
7...	179	32	15	194	13	7	179	10	5
8...	176	25	12	189	14	7	176	10	5
9...	174	26	12	186	12	6	176	10	5
10...	172	25	12	181	11	5	176	10	5
11...	165	23	10	179	13	6	174	14	7
12...	161	20	9	176	11	5	164	13	6
13...	161	20	9	176	14	7	160	11	5
14...	161	17	7	176	13	6	189	11	6
15...	163	16	7	176	12	6	180	10	5
16...	165	19	8	176	14	7	160	18	8
17...	163	19	8	179	16	8	160	17	7
18...	163	18	8	179	11	5	160	14	6
19...	163	19	8	181	11	5	170	19	9
20...	172	27	13	176	12	6	181	16	8
21...	172	27	13	174	10	5	176	13	6
22...	195	35	18	174	7	3	169	14	6
23...	255	46	32	171	5	2	167	11	5
24...	218	24	14	171	9	4	169	11	5
25...	189	22	11	171	12	6	169	11	5
26...	181	25	12	174	10	5	157	11	5
27...	179	17	8	174	12	6	150	16	6
28...	176	12	6	174	9	4	1,560	714	s3,430
29...	176	13	6	254	13	9	2,390	614	s3,940
30...	174	12	6	270	14	10	2,620	295	s2,090
31...	174	11	5	--	--	--	855	174	402
Total	5,786	--	573	5,777	--	262	12,145	--	10,034

Day	January			February			March		
1...	590	139	s222	248	20	13	240	17	11
2...	775	168	352	240	14	9	251	15	10
3...	560	100	151	240	49	s31	248	15	10
4...	435	68	80	318	121	s102	240	12	8
5...	358	42	41	390	71	75	272	128	s141
6...	298	26	21	321	29	25	1,130	703	s2,160
7...	290	25	20	279	20	15	908	314	s814
8...	307	33	27	268	17	12	525	90	128
9...	335	38	34	301	36	29	420	39	44
10...	298	26	21	304	32	26	366	40	40
11...	254	20	14	282	27	21	335	37	33
12...	248	24	16	262	26	18	324	35	31
13...	254	19	13	435	136	s174	310	34	28
14...	251	20	14	510	122	s169	287	27	21
15...	254	26	18	620	245	s417	290	28	22
16...	375	51	52	450	116	s145	301	24	20
17...	405	33	36	375	50	51	276	12	9
18...	280	34	26	346	32	30	262	19	13
19...	260	34	24	318	29	25	251	22	15
20...	310	33	28	293	24	19	248	22	15
21...	296	38	30	279	19	14	254	23	16
22...	525	420	s593	265	16	11	273	40	29
23...	510	352	s497	273	27	20	273	50	37
24...	390	135	142	284	41	31	251	48	33
25...	343	60	56	265	20	14	245	48	32
26...	318	40	34	251	15	10	242	40	26
27...	298	32	26	248	20	13	315	118	s104
28...	287	32	25	245	21	14	375	70	71
29...	276	30	22	--	--	--	307	48	40
30...	262	26	18	--	--	--	329	52	46
31...	256	28	19	--	--	--	352	45	43
Total	10,898	--	2,672	8,910	--	1,533	10,700	--	4,050

s Computed by subdividing day.

PEE DEE RIVER BASIN--Continued

2-1180. SOUTH YADKIN RIVER NEAR MOCKSVILLE, N. C.--Continued

Suspended sediment, water year October 1958 to September 1959--Continued

Day	April			May			June		
	Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment		Mean discharge (cfs)	Suspended sediment	
		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day		Mean concentration (ppm)	Tons per day
1...	324	43	38	318	55	47	318	145	124
2...	480	204	s296	304	62	51	360	302	s310
3...	560	225	340	290	59	46	435	310	s365
4...	435	110	129	298	67	54	575	999	s1,820
5...	363	50	49	375	466	s490	544	549	s900
6...	329	38	34	301	262	s217	338	140	128
7...	310	38	32	276	115	86	284	120	92
8...	290	42	33	268	92	67	254	110	75
9...	284	53	41	251	76	52	234	88	56
10...	276	48	36	262	68	48	220	92	55
11...	282	62	47	287	63	49	215	90	52
12...	468	166	s223	268	60	43	202	82	45
13...	988	328	s588	256	61	42	197	67	36
14...	838	211	s494	481	381	s507	184	60	30
15...	525	114	162	346	242	226	176	58	28
16...	435	82	96	290	108	85	171	65	30
17...	375	67	68	268	55	40	169	59	27
18...	352	124	118	254	60	41	164	52	23
19...	577	141	s227	242	58	38	164	62	27
20...	1,150	1,030	s3,220	240	124	s84	162	76	33
21...	1,440	439	s1,720	324	320	280	157	58	25
22...	1,170	267	s936	318	359	s308	162	63	28
23...	775	140	293	329	630	s535	162	69	30
24...	635	110	189	251	194	s135	159	62	27
25...	510	95	131	229	70	43	171	60	28
26...	450	80	97	223	74	45	176	50	24
27...	405	75	82	234	71	45	164	60	27
28...	375	55	56	240	74	48	162	62	27
29...	358	50	48	229	76	47	146	58	23
30...	338	55	50	215	69	40	139	54	20
31...	--	--	--	248	75	50	--	--	--
Total	16,097	--	9,873	8,715	--	3,889	6,964	--	4,515

Day	July			August			September		
1...	131	44	16	212	129	s125	673	281	s520
2...	129	45	16	359	491	s491	998	965	s2,610
3...	142	81	31	254	374	256	936	404	s1,140
4...	144	60	23	248	601	s489	369	170	169
5...	135	42	15	525	1,500	s2,120	284	110	84
6...	129	40	14	298	619	s538	262	110	78
7...	127	42	14	231	196	s129	1,490	839	s4,690
8...	123	40	13	234	340	215	2,670	589	s4,000
9...	117	39	12	251	285	193	2,170	256	s1,500
10...	150	60	24	197	168	89	620	160	268
11...	153	69	29	164	125	55	435	112	132
12...	181	97	47	153	95	39	360	95	92
13...	174	172	81	146	90	35	310	72	60
14...	153	168	s74	139	100	38	279	50	38
15...	212	386	s227	135	75	27	262	49	35
16...	174	190	89	133	75	27	248	50	33
17...	148	119	48	131	70	25	229	49	30
18...	245	252	s226	125	65	22	215	49	28
19...	290	537	420	121	85	28	212	51	29
20...	235	365	s236	131	90	32	199	41	22
21...	274	332	s251	133	110	40	191	42	22
22...	212	320	183	153	145	60	186	38	19
23...	248	210	141	137	120	44	179	40	19
24...	186	110	55	121	125	41	174	45	21
25...	157	104	44	125	90	30	169	35	16
26...	181	187	s89	205	407	s434	167	35	16
27...	164	289	s142	350	1,180	s1,130	162	36	16
28...	240	455	s279	197	495	263	162	30	13
29...	194	123	64	153	270	112	191	90	s57
30...	199	230	s124	668	1,320	s3,010	1,450	578	s2,440
31...	248	244	s168	1,510	718	s2,840	--	--	--
Total	5,595	--	3,195	7,939	--	12,977	16,252	--	18,197

Total discharge for year (cfs-days).....115,778
Total load for year (tons).....71,770

s Computed by subdividing day.

PEE DEE RIVER BASIN--Continued

2-1180. SOUTH YADKIN RIVER NEAR MOCKSVILLE, N. C.--Continued

Particle-size analyses of suspended sediment, water year October 1958 to September 1959
(Methods of analyzis: B, bottom withdrawal tube; C, chemically dispersed; M, mechanically dispersed; N, in native water; P, pipet; S, sieve; V, visual accumulation tube; W, in distilled water)

Date of collection	Time	Discharge (cfs)	Water temperature (° F)	Suspended sediment												Methods of analysis
				Concentration of sample (ppm)	Concentration of suspension analyzed (ppm)	Percent finer than indicated size, in millimeters										
						0.002	0.004	0.008	0.016	0.031	0.062	0.125	0.250	0.350	0.500	1.000	
Dec. 29, 1958	1:18 p.m.	2,390		635	921	44	52	60	66	72	77	84	90		98	100	BCMSW
Apr. 13, 1959	9:47 p.m.	1,100		476	918	44	49	59	65	71	76	83	89		97	100	BCMSW
Aug. 31.....	4:08 p.m.	1,670		480	835	48	55	59	65	72	80	90	96		99	100	BCMSW

2-1256.81. ROCKY RIVER AT GADDY, NEAR NORWOOD, N.C.

LOCATION.--At bridge on county road, 2 miles upstream from gaging station, half a mile downstream from Cribs Creek, and 5 1/2 miles southwest of Norwood, Stanly County.
DRAINAGE AREA.--1,231 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1955 to September 1959.
Water temperatures: October 1955 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 361 ppm Nov. 11-20; minimum, 48 ppm Sept. 1-2, 5-7, 9.
Hardness: Maximum, 54 ppm July 1-8; minimum, 18 ppm Sept. 1-2, 5-7, 9.
Specific conductance: Maximum daily, 727 micromhos Oct. 21; minimum daily, 57 micromhos Aug. 9, 10.
Water temperatures: Maximum, 89°F June 30; minimum, 33°F Dec. 12, 14.
EXTREMES, 1955-59.--Dissolved solids: Maximum, 506 ppm Sept. 6-8, 1957; minimum, 12 ppm July 8, 10, 1958.
Hardness: Maximum, 60 ppm July 17-18, 1957; minimum, 17 ppm July 8, 10, 1958.
Specific conductance: Maximum daily, 1,000 micromhos Sept. 7, 1957; minimum daily, 45 micromhos Mar. 6, 1956.
Water temperatures: Maximum, 89°F July 22, 1956, June 30, 1959; minimum, freezing point Dec. 17, 18, 22, 1955.
REMARKS.--Records of suspended matter of composite samples and records of specific conductance of samples collected available in district office at Raleigh, N. C. No discharge records available for this station. Station site previous to this year named Rocky River near Norwood.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-10, 1958.....		16	0.06	13	3.5	99	6.5	179	31	58	0.3	3.3	a320	48	0	505	7.6	30
Oct. 11-20.....		17	.03	12	4.6	108	6.9	204	30	63	.3	2.4	358	50	0	576	7.9	25
Oct. 21-31.....		19	.04	12	5.3	110	7.2	202	33	62	.3	3.7	a354	51	0	560	8.0	30
Nov. 1-10.....		19	.08	12	4.2	73	5.9	152	23	42	.1	3.6	a259	47	0	430	8.1	30
Nov. 11-20.....		22	.05	13	4.7	105	7.4	209	28	61	.3	2.4	361	51	0	570	7.8	30
Nov. 21-30.....		19	.13	12	4.7	104	6.6	202	25	61	.3	3.8	349	50	0	560	7.6	30
Dec. 1-10.....		20	.10	11	4.5	104	6.3	183	31	59	.2	2.5	337	46	0	533	7.5	30
Dec. 11-20.....		22	.06	12	4.1	99	5.7	186	33	57	.6	5.2	334	47	0	548	7.2	25
Dec. 21-27.....		23	.05	13	4.2	92	5.4	175	32	57	.3	4.6	a319	49	0	528	8.0	25
Dec. 28.....		--	--	--	--	--	--	35	16	34	--	--	--	26	0	233	7.5	--
Dec. 29-31.....		8.7	.06	6.4	2.2	8.4	2.6	18	11	8.5	.2	5.8	a63	25	10	103	6.3	20
Jan. 1-7, 1959.....		17	.03	6.8	3.2	12	2.1	31	12	10	.1	3.8	83	30	5	128	6.9	20
Jan. 8-10.....		15	.02	7.6	3.4	31	2.1	60	20	25	.1	3.2	a138	33	0	231	6.6	25
Jan. 11-20.....		17	.04	8.3	3.4	25	2.2	57	14	17	.2	2.4	119	35	0	194	7.5	25
Jan. 21-28.....		17	.03	7.0	3.5	15	1.9	38	13	11	.1	3.2	91	32	0	131	7.3	15
Jan. 29-31.....		15	.12	7.2	4.6	29	2.3	62	23	19	.2	1.8	a133	37	0	211	7.7	30
Feb. 1-3.....		15	.12	8.0	4.1	25	2.3	62	15	17	.1	1.6	a119	37	0	195	7.8	25
Feb. 4-10.....		11	.04	6.0	2.5	10	1.5	27	10	7.5	.1	3.4	75	25	3	102	7.2	20
Feb. 11-20.....		13	.00	5.9	3.2	10	1.3	30	8.6	8.5	.2	2.7	78	28	3	110	7.1	20
Feb. 21-28.....		16	.01	7.6	3.4	23	1.8	57	12	14	.2	1.8	112	33	0	178	7.4	25
Mar. 1-5.....		16	.13	10	2.3	25	1.6	62	10	18	.0	1.6	120	35	0	190	7.6	35
Mar. 6-10.....		12	.10	6.5	3.0	9.8	1.1	31	8.7	8.2	.0	2.9	80	28	3	107	7.0	40
Mar. 11-20.....		17	.05	6.3	3.1	17	1.5	44	9.5	13	.2	1.6	95	29	0	150	7.1	30
Mar. 21-27.....		15	.04	6.7	3.6	25	1.8	61	13	15	.2	1.0	113	32	0	179	7.4	25

a Calculated from determined constituents.

PEE DEE RIVER BASIN--Continued

2-1256.81. ROCKY RIVER AT GADDY, NEAR NORWOOD, N.C.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Mar. 28-31, 1959....		12	0.07	13	3.3	11	1.5	34	9.0	21	0.0	2.5	a91	45	17	129	6.6	35
Apr. 1-7.....		13	.03	5.5	2.8	12	1.1	35	7.1	9.0	.1	2.6	76	25	0	110	7.0	25
Apr. 8-10.....		14	.05	6.9	3.4	24	1.8	60	11	16	.1	1.4	a109	31	0	175	6.9	10
Apr. 11.....		--	--	--	--	--	--	78	12	16	--	--	--	36	0	205	8.2	--
Apr. 12-16, 18-20...		12	.16	4.9	2.0	8.3	1.1	24	5.3	6.5	.0	3.4	72	21	1	88	6.8	55
Apr. 17.....		--	--	--	--	--	--	47	9.3	12	--	--	--	32	0	140	8.0	--
Apr. 21-29.....		14	.08	5.5	3.3	11	1.2	39	4.5	8.8	.1	2.2	78	27	0	110	7.8	30
Apr. 30.....		--	--	--	--	--	--	65	8.7	14	--	--	--	39	0	180	8.1	--
May 1-8.....		15	.06	8.3	3.2	29	2.0	74	8.4	19	.1	1.2	132	34	0	210	7.6	25
May 9-10.....		14	.03	9.5	3.7	44	3.1	105	17	27	.1	1.7	a172	39	0	292	7.0	--
May 11-12, 14, 16-20		17	.06	8.1	4.2	36	2.7	87	11	22	.1	2.6	154	38	0	253	7.6	25
May 13, 15.....		15	.01	7.5	3.3	21	2.5	63	10	13	.1	3.4	a107	32	0	172	7.0	--
May 21-29.....		19	.14	8.0	4.6	35	2.8	83	11	23	.1	2.8	158	39	0	231	7.6	35
May 30-31.....		20	.05	12	4.3	66	3.8	129	20	48	.1	4.0	a242	47	0	376	7.0	--
June 1.....		--	--	--	--	--	--	84	10	24	--	--	--	33	0	236	8.2	--
June 2-6.....		12	.05	4.7	2.8	9.1	1.9	29	6.2	7.3	.1	3.7	a62	23	0	92	6.6	--
June 7-10.....		18	.07	8.5	2.6	19	2.3	58	9.8	11	.1	2.3	a103	32	0	155	7.0	--
June 11.....		--	--	--	--	--	--	68	9.6	17	--	--	--	21	0	185	7.8	--
June 12-19.....		13	.03	9.8	4.4	54	3.4	116	18	31	.2	1.2	195	43	0	335	7.4	25
June 20.....		--	--	--	--	--	--	140	22	47	--	--	--	50	0	436	8.4	--
June 21-30.....		16	.01	11	4.9	80	4.8	164	22	50	.3	1.2	a272	48	0	475	7.2	30
July 1-8.....		20	.01	13	5.1	91	6.9	194	23	58	.3	1.9	a316	54	0	571	7.5	25
July 9-10.....		--	--	8.1	2.7	--	--	31	6.1	3.0	--	2.3	--	31	6	95	7.2	--
July 11-20.....		12	.04	5.2	2.1	9.0	2.3	--	6.0	8.0	.1	2.4	67	23	--	100	6.5	25
July 21-31.....		12	.07	5.5	2.3	6.6	1.1	29	5.1	6.0	.1	3.7	71	23	0	90	6.9	25
Aug. 1-3, 5, 8-10...		11	.03	4.9	2.4	2.1	1.4	23	4.6	3.2	.1	3.1	60	22	3	70	6.8	20
Aug. 4, 6-7.....		15	.08	6.7	2.2	7.9	1.8	32	4.2	6.8	.1	1.6	a62	26	0	100	7.5	--
Aug. 11.....		--	--	--	--	--	--	30	2.0	3.5	--	--	--	24	0	84	7.6	--
Aug. 12-13.....		17	.10	7.0	3.4	11	2.0	39	7.6	11	.1	1.4	a80	31	0	123	6.6	--
Aug. 14-20.....		19	.06	8.1	3.1	24	2.7	60	8.4	18	.2	1.3	a115	33	0	190	6.5	25
Aug. 21-31.....		22	.06	8.7	3.6	32	3.2	79	11	21	.2	1.4	161	36	0	230	7.6	25
Sept. 1-2, 5-7, 9...		12	.14	5.5	1.1	5.8	2.0	25	2.2	5.5	.1	2.1	a48	18	0	79	7.2	--
Sept. 3-4, 8, 10....		17	.17	7.1	1.9	12	2.6	40	5.0	10	.1	1.1	a77	25	0	128	7.1	--
Sept. 11-17.....		19	.17	9.0	2.9	28	2.5	72	11	17	.2	1.3	133	34	0	222	7.7	10
Sept. 18-20.....		17	.05	11	3.9	51	3.7	107	15	37	.2	.2	a192	44	0	334	7.9	--
Sept.21-27.....		12	.07	12	4.2	57	3.8	122	18	37	.2	.8	208	46	0	378	8.0	10
Sept. 28-29.....		10	.03	6.0	2.6	26	3.2	61	6.7	16	.1	2.1	a103	26	0	188	7.0	--
Sept. 30.....		--	--	--	--	--	--	20	3.9	5.5	--	--	--	20	4	77	7.4	--
Time-weighted average.....		16	0.06	8.8	3.5	44	3.4	94	15	27	0.2	2.5	174	36	1	274	--	26

[a] Calculated from determined constituents.

PEE DEE RIVER BASIN--Continued

2-1256.81. ROCKY RIVER AT GADDY, NEAR NORWOOD, N.C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
/Once-daily measurement at approximately 6 p.m./

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	69	54	43	44	46	53	60	72	77	87	78	77
2	63	54	43	43	44	50	60	75	73	87	70	78
3	61	53	47	44	41	47	60	76	73	87	78	80
4	65	54	50	44	42	50	59	77	69	82	76	81
5	68	56	51	40	45	47	60	75	71	78	76	75
6	66	56	49	36	44	51	63	74	73	83	77	79
7	65	55	49	36	43	51	64	77	75	84	77	76
8	68	56	43	38	45	49	68	78	78	83	78	76
9	68	56	43	38	42	48	71	72	78	73	77	77
10	66	55	41	37	52	50	72	70	79	74	77	77
11	68	52	34	36	52	48	72	71	81	73	78	75
12	64	54	33	35	49	50	57	73	82	73	79	76
13	63	53	34	39	48	50	52	71	84	75	81	73
14	64	55	33	41	51	52	54	76	79	73	80	71
15	61	60	34	45	55	53	56	69	78	76	81	70
16	66	59	35	44	53	51	60	68	80	75	83	74
17	68	62	36	40	52	53	64	71	78	75	83	70
18	67	64	36	35	54	50	65	74	75	75	84	69
19	64	63	37	36	50	51	59	76	76	75	86	69
20	63	57	37	39	44	53	60	76	78	77	85	70
21	58	55	38	43	44	54	64	77	80	75	86	70
22	59	53	39	47	44	55	60	77	84	77	87	72
23	61	52	41	45	44	56	57	78	84	78	88	72
24	65	57	45	42	50	58	60	80	81	81	88	74
25	63	54	41	43	47	61	63	77	82	84	88	75
26	--	54	38	44	50	60	65	75	85	80	87	75
27	59	50	40	45	44	62	67	76	85	77	85	75
28	57	50	45	44	52	53	71	79	87	77	85	74
29	57	49	46	45	--	51	71	80	88	78	82	72
30	55	46	47	47	--	51	71	79	89	81	78	73
31	56	--	45	49	--	51	--	75	--	76	71	--
Average	63	55	41	41	47	52	63	75	79	78	81	74

PEE DEE RIVER BASIN--Continued

2-1290. PEE DEE RIVER NEAR ROCKINGHAM, N. C.

LOCATION.--At gaging station at bridge on U. S. Highway 74, 2.5 miles upstream from Falling Creek, 3.3 miles downstream from Blewett Falls hydroelectric plant, and 6 miles west of Rockingham, Richmond County.
DRAINAGE AREA.--6,870 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1946 to September 1948, October 1957 to September 1959.
Water temperatures: October 1946 to September 1948, October 1957 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 69 ppm Jan. 1-31; minimum, 51 ppm Mar. 1-31.
Hardness: Maximum, 22 ppm June 1-30; minimum, 16 ppm July 1-31.
Specific conductance: Maximum daily, 97 micromhos Nov. 12; minimum daily, 57 micromhos Apr. 11, 15, 16.
Water temperatures: Maximum, 84°F Aug. 31, Sept. 1; minimum, 40°F Jan. 18-21.
EXTREMES, 1946-48, 1957-59.--Dissolved solids: Maximum, 69 ppm Jan. 1-31, 1959; minimum, 38 ppm Mar. 1-10, 1948.
Hardness: Maximum, 24 ppm Mar. 21-31, 1948; minimum, 11 ppm Feb. 1-10, 1958.
Specific conductance (1957-59): Maximum daily, 97 micromhos, Nov. 12, 1958; minimum daily, 51 micromhos May 10, 1958.
Water temperatures: Maximum, 84°F Aug. 16-19, 1958, Aug. 31, Sept. 1, 1959; minimum, 33°F Feb. 13, 1948.
REMARKS.--Records of suspended matter of composite samples from October 1946 to September 1948, October 1957 to September 1958 and records of specific conductance of samples collected from October 1957 to September 1959 available in district office at Raleigh, N. C. Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-31, 1958.....	3,343	13	0.00	5.2	1.7	8.6	1.8	35	3.2	4.5	0.1	1.1	a56	20	0	81	7.8	5
Nov. 1-30.....	2,894	9.5	.01	5.8	1.1	10	1.8	37	3.4	6.3	.1	.9	63	19	0	86	7.4	10
Dec. 1-31.....	4,443	10	.04	5.0	1.6	9.1	1.9	35	4.1	6.0	.1	2.0	61	19	0	88	6.6	15
Jan. 1-31, 1959.....	5,900	11	.09	4.8	1.8	7.8	1.7	28	3.6	5.5	.1	2.5	69	19	0	82	6.8	55
Feb. 1-28.....	10,290	12	.03	5.1	1.4	5.8	1.3	22	4.9	3.0	.2	2.7	58	18	0	70	7.2	30
Mar. 1-31.....	8,040	12	.08	4.2	2.0	6.4	1.4	25	4.4	4.1	.1	2.0	51	19	0	71	6.8	32
Apr. 1-30.....	14,490	13	.01	5.0	1.6	4.3	1.8	23	2.9	3.7	.1	1.6	60	19	0	68	6.5	50
May 1-31.....	5,458	12	.01	5.2	1.7	5.0	.8	27	2.7	5.0	.1	.9	54	20	0	66	6.6	20
June 1-30.....	5,002	13	.01	5.7	1.9	5.1	1.0	29	2.4	3.3	.1	1.9	58	22	0	79	7.5	25
July 1-31.....	7,290	11	.07	5.1	.9	6.6	1.9	26	3.5	5.2	.1	2.0	61	16	0	79	6.8	35
Aug. 1-31.....	8,044	11	.04	3.6	2.9	5.3	1.8	30	3.0	3.4	.1	1.5	55	21	0	73	6.8	40
Sept. 1-30.....	9,216	12	.07	4.7	1.8	5.8	2.3	25	3.7	4.0	.1	1.7	53	19	0	72	6.9	40
Time-weighted average.....	6,998	12	0.04	4.9	1.7	6.7	1.6	29	3.5	4.5	0.1	1.7	58	19	0	76	--	30

a Calculated from determined constituents.

PEE DEE RIVER BASIN--Continued

2-1290. PEE DEE RIVER NEAR ROCKINGHAM, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 7 a.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	73	62	54	46	45	47	54	69	72	80	80	84
2	72	61	54	46	45	48	54	69	72	80	80	83
3	72	61	53	46	44	48	55	69	72	80	80	82
4	72	60	53	46	43	48	56	69	73	81	80	81
5	72	60	53	46	43	49	56	69	73	81	79	81
6	72	60	53	46	44	49	57	69	73	81	79	81
7	71	60	53	44	44	49	57	69	73	81	79	81
8	71	60	52	43	44	49	59	69	74	81	79	81
9	71	--	51	42	44	49	59	69	74	81	79	80
10	71	60	50	42	45	49	60	69	74	81	79	80
11	71	60	48	41	46	49	60	69	74	79	78	80
12	71	60	46	41	47	49	59	69	74	77	78	79
13	70	59	45	41	47	49	57	69	75	76	79	79
14	69	59	44	41	47	49	55	68	76	76	80	78
15	69	59	44	41	48	49	55	68	76	77	81	78
16	69	59	44	43	48	49	55	68	76	77	81	78
17	69	60	44	41	48	49	56	68	76	77	81	77
18	68	60	43	40	45	49	57	68	76	78	81	76
19	68	61	43	40	45	50	58	69	76	78	82	76
20	68	61	43	40	45	50	60	69	77	78	82	75
21	68	60	43	40	46	50	61	69	77	79	82	75
22	68	59	43	41	46	51	61	70	77	79	83	74
23	67	59	43	41	46	51	62	70	78	79	83	74
24	66	58	42	43	47	51	62	70	78	79	83	74
25	65	58	42	43	48	51	63	70	78	80	83	74
26	65	57	43	45	48	51	64	70	78	80	83	74
27	64	57	44	44	48	52	65	71	79	80	82	74
28	64	56	46	44	47	52	66	71	79	80	82	74
29	63	56	46	44	--	52	68	71	79	81	83	74
30	63	55	46	44	--	52	69	71	80	81	83	74
31	62	--	46	45	--	53	--	71	--	80	84	--
Average	69	59	47	43	46	50	59	69	76	79	81	78

PEE DEE RIVER BASIN--Continued

2-1320. LYNCHES RIVER AT EFFINGHAM, S. C.

LOCATION.--Temperature recorder at gaging station on left bank at downstream side of bridge on U. S. Higbway 52, 75 feet upstream from Atlantic Coast Line Railroad bridge, and 1 mile south of Effingham, Florence County.
DRAINAGE AREA.--1,030 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1951 to September 1952.
Water temperatures: October 1954 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Minimum, 38°F Dec. 16-19.
EXTREMES, 1954-59.--Water temperatures: Maximum, 84°F July 29, 30, Aug. 13, 14, 1956; minimum, 38°F Dec. 23, 24, 1954, Feb. 1, 2, 1955, Dec. 16-19, 1958.
REMARKS.--Temperature attachment not operating properly Feb. 27 to Sept. 22. Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Temperature (°F) of water, water year October 1958 to September 1959
/Continuous ethyl alcohol-actuated thermograph/

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	73	72	57	56	51	50	46	46	50	50													--	--
2	73	68	58	57	50	50	47	46	50	48													--	--
3	68	66	58	57	50	50	47	47	48	47													--	--
4	66	65	58	57	51	50	47	47	47	46													--	--
5	67	65	58	57	51	50	47	45	47	46													--	--
6	66	65	58	58	51	50	45	43	47	47													--	--
7	65	63	58	58	50	49	43	41	47	46													--	--
8	64	63	58	57	49	48	42	41	47	47													--	--
9	64	64	58	57	48	47	42	42	49	47													--	--
10	65	64	58	58	47	47	42	41	50	49													--	--
11	65	65	58	56	47	43	41	40	51	50													--	--
12	65	64	56	55	43	41	40	39	51	51													--	--
13	64	63	55	54	41	41	40	39	51	51													--	--
14	62	62	56	55	41	40	42	40	51	51													--	--
15	62	62	57	56	40	40	44	42	51	51													--	--
16	63	62	59	57	40	38	45	44	51	51													--	--
17	63	63	61	59	38	38	45	43	51	51													--	--
18	64	63	62	61	38	38	43	41	51	51													--	--
19	64	63	62	62	39	38	41	39	51	51													--	--
20	63	62	62	59	39	39	40	40	51	47													--	--
21	62	61	59	57	40	39	45	40	47	45													--	--
22	61	61	57	56	40	40	47	45	45	44													--	--
23	62	61	56	55	41	40	47	46	44	44													69	65
24	62	61	56	56	43	41	46	45	45	44													70	66
25	62	62	57	56	43	43	45	45	45	45													71	67
26	62	61	57	56	43	43	47	45	45	45													72	67
27	62	61	57	56	43	43	48	47	--	--													72	68
28	61	59	56	55	44	43	48	48	--	--													73	69
29	59	58	55	54	46	44	48	48	--	--													73	71
30	58	57	54	51	46	46	49	48	--	--													72	71
31	57	56	--	--	46	46	50	49	--	--													--	--
Average	64	63	58	57	44	44	45	44	--	--													--	--

2-1335. DROWNING CREEK NEAR HOFFMAN, N. C.

LOCATION.--Temperature recorder at gaging station on right bank, 10 feet downstream from bridge on U. S. Highway 1, three-fourths of a mile downstream from Deep Creek, 1 mile upstream from Seaboard Airline Railway bridge, and 4 miles northeast of Hoffman, Richmond County.
DRAINAGE AREA.--178 square miles.
RECORDS AVAILABLE--Chemical analyses: October 1954 to September 1955.
Water temperatures: October 1953 to September 1959.
EXTEMES, 1958-59.--Water temperatures: Maximum, 76°F Aug. 25; minimum, 35°F on several days during December and January.
EXTREMES, 1953-59.--Water temperatures: Maximum, 77°F Aug. 21, 1955, Aug. 1, 2, 1958; minimum, 34°F on several days during January and February 1958.
REMARKS.--Clock stopped Aug. 9-11. Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Temperature (°F) of water, water year October 1958 to September 1959
/Continuous ethyl alcohol-actuated thermograph/

Day	October		November		December		Janunry		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	64	62	51	51	46	44	46	45	47	45	50	48	60	53	67	64	69	68	75	73	75	73	73	71
2	64	60	52	51	44	44	45	45	45	43	50	49	60	58	68	65	69	68	74	73	75	73	74	72
3	60	59	52	52	46	44	45	45	43	41	49	46	60	54	68	66	69	68	74	72	74	72	74	73
4	60	59	52	52	48	46	45	44	41	41	49	45	60	56	68	66	68	67	72	71	73	72	74	73
5	61	60	53	52	49	48	44	39	45	41	48	45	59	53	68	66	67	66	72	70	73	71	74	73
6	61	60	54	53	49	48	39	36	45	43	53	47	63	57	67	64	67	66	71	69	73	72	73	72
7	60	58	55	54	48	45	36	35	43	41	52	49	63	58	67	64	67	65	72	70	73	72	72	72
8	61	60	54	52	45	43	39	36	44	41	50	47	65	59	67	66	68	66	72	71	75	73	72	71
9	61	60	53	52	43	41	39	38	45	44	48	46	67	62	67	65	68	66	71	71	--	--	72	70
10	61	60	53	53	41	41	38	36	52	45	50	46	68	64	65	65	68	66	73	71	--	--	72	70
11	61	61	53	51	41	37	36	35	52	52	50	46	68	66	66	64	69	67	72	71	--	--	71	69
12	61	59	51	50	37	35	36	35	52	48	51	48	66	57	68	65	70	68	71	71	72	71	70	69
13	59	56	50	50	35	35	38	36	50	48	50	46	57	52	68	67	70	69	71	70	71	71	69	67
14	56	56	52	50	36	35	40	38	52	50	51	47	52	50	68	67	70	69	71	70	71	71	67	65
15	57	56	55	52	36	36	43	40	55	52	51	49	55	51	68	63	69	66	71	70	72	71	66	65
16	58	57	58	55	36	35	44	43	55	51	50	49	59	54	63	61	67	66	71	71	73	71	67	66
17	59	58	61	58	35	35	43	38	52	51	52	48	62	56	62	60	67	65	71	71	73	71	67	66
18	59	59	61	61	36	35	38	36	54	52	51	46	62	59	62	61	66	65	72	71	73	72	66	65
19	59	59	61	61	37	36	36	35	53	48	49	44	63	61	65	62	65	64	74	71	73	72	65	63
20	59	58	61	56	39	37	38	35	48	43	50	46	68	63	67	65	66	64	74	73	74	72	63	61
21	58	57	56	53	39	38	44	38	43	39	52	50	67	64	67	67	67	65	73	72	75	73	61	60
22	58	57	53	51	38	38	47	44	42	39	54	51	64	59	69	67	69	67	74	72	75	73	62	61
23	60	58	51	50	40	38	46	43	46	42	53	49	59	58	70	68	70	69	75	72	75	74	63	62
24	60	59	52	50	43	40	43	40	49	46	53	48	58	55	70	69	70	70	75	73	75	74	64	63
25	60	57	52	52	43	42	42	40	49	46	55	50	60	57	70	69	71	70	75	74	76	74	65	64
26	58	57	52	52	42	40	42	41	46	46	56	54	63	60	70	68	72	70	75	74	75	74	65	64
27	57	56	52	51	40	39	44	42	46	46	59	56	66	62	68	67	73	72	74	73	75	74	65	64
28	56	54	51	51	45	40	44	44	48	46	59	54	66	65	67	66	74	72	73	72	75	74	67	65
29	54	52	51	49	47	45	44	44	--	--	55	50	67	64	68	67	75	73	74	72	74	74	69	67
30	53	51	49	46	47	46	46	44	--	--	52	50	67	64	68	67	75	74	75	73	74	73	70	69
31	51	50	--	--	47	46	47	46	--	--	56	51	--	--	68	68	--	--	75	73	73	72	--	--
Aver-age	59	58	54	52	42	40	42	40	48	45	52	48	62	58	67	65	69	68	73	72	74	72	68	67

SANTEE RIVER BASIN

2-1435. INDIAN CREEK NEAR LABORATORY, N. C.

LOCATION.--Temperature recorder at gaging station on left bank, 250 feet upstream from remains of Rudisill Mill dam, half a mile upstream from highway bridge, 1 1/2 miles upstream from mouth, 1 1/2 miles south of Laboratory, Lincoln County, and 3 1/2 miles south of Lincolnton.
DRAINAGE AREA.--68.4 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1951 to September 1952.
Water temperatures: January 1953 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 79°F June 30, July 1; minimum, 33°F on several days during December and January.
EXTREMES, 1953-59.--Water temperatures: Maximum, 84°F Aug. 1, 2, 5, 1953; minimum, 33°F on several days during winter months.
REMARKS.--Doubtful record at times during period Oct. 1 to Feb. 18. Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Temperature (°F) of water, water year October 1958 to September 1959
/Continuous ethyl alcohol-actuated thermograph/

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	65	65	51	51	45	42	42	40	50	49	50	49	60	57	65	61	69	67	79	76	78	75	75	74
2	65	63	51	51	43	42	41	40	49	45	50	48	59	59	67	61	69	68	78	75	77	72	76	73
3	63	59	51	51	46	43	42	41	45	44	50	46	60	53	67	64	69	67	76	73	75	73	76	73
4	60	59	52	51	49	46	42	41	44	44	46	43	58	56	67	64	69	65	74	71	74	73	75	73
5	61	59	53	51	49	48	41	37	47	44	47	45	58	53	67	65	67	65	73	69	73	72	75	73
6	61	61	56	53	49	45	37	34	47	44	50	45	60	56	66	62	68	66	73	70	74	71	74	73
7	61	59	55	53	45	42	35	34	45	42	49	46	60	57	69	65	69	65	74	70	75	73	73	71
8	59	59	53	51	42	40	37	35	47	43	49	45	63	57	69	66	69	66	74	71	76	73	73	71
9	61	59	52	51	41	40	37	37	47	47	48	45	66	62	68	61	69	67	73	71	76	73	73	71
10	62	61	52	51	41	40	37	35	54	47	48	46	66	64	62	60	69	67	73	70	74	71	72	70
11	62	61	51	51	41	39	35	34	54	53	49	46	65	63	65	62	69	67	71	69	73	71	71	70
12	61	58	51	51	39	37	34	34	53	49	49	47	63	54	66	64	71	68	71	70	73	71	70	69
13	58	57	51	47	38	37	38	34	49	47	49	46	54	52	68	66	73	69	73	71	73	71	69	66
14	58	57	50	49	38	38	40	38	54	48	50	47	54	49	66	65	73	68	73	71	73	71	66	65
15	58	56	58	50	38	37	44	40	54	54	52	50	57	51	65	60	69	65	73	71	74	70	65	64
16	59	57	61	57	37	37	44	41	54	50	52	49	61	54	63	59	69	67	73	72	75	72	67	65
17	60	58	62	61	37	37	41	35	50	49	51	48	62	55	63	60	69	66	73	72	76	73	66	65
18	60	59	62	60	37	33	35	33	52	50	51	47	62	59	67	63	68	66	74	72	75	73	65	64
19	60	59	62	58	34	33	34	33	52	47	49	45	60	59	66	66	67	64	75	73	77	73	65	64
20	59	56	58	51	37	34	39	34	47	44	52	47	65	60	69	67	69	65	76	74	77	74	64	61
21	57	56	52	50	37	35	45	39	44	40	54	52	65	60	69	67	70	67	75	73	77	74	63	61
22	56	56	50	49	35	34	48	45	45	41	55	52	61	55	71	68	73	69	74	72	77	74	67	61
23	61	56	49	49	36	34	46	42	51	45	55	49	58	54	72	68	73	71	75	73	77	75	65	63
24	61	59	53	49	42	36	42	41	51	49	56	49	59	54	73	69	73	71	77	73	77	75	66	64
25	59	56	52	51	41	36	42	41	50	46	58	53	61	55	73	68	71	70	77	74	77	74	67	64
26	56	56	51	51	36	33	43	42	48	45	58	56	63	59	68	65	74	70	77	74	77	74	67	65
27	56	56	51	49	35	33	46	43	49	47	58	56	63	61	66	64	75	73	76	74	76	74	67	65
28	56	51	49	49	39	35	46	46	51	47	58	53	64	61	69	65	77	73	75	73	76	73	69	66
29	52	51	49	47	42	39	46	45	--	--	55	48	64	62	71	68	77	74	77	74	76	75	69	69
30	51	51	47	45	42	41	50	46	--	--	55	47	65	60	71	69	79	75	78	75	76	75	69	69
31	51	51	--	--	42	41	51	50	--	--	59	54	--	--	69	67	--	--	78	76	75	74	--	--
Average	59	57	53	51	40	38	41	39	49	46	52	48	61	57	68	64	71	68	75	72	75	73	69	67

2-1460. CATAWBA RIVER NEAR ROCK HILL, S. C.

LOCATION.--At gaging station on right bank at downstream side of bridge on U. S. Highway 21, 3 1/2 miles downstream from Catawba Dam, 5 miles northeast of Rock Hill, York County, and 7 1/2 miles upstream from Sugar Creek.
DRAINAGE AREA.--3,050 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 15, 1958.....	3,060	12	0.00	5.0	2.2	6.1	1.2	23	7.4	5.4	0.0	0.4	54	22	3	71	6.5	8
Dec. 17.....	2,040	10	.01	4.2	1.0	7.9	1.3	21	7.0	4.4	.0	.9	52	15	0	68	6.3	9
Jan. 15, 1959.....	3,880	8.3	.03	3.7	.9	4.6	1.2	14	5.5	3.3	.0	1.7	46	13	2	53	6.1	21
Feb. 16.....	5,590	12	.04	4.0	1.5	6.2	1.3	21	6.2	4.2	.1	1.5	52	16	0	67	7.3	20
Mar. 16.....	4,910	12	.03	4.3	1.3	6.1	1.3	20	6.2	4.0	.1	1.6	50	16	0	67	7.2	5
Apr. 15.....	9,900	12	.00	3.8	1.8	5.8	1.2	22	6.1	4.0	.1	1.7	50	17	0	66	7.1	10
May 4.....	5,030	9.8	.00	4.1	1.0	4.9	1.3	18	5.7	5.0	.1	.9	46	14	0	58	6.5	6
May 14.....	1,980	10	.00	3.8	1.2	4.9	1.5	19	5.9	4.0	.1	.8	a41	14	0	59	6.8	9
June 16.....	2,860	12	.01	3.4	1.4	5.6	.9	22	4.1	3.1	.1	.8	46	14	0	62	6.7	8
July 15.....	4,480	11	.00	3.7	1.5	5.9	1.3	22	5.7	4.7	.0	.8	49	15	0	69	6.6	10
Aug. 16.....	580	11	.01	3.8	2.2	5.6	1.6	24	7.0	4.0	.1	1.3	52	18	0	66	6.8	20
Sept. 14.....	7,190	11	.01	3.8	1.7	6.0	1.6	22	5.8	3.4	.0	.8	50	17	0	66	6.8	20

a Calculated from determined constituents.

SANTEE RIVER BASIN--Continued

2-1483.3. WATEREE RIVER NEAR EASTOVER, S. C.

LOCATION.--At bridge on U. S. Highway 76, 400 feet downstream from Colonels Creek and 6.1 miles northeast of Eastover, Richland County.
DRAINAGE AREA.--5,540 square miles, approximately.
RECORDS AVAILASLE.--Chemical analyses: October 1957 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, November 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Nov. 3, 1958	1,250	11	0.00	5.5	2.1	8.4	1.4	32	7.1	4.3	0.0	0.7	61	22	0	92	6.6	12
Nov. 24	2,190	9.8	.02	4.4	1.9	9.3	1.4	30	7.9	6.0	.0	.6	59	19	0	98	6.7	12
Dec. 18	3,260	9.0	.00	4.2	1.6	11	1.6	32	6.0	5.4	.0	.8	64	17	0	87	6.4	12
Jan. 15, 1959	6,620	9.1	.03	3.9	1.7	9.0	1.5	25	6.8	5.1	.0	.9	64	17	0	77	6.2	18
Feb. 19	9,360	11	.05	3.8	2.0	7.6	1.6	26	4.2	4.5	.1	1.4	60	18	0	76	6.6	10
Mar. 20	7,460	12	.06	4.5	1.9	8.0	1.2	27	5.9	6.3	.1	1.5	59	19	0	80	7.2	40
Apr. 21	9,080	11	.00	4.3	1.7	7.3	1.3	27	4.5	4.8	.1	.8	58	18	0	76	6.5	32
May 21	6,310	10	.14	4.4	1.8	7.1	.8	25	5.2	3.7	.2	.7	52	18	0	77	6.5	9
June 11	5,040	10	.00	4.6	1.9	8.1	1.7	31	7.3	5.5	.1	1.4	57	19	0	89	6.7	10
July 16	12,200	9.6	.03	3.5	1.9	6.9	1.6	25	5.1	4.2	.1	1.6	56	17	0	77	6.5	30
Aug. 11	7,910	12	.01	3.8	2.0	7.3	1.6	26	6.3	3.7	.1	.7	53	18	0	75	6.8	20
Sept. 8	10,100	11	.01	5.5	1.1	9.1	1.9	30	11	4.3	.1	.7	62	18	0	82	6.7	15

2-1510. SECOND BROAD RIVER AT CLIFFSIDE, N. C.

LOCATION.--At gaging station on left bank a quarter of a mile downstream from dam of Cliffside Mills, at Cliffside, Rutherford County, and 1 1/2 miles upstream from mouth.
DRAINAGE AREA.--211 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1948 to September 1949, October 1956 to September 1959.
Water temperatures: October 1948 to September 1949, October 1956 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 64 ppm Oct. 1-31; minimum, 32 ppm Apr. 13-14.
Hardness: Maximum, 18 ppm Aug. 1, 7-8, 12-17, 19-24, 27-30; minimum, 6 ppm June 2.
Specific conductance: Maximum daily, 109 micromhos Nov. 1; minimum daily, 30 micromhos June 2.
Water temperatures: Maximum, 76°F June 30, July 1, 2, 31; minimum, 33°F Jan. 11, 18, 19.
EXTREMES, 1948-49, 1956-59.--Dissolved solids: Maximum, 77 ppm Oct. 11-20, 1956; minimum, 36 ppm Nov. 21-30, 1948.
Hardness: Maximum, 23 ppm Oct. 21-31, 1957; minimum, 6 ppm June 2, 1959.
Specific conductance (1956-59): Maximum daily, 137 micromhos Oct. 5, 1956; minimum daily, 30 micromhos Apr. 28, 1958, June 2, 1959.
Water temperatures: Maximum 80°F June 26-29, July 28, 1949; minimum, freezing point Feb. 17-19, 1958.
REMARKS.--Records of suspended matter of composite samples from October 1948 to September 1949, October 1956 to September 1958 and records of specific conductance of samples collected from October 1956 to September 1959 available in district office at Raleigh, N. C. Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-31, 1958.....	162	18	0.10	3.6	1.9	10	1.4	31	1.5	7.8	0.1	1.8	64	17	0	88	6.9	15
Nov. 1-30.....	159	18	.08	4.0	1.6	10	1.4	28	1.4	8.2	.0	2.0	63	17	0	81	7.3	10
Dec. 1-22, 24-26....	145	17	.06	3.6	1.4	9.3	1.1	26	2.4	8.0	.0	2.6	60	15	0	80	6.5	10
Dec. 23, 27-31.....	1,085	11	.01	3.6	1.2	3.6	1.5	16	2.8	1.5	.1	2.5	a36	14	1	47	6.6	5
Jan. 1-31, 1959.....	307	15	.09	3.3	1.4	6.2	1.1	22	2.6	5.0	.1	2.4	52	14	0	62	6.7	12
Feb. 1-28.....	276	16	.06	3.6	2.0	6.0	.6	22	1.8	6.5	.0	2.0	52	17	0	69	7.3	20
Mar. 1-31.....	307	15	.00	3.8	1.3	6.4	1.1	23	2.6	5.3	.0	2.0	52	15	0	65	6.9	7
Apr. 1-12, 15-30....	365	16	.00	3.2	1.5	5.4	1.3	21	2.6	4.5	.1	1.4	50	14	0	61	7.0	10
Apr. 13-14.....	1,420	11	.01	3.0	.7	2.9	1.0	11	4.9	1.3	.0	1.8	a32	10	1	40	6.3	--
May 1-31.....	337	16	.01	4.6	1.2	5.3	.8	19	2.6	5.3	.0	1.7	51	16	1	63	6.6	10
June 1, 3-30.....	312	17	.01	4.2	1.5	6.0	1.0	23	1.9	6.2	.0	2.0	55	17	0	74	7.3	8
June 2.....	1,720	--	--	--	--	--	--	7	3.1	1.0	--	--	--	6	0	30	6.8	--
July 1-11, 19-27, 29-31.....	241	17	.03	4.6	1.3	7.9	1.6	24	2.4	7.5	.1	2.1	60	17	0	79	7.0	25
July 12-18, 28.....	480	11	.04	2.9	.6	4.3	1.9	13	2.7	4.5	.1	2.3	37	10	0	49	6.7	15
Aug. 1, 7-8, 12-17, 19-24, 27-30.....	194	16	.01	3.8	2.1	11	1.6	26	3.6	9.5	.0	2.5	64	18	0	84	6.8	10
Aug. 2-6, 9-11, 18, 25-26, 31.....	270	15	.01	3.8	1.5	5.4	1.4	21	2.5	3.8	.1	2.2	50	16	0	60	7.1	15
Sept. 1-2, 10,13-15, 22, 29-30.....	520	14	.04	4.2	.8	4.5	1.6	21	1.1	4.8	.0	2.0	46	14	0	58	7.2	15
Sept. 3-6, 11-12, 16-21, 23-28.....	210	17	.03	4.3	1.6	8.5	1.6	26	1.6	8.0	.1	2.4	59	17	0	83	7.1	8
Sept. 7-9.....	974	11	.02	3.0	1.4	2.6	2.4	15	2.1	1.5	.1	2.0	a33	13	1	41	7.3	--
Time-weighted average.....	298	16	0.04	3.8	1.5	7.2	1.2	23	2.2	6.3	0.0	2.1	55	16	0	71	--	12

a Calculated from determined constituents.

757-048 O - 65 - 21

SANTEE RIVER BASIN--Continued

2-1510. SECOND BROAD RIVER AT CLIFFSIDE, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
/Once-daily measurement at approximately 3 p.m./

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	63	49	40	43	47	48	56	63	66	76	75	73
2	61	50	41	44	44	48	60	64	69	76	73	73
3	57	52	44	44	42	48	58	65	67	74	73	73
4	58	51	46	43	42	43	55	66	66	70	72	73
5	58	52	48	40	43	44	53	66	66	71	73	73
6	60	53	45	35	45	45	58	64	66	71	74	72
7	58	54	41	35	43	45	61	65	65	72	75	70
8	57	50	39	39	40	43	58	69	68	72	73	71
9	60	50	38	40	44	45	63	67	69	71	73	71
10	60	50	39	36	48	46	64	66	67	72	72	71
11	59	48	38	33	51	46	63	63	66	70	73	70
12	58	46	38	36	50	49	58	66	69	70	72	69
13	56	48	34	39	46	46	50	69	70	68	73	68
14	54	49	35	41	47	49	50	65	70	70	72	64
15	56	54	38	43	54	48	54	64	68	70	73	63
16	59	55	35	47	50	48	55	60	67	71	72	65
17	58	60	34	39	50	50	59	59	67	72	73	65
18	58	60	35	33	50	49	58	63	67	70	75	65
19	60	60	35	33	48	45	57	68	66	71	72	64
20	58	54	40	36	43	49	59	68	65	71	74	61
21	56	50	37	44	42	52	62	68	68	70	74	60
22	55	47	36	38	39	54	58	72	70	71	74	63
23	57	48	36	42	44	50	56	73	70	74	74	64
24	58	48	39	40	50	50	56	70	71	75	75	64
25	58	50	40	40	47	54	56	69	70	75	74	67
26	53	50	36	40	46	56	58	64	70	75	74	66
27	52	49	35	44	45	58	61	64	73	73	75	66
28	50	47	42	45	47	54	64	66	73	73	74	66
29	49	45	46	46	--	50	64	69	74	73	74	68
30	49	43	46	47	--	45	65	67	76	74	74	68
31	48	--	47	48	--	56	--	65	--	76	75	--
Average	57	51	39	40	46	49	58	66	69	72	74	68

2-1515. BROAD RIVER NEAR BOILING SPRINGS, N. C.

LOCATION.--At gaging station on right bank half a mile upstream from Sandy Run Creek, 3 miles downstream from Second Broad River, and 3 1/2 miles southwest of Boiling Springs, Cleveland County.
DRAINAGE AREA.--864 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1945 to September 1946, October 1956 to September 1959.
Water temperatures: October 1945 to September 1946, October 1956 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 45 ppm Nov. 1-30; minimum, 32 ppm May 1-31.
Hardness: Maximum, 14 ppm Oct. 1-31; minimum, 10 ppm Jan. 1-31, Feb. 1-28, Mar 1-31.
Specific conductance: Maximum daily, 72 micromhos July 9; minimum daily, 26 micromhos May 24-26.
Water temperatures: Maximum, 82°F July 30, Aug. 14, 15; minimum, 36°F Jan. 25, 26.
EXTREMES, 1945-46, 1956-59.--Dissolved solids: Maximum, 57 ppm June 1-10, 1957; minimum, 26 ppm Apr. 21-30, 1958.
Hardness: Maximum, 18 ppm Aug. 11-20, 1956; minimum, 8 ppm Jan. 1-10, Feb. 1-10, 1946, Feb. 11-19, 1957, Apr. 1-10, 1958.
Specific conductance (1956-59): Maximum daily, 74 micromhos Aug. 13, 1957; minimum daily, 24 micromhos June 6, Nov. 19, 1957.
Water temperatures: Maximum, 85°F Aug. 7, 1958; minimum, freezing point Feb. 3, 4, 1946, Feb. 18, 19, 1958.
REMARKS.--Records of suspended matter of composite samples from October 1945 to September 1946, October 1956 to September 1958 and records of specific conductance of samples collected from October 1956 to September 1959 available in district office at Raleigh, N. C. Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-31, 1958.....	760	13	0.03	4.0	1.1	4.6	1.0	22	0.7	3.6	0.1	0.7	40	14	0	50	7.4	10
Nov. 1-30.....	800	16	.01	3.8	.6	4.5	1.0	20	.8	2.8	.0	.7	45	12	0	44	7.1	10
Dec. 1-31.....	1,416	15	.01	2.9	.8	4.0	1.0	20	1.5	2.1	.1	1.2	42	11	0	43	6.6	8
Jan. 1-31, 1959.....	1,449	14	.00	3.0	.6	3.0	.9	17	1.6	1.6	.1	1.4	36	10	0	39	6.6	4
Feb. 1-28.....	1,248	14	.00	2.8	.7	3.7	1.2	17	1.8	1.9	.0	1.4	a36	10	0	38	6.7	5
Mar. 1-31.....	1,337	13	.00	2.6	.9	2.7	.8	16	2.3	1.5	.0	1.1	36	10	0	36	6.6	2
Apr. 1-30.....	2,031	14	.00	2.5	1.4	1.6	.5	14	1.5	2.0	.1	1.1	35	12	1	34	6.7	10
May 1-31.....	1,995	13	.00	3.0	.9	1.1	.5	15	1.8	1.0	.0	1.2	32	11	0	33	6.8	8
June 1-30.....	1,546	15	.00	3.3	.9	1.6	.4	18	.2	1.8	.0	1.0	36	12	0	38	7.1	5
July 1-31.....	1,316	16	.02	2.8	1.1	3.0	1.2	16	.9	1.8	.1	1.3	37	12	0	41	7.1	10
Aug. 1-31.....	924	15	.02	3.1	1.2	3.2	1.3	19	1.8	2.8	.1	1.2	39	13	0	42	6.8	15
Sept. 1-30.....	1,661	14	.01	3.5	.5	3.0	1.3	16	1.7	2.2	.1	1.2	36	11	0	41	7.1	15
Time-weighted average.....	1,373	14	0.00	3.1	0.9	3.0	0.9	18	1.4	2.1	0.1	1.1	38	12	0	40	--	9

a Calculated from determined constituents.

SANTEE RIVER BASIN--Continued

2-1515. BROAD RIVER NEAR BOILING SPRINGS, N. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately 7 a.m.)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	55	43	45	46	48	55	65	69	80	79	76
2	63	56	45	45	47	52	55	66	70	78	80	76
3	65	57	48	45	45	48	53	68	70	77	78	76
4	63	58	51	44	46	48	50	70	70	79	78	76
5	60	59	52	43	46	48	50	70	70	80	79	77
6	63	60	48	45	46	48	58	71	69	79	80	77
7	64	58	46	44	40	46	65	74	68	76	80	77
8	63	56	40	43	41	45	65	74	69	77	79	76
9	63	55	42	41	50	47	65	70	70	76	78	76
10	64	55	42	38	53	48	65	66	69	75	78	75
11	65	54	43	39	55	47	65	65	70	76	79	74
12	58	53	39	41	53	48	60	68	70	77	80	72
13	61	53	39	42	52	49	53	73	72	78	81	70
14	62	54	38	43	51	47	53	68	71	76	82	69
15	63	56	--	--	53	50	55	67	69	75	82	70
16	64	58	--	45	52	49	58	63	70	76	79	69
17	64	61	--	44	53	47	58	62	69	76	78	68
18	65	63	40	44	53	48	59	68	69	76	80	68
19	63	65	40	43	51	49	59	71	70	77	80	68
20	61	56	41	47	48	52	60	71	70	79	80	67
21	60	55	38	40	45	54	61	68	71	78	79	68
22	61	--	38	38	48	51	48	70	73	77	80	69
23	62	48	40	38	52	51	57	72	75	76	81	68
24	63	55	43	37	55	52	58	70	76	78	80	68
25	62	54	40	36	52	54	58	68	77	80	77	69
26	58	55	37	36	48	55	59	65	78	79	77	68
27	58	50	37	38	52	54	60	66	79	80	77	69
28	57	48	42	38	46	52	62	67	79	81	78	69
29	56	46	46	39	--	50	64	68	80	81	78	68
30	56	47	47	40	--	48	63	68	80	82	79	68
31	55	--	45	41	--	52	--	68	--	81	80	--
Average	61	55	42	41	49	50	58	68	72	78	79	71

SANTEE RIVER BASIN--Continued

2-1555. PACOLET RIVER NEAR FINGERVILLE, S. C.

LOCATION.--At gaging station on right bank, 100 feet upstream from highway bridge, a quarter of a mile downstream from confluence of North Pacolet and South Pacolet Rivers, and 2 1/2 miles southeast of Fingerville, Spartanburg County.
DRAINAGE AREA.--212 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1952 to September 1953, November 1958 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, November 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Nov. 13, 1958	156	17	0.05	4.8	1.6	9.5	1.0	39	2.6	3.0	0.0	0.1	60	19	0	80	6.7	10
Dec. 17	178	13	.00	3.0	.8	9.2	1.1	30	1.2	3.0	.0	1.0	50	11	0	62	7.0	9
Jan. 15, 1959	235	13	.01	3.1	1.2	7.4	1.0	28	2.2	2.5	.0	1.0	49	13	0	56	6.6	9
Feb. 16	411	14	.01	3.6	1.4	3.3	.8	22	1.6	1.8	.1	.9	39	15	0	45	7.4	5
Feb. 17	360	13	.01	2.8	1.1	4.3	.9	22	.8	2.3	.1	.9	39	12	0	46	7.1	5
Mar. 16	329	13	.02	3.6	1.7	3.4	.8	24	1.1	2.0	.1	1.0	39	16	0	46	7.1	5
Apr. 15	590	12	.00	2.1	1.1	7.5	1.0	24	1.9	2.5	.1	1.4	42	10	0	54	7.5	10
May 14	516	12	.00	3.3	.9	5.3	1.2	25	1.6	2.5	.1	.8	45	12	0	53	6.6	4
June 15	299	14	.01	3.1	1.5	3.3	.7	22	1.6	1.3	.1	.3	40	14	0	46	6.8	2
July 15	385	11	.01	2.4	1.3	5.2	1.4	24	1.8	1.5	.1	.9	39	11	0	52	6.5	5
Aug. 16	164	14	.01	3.4	2.0	7.7	1.1	31	1.4	4.2	.1	.6	51	17	0	66	7.0	10
Sept. 14	245	15	.01	3.7	1.5	3.5	.9	22	2.5	2.0	.0	.6	43	15	0	52	7.1	10

SANTEE RIVER BASIN--Continued

2-1615. BROAD RIVER AT RICHTEX, S. C.

LOCATION.--At gaging station on right bank, 0.8 mile west of Richtex, Fairfield County, 1.2 miles upstream from Little River, and 11 miles downstream from Parr Shoals Dam.
DRAINAGE AREA.--4,850 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 22, 1958.....	1,970	15	0.01	5.6	0.9	10	1.6	40	2.3	5.5	0.0	0.3	62	18	0	91	6.8	10
Nov. 18.....	2,400	15	.18	5.2	2.2	8.9	1.8	36	2.7	5.2	.0	.8	60	22	0	85	6.7	15
Dec. 18.....	2,320	14	.01	3.6	1.6	11	1.3	35	5.0	4.2	.0	.8	63	16	0	80	6.3	9
Jan. 13, 1959.....	3,280	13	.01	3.9	1.3	8.0	1.4	28	3.5	3.3	.0	1.2	58	15	0	67	6.7	9
Feb. 12.....	4,360	16	.03	3.8	1.9	7.4	1.3	31	2.3	5.5	.1	.6	56	17	0	73	7.1	5
Mar. 17.....	9,700	13	.01	3.8	1.7	5.2	1.2	29	2.5	3.1	.1	1.3	48	17	0	58	7.2	20
Apr. 23.....	17,200	10	.01	4.3	1.3	3.2	1.4	22	2.9	2.4	.2	1.0	38	16	0	53	6.3	7
May 20.....	3,070	15	.01	3.8	1.5	7.5	.8	29	2.1	3.1	.2	1.1	58	16	0	74	6.6	4
June 9.....	6,380	13	.00	3.7	1.4	4.6	1.5	24	3.7	2.5	.1	1.2	49	15	0	62	6.6	20
July 14.....	6,960	12	.01	3.7	1.8	5.3	1.8	26	5.3	2.7	.1	1.4	48	17	0	66	6.9	20
Aug. 13.....	2,320	15	.01	4.0	1.7	7.1	1.6	30	3.9	3.5	.0	.7	53	17	0	73	6.8	10
Sept. 10.....	14,500	11	.03	3.4	1.3	3.7	2.2	18	6.1	2.5	.1	1.0	a40	14	0	47	6.4	30

a Calculated from determined constituents.

SANTEE RIVER BASIN--Continued

2-1695. CONGAREE RIVER AT COLUMBIA, S. C.

LOCATION.--At gaging station on right bank at Columbia, Richland County, 1,000 feet downstream from Gervais Street bridge and 1.4 miles downstream from confluence of Broad and Saluda Rivers.
DRAINAGE AREA.--7,850 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1948 to September 1949, October 1958 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 22, 1958.....	6,440	11	0.31	3.6	2.2	6.2	1.5	25	2.3	5.7	0.2	0.6	52	18	0	70	6.4	35
Nov. 17.....	4,820	15	.00	4.8	2.2	8.7	1.6	35	2.5	5.8	.2	.2	a58	21	0	85	6.7	10
Dec. 22.....	3,680	11	.01	3.7	1.5	9.3	1.5	32	2.8	4.3	.1	.8	57	15	0	72	6.9	10
Jan. 14, 1959.....	5,440	7.2	.02	3.4	1.2	7.0	1.7	25	3.3	3.7	.0	.6	58	14	0	62	6.2	9
Feb. 16.....	11,000	10	.06	3.6	1.2	6.1	1.4	22	3.4	4.5	.2	1.1	56	14	0	63	6.8	30
Mar. 17.....	11,300	11	.00	3.8	1.4	5.9	1.2	22	3.7	4.6	.2	1.1	47	15	0	63	7.4	20
Apr. 17.....	9,600	11	.02	3.5	1.0	5.2	1.3	20	3.0	4.8	.2	.7	42	13	0	57	6.4	9
May 27.....	13,300	13	.01	3.5	1.6	6.6	.8	25	1.9	3.2	.2	1.5	48	15	0	65	6.6	6
June 18.....	4,820	12	.00	4.1	1.4	7.1	1.6	28	4.3	4.6	.2	1.1	50	16	0	75	7.0	10
July 24.....	16,300	9.7	.02	3.6	1.4	7.0	1.6	26	3.8	4.3	.2	.7	51	15	0	71	6.8	15
Aug. 12.....	7,420	10	.02	3.5	2.2	7.9	1.5	28	4.8	5.0	.1	.4	52	18	0	75	6.9	20
Sept. 15.....	9,440	10	.02	5.1	1.0	8.6	1.8	28	6.8	5.0	.3	.9	54	17	0	76	6.6	10

a Calculated from determined constituents.

EDISTO RIVER BASIN

2-1730. SOUTH FORK EDISTO RIVER NEAR DENMARK, S. C.

LOCATION.--Temperature recorder at gaging station on left bank at downstream side of bridge on U. S. Highway 321, 200 feet downstream from Seaboard Air Line Railroad bridge, 1.8 miles downstream from Little River, and 4.8 miles north of Denmark, Bamberg County.
DRAINAGE AREA.--720 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1950 to September 1951.
Water temperatures: November 1956 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 77°F on several days during August, minimum, 39°F Jan. 19, 20.
EXTREMES, 1956-59.--Water temperatures: Maximum, 79°F Aug. 16-18, 1957, July 30, 31, Aug. 1-3, 1958; minimum, 34°F Feb. 19-21, 1958.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Temperature (°F) of water, water year October 1958 to September 1959
(Continuous ethyl alcohol-actuated thermograph)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	72	71	57	56	55	53	50	50	52	52	55	54	64	61	66	65	71	70			76	75	76	75
2	72	70	58	57	53	52	50	50	52	50	55	53	64	64	66	65	71	71			75	75	76	76
3	70	66	58	58	53	52	50	50	50	48	53	50	64	62	67	66	72	71			75	75	76	76
4	66	66	58	58	53	53	50	50	48	46	52	50	64	62	67	67	72	71	a77	a74	75	75	76	76
5	66	66	58	58	53	53	50	47	48	46	52	51	63	61	67	67	71	70			75	75	76	76
6	66	66	59	58	53	53	47	44	48	48	56	52	65	63	67	66	70	70			76	75	76	76
7	66	65	59	59	53	52	44	43	48	47	56	54	67	65	68	66	70	70	76	74	76	75	76	75
8	66	65	59	58	52	50	43	43	48	47	54	51	68	66	69	68	70	70	76	75	76	75	75	75
9	66	65	58	58	50	49	44	43	51	48	54	52	69	68	69	69	70	70	76	74	76	76	75	74
10	66	65	59	58	49	49	44	43	56	51	55	53	69	69	69	69	70	70	74	73	76	75	75	74
11	66	65	59	58	49	46	43	42	56	56	55	54	69	69	69	69	70	70	73	73	76	75	74	73
12	65	64	58	56	46	43	42	41	56	54	56	55	69	67	69	69	71	70	73	73	76	75	74	73
13	64	63	56	56	43	43	42	41	54	53	55	52	67	60	69	69	72	71	73	73	75	75	73	71
14	63	62	56	56	43	43	45	42	55	53	54	53	60	58	69	69	72	72	73	73	75	75	71	69
15	62	62	59	56	43	43	48	45	58	55	55	53	58	56	69	67	72	71	73	73	75	75	69	69
16	62	62	61	59	43	42	48	48	58	58	55	54	59	57	67	65	71	70	73	73	75	75	69	69
17	63	62	62	61	42	41	48	42	58	57	54	53	61	59	65	64	72	71	73	73	75	74	69	69
18	63	63	63	62	41	41	42	40	58	57	54	53	62	61	66	65	72	72	74	73	75	74	69	69
19	63	63	64	63	41	41	40	39	58	56	53	51	64	62	68	66	72	71	74	74	76	75	69	68
20	63	63	64	63	43	41	41	39	56	52	53	52	66	64	68	68	71	71	74	74	76	76	68	66
21	63	62	63	59	44	43	48	41	52	48	56	53	66	66	68	68	72	71	74	74	76	75	66	65
22	62	62	59	58	44	43	49	48	48	48	59	56	66	65	69	68	73	72	75	74	76	75	67	66
23	62	62	58	57	44	43	49	46	53	48	59	57	65	62	71	69	74	73	75	75	76	76	67	67
24	63	62	58	57	48	44	46	44	55	53	60	57	62	60	72	71	74	73	75	75	76	76	68	67
25	63	62	58	58	48	47	45	44	55	54	62	59	61	59	72	71	74	74	76	75	77	76	68	68
26	62	61	58	58	47	45	49	45	54	52	63	62	62	61	71	70	74	74	76	75	77	77	69	68
27	61	60	58	58	45	45	51	49	53	53	65	62	64	62	70	70	76	74	76	76	77	77	69	69
28	60	58	58	58	47	45	51	51	54	53	65	62	65	64	70	70	--	--	76	76	77	77	70	69
29	58	57	58	57	50	47	51	50	--	--	62	56	66	65	70	70	--	--	76	76	77	76	70	70
30	57	57	57	55	50	50	52	50	--	--	56	54	66	65	70	70	--	--	76	76	76	75	71	70
31	57	56	--	--	50	50	52	52	--	--	61	56	--	--	70	70	--	--	76	76	75	75	--	--
Average	64	63	59	58	48	47	47	45	53	52	57	54	64	63	69	68	--	--	--	--	76	75	72	71

a No temperature record; temperatures estimated. Estimated figures not included in extremes.

EDISTO RIVER BASIN--Continued

2-1735. NORTH FORK EDISTO RIVER AT ORANGEBURG, S. C.

LOCATION.--At gaging station on left bank under bridge on U. S. Highway 301, at Orangeburg, Orangeburg County, 0.5 mile upstream from Atlantic Coast Line Railroad bridge and 1 1/2 miles downstream from Caw Caw Swamp.
DRAINAGE AREA.--683 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1947 to September 1948, November 1958 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Chemical analyses, in parts per million, November 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Nov. 19, 1958.....	396	7.2	0.13	1.0	0.6	1.6	0.1	6	0.2	2.8	0.0	0.3	19	17	5	0	22	5.9	40
Dec. 19.....	545	7.5	.04	1.5	.2	2.3	.6	5	1.7	2.7	.0	.6	33	19	5	0	24	5.6	35
Jan. 28, 1959.....	619	5.4	.10	1.6	.2	2.3	.5	4	1.5	2.6	.0	1.0	36	17	5	1	22	5.9	55
Feb. 25.....	685	4.6	.08	1.4	.3	2.6	.3	7	1.0	3.5	.1	.8	28	18	5	0	25	6.3	50
Mar. 26.....	890	1.0	.03	1.8	.3	2.0	.3	5	1.0	3.5	.0	.5	32	12	6	2	26	6.2	60
Apr. 23.....	734	3.1	.04	1.4	.4	2.6	.6	8	1.0	3.5	.1	1.0	26	18	5	0	26	6.3	65
May 28.....	930	6.4	.30	1.9	1.0	1.2	.2	7	.2	2.3	.1	1.0	37	18	9	3	24	6.5	85
June 24.....	408	6.1	.03	1.0	.6	1.7	.3	5	.5	2.3	.1	.8	26	15	5	1	22	5.8	30
July 23.....	1,140	7.1	.03	1.3	.8	1.6	.5	6	1.2	3.2	.1	.5	42	19	6	2	25	5.7	80
Aug. 18.....	485	7.9	.06	1.3	.5	1.9	.2	5	.5	3.2	.0	.9	30	18	5	1	24	5.8	40
Sept. 21.....	709	8.7	.15	1.3	.6	2.3	.5	5	2.0	3.3	.1	.4	35	21	6	2	23	5.7	60

EDISTO RIVER BASIN--Continued

2-1750.3. EDISTO RIVER NEAR (UPPER STATION) JACKSONBORO, S. C.

LOCATION.--On right bank at County Landing, 4 3/4 miles downstream from U. S. Highway 17 and 4 1/2 miles south of Jacksonboro, Colleton County.
DRAINAGE AREA.--2,860 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: January 1958 to September 1959.
Water temperatures: October 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 65 ppm Feb. 1-28; minimum, 28 ppm Nov. 1-11, 14-30.
Hardness: Maximum, 20 ppm June 1-30; minimum, 10 ppm Oct. 1-10, 16-31, Nov. 1-11, 14-30, Dec. 1-31.
Specific conductance: Maximum daily, 137 micromhos Oct. 13; minimum daily, 25 micromhos Nov. 2.
Water temperatures: Maximum, 85°F Aug. 26-28; minimum, freezing point Jan. 14.
REMARKS.--Records of specific conductance of samples collected available in district office at Raleigh, N. C. Records of discharge for gaging station near Givhans for water year October 1958 to September 1959 given in WSP 1623. No appreciable inflow between sampling point and gaging station except during periods of heavy local rains.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-10, 16-31, 1958	627	6.8	0.07	3.2	0.5	3.2	0.4	10	1.1	5.5	0.0	1.1	37	10	2	38	6.5	30
Nov. 1-11, 14-30	648	7.8	.03	2.4	.9	3.9	.4	10	.9	5.3	.0	.8	28	10	2	35	6.5	30
Nov. 12-13	638	7.8	--	2.8	1.5	--	--	11	1.5	14	--	--	--	13	4	73	6.5	35
Dec. 1-31	895	8.2	.07	2.8	.7	3.3	.6	7	1.7	5.0	.0	1.1	36	10	4	36	6.3	35
Jan. 1-31, 1959	1,687	8.7	.07	4.4	.5	3.7	.6	9	5.4	5.5	.1	.9	53	13	6	46	6.0	50
Feb. 1-28	4,494	7.4	.13	5.0	1.5	4.3	.7	12	5.6	7.5	.1	.9	a65	18	9	59	6.2	120
Mar. 1-31	7,346	4.9	.13	5.6	.7	3.7	.6	15	2.8	6.5	.2	.3	b59	17	4	50	6.8	140
Apr. 1-30	4,115	4.3	.28	5.9	1.1	4.2	.6	19	2.5	7.0	.2	.7	c61	19	4	56	6.7	140
May 1-31	2,385	6.2	.17	5.3	1.2	3.4	.4	18	5.8	5.0	.1	.6	55	18	3	47	6.5	110
June 1-30	2,732	7.9	.11	6.7	.9	3.4	.4	20	2.6	6.0	.1	.5	58	20	4	52	6.7	120
July 1-31	2,705	7.4	.15	5.5	1.3	3.0	.4	14	2.4	5.5	.1	.6	d57	19	8	54	6.8	120
Aug. 1-31	2,762	8.8	.18	5.5	1.3	3.5	.5	17	1.3	6.5	.2	.5	50	19	5	51	6.5	110
Sept. 1-30	2,415	9.7	.21	5.4	.9	3.5	.6	14	1.4	5.5	.1	.3	57	17	6	50	7.0	160
Time-weighted average	2,724	7.3	0.13	4.8	1.0	3.6	0.5	14	2.8	5.9	0.1	0.7	52	16	5	48	--	100

a Organic matter present; sum of mineral constituents 39 parts per million.
b Organic matter present; sum of mineral constituents 32 parts per million.
c Organic matter present; sum of mineral constituents 36 parts per million.
d Organic matter present; sum of mineral constituents 33 parts per million.

EDISTO RIVER BASIN--Continued

2-1750.3. EDISTO RIVER NEAR (UPPER STATION) JACKSONBORO, S. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately high tide)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	72	61	54	45	45	--	64	71	76	81	77	82
2	71	60	54	44	45	55	64	70	74	82	78	84
3	68	60	52	44	43	55	65	69	74	82	78	81
4	68	59	55	43	44	54	64	70	74	83	78	79
5	67	58	49	43	47	55	64	--	74	83	78	78
6	65	59	50	--	45	53	65	72	75	81	78	78
7	65	67	50	44	44	52	66	72	74	81	79	74
8	67	56	51	43	48	50	66	73	74	81	80	75
9	67	60	59	42	50	53	68	71	73	81	80	--
10	69	62	56	34	48	--	68	72	73	82	80	74
11	65	60	50	33	50	51	68	70	74	82	81	73
12	64	58	44	34	50	--	67	72	74	82	76	74
13	67	60	43	34	48	--	67	72	75	82	75	73
14	65	58	42	32	52	--	64	72	76	71	75	73
15	66	60	45	42	52	--	66	73	76	74	75	72
16	65	58	43	36	51	--	66	73	77	74	76	71
17	65	60	38	38	52	--	65	73	77	74	77	70
18	65	65	39	--	50	--	67	73	77	74	78	70
19	65	62	36	45	48	--	68	73	78	75	78	70
20	64	60	34	45	47	--	69	73	78	74	78	69
21	63	58	45	42	46	--	69	73	78	75	81	69
22	60	58	40	43	47	53	65	73	79	75	82	68
23	63	62	43	44	52	53	64	74	79	75	79	68
24	59	51	42	40	53	--	65	73	69	76	84	67
25	65	58	43	45	51	60	67	74	80	76	84	66
26	64	59	42	--	51	61	66	--	80	76	85	66
27	63	60	41	46	51	61	68	74	81	76	85	67
28	60	61	--	45	52	60	68	74	81	76	85	67
29	60	56	45	--	--	62	71	74	81	77	83	68
30	62	55	42	45	--	62	70	74	82	77	82	68
31	58	--	42	46	--	63	--	74	--	--	83	--
Average	65	59	46	41	49	--	66	72	76	78	80	72

EDISTO RIVER BASIN--Continued

2-1750.4. EDISTO RIVER NEAR (LOWER STATION) JACKSONBORO, S. C.

LOCATION.--On left bank at Hill's Fishing Camp, 8 3/4 miles downstream from U. S. Highway 17, and 7.0 miles south of Jacksonboro, Colleton County.
DRAINAGE AREA.--2,870 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: January 1958 to September 1959.
Water temperatures: January 1958 to September 1959.
EXTREMES, 1958-59.--Chloride: Maximum, 3,500 ppm Oct. 13; minimum, 7.3 ppm July 5, 9-12, 16-31.
Specific conductance: Maximum daily, 10,700 micromhos Oct. 13; minimum daily, 39 micromhos Mar. 10.
Water temperatures: Maximum, 89°F June 29, 30, July 1; minimum, 41°F Jan. 18.
EXTREMES, January 1958 to September 1959.--Chloride: Maximum, 3,500 ppm Oct. 13, 1958; minimum, 6.0 ppm Apr. 1-30, 1958.
Specific conductance: Maximum daily, 10,700 micromhos Oct. 13, 1958; minimum daily, 39 micromhos Mar. 10, 1959.
Water temperatures: Maximum, 89°F June 29, 30, July 1, 1959; minimum, 34°F Jan. 3, 1958.
REMARKS.--Daily samples were composited for chemical analyses unless otherwise noted. When specific conductance values indicated salt-water encroachment, only specific conductance and chloride were determined on individual samples. The individual specific conductance and chloride determinations are tabulated separately from the composite chemical analyses. Records of specific conductance of samples collected available in district office at Raleigh, N. C. Records of discharge for gaging station near Givhans for water year October 1958 to September 1959 given in WSP 1623. No appreciable inflow between sampling point and gaging station except during periods of heavy local rains.

Chemical analyses, in parts per million, January to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Jan. 13-18, 1959....	1,897	9.3	0.15	4.0	1.9	7.7	0.6	8	7.8	15	0.1	1.0	78	18	11	83	6.4	60
Feb. 1-7.....	3,099	8.0	.17	5.6	2.1	17	1.1	11	7.9	31	.1	1.1	94	23	14	142	6.2	80
Feb. 8-28.....	4,959	7.3	.20	6.1	1.3	5.7	.7	12	6.8	10	.1	.5	70	20	11	70	6.5	140
Mar. 1-31.....	7,346	4.9	.15	5.3	.8	5.0	.6	13	5.7	8.0	.2	.5	61	16	6	56	6.5	140
Apr. 1-30.....	4,15	4.2	.23	6.1	1.1	5.5	.6	19	2.3	9.0	.2	.3	62	20	4	63	6.7	150
May 1-16.....	1,351	5.9	.18	5.3	1.3	6.5	.5	16	1.6	11	.1	.9	59	18	5	63	6.5	170
June 1-18, 20, 22...	3,584	7.5	.10	7.4	.3	4.8	.5	19	2.4	7.5	.1	.6	a67	20	4	59	6.8	110
June 19, 21, 23-24, 26-29.....	1,061	8.4	.16	6.8	2.7	16	1.0	19	5.3	29	.1	.6	102	28	13	140	6.5	100
June 30.....	782	--	--	--	--	--	--	21	9.3	58	--	1.8	--	37	20	242	7.5	--
July 5, 9-12, 16-31.	3,259	5.8	.13	5.4	1.1	4.5	.5	17	2.5	7.3	.1	.2	47	18	4	62	7.3	120
Aug. 1-31.....	2,762	9.4	.20	6.1	1.1	5.2	.6	18	.9	9.0	.2	.6	65	20	5	62	7.1	140
Sept. 1-5, 7, 9, 11-20.....	2,396	9.4	.23	5.1	1.4	5.5	.8	14	2.5	9.0	.1	.3	67	18	7	66	6.9	140
Sept. 6, 8, 10.....	2,437	9.4	.24	5.1	2.4	17	1.5	13	7.6	30	.1	.5	b80	23	12	147	7.1	120
Sept. 21-30.....	2,440	10	.28	10	19	142	6.4	15	27	270	.1	.2	552	102	90	996	6.4	110

a Organic matter present; sum of mineral constituents 40 parts per million.
b Calculated from determined constituents.

EDISTO RIVER BASIN--Continued

2-1750.4. EDISTO RIVER NEAR (LOWER STATION) JACKSONBORO, S. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1958 to September 1959

Day	October		November		December		January	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	--	--	--	--	--	--	259	68
2	2,480	705	--	--	--	--	230	62
3	3,220	940	1,080	298	1,910	554	126	29
4	2,490	710	2,120	605	--	--	125	29
5	2,080	590	2,090	590	1,010	282	309	80
6	--	--	--	--	--	--	310	82
7	5,060	1,530	--	--	--	--	360	91
8	7,210	2,290	--	--	--	--	315	78
9	7,410	2,280	--	--	3,270	980	316	79
10	6,590	2,030	4,750	1,440	4,320	1,340	159	38
11	5,900	1,820	7,510	2,400	5,970	1,860	262	68
12	7,700	2,430	7,750	2,520	6,920	2,200	162	36
13	10,700	3,500	7,400	2,380	3,750	1,140	77	
14	8,680	2,760	7,420	2,400	3,080	900	95	
15	8,650	2,760	--	--	--	--	--	15
16	7,530	2,380	--	--	1,500	424	86	
17	--	--	3,690	1,090	650	172	85	
18	4,950	1,480	3,080	900	362	93	59	
19	4,030	1,200	2,290	650	240	62	203	54
20	6,450	1,990	2,890	845	144	35	202	54
21	6,210	1,970	2,840	835	207	50	141	35
22	--	--	2,820	830	270	69	145	37
23	--	--	2,200	625	991	270	219	58
24	4,110	1,260	2,170	625	--	--	269	72
25	4,460	1,320	--	--	--	--	--	--
26	5,070	1,520	4,200	1,280	1,490	422	272	73
27	3,370	1,010	1,870	534	2,570	770	310	82
28	5,090	1,550	1,810	518	2,010	595	314	82
29	4,710	1,440	2,040	595	522	138	157	40
30	4,080	1,200	2,090	600	671	179	159	40
31	4,000	1,180	--	--	319	76	150	36

	February		March		April		May	
1	147		80		76		61	
2	195		71		63		65	
3	105		79		62		70	
4	110	31	54		61		67	
5	197		55		71		--	
6	132		55		65		85	
7	110		59		65		86	
8	76		61		60		--	
9	69		43		59		58	11
10	61		39		59		56	
11	59		46		58		57	
12	67		52		64		57	
13	59		56		63		80	
14	58		46		59		83	
15	61		47		75	9.0	--	
16	63		49	8.0	64		--	
17	61		51		64		120	22
18	61	10	49		64		128	24
19	74		48		69		185	40
20	92		50		69		--	--
21	82		55		68		119	22
22	83		57		70		--	--
23	77		63		68		--	--
24	74		64		66		--	--
25	75		--		83		--	--
26	76		66		72		--	--
27	78		65		67		--	--
28	79		60		63		--	--
29	--	--	59		73		--	--
30	--	--	62		60		--	--
31	--	--	62		--	--	--	--

EDISTO RIVER BASIN--Continued

2-1750.4. EDISTO RIVER NEAR (LOWER STATION) JACKSONBORO, S. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1958 to September 1959--Continued

Day	June		July		August		September	
	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)	Specific conductance (micromhos at 25°C)	Chloride (Cl)
1	71		244	54	--		67	
2	60		--	--	--		60	
3	60		197	40	--		70	9.0
4	60		198	40	--		66	
5	51		61	7.3	50		60	
6	59		94	17	51		133	30
7	51		--	--	55		62	9.0
8	54		90	14	50		141	30
9	53		--	--	--		61	9.0
10	53	7.5	54	7.3	--		139	30
11	55		--	--	--		59	
12	56		--	--	--		59	
13	57		104	19	61		57	
14	62		178	39	57		66	
15	60		96	16	60		62	
16	60		81		--	9.0	65	9.0
17	72		70		--		64	
18	74		58		--		68	
19	126	29	50		--		57	
20	75	7.5	54		58		63	
21	127	29	--		51		942	
22	76	7.5	53		62		998	
23	130		52		74		983	
24	150		60	7.3	75		998	
25	--		--		--		983	
26	131	29	--		--		985	270
27	129		59		--		948	
28	137		58		--		979	
29	188		58		78		960	
30	242	58	56		76		969	
31	--	--	55		75		--	--

EDISTO RIVER BASIN--Continued

2-1750.4. EDISTO RIVER NEAR (LOWER STATION) JACKSONBORO, S. C.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Once-daily measurement at approximately high tide)

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	--	--	--	49	50	54	65	72	76	89	--	81
2	73	--	--	50	48	53	64	73	78	88	--	82
3	71	61	56	50	47	54	63	75	75	87	--	82
4	70	60	--	50	45	55	62	75	75	85	--	81
5	69	61	57	47	44	56	62	76	74	84	82	80
6	--	--	--	45	50	58	63	76	74	84	83	80
7	69	--	--	44	47	56	65	76	73	83	83	79
8	65	--	--	43	49	54	66	77	74	83	83	78
9	70	--	53	43	51	54	67	75	74	83	--	78
10	69	62	52	43	53	55	68	75	75	83	--	79
11	69	61	50	42	55	55	69	76	75	82	--	80
12	69	61	45	43	55	55	67	76	76	82	--	78
13	68	60	45	43	55	55	64	76	77	81	78	76
14	68	60	43	44	55	55	62	77	78	81	78	74
15	68	--	--	--	58	55	62	75	77	80	80	72
16	68	--	43	43	60	55	62	76	77	78	--	73
17	--	64	43	42	60	55	63	76	77	78	--	74
18	69	66	43	41	60	54	64	77	78	78	--	73
19	67	66	43	42	58	54	65	76	78	78	--	71
20	66	66	44	44	55	54	66	76	79	78	83	73
21	67	65	44	46	51	55	68	76	79	78	82	74
22	--	64	45	47	50	56	69	76	80	78	81	74
23	--	63	44	46	51	56	67	75	82	78	82	75
24	63	63	--	46	51	57	66	76	82	79	83	76
25	63	--	--	--	52	--	65	76	84	80	--	76
26	65	63	45	48	52	61	66	75	85	82	--	77
27	63	62	45	50	52	62	67	75	86	82	--	76
28	63	61	42	51	52	62	69	75	87	82	--	77
29	63	61	46	51	--	63	70	75	89	82	84	76
30	61	59	47	52	--	64	71	75	89	80	84	75
31	61	--	48	52	--	64	--	75	--	80	84	--
Average	67	--	--	46	52	57	66	75	79	81	--	77

2-1975. SAVANNAH RIVER AT BURTONS FERRY BRIDGE, NRAR MILLHAVEN, GA.

LOCATION.--Temperature recorder at gaging station on downstream side of left pier of drawspan of bridge on U. S. Highway 301, 2 miles downstream from Rock Creek, 9 miles east of Millhaven, Screven County.
DRAINAGE AREA.--8,650 square miles, approximately.
RECORDS AVAILABLE.--Water temperatures: January 1956 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 86°F Aug. 25; minimum, 47°F Jan. 19, 20.
EXTREMES, 1956-59.--Water temperatures: Maximum, 86°F Aug. 25, 1959; minimum, 39°F Feb. 19, 20, 1958.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1623.

Temperature (°F) of water, water year October 1958 to September 1959
(Continuous ethyl alcohol-actuated thermograph)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	76	75	65	65	58	57	55	54	56	54	56	54	61	61	72	71	75	74	83	81	82	81	82	81
2	76	73	66	65	57	57	55	55	54	53	56	56	61	60	73	71	76	75	84	82	83	82	83	81
3	73	70	66	65	57	57	55	54	53	51	56	55	61	61	73	71	75	73	84	81	83	82	84	82
4	70	70	65	64	58	57	54	54	51	50	56	55	61	61	74	72	73	70	81	79	83	82	83	82
5	71	70	65	65	59	58	54	52	50	50	56	55	61	61	74	73	70	65	80	79	83	81	82	82
6	71	70	65	65	59	59	52	50	50	49	56	55	63	61	75	73	65	65	80	79	83	82	82	82
7	71	70	65	65	59	58	50	49	49	49	56	53	66	63	75	73	66	65	81	79	82	80	82	82
8	72	70	65	64	58	57	50	50	51	49	53	52	68	66	75	73	69	66	81	80	81	80	82	82
9	73	71	65	64	57	56	51	50	53	51	53	52	70	68	74	73	70	68			83	81	82	81
10	74	72	66	65	56	55	51	50	54	53	55	53	70	69	74	72	70	70			83	81	81	81
11	74	73	66	64	55	52	50	50	56	55	57	55	70	69	74	73	70	70			83	81	80	80
12	74	72	66	63	52	50	50	50	56	55	57	57	69	69	75	73	70	69			83	82	80	80
13	72	71	63	62	50	50	50	50	55	54	57	56	69	65	74	74	70	69			82	81	80	79
14	71	70	64	63	50	50	50	50	54	54			65	63	75	74	70	70			81	78	79	77
15	70	69	64	63	50	50	52	50	55	54			63	62	74	73	70	70			78	78	77	75
16	71	69	67	64	50	49	53	52	58	55			63	62	73	71	72	70			78	78	76	75
17	72	70	68	67	49	48	53	50	58	58			63	63	73	71	73	72			80	78	76	74
18	72	71	69	68	48	48	50	48	59	58			64	63	74	71	72	72			82	80	75	74
19	72	71	69	68	49	48	48	47	59	58			66	64	75	72	72	72			82	80	75	74
20	71	70	69	66	51	49	48	47	58	55			68	66	75	74	73	72	a84	a77	82	81	76	74
21	70	68	66	64	51	51	52	48	55	54			69	68	75	74	74	72			82	80	76	75
22	68	67	64	63	52	51	54	52	54	52	a62	a55	69	68	75	74	77	74			82	80	77	76
23	67	66	63	62	54	52	54	52	55	53			68	66	76	74	77	76			84	81	77	76
24	69	67	62	62	55	53	52	50	57	55			66	64	77	75	78	76			84	82	78	77
25	69	67	62	62	55	54	51	50	57	56			65	64	76	74	80	78			86	83	78	77
26	69	68	62	62	54	52	53	51	56	56			67	64	75	74	80	78			85	84	78	78
27	68	68	62	62	52	52	54	53	56	56			68	66	74	74	81	79			84	82	78	78
28	68	67	62	61	53	52	54	53	56	55			68	68	74	73	82	80			83	82	80	78
29	67	66	61	60	53	53	53	53	--	--			70	68	74	72	83	81			82	81	80	78
30	66	65	60	58	54	53	54	53	--	--			72	70	74	73	83	81			81	80	78	77
31	65	65	--	--	54	54	55	54	--	--	61	60	--	--	74	73	--	--			82	80	--	--
Average	71	69	65	64	54	53	52	51	55	54	--	--	66	65	74	73	74	72	--	--	82	81	79	78

a No temperature record; temperatures estimated. Estimated figures not included in extremes.

ALTAMAHA RIVER BASIN

2-2130. OCMULGEE RIVER AT MACON, GA.

LOCATION.--At intake of Macon Water Treatment Plant at City limits of Macon, Bibb County, 3.1 miles upstream from gaging station at Fifth Street Bridge, and at mile 208.1.
DRAINAGE AREA.--2,230 square miles.
RECORDS AVAILABLE.--Chemical analyses: May 1937 to April 1938, July 1958 to September 1959.
Water temperatures: May 1937 to April 1938, July 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 73 ppm Aug. 21-31, 1959; minimum, 39 ppm June 1-10.
Hardness: Maximum, 58 ppm Oct. 28; minimum, 12 ppm Feb. 11-20, Mar. 1-10, 11-20.
Specific conductance: Maximum daily, 118 micromhos Oct. 28; minimum daily, 43 micromhos Feb. 5.
Water temperatures: Maximum, 86°F on several days during July, August and September 1959; minimum, 34°F on Jan. 19.
EXTREMES, 1937-38, 1958-59.--Dissolved solids: Maximum, 73 ppm Aug. 21-31, 1959; minimum, 31 ppm Apr. 11-20, 1938.
Hardness: Maximum, 58 ppm Oct. 28, 1958; minimum, 11 ppm May 1-10, 1937, Apr. 1-10, 11-20, 1938.
Water temperatures: Maximum, 88°F July 12, 1937; minimum, 34°F Jan. 19, 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624. No appreciable inflow between sampling point and gaging station except during periods of heavy local rains.

Chemical analyses, in parts per million, July 1958 to Septmber 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
July 9-19, 1958....	3,651	12	0.00	4.8	1.6	4.7	1.8	26	4.2	3.5	0.2	0.9	48	18	0	61	7.1	5
July 21-31.....	2,012	12	.00	5.6	.6	3.8	2.0	25	4.2	3.0	.1	.8	45	16	0	57	7.2	5
Aug. 1-10.....	1,267	12	.00	6.8	1.0	4.6	2.0	27	4.8	3.2	.1	.5	a48	21	0	65	7.2	4
Aug. 10-20.....	1,311	12	.00	6.2	1.1	5.2	2.1	28	4.5	4.5	.2	.5	a50	20	0	68	7.2	3
Aug. 21-31.....	833	11	.00	6.2	1.0	5.3	2.2	30	4.5	4.0	.2	.7	a50	20	0	70	7.2	3
Sept. 1-10.....	738	12	.00	5.8	2.8	5.1	2.2	30	5.2	4.5	.2	.1	a53	26	2	68	7.4	3
Sept. 11-20.....	726	12	.01	6.6	.9	5.9	2.2	33	4.5	4.8	.2	.1	53	20	0	73	7.4	3
Sept. 21-30.....	830	18	.03	7.0	1.3	5.9	1.7	30	2.8	6.2	.2	.5	a59	23	0	77	7.1	2
Oct. 1-8, 10.....	891	13	.00	6.0	1.3	5.6	1.8	30	4.8	5.5	.3	.6	55	20	0	76	7.2	4
Oct. 9.....	855	--	--	--	--	--	--	46	--	6.0	--	--	--	38	0	104	7.5	--
Oct. 11-12, 14-20..	666	14	.00	7.0	1.6	5.6	1.7	31	5.2	5.8	.3	.7	62	24	0	80	7.2	4
Oct. 13.....	646	--	--	--	--	--	--	46	--	5.5	--	--	--	43	6	106	7.5	--
Oct. 21.....	646	--	--	--	--	--	--	45	--	5.5	--	--	--	48	11	102	7.5	--
Oct. 22-27, 29-31..	638	13	.01	5.8	1.7	5.8	1.7	29	5.0	5.2	.3	.9	53	22	0	76	7.2	3
Oct. 28.....	669	--	--	--	--	--	--	57	--	5.5	--	--	--	58	12	118	7.5	--
Nov. 1-10.....	584	12	.00	6.6	.2	6.3	2.0	31	4.8	5.5	.2	.5	54	18	0	73	6.7	5
Nov. 11-20.....	582	13	.00	5.6	1.9	6.7	2.0	32	4.4	5.5	.2	.6	60	22	0	75	6.9	3
Nov. 21-30.....	615	12	.00	5.6	1.1	6.7	2.0	31	4.0	5.5	.3	.6	57	18	0	74	6.8	2

a Calculated from determined constituents.

ALTAMAHA RIVER BASIN--Continued

2-2130. OCMULGEE RIVER AT MACON, GA.--Continued

Chemical analyses, in parts per million, July 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Dec. 1-10, 1958....	674	12	0.00	5.6	1.0	6.4	1.7	33	3.4	4.8	0.2	0.9	56	18	0	77	7.2	5
Dec. 11-20.....	761	12	.00	5.6	1.0	6.0	1.7	31	3.6	5.0	.1	1.5	55	18	0	76	7.2	5
Dec. 21-31.....	845	13	.00	5.6	1.0	6.2	1.7	31	4.0	4.8	.1	1.5	55	18	0	77	7.3	5
Jan. 1-10, 1959....	978	13	.03	5.4	.9	6.4	1.7	30	5.0	4.8	.1	1.1	a53	17	0	76	7.2	4
Jan. 11-20.....	1,123	15	.01	4.2	1.5	7.0	2.0	29	5.2	4.5	.2	.6	56	16	0	73	7.3	3
Jan. 21-31.....	2,044	15	.01	3.8	1.5	6.7	2.0	24	5.2	4.5	.2	1.4	54	16	0	70	6.9	2
Feb. 1-10.....	4,463	14	.04	3.4	1.2	5.4	1.8	21	5.6	4.2	.1	.5	a46	14	0	60	6.9	--
Feb. 1-20.....	4,740	14	.05	3.4	1.0	4.5	1.5	19	4.8	4.0	.0	.4	a43	12	0	56	6.7	--
Feb. 21-28.....	2,475	12	.07	3.4	1.1	4.3	1.6	19	4.8	4.0	.0	.4	a41	13	0	53	6.8	--
Mar. 1-10.....	3,704	14	.04	3.4	1.0	4.4	1.5	20	5.2	3.2	.0	.5	49	12	0	53	7.1	20
Mar. 11-20.....	3,626	13	.01	3.8	.7	4.4	1.5	20	4.8	3.2	.0	.8	42	12	0	56	7.1	5
Mar. 21-31.....	3,321	13	.05	3.8	.9	4.1	1.3	21	4.8	3.0	.1	.7	43	13	0	54	7.1	20
Apr. 1-10.....	3,179	13	.02	3.4	1.1	4.6	1.3	20	4.8	3.0	.0	.8	49	13	0	55	6.9	5
Apr. 11-20.....	2,050	13	.04	3.8	.9	4.6	1.3	22	4.0	3.2	.0	.9	49	13	0	57	7.2	5
Apr. 21-30.....	1,586	12	.01	3.8	1.2	4.7	1.4	24	4.4	3.0	.1	.8	47	14	0	59	7.0	5
May 1-10.....	1,126	11	.01	4.0	1.2	5.1	1.4	26	4.8	3.2	.1	.7	49	15	0	61	7.2	5
May 11-20.....	1,191	13	.01	3.8	1.2	6.0	1.5	26	4.8	3.2	.1	.2	56	14	0	62	6.8	5
May 21-31.....	2,660	13	.06	4.0	1.1	5.8	1.6	26	4.4	3.5	.1	1.0	61	14	0	64	6.8	15
June 1-10.....	8,885	10	.00	3.2	1.2	3.6	2.0	19	4.0	2.0	.3	.0	39	13	0	48	7.2	5
June 11-20.....	1,560	10	.01	3.8	1.5	3.6	2.0	21	4.8	2.1	.2	.0	43	16	0	49	7.2	5
June 21-30.....	1,072	11	.00	4.4	1.1	4.8	2.0	25	4.8	2.5	.3	.0	43	16	0	59	7.4	5
July 1-10.....	995	11	.00	5.2	1.7	7.5	1.6	25	4.8	5.0	.1	.2	50	20	0	67	7.0	3
July 11-19.....	1,107	12	.00	5.2	.7	6.0	2.1	26	5.2	3.0	.2	.0	49	16	0	64	6.9	2
July 20.....	1,130	--	--	--	--	--	--	40	--	4.0	--	--	--	16	0	91	7.2	--
July 21-31.....	1,512	13	.00	4.4	1.2	6.6	2.2	28	5.2	4.0	.3	.0	54	16	0	71	7.0	2
Aug. 1-10.....	858	12	.00	5.0	1.7	5.8	1.7	27	4.8	3.8	.3	.0	50	20	0	68	6.9	5
Aug. 11-20.....	833	13	.00	5.0	1.2	5.8	1.7	29	4.8	4.0	.3	.0	60	18	0	70	6.9	5
Aug. 21-31.....	773	15	.00	5.2	1.1	6.8	1.8	29	4.8	4.5	.4	.5	73	18	0	75	7.3	5
Sept. 1-10.....	746	13	.00	4.8	1.7	6.7	2.3	32	4.0	4.8	.2	1.1	62	19	0	78	6.8	3
Sept. 11-20.....	1,205	14	.00	4.4	1.2	7.4	2.6	30	4.0	4.2	.3	1.4	a54	16	0	74	6.7	4
Sept. 21-30.....	784	12	.00	4.4	1.7	7.2	2.5	30	4.0	5.0	.3	1.7	a54	18	0	79	6.6	3
Time-weighted average.....	1,731	13	0.01	4.9	1.2	5.6	1.8	27	4.6	4.1	0.2	0.6	52	17	0	67	--	5

a Calculated from determined constituents.

ALTAMAHA RIVER BASIN--Continued

2-2130. OCMULGEE RIVER AT MACON, GA.--Continued

Temperature (°F) of water, July to September 1958

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										--	84	81
2										--	83	79
3										--	84	79
4										--	83	79
5										--	83	80
6										--	83	80
7										--	83	82
8										--	85	81
9										79	84	78
10										75	--	79
11										76	84	79
12										74	84	79
13										80	84	75
14										77	83	76
15										78	82	78
16										78	82	79
17										80	82	82
18										80	81	82
19										81	82	81
20										--	82	82
21										79	81	--
22										81	83	79
23										80	84	80
24										80	85	79
25										80	83	--
26										80	82	79
27										81	80	79
28										83	81	78
29										84	79	75
30										84	81	74
31										84	82	--
Average										--	83	79

ALTAMAHA RIVER BASIN--Continued

2-2130. OCMULGEE RIVER AT MACON, GA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	64	51	50	49	54	60	69	74	86	84	86
2	73	62	53	49	48	50	59	69	73	82	83	84
3	69	60	54	47	47	50	59	72	74	84	83	84
4	69	62	54	51	45	48	60	70	74	80	85	84
5	70	62	54	43	48	51	60	75	72	--	85	86
6	70	63	53	41	47	50	59	73	72	80	85	84
7	68	64	52	40	45	50	60	73	73	80	85	--
8	69	60	49	43	47	--	63	75	72	80	85	83
9	69	64	48	43	49	52	64	77	73	82	82	81
10	69	68	48	41	51	50	66	--	74	82	84	80
11	71	60	43	42	53	52	66	75	74	80	82	81
12	67	57	44	40	50	51	62	76	75	80	83	81
13	64	56	48	43	50	49	62	76	77	78	83	78
14	66	59	44	46	51	51	58	74	78	80	84	74
15	67	64	44	46	58	--	58	70	76	82	83	72
16	68	65	43	50	52	52	61	66	76	82	82	71
17	69	64	44	42	50	50	65	71	78	80	82	72
18	--	67	44	41	58	51	65	72	80	79	83	74
19	68	67	42	34	50	50	69	70	78	80	84	74
20	67	--	46	41	50	52	67	75	79	82	84	72
21	66	57	46	41	48	55	66	73	80	80	86	74
22	67	51	40	49	49	55	64	73	80	80	84	74
23	67	56	46	40	50	53	63	73	81	80	--	74
24	68	58	49	40	53	55	64	76	80	79	84	76
25	66	58	--	43	54	56	64	74	--	80	85	76
26	65	61	42	45	50	59	--	75	81	81	86	76
27	64	60	45	45	52	60	66	76	84	82	86	80
28	61	59	48	50	52	58	70	74	84	83	86	77
29	60	55	42	50	--	--	70	76	83	82	86	78
30	61	56	44	50	--	54	69	74	84	84	84	78
31	62	--	49	49	--	56	--	75	--	85	84	--
Average	67	61	47	44	50	53	63	73	77	81	84	78

2-2260. ALTAMAHA RIVER AT DOCTORTOWN, GA.

LOCATION.--At bridge on U. S. Highway 301, 1 mile upstream from gaging station at Doctortown, Wayne County, 4 1/4 miles northeast of Jesup, and at mile 60.4.
DRAINAGE AREA.--13,600 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: May 1937 to April 1938, July 1958 to September 1959.
Water temperatures: May 1937 to April 1938, July 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 73 ppm Sept. 21-30, 1958; minimum, 34 ppm Mar. 11-20.
Hardness: Maximum, 43 ppm Sept. 10, 11-20, 21-30, 1958; minimum, 15 ppm Mar. 11-20.
Specific conductance: Maximum daily, 112 micromhos Nov. 22; minimum daily, 34 micromhos Mar. 10.
Water temperatures: Maximum, 90°F July 31, Aug. 1, 1958, Sept. 2, 1959; minimum, 45°F Jan. 24.
EXTREMES, 1937-38, 1958-59.--Dissolved solids: Maximum, 73 ppm Sept. 21-30, 1958; minimum, 34 ppm Mar. 11-20, 1959.
Hardness: Maximum, 43 ppm Sept. 10, 11-20, 21-30, 1958; minimum, 10 ppm Mar. 11-20, 1959.
Water temperatures: Maximum, 90°F July 31, Aug. 1, 1958, Sept. 2, 1959; minimum, 40°F Nov. 23, 1937.
REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla. Records of discharge for water year October 1958 to September 1959 given in WSP 1624. No appreciable inflow between sampling point and gaging station except during periods of heavy local rains.

Chemical analyses, in parts per million, July 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
July 11-20, 1958...	10,342	12	0.04	7.4	0.4	3.5	1.3	28	2.8	3.8	0.1	0.3	50	20	0	59	7.4	18
July 29-31.....	10,367	12	.03	10	2.2	3.8	1.4	37	1.2	4.0	.1	.2	64	34	4	75	7.5	17
Aug. 1-4.....	8,748	11	.03	11	2.6	4.3	1.4	39	5.5	4.5	.1	.1	65	38	6	80	7.7	17
Sept. 10.....	3,600	--	--	13	2.6	--	--	49	--	--	--	--	--	43	3	144	7.6	--
Sept. 11-20.....	3,334	12	.00	13	2.6	4.3	1.5	50	4.8	4.2	.2	.0	a68	43	2	97	7.6	5
Sept. 21-30.....	3,111	13	.00	14	1.9	4.9	1.7	52	5.0	4.5	.2	.3	73	43	0	102	7.8	3
Oct. 1-10.....	3,361	12	.01	11	1.5	5.1	1.6	47	5.2	4.5	.3	.5	67	34	0	99	7.2	3
Oct. 11-20.....	3,187	14	.01	11	1.2	5.1	1.4	46	4.8	4.5	.3	.2	67	32	0	96	7.5	2
Oct. 21-31.....	2,858	13	.01	13	.7	5.5	1.5	50	3.6	4.0	.1	.1	68	36	0	101	7.3	3
Nov. 1-10.....	2,706	12	.00	13	1.1	5.0	1.1	50	4.8	4.5	.2	.1	a67	37	0	98	6.9	3
Nov. 11-20.....	2,652	12	.00	13	1.1	5.0	1.1	50	4.8	4.2	.2	.0	a66	37	0	100	6.9	3
Nov. 21-30.....	2,751	11	.00	13	1.1	5.0	1.2	50	4.8	4.2	.2	.3	66	37	0	98	7.0	4
Dec. 1-10.....	3,162	15	.00	12	.9	4.7	1.1	45	4.8	3.5	.2	.5	a65	34	0	97	7.7	5
Dec. 11-20.....	4,030	17	.00	11	.6	4.5	1.1	41	4.0	3.5	.1	.4	63	30	0	90	7.2	5
Dec. 21-31.....	3,718	16	.00	11	.6	4.5	1.0	38	6.0	3.8	.0	.7	a63	30	0	90	7.1	5
Jan. 1-10, 1959....	4,663	13	.02	9.8	.6	4.4	1.0	35	6.0	4.0	.0	.7	62	27	0	83	7.2	5
Jan. 11-20.....	4,287	14	.02	9.8	.7	4.8	1.0	36	6.2	4.2	.0	.2	60	28	0	86	7.0	6
Jan. 21-31.....	5,615	13	.04	9.2	.5	4.6	1.3	32	6.4	4.5	.0	1.0	58	25	0	84	6.9	13
Feb. 1-10.....	12,098	12	.04	5.2	1.0	4.8	.7	11	5.6	5.0	.0	.0	a40	17	8	62	5.8	--
Feb. 11-20.....	33,840	12	.07	3.8	.7	3.2	1.0	10	4.8	4.5	.0	.1	a35	12	4	46	6.3	--
Feb. 21-28.....	37,125	13	.08	4.2	.6	4.0	1.0	13	5.6	4.5	.0	.0	a39	13	2	46	6.8	--
Mar. 1-10.....	30,900	11	.09	3.8	1.3	3.4	.9	14	8.4	4.0	.0	.4	a40	15	4	45	6.8	--
Mar. 11-20.....	42,550	10	.09	3.2	.5	2.9	.9	10	7.2	3.5	.0	.6	a34	10	2	40	6.6	--
Mar. 21-31.....	37,664	9.6	.11	4.0	.6	3.4	.9	14	7.6	4.0	.0	.4	a38	12	1	49	6.6	--

a Calculated from determined constituents.

ALTAMAHA RIVER BASIN--Continued

2-2260. ALTAMAHA RIVER AT DOCTORTOWN, GA.--Continued

Chemical analyses, in parts per million, July 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Apr. 1-10, 1959....	36,590	13	0.11	4.0	0.6	3.4	0.6	17	4.8	3.2	0.1	0.0	a38	12	0	45	6.7	--
Apr. 11-20.....	23,470	11	.16	5.4	.7	4.3	.8	24	5.2	4.2	.1	.0	54	16	0	57	7.0	--
Apr. 21-30.....	13,710	13	.16	6.4	.9	4.4	.8	28	5.6	4.0	.1	.1	55	20	0	64	7.1	--
May 1-10.....	8,074	11	.02	8.4	1.0	5.5	.9	36	4.4	3.8	.1	.2	60	25	0	80	7.2	10
May 11-20.....	6,722	11	.01	8.8	1.1	5.1	.9	37	4.8	3.2	.2	.2	58	26	0	81	7.2	10
May 21-31.....	10,394	11	.06	6.0	1.0	5.0	.7	25	5.6	4.0	.1	.2	52	19	0	64	7.2	--
June 1-10.....	19,140	11	.03	5.4	.6	4.0	.7	21	3.2	4.2	.1	.4	45	16	0	52	7.1	--
June 11-20.....	25,990	12	.05	5.6	1.0	4.8	1.1	27	3.6	3.8	.1	.3	51	18	0	62	6.9	--
June 21-30.....	9,223	12	.00	9.2	1.0	4.7	.9	38	4.0	3.2	.1	.3	56	27	0	77	7.5	15
July 1-10.....	5,346	12	.00	11	.4	4.3	1.5	39	4.8	2.5	.1	.1	58	29	0	79	7.2	5
July 11-20.....	5,323	11	.03	9.6	1.5	3.8	1.2	32	4.8	3.0	.0	.4	55	30	4	71	6.9	15
July 21-31.....	8,156	11	.04	7.4	1.0	4.6	1.2	28	4.8	3.0	.0	.1	49	22	0	66	6.7	15
Aug. 1-10.....	5,379	13	.00	12	1.2	4.9	.7	40	4.0	3.5	.4	.0	70	35	2	87	7.5	10
Aug. 11-20.....	3,934	13	.00	12	.7	5.4	.7	44	5.6	4.0	.4	.1	65	42	6	94	7.4	10
Aug. 21-31.....	3,627	14	.00	13	.6	5.8	.7	45	5.2	3.5	.4	.0	a65	35	0	98	7.5	10
Sept. 1-10.....	4,022	12	.00	11	.9	5.2	1.6	42	4.8	4.0	.2	.0	a61	31	0	89	6.9	2
Sept. 1-20.....	6,726	14	.01	8.4	.7	5.4	1.6	32	4.4	3.5	.3	.1	59	24	0	76	6.9	5
Sept. 21-30.....	7,364	14	.01	7.2	1.0	6.3	1.8	31	4.8	4.5	.2	.6	63	22	0	78	6.9	5
Time-weighted average.....	11,511	12	0.03	8.9	1.0	4.6	1.1	34	5.1	3.9	0.1	0.2	57	26	0	77	--	8

a Calculated from determined constituents.

ALTAHAMA RIVER BASIN--Continued

2-2260. ALTAMAHA RIVER AT DOCTORTOWN, GA.--Continued

Temperature (°F) of water, July to September 1958

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										--	90	--
2										--	86	--
3										--	86	--
4										--	84	--
5										--	--	--
6										--	--	--
7										--	--	--
8										--	--	--
9										--	--	--
10										--	--	83
11										83	--	84
12										80	--	83
13										--	--	79
14										84	--	79
15										80	--	79
16										80	--	82
17										--	--	80
18										81	--	81
19										--	--	81
20										--	--	85
21										--	--	79
22										--	--	85
23										--	--	84
24										--	--	84
25										--	--	--
26										--	--	84
27										--	--	85
28										--	--	80
29										85	--	78
30										86	--	80
31										90	--	--
Average										--	--	--

ALTAHAMA RIVER BASIN--Continued

2-2260. ALTAMAHA RIVER AT DOCTORTOWN, GA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	80	63	61	55	49	55	64	74	78	89	84	--
2	70	64	68	54	49	55	65	75	78	86	84	90
3	73	64	63	54	52	55	66	75	77	86	85	85
4	73	69	62	--	50	55	66	76	78	86	85	80
5	74	64	62	55	61	57	65	76	76	85	85	84
6	73	64	61	49	49	59	67	77	76	86	84	76
7	72	66	54	49	49	57	67	79	75	86	84	68
8	75	60	59	49	52	--	68	78	75	81	84	76
9	75	67	58	49	59	57	69	76	76	84	85	76
10	70	67	56	49	66	57	70	79	76	84	85	80
11	71	62	50	50	55	58	71	77	77	86	85	82
12	76	63	52	49	48	59	70	78	77	84	86	69
13	74	63	51	49	56	56	68	78	77	85	86	65
14	73	63	49	51	55	56	65	77	76	80	86	62
15	74	68	49	49	55	55	65	77	76	85	86	71
16	74	67	49	49	58	55	65	76	77	85	86	73
17	75	69	49	--	60	54	66	77	77	85	86	73
18	73	69	49	50	60	55	67	77	77	--	85	68
19	70	71	49	47	61	51	67	78	78	84	85	69
20	70	69	50	54	57	55	68	78	78	84	85	74
21	69	67	49	--	58	58	68	77	78	84	85	71
22	67	61	49	49	58	55	69	75	81	84	86	76
23	70	66	51	53	57	58	68	78	81	84	85	77
24	71	62	55	45	57	59	68	78	81	84	85	77
25	70	67	49	50	56	65	68	78	82	84	86	71
26	68	67	49	49	54	61	69	77	84	84	85	69
27	68	66	49	49	55	62	70	78	85	84	85	72
28	62	68	52	54	55	64	71	77	87	84	85	72
29	64	63	53	49	--	63	70	77	89	84	83	73
30	65	61	54	51	--	63	73	77	89	85	84	76
31	61	--	53	57	--	64	--	77	--	84	83	--
Average	71	65	54	51	55	58	68	77	79	85	85	74

2-2324. ST. JOHNS RIVER NEAR COCOA, FLA.

LOCATION.--At State Highway 520, approximately half a mile downstream from outlet of Lake Poinsett, 10 1/2 miles west of Cocoa, Brevard County.
DRAINAGE AREA.--1,237 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1959.
Water temperatures: October 1953 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 557 ppm Feb. 1-10; minimum, 158 ppm July 21-31.
Hardness: Maximum, 164 ppm Feb. 1-10, Mar. 1-10; minimum, 46 ppm Aug. 1-10.
Specific conductance: Maximum daily, 981 micromhos Dec. 28; minimum daily, 206 micromhos Aug. 13.
Water temperatures: Maximum, 88°F June 28; minimum, 49°F Jan. 19.
EXTREMES, 1953-59.--Dissolved solids: Maximum, 998 ppm July 11-20, 1956; minimum, 103 ppm Oct. 21-31, 1953.
Hardness: Maximum, 294 ppm June 11-20, 1956; minimum, 30 ppm Oct. 21-31, 1953.
Specific conductance: Maximum daily, 1,620 micromhos June 18, 1956; minimum daily, 107 micromhos Oct. 10, 1953.
Water temperatures: Maximum, 95°F Aug. 9, 1956; minimum 46°F Jan. 9, 12, 1956.
REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla. Records of discharge for water year October 1958 to September 1959 were computed from stage-discharge relationship based on stage record for Lake Poinsett near Cocoa, Fla. and are available in Surface Water district office at Ocala, Fla.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-10, 1958....	467	3.1	0.04	44	8.8	78	2.4	56	44	162	0.2	0.1	469	146	100	721	7.6	50
Oct. 11-20.....	368	3.6	.03	42	9.0	75	2.3	54	41	155	.2	.0	455	142	98	696	7.6	65
Oct. 21-31.....	368	4.6	.03	45	7.7	78	2.4	54	42	163	.2	.0	469	144	100	723	7.5	55
Nov. 1-10.....	402	2.3	.03	40	7.8	68	2.0	52	39	142	.2	.1	425	132	90	648	6.8	60
Nov. 11-20.....	398	2.8	.02	38	9.5	75	2.1	50	39	153	.3	.0	435	134	93	653	7.0	70
Nov. 21-30.....	330	2.3	.04	40	9.2	78	2.1	50	42	156	.2	.2	458	138	97	708	7.1	60
Dec. 1-10.....	288	2.7	.04	42	10	86	2.4	52	44	175	.2	.0	491	146	104	770	7.6	65
Dec. 11-20.....	256	3.3	.04	41	8.6	79	2.1	50	40	162	.2	.0	463	138	97	711	7.6	60
Dec. 21-31.....	311	2.8	.04	38	10	80	2.1	48	42	162	.2	.0	448	136	96	716	7.5	60
Jan. 1-10, 1959....	500	1.9	.05	42	8.5	78	2.2	46	46	162	.2	.1	453	140	102	713	7.2	70
Jan. 11-20.....	423	2.0	.06	46	11	86	2.6	48	58	181	.2	.1	523	160	120	804	7.1	80
Jan. 21-31.....	317	1.5	.06	44	12	85	2.6	48	55	178	.2	.1	501	160	120	786	7.2	90
Feb. 1-10.....	568	2.5	.05	46	12	90	2.8	48	62	182	.2	.2	557	164	125	830	7.1	80
Feb. 11-20.....	659	1.8	.05	45	12	87	2.8	49	59	176	.2	.1	537	162	122	802	7.1	90
Feb. 21-28.....	575	1.8	.06	46	10	80	2.6	52	55	164	.2	.1	523	156	114	760	7.2	90
Mar. 1-10.....	1,028	1.8	.05	46	12	86	2.0	52	54	177	.1	.1	502	164	122	771	7.6	85
Mar. 11-20.....	1,658	2.3	.06	39	7.9	66	1.4	44	44	141	.1	.2	419	130	94	635	7.3	90
Mar. 21-31.....	3,223	4.1	.09	32	6.1	50	1.3	34	38	103	.1	.1	330	105	77	479	7.3	120
Apr. 1-10.....	2,499	4.1	.10	24	3.9	34	1.2	35	24	70	.1	.0	253	76	48	348	7.3	120
Apr. 11-20.....	2,086	4.1	.13	21	4.3	31	.8	36	22	64	.1	.0	234	70	40	318	7.4	120
Apr. 21-30.....	1,965	3.8	.12	18	3.4	26	.6	34	16	53	.1	.0	199	59	31	269	7.1	100
May 1-10.....	1,393	4.5	.13	20	2.9	28	.4	34	18	56	.2	.0	164	62	34	286	7.1	120
May 11-20.....	1,093	3.1	.14	22	3.6	34	.5	38	17	69	.1	.0	244	70	39	332	7.1	150
May 21-31.....	880	3.9	.15	24	5.4	43	.7	41	20	86	.1	.0	290	82	48	399	7.1	140

ST. JOHNS RIVER BASIN--Continued

2-2324. ST. JOHNS RIVER NEAR COCOA, FLA.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
June 1-10, 1959....	531	3.6	0.18	28	5.8	45	0.0	42	18	94	0.3	0.0	295	94	60	419	7.8	150
June 11-20.....	485	3.7	.03	27	5.0	47	.0	42	18	90	.3	.0	284	88	54	407	7.4	130
June 21-30.....	1,062	4.5	.01	26	4.6	47	.0	38	19	92	.3	.0	296	84	53	414	7.5	120
July 1-10.....	1,454	5.4	.10	26	2.7	37	.8	38	17	71	.2	.0	230	76	45	341	7.9	130
July 11-20.....	1,993	6.7	.11	20	2.2	29	.6	37	10	54	.2	.0	172	59	28	267	7.7	130
July 21-31.....	2,090	7.1	.13	19	2.3	25	.6	33	8.8	48	.1	.1	158	57	30	238	7.5	180
Aug. 1-10.....	2,076	8.0	.09	16	1.5	24	.5	36	8.8	48	.2	.2	241	46	16	235	7.0	100
Aug. 11-20.....	2,037	6.9	.09	14	4.6	25	.5	35	7.2	43	.2	.1	183	54	26	218	7.2	100
Aug. 21-31.....	1,681	7.8	.10	16	3.9	24	.5	36	8.0	50	.3	.1	199	56	26	248	7.0	150
Sept. 1-10.....	1,611	10	.10	16	2.9	24	.5	36	7.6	48	.3	.4	168	52	22	231	7.2	150
Sept. 11-20.....	1,672	6.8	.09	18	3.2	28	.7	36	9.2	56	.3	.6	185	58	28	268	7.2	120
Sept. 21-30.....	2,323	8.9	.13	19	4.0	32	1.0	33	12	66	.3	.3	211	64	37	298	7.2	100
Time-weighted average.....	1,146	4.2	0.08	31	6.6	55	1.4	43	31	112	0.2	0.1	345	104	70	511	--	100

ST. JOHNS RIVER BASIN--Continued

2-2324. ST. JOHNS RIVER NEAR COCOA, FLA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	82	70	69	65	70	67	75	78	81	80	83	82
2	82	66	69	64	64	62	70	76	82	81	85	82
3	83	66	70	63	68	60	71	77	82	80	85	84
4	84	65	69	62	66	63	72	77	80	80	83	80
5	83	65	68	62	66	73	70	75	80	83	84	80
6	78	66	72	59	67	74	73	79	80	84	85	80
7	78	72	65	57	68	65	74	--	80	83	84	83
8	75	73	68	61	68	62	74	77	80	84	83	82
9	78	73	69	60	69	65	75	76	80	84	82	83
10	78	73	68	55	70	65	74	77	82	84	82	83
11	76	72	67	54	70	62	76	76	83	84	80	82
12	77	74	60	54	72	61	78	79	79	84	83	81
13	77	70	67	53	72	60	77	79	80	82	84	82
14	75	72	59	66	73	62	70	83	81	83	84	80
15	74	74	60	59	73	65	68	84	82	83	84	81
16	75	75	59	60	72	67	72	85	81	84	83	80
17	75	75	63	50	73	--	74	85	80	83	84	80
18	--	--	64	50	73	65	71	79	81	83	80	79
19	73	74	62	49	72	63	71	78	79	83	80	81
20	72	75	55	53	72	64	73	84	82	82	82	80
21	69	75	58	58	65	62	73	84	82	74	82	81
22	68	70	60	58	63	65	73	85	85	83	84	78
23	70	74	62	57	65	72	72	82	82	83	82	79
24	68	74	63	57	68	74	72	82	84	83	84	79
25	72	74	63	62	69	70	71	80	80	83	83	79
26	69	73	63	62	71	--	72	81	82	84	84	79
27	68	72	64	65	73	72	73	--	87	84	84	80
28	--	73	65	66	70	68	73	79	88	75	83	79
29	--	75	63	64	--	70	76	78	87	82	84	80
30	68	70	63	65	--	76	75	80	85	85	83	80
31	69	--	64	68	--	68	--	80	--	85	84	--
Average	75	72	64	59	69	66	73	80	82	82	83	81

2-2455. SOUTH FORK BLACK CREEK NEAR PENNEY FARMS, FLA.

LOCATION.--At gaging station at bridge on State Highway 16, 0.7 mile downstream from Greens Creek, 2 1/2 miles west of Penney Farms, Clay County, and 9 1/2 miles west of Green Cove Springs.
DRAINAGE AREA.--134 square miles.
RECORDS AVAILABLE.--Chemical analyses: September 1958 to September 1959.
Water temperatures: October 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 156 ppm Dec. 20, 23, 25; minimum, 37 ppm July 7.
Hardness: Maximum, 98 ppm Jan. 24-25; minimum, 3 ppm May 21.
Specific conductance: Maximum daily, 229 micromhos Jan. 25; minimum daily, 18 micromhos May 21.
Water temperatures: Maximum, 80°F on several days during summer months; minimum, 50°F Dec. 15, 16, Jan. 6, 10.
REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla. Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, September 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Sept. 30,Oct. 1-11, 1958	42	7.4	0.07	5.6	0.7	3.8	0.4	12	4.8	7.2	0.2	0.2	51	37	17	7	52	6.3	75
Oct. 12, 14-26	75	12	.10	24	1.5	5.8	.7	72	6.4	11	.2	.0	130	97	66	7	159	6.8	60
Oct. 13	25	--	--	--	--	--	--	11	--	--	--	--	--	--	15	6	52	6.1	55
Oct. 27-28,30,Nov. 1-2,4-6,8,10, 12-14,18-19	121	7.9	.17	5.6	.7	4.8	.4	12	8.0	10	.2	.1	77	44	17	7	62	6.1	150
Oct. 29	34	--	--	--	--	--	--	86	4.8	--	--	--	--	--	76	6	184	6.8	20
Oct. 31	39	--	--	--	--	--	--	90	5.6	--	--	--	--	--	81	7	193	6.8	12
Nov. 3	48	--	--	--	--	--	--	47	5.6	--	--	--	--	--	40	2	111	6.8	65
Nov. 7	512	--	--	--	--	--	--	81	5.2	--	--	--	--	--	72	6	175	6.8	20
Nov. 11	141	--	--	--	--	--	--	61	8.0	--	--	--	--	--	58	8	141	6.7	60
Nov. 15	66	--	--	--	--	--	--	70	8.8	--	--	--	--	--	69	12	160	6.7	30
Nov. 20	47	--	--	--	--	--	--	87	9.2	--	--	--	--	--	81	10	186	6.6	10
Nov. 21-22,24-25, 28-29,Dec. 1,3-8, 11-13,15-18	226	7.5	.23	3.6	1.0	4.6	.4	6	8.0	10	.2	.0	75	39	13	8	55	5.6	160
Nov. 26-27	80	9.5	.08	24	1.7	4.9	.7	71	11	8.0	.3	.0	--	95	67	9	157	6.9	45
Dec. 2	50	--	--	--	--	--	--	83	11	--	--	--	--	--	83	15	189	6.6	10
Dec. 20,23,25	84	11	.03	30	2.7	5.0	.4	81	16	12	.2	.4	156	118	86	20	200	7.5	30
Dec. 22,26-27,29-31	118	9.7	.15	4.0	.7	5.3	.1	6	4.0	9.0	.1	.2	64	36	13	8	56	5.8	120
Jan. 1-8, 1959	625	5.6	.16	3.2	.7	5.0	.1	5	4.0	8.5	.2	.2	71	30	11	7	54	5.4	190
Jan. 9	185	9.4	--	--	--	5.0	.5	70	15	10	.2	1.5	--	--	80	22	180	6.8	15
Jan. 10	162	11	--	--	--	5.5	.2	45	10	8.0	.2	.7	--	--	47	10	118	6.6	90
Jan. 12-15,17,19-20	150	7.6	.14	3.2	1.0	4.7	.1	6	4.0	8.0	.2	.1	62	32	12	7	55	5.8	130

Jan. 18, 1959....	238	8.9	--	--	--	6.0	.5	67	20	12	.2	3.4	--	--	84	29	196	6.8	30
Jan. 21,23,26-31.	122	7.4	.13	3.2	1.0	5.3	.1	8	4.4	8.5	.2	.1	56	34	12	6	54	6.1	150
Jan. 24-25.....	168	8.0	--	34	3.2	6.0	.5	83	22	12	.2	.4	145	127	98	30	228	7.0	10
Feb. 2-7,9-10....	137	6.4	.16	3.2	1.0	4.8	.1	8	4.0	7.5	.2	.1	61	31	12	6	53	6.0	150
Feb. 11-16,18-20.	112	6.6	.19	4.0	.7	5.3	.1	9	4.0	8.0	.2	.2	65	34	13	6	56	6.1	160
Feb. 21-28.....	151	6.3	.16	3.2	1.0	4.4	.1	8	4.4	7.0	.2	.1	57	31	12	6	50	6.2	150
Mar. 2-7, 9-10...	450	5.2	.19	2.8	1.0	4.8	.1	6	4.4	7.0	.1	.2	69	29	11	6	50	5.7	180
Mar. 11-14,16-18.	982	5.8	.13	2.4	1.5	3.3	.0	7	4.0	7.2	.0	.1	51	28	12	6	41	5.9	140
Mar. 21-28,30-31.	487	5.7	.17	2.8	.9	3.0	.0	6	3.8	6.8	.0	.1	50	26	10	6	41	5.8	150
Apr. 1-4,6-10....	229	5.9	.20	3.4	1.0	3.3	.0	8	5.6	7.5	.0	.2	53	31	12	6	44	6.0	200
Apr. 11,13-18,20.	117	6.2	.15	3.8	1.0	3.3	.0	8	4.2	7.0	.0	.2	50	30	14	7	44	6.2	140
Apr. 21-25,27-30.	170	6.3	.21	3.2	1.2	3.6	.0	8	4.0	8.2	.0	.2	59	31	13	6	46	6.0	150
May 1-2,4-9.....	56	6.6	.12	3.4	1.3	3.2	.0	11	4.4	7.2	.0	.1	40	32	14	5	45	6.5	120
May 11-16,18-19..	80	6.9	.13	4.0	1.2	3.4	.0	13	4.8	6.8	.0	.1	50	34	15	4	50	6.6	100
May 21.....	10,300	1.4	.12	1.0	.1	1.8	.2	4	1.2	3.0	.1	1.2	28	12	3	0	18	5.6	110
June 4-10.....	547	5.4	.10	3.2	1.0	3.3	.0	6	.8	6.0	.2	.6	58	24	12	7	38	6.1	220
June 11-20.....	134	7.2	.31	3.2	1.5	3.8	.0	9	2.4	6.0	.2	.3	62	29	14	6	44	6.3	150
June 21-23.....	182	16	.18	4.0	1.7	6.4	.3	25	3.2	7.5	.0	.5	66	52	17	0	57	7.1	170
June 24.....	110	6.7	--	4.0	.5	3.4	.3	8	2.4	--	--	--	43	--	12	6	37	6.0	180
June 25.....	100	11	--	4.0	1.0	5.0	.3	16	2.0	--	--	.9	53	--	14	1	44	6.5	200
June 26-27,29....	132	5.4	.02	3.6	.5	3.5	.2	10	3.6	6.5	.0	.3	55	29	11	3	40	6.6	170
June 30.....	111	18	--	4.8	1.9	6.2	.3	22	3.2	--	--	.4	66	--	20	2	52	6.6	200
July 1-5.....	78	6.2	.05	4.0	.7	3.5	.3	12	3.2	7.5	.0	.2	43	32	13	3	44	6.5	160
July 6.....	73	13	--	4.8	1.0	5.1	.3	16	3.2	--	--	--	52	--	16	3	44	6.7	120
July 7.....	66	--	--	4.0	.5	3.7	.2	14	2.8	--	--	--	37	--	12	0	39	6.4	150
July 8-10.....	68	7.2	.06	4.0	1.0	3.7	.2	12	3.6	7.0	.0	.2	43	33	14	4	44	6.9	110
July 11-12.....	276	5.2	--	3.2	.7	3.1	.3	8	2.0	6.0	--	.4	56	25	11	4	37	6.2	170
July 14-20.....	603	5.8	.02	2.8	.7	3.4	.3	7	.8	5.5	.0	.7	59	23	10	4	34	6.3	230
July 21.....	288	--	--	3.2	1.0	4.6	.2	14	--	--	--	--	61	--	12	0	38	6.5	120
July 22.....	385	--	--	4.0	1.9	4.2	.2	22	1.6	--	--	--	88	--	18	0	55	6.3	150
July 23.....	338	--	--	4.0	1.5	4.9	.2	22	2.8	--	--	--	76	--	16	0	52	6.5	210
July 24-28.....	143	8.8	.10	3.2	1.5	3.6	.2	13	4.0	3.0	.2	1.0	58	32	14	4	43	6.6	180
July 29.....	85	--	--	6.4	1.0	6.0	.2	30	9.0	--	--	--	62	--	20	0	65	6.6	150
July 30-31,Aug. 1	264	5.4	.03	3.2	1.0	2.8	.2	10	2.4	4.0	.2	.1	42	24	12	4	35	6.4	150
Aug. 2.....	439	5.5	--	--	--	--	--	12	--	--	--	--	58	--	--	--	38	6.1	120
Aug. 3.....	533	--	--	3.2	1.5	4.5	.2	17	1.6	--	--	--	66	--	14	0	45	6.3	220

ST. JOHNS RIVER BASIN--Continued

2-2455. SOUTH FORK BLACK CREEK NEAR PENNEY FARMS, FLA.--Continued

Chemical analyses, in parts per million, September 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Aug. 4, 1959	381	8.9	--	2.4	1.9	4.2	0.2	14	2.4	--	--	--	76	--	14	2	46	6.1	200
Aug. 5	206	--	--	4.8	1.5	4.9	.2	19	4.0	--	--	--	68	--	18	2	54	6.3	120
Aug. 6	130	--	--	3.2	1.9	4.2	.2	16	6.0	--	--	--	68	--	16	3	50	6.3	120
Aug. 7	116	8.1	--	3.2	.5	4.2	.2	9	--	--	--	--	52	--	10	2	40	6.1	120
Aug. 8	175	--	--	2.4	1.5	3.8	.2	9	.8	--	--	--	56	--	12	4	35	6.2	120
Aug. 9-10	274	12	--	4.0	1.9	5.3	.2	17	8.0	4.0	--	--	78	44	18	4	53	6.8	200
Aug. 11	263	9.5	--	4.0	1.5	4.6	.2	13	1.6	--	--	--	72	--	16	6	49	6.0	120
Aug. 12	332	12	--	4.0	1.5	7.0	.2	17	1.6	--	--	--	80	--	16	2	51	6.2	210
Aug. 13	556	8.4	--	3.2	1.5	5.4	.2	15	--	--	--	--	74	--	14	2	43	6.2	210
Aug. 14	415	--	--	4.0	1.9	5.5	.2	17	3.2	--	--	--	80	--	18	4	50	6.2	200
Aug. 15	287	9.5	--	3.2	1.5	4.9	.2	12	1.6	--	--	--	64	--	14	4	41	6.0	200
Aug. 16-18	272	7.8	0.11	2.4	1.5	5.6	.2	12	.0	4.0	0.4	0.4	68	28	12	2	40	6.4	200
Aug. 19-21	131	6.8	.08	2.4	1.5	4.6	.2	10	2.0	6.0	.2	.4	62	29	12	4	39	6.3	180
Aug. 22-26	70	10	.06	3.2	1.9	4.7	.4	18	1.6	6.0	.2	.3	66	37	16	1	50	6.8	180
Aug. 27	56	5.8	--	2.4	1.0	3.2	.2	10	4.0	--	--	--	50	--	10	2	36	6.3	65
Aug. 28	53	--	--	4.0	1.0	4.2	.2	16	.8	--	--	--	58	--	14	1	45	6.3	65
Aug. 29	58	13	--	3.2	1.9	3.3	.2	10	1.6	--	--	--	54	--	16	8	39	6.4	110
Aug. 30	157	16	--	3.2	1.0	4.7	.5	20	2.0	--	--	--	68	--	12	0	51	6.6	170
Aug. 31	195	--	--	4.8	1.0	3.0	.5	11	2.4	6.0	--	--	62	--	16	7	42	6.3	170
Sept. 1	214	11	--	4.8	1.9	4.4	.4	16	3.2	--	--	--	78	--	20	7	51	6.2	160
Sept. 2	383	9.8	--	3.2	1.0	3.1	.4	9	--	--	--	--	76	--	12	4	39	5.8	160
Sept. 3	223	9.8	--	3.2	1.0	4.2	.4	12	.0	--	--	--	70	--	12	2	42	6.0	160
Sept. 4	162	6.2	--	3.2	.5	3.4	.4	7	1.6	6.0	--	--	64	25	10	4	38	5.6	170
Sept. 5	268	--	--	3.2	1.5	3.4	.4	10	--	--	--	--	74	--	14	6	42	5.8	170
Sept. 6-9	204	6.6	.06	2.4	1.5	3.2	.4	7	.0	6.0	.2	.6	64	24	12	6	38	5.8	180
Sept. 10	497	9.6	--	4.0	1.0	3.2	.3	11	.8	5.0	--	--	54	29	14	5	39	5.8	180
Sept. 11	373	--	--	3.2	1.5	7.2	.4	11	.8	--	--	--	70	--	14	5	42	5.8	180
Sept. 12	370	--	--	3.2	1.0	3.6	.4	8	.4	5.0	--	--	60	--	12	6	39	5.7	180
Sept. 13	742	10	--	2.4	1.0	3.1	.4	8	--	--	--	--	68	--	10	4	34	5.5	180
Sept. 14	786	--	--	3.2	1.0	3.8	.4	10	.4	--	--	--	52	--	12	4	38	5.7	180
Sept. 15	610	--	--	3.2	1.5	4.0	.4	10	.8	--	--	--	60	--	14	6	40	5.8	180
Sept. 16	775	--	--	4.0	.5	4.0	.4	8	--	--	--	--	56	--	12	6	40	6.0	180
Sept. 17	963	6.4	--	1.6	1.0	3.8	.4	6	.4	--	--	--	54	--	8	3	35	5.3	180
Sept. 18	664	9.0	--	2.4	1.0	3.8	.4	11	.4	5.0	--	--	56	27	10	1	37	5.8	200
Sept. 19	437	6.6	--	3.2	.5	3.1	.4	7	.4	3.0	--	--	54	21	10	4	36	5.4	200
Sept. 20	500	11	--	4.8	1.9	5.6	.4	19	.8	--	--	--	64	--	20	4	50	6.1	200

Sept. 21, 1959.....	444	--	--	4.8	1.0	5.3	.4	15	--	--	--	--	62	--	16	4	47	6.4	180
Sept. 22.....	296	6.8	--	4.0	.5	3.3	.4	10	1.2	6.0	--	--	42	27	12	4	41	5.7	180
Sept. 23.....	225	8.2	--	4.0	1.5	4.9	.4	14	.8	--	--	--	42	--	16	4	49	6.0	180
Sept. 24.....	186	8.2	--	4.0	1.0	4.3	.4	12	2.4	7.0	--	--	46	33	14	4	42	6.0	180
Sept. 26-30.....	118	6.4	.10	3.2	1.0	3.3	.4	8	1.2	5.0	.2	.2	--	25	12	6	37	6.1	150
Time-weighted average.....	a262	--	--	5.1	1.1	4.3	.2	16	4.5	--	--	--	65	--	17	4	60	--	140

a Represents 87 percent of runoff for water year October 1958 to September 1959.

ST. JOHNS RIVER BASIN--Continued

2-2455. SOUTH FORK BLACK CREEK NEAR PENNEY FARMS, FLA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70	68	60	62	--	--	67	72	--	78	76	71
2	80	70	70	60	56	60	68	70	--	76	75	79
3	81	64	70	60	60	58	66	--	--	72	73	74
4	80	64	--	60	65	60	66	70	77	72	75	73
5	--	65	63	55	64	67	--	80	75	72	72	70
6	78	65	62	50	61	62	67	71	74	72	72	71
7	--	67	--	52	61	67	67	81	75	72	75	76
8	--	65	62	--	--	--	68	75	76	72	75	72
9	80	--	--	60	68	63	71	80	75	72	76	--
10	75	68	--	50	70	60	71	--	74	73	75	70
11	75	66	--	--	71	62	73	80	75	72	75	75
12	75	65	55	57	69	61	--	75	75	70	72	71
13	75	65	55	51	--	61	67	72	78	--	75	72
14	73	68	--	53	71	55	61	80	--	71	75	74
15	75	70	50	56	70	--	64	73	80	71	75	71
16	78	--	50	--	70	54	61	72	77	73	75	70
17	75	--	52	52	--	54	65	--	74	70	72	72
18	73	69	53	58	71	56	66	73	74	74	73	72
19	--	66	--	58	66	--	--	74	--	74	74	74
20	70	67	60	57	60	--	--	--	76	72	74	72
21	75	65	--	61	51	61	--	--	76	74	70	67
22	70	65	--	56	60	65	72	--	78	74	72	70
23	--	--	65	56	64	64	69	--	78	72	72	75
24	75	66	65	61	68	64	65	--	79	72	72	77
25	72	70	63	64	63	65	66	--	80	74	72	--
26	65	70	56	66	59	61	--	--	--	73	71	77
27	60	69	55	68	58	61	70	--	80	74	80	72
28	62	70	--	69	62	63	69	--	76	73	75	74
29	67	65	56	60	--	--	72	--	80	75	72	71
30	60	--	65	62	--	69	71	--	80	75	72	71
31	67	--	57	62	--	68	--	--	--	75	74	--
Average	73	67	--	58	64	62	--	--	77	73	74	73

2-2458. NORTH FORK BLACK CREEK NEAR HIGHLAND, FLA.

LOCATION.--At gaging station at bridge on State Highway 218, 3.9 miles east of Highland, Clay County, and 7.6 miles northwest of Middleburg.
DRAINAGE AREA.--48.9 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1959.
Water temperatures: October 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 336 ppm Oct. 16-18; minimum, 54 ppm Mar. 5-7, June 21, 23-25.
Hardness: Maximum, 102 ppm Aug. 29; minimum, 8 ppm Mar. 5-7.
Specific conductance: Maximum daily, 581 micromhos Oct. 2; minimum daily, 35 micromhos May 31.
Water temperatures: Maximum, 80°F June 29; minimum, 40°F Dec. 18.
REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla. Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-3, 1958.....	10	10	0.07	19	3.3	67	1.8	2	185	10	0.1	0.4	324	298	61	60	483	5.0	10
Oct. 4.....	22	--	--	--	--	--	--	4	92	--	--	--	--	--	41	38	291	5.1	55
Oct. 5-8.....	23	9.0	.18	7.6	2.4	14	.9	7	32	10	.4	.1	138	80	29	24	130	5.8	180
Oct. 9-15,19-20....	14	9.4	.08	13	2.8	41	1.4	4	100	10	.3	.3	211	180	44	40	286	5.4	90
Oct. 16-18.....	8.4	10	.03	17	3.3	72	1.8	4	199	10	.2	.6	336	316	56	52	492	5.0	20
Oct. 21-23.....	44	10	.14	8.4	5.8	13	.9	6	30	12	.4	.7	143	84	45	40	131	6.1	150
Oct. 24-28,31,Nov. 1-7.....	37	11	.09	14	2.2	36	1.0	4	90	9.2	.3	.1	200	166	44	40	271	5.3	90
Oct. 29-30.....	14	11	.04	24	4.9	50	1.4	3	169	9.5	.1	.2	300	272	80	78	430	4.9	5
Nov. 8-12.....	96	8.8	.17	5.2	1.5	8.9	.5	7	23	10	.4	.1	111	63	19	14	87	5.6	240
Nov. 13-20.....	24	9.3	.11	9.2	2.2	28	.7	4	61	8.8	.3	.0	155	122	32	28	199	5.1	140
Nov. 21-30.....	24	8.5	.14	7.2	1.5	20	.7	6	35	8.8	.3	.0	117	85	24	19	140	5.5	150
Dec. 1-10.....	83	8.4	.17	5.6	1.5	13	.5	4	20	8.8	.4	.0	107	61 *	20	16	105	5.1	180
Dec. 11-20.....	119	6.7	.16	5.2	1.2	8.1	.5	4	23	9.5	.3	.1	98	57	18	14	89	5.1	160
Dec. 21.....	43	--	--	--	--	13	.2	4	23	8.0	.1	--	--	--	20	17	119	5.1	120
Dec. 22.....	34	--	--	--	--	9.5	.1	6	15	--	.2	--	--	--	17	12	85	5.5	130
Dec. 23-26.....	30	12	.13	7.6	1.7	19	.3	3	46	8.0	.2	.2	125	97	26	24	165	5.0	120
Dec. 27-31,Jan. 1-13,16-20, 1959.	170	8.4	.07	4.4	.7	9.2	.2	4	15	8.0	.2	.1	82	48	14	10	84	5.2	150
Jan. 14-15.....	48	7.4	--	6.4	1.2	17	.3	5	34	8.0	.1	.4	--	77	21	17	134	5.8	120
Jan. 21-31.....	51	7.4	.13	3.6	1.0	11	.2	4	16	8.0	.2	.2	81	50	13	10	88	5.4	170
Feb. 1-8.....	59	7.1	.10	4.8	1.0	13	.2	4	24	8.5	.1	.2	92	61	16	12	105	5.5	170
Feb. 9-10.....	192	6.5	--	3.2	1.0	7.1	.1	4	10	9.0	.2	3.6	--	43	12	8	65	5.3	200
Feb. 11-20.....	62	7.0	.14	4.8	1.7	14	.3	4	28	8.0	.1	.1	100	66	19	16	119	5.2	220
Feb. 21-24.....	32	7.1	.09	8.4	2.4	19	.4	2	54	8.5	.1	.1	122	101	31	30	184	4.8	80

ST. JOHNS RIVER BASIN--Continued

2-2458. NORTH FORK BLACK CREEK NEAR HIGHLAND, FLA.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
															Calcium, magnesium	Noncarbonate			
Feb. 25-28, Mar. 1-4, 1959	270	6.6	0.16	4.0	0.7	6.8	0.3	6	11	6.5	0.2	0.1	72	40	13	8	72	5.5	200
Mar. 5-7	293	5.5	.13	2.4	.5	4.7	.1	4	6.8	6.0	.1	.3	54	29	8	4	50	5.2	180
Mar. 8-14	123	5.7	.13	4.0	1.2	7.5	.1	4	15	7.0	.1	.2	76	43	15	12	77	5.2	180
Mar. 15-20	706	5.1	.03	2.4	.7	4.2	.2	3	7.2	3.8	.2	.2	56	26	9	6	42	5.4	120
Mar. 21-31	199	3.9	.11	3.8	1.0	6.9	.2	3	14	6.0	.2	.3	65	38	14	11	70	5.6	140
Apr. 1-16	118	4.2	.11	3.8	1.0	7.6	.2	4	14	6.8	.2	.4	72	40	14	10	74	5.5	150
Apr. 17-19	42	5.1	.06	5.6	1.2	16	.3	5	26	7.5	.2	.2	94	65	19	15	116	6.1	90
Apr. 20-25	206	4.8	.14	3.0	1.1	6.9	.2	4	10	6.0	.3	.4	77	35	12	8	61	5.7	240
Apr. 26-28	54	5.6	.06	4.0	1.5	15	.2	3	25	6.5	.2	.5	102	60	16	14	109	5.5	160
Apr. 29-30, May 1-9	25	6.4	.09	7.6	1.9	24	.4	4	54	8.0	.2	.7	130	105	27	24	188	5.7	90
May 10-13	20	6.8	.07	10	1.9	33	.5	6	78	8.5	.1	.3	166	142	33	28	246	6.6	65
May 14-16	99	9.3	.12	3.8	1.2	11	.2	4	15	6.0	.3	.2	95	49	14	11	83	5.6	240
May 17-20	58	9.6	.17	5.6	1.5	17	.2	6	32	7.0	.3	.3	118	77	20	15	125	6.2	210
May 21-31	415	5.0	.11	4.0	.4	6.0	.0	6	9.6	5.2	.2	.5	73	34	12	6	58	5.8	210
June 1-10	181	5.9	.25	3.0	1.3	5.2	.0	6	4.0	9.0	.2	.5	68	32	13	8	51	5.8	280
June 11-20	40	6.7	.11	3.6	1.1	6.9	.0	9	6.4	8.2	.2	.4	74	38	14	6	65	6.3	200
June 21, 23-25	23	5.6	.02	4.4	.7	6.6	.4	9	8.0	10	.0	.3	54	40	14	6	63	6.2	160
June 22	29	33	--	7.2	1.5	12	.5	36	9.2	--	--	.9	100	--	24	0	84	6.8	240
June 26-27	14	6.4	--	6.8	.7	11	.5	13	19	11	.0	.2	62	62	20	10	94	6.9	140
June 28	15	6.9	--	8.8	.5	12	.6	12	21	--	--	1.1	76	--	24	14	104	6.3	220
June 29-30, July 1-2	13	5.0	.02	4.4	1.5	9.9	.6	11	15	9.5	.0	.2	60	52	17	8	80	6.5	150
July 3-6	12	6.6	.04	7.2	1.0	14	.7	26	28	9.5	.0	.4	80	80	22	0	114	6.8	120
July 7-14	14	6.6	.03	6.0	1.2	8.8	.6	13	15	11	.0	.2	--	56	20	10	82	6.9	120
July 15	190	12	--	8.8	.5	11	.4	10	27	--	--	.6	99	--	24	16	108	5.8	150
July 16-21	167	5.5	.04	3.2	1.0	6.1	.1	8	8.4	7.0	.2	.3	90	36	12	6	54	5.8	180
July 22-31, Aug. 1-6	65	7.2	.13	6.4	.0	6.5	.2	11	8.4	9.0	.4	.7	84	44	16	7	59	6.5	220
Aug. 7-8	38	8.4	--	13	.0	22	.5	9	55	8.0	.3	1.2	148	113	32	24	173	6.3	180
Aug. 9-10	30	8.2	--	13	.0	28	.6	9	78	8.0	.2	.8	180	141	32	24	232	6.3	100
Aug. 11	31	--	--	13	1.8	26	.9	7	--	--	--	--	168	--	40	34	233	5.7	110
Aug. 12	34	--	--	8.0	2.4	18	.9	7	--	--	--	--	124	--	30	24	156	5.8	110
Aug. 13-17	39	7.8	--	8.0	1.9	16	.5	8	41	9.0	.2	.9	126	89	28	22	141	6.2	150
Aug. 19-21	29	10	--	14	1.2	20	.6	11	66	8.0	.2	.7	154	126	40	31	196	6.5	100
Aug. 22	17	--	--	17	2.3	22	.6	9	74	--	--	--	168	--	52	44	227	6.0	80
Aug. 23	16	--	--	28	1.9	33	--	4	--	--	--	--	234	--	78	74	344	5.3	20
Aug. 24	14	--	--	22	6.1	33	1.0	5	--	--	--	--	234	--	80	76	346	5.4	25
Aug. 25	11	--	--	17	3.3	--	--	7	--	--	--	--	172	--	56	50	256	5.8	35

Aug. 26, 1959.....	9.9	--	--	14	2.2	20	.8	5	--	--	--	--	136	--	44	40	199	5.5	80
Aug. 27.....	11	--	--	30	4.6	38	1.0	6	--	--	--	--	278	--	94	89	394	5.6	20
Aug. 28.....	11	--	--	30	3.6	36	1.0	4	152	--	--	--	272	--	90	86	386	5.5	10
Aug. 29.....	15	--	--	32	5.4	36	1.0	4	158	--	--	--	282	--	102	98	402	5.2	15
Aug. 30-31.....	102	7.2	--	6.4	1.5	4.4	.4	5	14	6.0	.4	.2	96	43	22	18	80	5.3	220
Sept. 1.....	186	6.2	--	7.2	1.5	7.3	.2	6	20	7.0	--	--	108	52	24	19	83	5.2	40
Sept. 2.....	146	--	--	4.0	2.9	7.3	.3	7	20	--	--	--	118	--	22	16	82	5.4	220
Sept. 3.....	110	6.8	--	7.2	1.5	9.2	.3	5	24	6.0	--	--	120	58	24	20	99	5.2	180
Sept. 4.....	99	--	--	7.2	2.9	9.3	.3	6	--	--	--	--	118	--	30	25	101	5.4	200
Sept. 5.....	74	8.0	--	7.2	1.9	9.8	.1	10	18	7.0	--	.3	124	57	26	18	102	5.8	150
Sept. 6.....	69	7.4	--	8.8	1.5	13	.1	6	31	6.0	--	.2	126	71	28	23	136	5.6	120
Sept. 7.....	84	--	--	11	3.0	14	.1	8	40	--	--	--	158	--	40	34	158	5.6	200
Sept. 8.....	79	7.5	--	11	2.6	14	.1	2	40	--	--	.4	152	--	38	36	171	4.8	260
Sept. 9.....	84	9.2	--	11	3.5	15	.1	9	43	--	--	.4	146	--	42	34	161	5.6	280
Sept. 10.....	98	10	--	6.4	1.9	8.1	.1	6	15	8.0	--	--	120	52	24	19	93	5.3	280
Sept. 11.....	121	7.6	--	6.4	1.5	7.7	.1	6	17	7.0	--	--	114	50	22	17	92	5.3	260
Sept. 12.....	219	--	--	6.4	1.9	8.0	.1	4	18	--	--	--	110	--	24	20	92	5.0	220
Sept. 13.....	1,430	--	--	4.8	1.0	--	--	9	--	--	--	--	70	--	16	8	40	5.7	180
Sept. 14.....	443	--	--	4.8	1.0	--	--	7	--	--	--	--	94	--	16	10	66	5.5	100
Sept. 15.....	279	5.3	--	4.8	1.0	5.1	.5	7	9.2	5.0	--	.5	104	35	16	10	66	5.4	200
Sept. 16.....	602	5.8	--	4.8	1.0	5.0	.1	6	11	6.0	--	.3	98	37	16	11	64	5.5	200
Sept. 17.....	720	5.2	--	4.0	.5	4.4	.1	4	7.2	5.0	--	.5	70	29	12	8	57	5.0	210
Sept. 18.....	370	5.0	--	4.0	.5	4.4	.1	5	8.0	6.0	--	.6	66	31	12	8	58	5.1	200
Sept. 19.....	256	5.8	--	4.0	.5	4.4	.4	4	8.0	4.0	--	.6	74	30	12	8	56	5.2	210
Sept. 20.....	630	4.2	--	3.2	1.0	4.4	.4	3	7.2	6.0	--	.4	62	28	12	10	57	5.0	280
Sept. 21.....	323	5.0	--	3.2	1.0	4.8	.4	6	7.6	5.0	--	.5	62	31	12	7	56	5.2	220
Sept. 22.....	169	4.4	--	4.0	1.5	6.2	.4	5	10	--	--	--	68	--	16	12	71	5.2	200
Sept. 23.....	115	6.0	--	5.6	1.5	9.5	.5	4	22	8.0	--	.3	80	55	20	16	98	5.3	160
Sept. 24.....	88	5.0	--	6.4	2.4	12	.5	5	25	7.0	--	--	90	61	26	22	110	5.2	200
Sept. 25.....	75	4.6	--	8.0	1.5	13	.5	3	31	--	--	.2	100	60	26	24	130	5.1	210
Sept. 26.....	65	6.2	--	7.2	1.9	13	.5	5	34	7.0	--	.0	100	72	26	22	134	5.3	160
Sept. 27-30.....	54	5.5	--	12	1.0	16	.8	2	47	9.0	.3	.0	114	93	34	32	167	4.7	95
Time-weighted average.....	a116	7.2	0.11	6.8	1.4	15	0.4	6	32	8.1	0.2	0.3	110	75	23	18	124	--	160

a Represents more than 99 percent of runoff for water year October 1958 to September 1959.

ST. JOHNS RIVER BASIN--Continued

2-2458. NORTH FORK BLACK CREEK NEAR HIGHLAND, FLA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70	70	55	64	47	53	55	73	71	72	72	69
2	73	62	59	63	--	--	57	71	74	70	70	68
3	75	60	67	--	47	41	51	72	76	70	72	67
4	76	60	59	59	47	51	49	65	74	71	71	68
5	73	61	64	--	50	60	58	69	73	74	69	68
6	70	67	64	--	49	59	59	67	72	76	69	70
7	71	64	63	41	48	47	57	64	75	74	71	--
8	69	64	60	47	54	48	71	70	77	74	71	69
9	69	65	55	47	57	48	72	71	69	73	74	68
10	69	68	64	43	52	46	70	71	71	74	73	73
11	72	60	53	--	58	62	70	70	72	70	70	70
12	68	58	51	--	58	68	57	69	71	75	72	70
13	67	61	49	--	63	--	59	72	70	74	72	70
14	72	61	51	41	67	52	--	72	69	68	72	70
15	71	70	47	40	56	47	43	71	71	68	75	66
16	75	69	47	54	50	45	50	70	67	71	74	63
17	72	68	42	--	51	47	59	73	70	69	74	68
18	74	64	40	--	51	50	67	71	67	69	67	72
19	70	66	44	--	49	57	68	70	69	71	68	69
20	68	66	46	43	47	63	68	72	69	72	68	63
21	65	62	47	67	--	64	62	68	71	72	67	64
22	63	--	43	51	--	64	63	72	69	71	67	64
23	63	61	63	44	45	61	57	73	71	70	70	61
24	62	65	62	--	55	59	58	73	71	72	69	66
25	64	71	52	49	--	72	--	73	72	71	69	67
26	64	69	52	51	--	71	69	73	70	70	68	67
27	57	63	63	63	49	68	67	72	74	71	--	67
28	62	64	60	58	55	51	71	71	71	70	69	68
29	60	55	51	66	--	57	78	72	80	73	68	68
30	64	62	50	64	--	57	74	71	71	71	--	76
31	68	--	48	67	--	58	--	73	--	73	--	--
Average	68	64	54	--	--	56	62	71	72	72	70	68

INDIAN RIVER BASIN

2-2525. NORTH CANAL NEAR VERO BEACH, FLA.

LOCATION.--At gaging station at bridge on U. S. Highway 1, 3.9 miles north of Vero Beach, Indian River County.
RECORDS AVAILABLE.--Chemical analyses: November 1954 to July 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, October 1958 to July 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 24, 1958.....	8.3	7.3	0.04	53	8.8	41		148	31	73	--	0.1	287	168	46	535	7.5	30
Nov. 20.....	6.6	6.8	.02	62	7.7	43	2.4	a168	34	80	--	.1	319	186	55	568	8.3	45
Jan. 8, 1959.....	7.4	6.4	.02	54	8.1	41	1.4	152	31	72	--	.0	289	168	44	523	7.8	45
Feb. 17.....	6.9	9.7	.00	60	5.5	38	.6	148	31	69	--	.0	287	172	50	527	8.2	40
Mar. 24.....	135	9.3	.06	46	12	41	5.3	106	49	80	--	.1	295	164	78	539	6.9	100
May 7.....	9.2	8.3	.03	55	6.6	32	1.0	150	30	56	--	.0	263	164	41	474	7.6	37
June 19.....	820	5.0	.02	21	3.8	13	4.2	49	23	24	0.3	.6	119	68	28	215	7.0	65
July 29.....	14	9.3	.06	50	9.5	36	1.5	146	30	62	.8	.8	272	164	44	487	7.4	35

a Includes equivalent of 4 parts per million of carbonate (CO_3).

INDIAN RIVER BASIN--Continued

2-2530. MAIN CANAL AT VERO BEACH, FLA.

LOCATION.--At gaging station, 8 feet upstream from dam and 0.6 mile northwest of Vero Beach, Indian River County.
RECORDS AVAILABLE.--Chemical analyses: November 1954 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 24, 1958	46	11	0.01	88	22	107		210	72	210	--	0.7	614	310	138	1,150	7.7	35
Nov. 20	39	11	.02	96	18	92	4.6	238	64	180	--	.1	583	314	118	1,050	8.0	35
Jan. 8, 1959	48	11	.02	100	18	94	3.3	246	72	180	--	.0	599	324	122	1,060	7.9	35
Feb. 17	53	10	.00	104	13	96	2.6	240	73	180	--	.0	597	313	116	1,080	8.0	30
Mar. 24	85	12	.05	76	11	65	3.5	166	68	110	--	.0	428	234	98	746	7.2	80
May 7	16	14	.04	94	12	75	.3	224	57	144	--	.0	506	284	100	914	7.6	45
July 19	168	1.0	.02	22	3.9	12	4.2	49	26	24	0.3	.6	118	71	31	222	7.1	80
July 29	40	11	.01	82	13	62	2.0	218	50	115	.4	.4	443	258	80	784	7.9	45
Sept. 9	84	9.0	.03	77	13	60	3.0	192	52	112	--	.0	421	246	88	759	7.6	60

INDIAN RIVER BASIN--Continued

2-2535. SOUTH CANAL NEAR VERO BEACH, FLA.

LOCATION.--At gaging station, 1,000 feet upstream from bridge on State Highway 605, 2.5 miles south of Vero Beach, Indian River County.
RECORDS AVAILABLE.--Chemical analyses: November 1954 to July 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, October 1958 to July 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 24, 1958.....	7.8	8.4	0.03	57	5.8	42		160	25	71		0.0	288	166	35	532	7.5	50
Nov. 20.....	5.6	8.0	.02	61	6.3	45	2.0	166	27	80		.1	311	178	42	560	8.0	45
Jan. 8, 1959.....	6.0	8.7	.10	60	6.0	41	1.5	156	30	77		.0	301	174	46	545	8.1	130
Feb. 18.....	4.7	6.6	.00	73	5.8	50	4.2	180	44	82		.1	355	206	58	642	7.9	40
Mar. 23.....	91	11	.03	78	13	70	4.6	164	76	128		.0	462	248	114	823	7.5	65
May 7.....	7.0	7.9	.04	60	7.9	45	2.3	160	32	77		.1	311	182	51	566	7.2	50
June 19.....	1,000	3.9	.10	18	2.9	11	.3	40	19	20		.4	96	57	24	189	6.4	100
July 29.....	29	4.9	.02	33	5.7	36	2.4	a81	30	64		.0	216	106	40	394	8.7	50

a Includes equivalent 7 parts per million of carbonate (CO_3).

ST. LUCIE RIVER BASIN

2-2540. NORTH FORK ST. LUCIE RIVER AT WHITE CITY, FLA.

LOCATION.--Ten feet upstream from bridge on State Road 712 at White City, St. Lucie County, 1.7 miles downstream from confluence of Fivemile and Tenmile Creeks, and 4 miles south of Fort Pierce.
RECORDS AVAILABLE.--Chemical analyses: November 1954 to September 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 23, 1958		11	0.03	74	14	73		158	77	136		0.0	463	242	112	862	7.7	50
Nov. 21		13	.00	66	31	160	8.6	90	131	320		.4	774	292	218	1,410	7.8	17
Jan. 7, 1959		9.7	.01	107	20	116	3.8	214	114	230		.0	706	349	174	1,260	7.8	25
Feb. 18		14	.00	116	24	158	3.9	220	131	288		.1	843	388	208	1,510	8.0	25
Mar. 25		8.2	.07	64	13	57	2.9	136	72	104		.1	388	213	102	699	7.8	70
May 8		11	.02	115	25	143	4.3	224	122	280		.3	811	390	206	1,450	7.8	25
June 18		4.6	.12	20	1.9	17	.4	38	21	28		.1	112	58	27	224	6.8	120
July 29		10	.02	73	10	58	2.0	160	68	102		.5	403	223	92	701	7.5	45
Sept. 10		8.0	.04	56	8.9	49	2.4	132	50	92		.0	331	176	68	576	7.3	45

ST. LUCIE RIVER BASIN--Continued

2-2545. RIM DITCH NEAR WHITE CITY, FLA.

LOCATION.--At gaging station, 10 feet downstream from bridge on Ideal Holding Co. Road, and 12 miles west of White City, St. Lucie County.
RECORDS AVAILABLE.--Chemical analyses: November 1954 to September 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 22, 1958.....		8.6	0.01	74	14	97		152	72	180		0.1	521	242	118	974	7.4	55
Nov. 19.....		11	.02	128	22	160	7.6	286	110	275		.3	855	410	176	1,520	7.7	50
Jan. 9, 1959.....		9.3	.03	98	27	171	5.8	198	126	310		.6	846	356	193	1,540	8.0	75
Feb. 18.....		4.6	.00	121	20	179	3.5	230	124	305		.3	870	384	196	1,540	8.0	45
Mar. 25.....		4.8	.10	25	4.7	33	2.2	52	26	58		.0	180	82	40	334	7.4	140
May 8.....		11	.03	127	24	168	.3	280	138	276		.0	888	416	186	1,540	8.1	45
June 18.....		2.9	.07	26	7.5	49	.2	40	34	85		.0	225	96	63	441	7.3	60
July 28.....		3.7	.02	21	1.3	21	.8	49	8.8	40		.0	121	58	18	220	6.8	90
Sept. 9.....		2.3	.03	20	4.4	20	.9	56	9.6	37		.0	122	68	22	241	7.3	60

LAKE OKEECHOBEE AND THE EVERGLADES

2-2580. HARNEY POND CANAL AT LAKE OKEECHOBEE, FLA.

LOCATION.--At bridge on Florida Highway 78, approximately 12 miles north of Moore Haven, Glades County.
RECORDS AVAILABLE.--Chemical analyses: November 1954 to September 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 8, 1958		3.4	0.09	12	2.4	9.0	0.8	28	13	16		0.4	71	40	17	132	6.7	260
Nov. 5		5.2	.06	29	1.3	17	.7	73	18	28		.0	135	78	18	237	7.3	110
Jan. 7, 1959		7.0	.07	20	1.7	13	.6	41	19	20		.3	102	57	24	177	7.1	120
Jan. 29		3.9	.08	28	1.5	15	1.2	64	22	22		.0	126	76	24	223	7.4	120
Mar. 12		7.6	.09	39	3.0	18	.8	106	16	30		.0	166	110	23	290	8.2	110
Apr. 27		7.3	.06	34	1.7	20	1.0	86	16	31		.0	153	92	22	277	7.5	100
June 2		6.1	.07	22	2.7	16	1.1	57	16	26	0.2	.3	118	66	20	209	7.1	180
July 28		6.2	.19	35	4.0	22	1.3	80	30	32		.9	171	104	38	285	7.0	360
Sept. 9		2.6	.10	12	1.0	11	.5	27	6.4	16		.2	61	34	12	119	6.9	260

2-2595. INDIAN PRAIRIE CANAL NEAR OKEECHOBEE, FLA.

LOCATION.--At bridge on Florida Highway 78, approximately 16 miles southwest of Okeechobee, Okeechobee County.
RECORDS AVAILABLE.--Chemical analyses: November 1954 to September 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 8, 1958		0.4	0.07	42	7.5	10	1.1	28	99	15		0.1	189	136	113	326	7.3	240
Nov. 11		9.0	.06	36	3.4	14	.9	50	63	18		.0	169	104	63	273	6.8	180
Jan. 7, 1959		7.2	.09	19	2.8	9.5	1.0	29	32	16		.0	102	59	35	168	7.1	190
Jan. 29		4.6	.10	30	5.4	10	1.6	18	76	16		.0	153	97	82	263	6.6	90
Mar. 12		6.3	.07	46	9.0	16	2.8	24	123	22		.0	237	152	132	376	7.0	140
Apr. 27		8.8	.10	42	7.1	15	1.2	20	110	20		4.4	218	134	118	356	6.6	150
June 2		7.3	.21	69	5.8	11	1.3	62	136	16		.1	278	196	145	444	7.2	150
July 28		11	.16	35	3.0	6.6	.6	54	44	13		.6	141	100	56	217	6.8	360
Sept. 9		9.8	.21	42	2.7	7.6	.5	82	36	10		.0	149	116	49	249	7.2	320

2-2730. KISSIMMEE RIVER NEAR OKEECHOBEE, FLA.

LOCATION.--At gaging station at State Highway 70 bridge, 9.4 miles west of Okeechobee, Okeechobee County, and 16 miles upstream from Lake Okeechobee.
DRAINAGE AREA.--2,886 square miles.
RECORDS AVAILABLE.--Chemical analyses: March 1940 to February 1941, October 1953 to September 1959.
Water temperatures: October 1953 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 88 ppm Mar. 21-31; minimum, 48 ppm June 21-30.
Hardness: Maximum, 40 ppm Mar. 21-31; minimum, 16 ppm July 1-10.
Specific conductance: Maximum daily, 153 micromhos May 21; minimum daily, 49 micromhos June 27.
Water temperatures: Maximum 88°F May 6; minimum, 55°F Jan. 17.
EXTREMES, 1940-41, 1953-59.--Dissolved solids: Maximum, 136 ppm May 11-20, 1956; minimum, 48 ppm June 21-30, 1959.
Hardness: Maximum, 56 ppm July 21-31, 1956; minimum 12 ppm Oct. 11-20, 1953.
Specific conductance: Maximum daily, 266 micromhos June 16, 1956; minimum daily, 36 micromhos Oct. 19, 1956.
Water temperatures (1953-59): Maximum, 90°F July 20, 1956, Aug. 16, 1957; minimum, 50°F Feb. 6, 1958.
REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla. Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-10, 1958....	1,504	3.9	0.02	7.8	1.5	6.2	1.0	16	8.8	12	0.1	0.2	77	49	26	12	82	6.5	55
Oct. 11-20.....	1,418	4.0	.03	7.2	1.6	6.5	1.0	15	7.6	13	.1	.1	80	49	24	12	85	6.5	50
Oct. 21-31.....	1,093	4.1	.03	7.8	1.8	7.4	1.2	16	7.6	14	.1	.3	83	52	27	14	91	6.6	50
Nov. 1-10.....	922	3.4	.03	8.8	.7	8.5	.8	19	8.0	15	.1	.3	72	55	25	10	101	6.5	50
Nov. 11-20.....	824	3.5	.03	7.2	1.2	8.5	.7	16	8.8	14	.1	.4	72	52	23	10	94	7.2	50
Nov. 21-30.....	755	4.8	.05	7.6	1.2	7.8	.6	15	9.2	13	.2	.1	70	52	24	12	97	6.2	45
Dec. 1-10.....	715	3.3	.03	7.2	1.6	7.8	.7	18	8.4	14	.1	.1	60	52	24	10	94	6.9	45
Dec. 11-20.....	702	8.2	.03	7.2	1.7	7.9	.7	18	8.4	14	.1	.0	66	57	25	10	95	7.1	40
Dec. 21-31.....	712	6.4	.03	8.0	1.8	8.6	1.2	19	9.6	15	.2	.2	75	60	28	12	106	7.1	45
Jan. 1-10, 1959....	746	5.0	.05	8.2	1.9	10	1.4	20	9.2	17	.2	.5	77	63	28	12	114	6.9	50
Jan. 11-20.....	679	5.4	.03	7.6	1.9	8.8	1.0	18	8.8	15	.2	.0	72	58	27	12	105	6.6	45
Jan. 21-31.....	772	4.3	.03	8.4	2.2	9.8	2.2	20	9.6	17	.2	.2	83	64	30	14	120	7.0	50
Feb. 1-10.....	796	5.8	.04	8.2	2.1	9.8	1.4	20	9.6	16	.2	.0	78	63	29	12	115	7.1	50
Feb. 11-20.....	829	4.6	.04	7.8	1.9	9.2	1.2	19	10	15	.2	.0	77	59	28	12	111	7.0	50
Feb. 21-28.....	792	2.8	.04	7.4	1.9	8.2	.8	18	9.6	13	.2	.0	72	53	26	12	101	7.0	50
Mar. 1-10.....	979	3.9	.04	8.0	4.4	8.7	1.3	21	12	18	.0	.1	85	66	38	21	117	6.9	60
Mar. 11-20.....	1,114	3.1	.04	8.8	1.9	7.8	1.0	19	11	17	.0	.1	81	60	30	14	111	6.8	60
Mar. 21-31.....	2,921	3.7	.09	9.6	1.9	8.2	2.7	22	10	16	.0	.2	88	63	40	22	112	7.0	140
Apr. 1-10.....	3,110	1.4	.11	7.4	1.8	7.3	1.2	19	9.6	11	.2	.3	82	50	26	10	94	7.0	140
Apr. 11-20.....	2,517	1.4	.08	6.8	1.8	7.6	.5	16	10	11	.2	.2	70	47	24	12	93	6.7	90
Apr. 21-30.....	2,547	2.2	.08	6.6	1.8	7.3	.2	15	10	10	.3	.1	69	46	24	12	991	6.6	100
May 1-10.....	2,316	3.2	.15	6.8	2.4	8.1	.0	15	8.0	13	.4	.0	77	49	27	14	93	6.6	90
May 11-20.....	2,160	3.2	.16	7.6	1.7	8.1	.0	18	7.2	11	.2	.1	75	48	26	11	91	6.3	90
May 21-31.....	2,223	3.8	.03	6.8	1.7	7.4	.0	17	7.6	9.8	.1	.0	68	46	24	10	82	6.6	80

June 1-10, 1959....	2,379	4.2	.13	6.8	1.5	5.3	.0	14	6.4	9.8	.2	.0	67	41	23	12	72	7.2	80
June 11-20.....	3,084	4.2	.04	6.4	1.7	5.2	.0	14	5.6	8.8	.1	.0	61	39	23	12	68	6.9	80
June 21-30.....	7,988	4.2	.00	4.6	1.8	3.9	.0	12	2.4	7.5	.1	.0	48	30	19	9	51	7.0	110
July 1-10.....	6,194	5.1	.06	3.8	1.6	5.5	.2	16	4.8	8.0	.2	.4	62	38	16	3	59	6.8	120
July 11-20.....	6,102	3.6	.08	3.6	2.3	5.6	.0	12	4.8	8.0	.1	.2	60	34	18	8	57	6.7	100
July 21-31.....	5,441	3.9	.08	5.2	1.2	5.3	.0	10	5.6	8.0	.2	.3	61	35	18	10	61	6.7	75
Aug. 1-10.....	5,184	2.6	.06	5.2	1.2	6.1	.0	15	4.0	8.8	.3	.0	63	36	18	6	63	6.6	90
Aug. 11-20.....	5,468	3.7	.06	5.6	.7	5.5	.0	14	4.8	8.5	.3	.0	66	36	17	6	62	6.7	90
Aug. 21-31.....	5,396	2.3	.05	5.6	1.0	5.5	.0	14	4.8	8.8	.3	.0	87	35	18	6	62	6.8	95
Sept. 1-10.....	5,156	2.8	.04	5.0	1.3	5.5	.2	13	4.0	8.5	.2	.0	57	34	18	8	63	6.5	85
Sept. 11-20.....	5,845	3.0	.03	4.4	1.6	6.2	.2	14	3.6	8.5	.3	.0	54	35	18	6	64	6.5	90
Sept. 21-30.....	7,382	3.5	.07	8.4	1.2	5.5	.2	24	4.4	8.5	.2	.0	63	44	26	6	79	6.7	85
Time-weighted average.....	2,752	3.9	0.06	6.9	1.7	7.2	0.7	17	7.6	12	0.2	0.1	71	49	24	10	88	--	75

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

2-2730. KISSIMMEE RIVER NEAR OKEECHOBEE, FLA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	83	73	73	65	72	70	76	80	82	82	82	--
2	83	--	73	66	72	68	75	80	82	82	82	--
3	83	--	--	68	72	64	75	80	82	82	82	82
4	83	74	71	67	73	68	75	--	82	83	82	82
5	82	75	70	66	72	70	75	--	82	82	82	82
6	80	75	70	63	70	70	75	88	82	82	82	82
7	80	76	70	63	70	70	76	80	82	82	80	82
8	80	77	70	63	71	67	78	--	--	82	80	82
9	80	77	70	63	72	68	78	80	82	82	81	82
10	80	77	70	66	73	70	79	80	82	82	81	82
11	80	75	68	57	72	70	78	80	82	82	81	--
12	80	74	65	57	74	68	77	80	82	82	81	82
13	78	--	67	57	74	65	77	80	82	82	82	82
14	77	--	65	58	74	70	76	80	82	82	82	82
15	78	74	62	58	75	70	74	--	82	82	82	82
16	77	74	62	58	75	70	73	80	82	82	82	81
17	75	76	65	55	76	70	70	80	--	82	82	81
18	75	75	62	56	76	68	72	80	--	82	82	81
19	74	76	60	57	75	65	72	80	79	82	82	81
20	73	75	60	60	72	69	73	80	80	82	82	81
21	73	76	60	64	69	69	73	80	79	82	82	81
22	73	78	62	64	69	70	73	80	80	82	82	80
23	--	75	63	60	69	70	73	80	80	82	82	80
24	73	75	65	67	70	71	72	80	80	82	82	80
25	73	75	62	63	71	72	72	80	82	82	82	80
26	73	75	63	64	71	75	73	80	82	82	81	80
27	72	75	65	65	72	75	73	80	82	82	81	80
28	70	75	64	67	71	75	74	80	83	82	82	80
29	70	75	63	67	--	73	74	80	83	81	82	80
30	70	73	--	69	--	73	79	80	82	81	82	80
31	72	--	66	72	--	74	--	81	--	82	82	--
Average	77	75	66	63	72	70	75	80	82	82	82	81

2-2765. ST. LUCIE CANAL AT LAKE OKEECHOBEE, FLA.

LOCATION.--At bridge on U. S. Highways 98 and 441, at outlet of Lake Okeechobee, three-fourths of a mile west of Port Mayaca, Martin County.
RECORDS AVAILABLE.--Chemical analyses: March 1940 to February 1942; November 1954 to August 1959.
EXTREMES, 1940-42.--Dissolved solids: Maximum, 297 ppm Sept. 21-30, 1940; minimum, 142 ppm Aug. 21-31, Nov. 1-7, 1941.
Hardness: Maximum, 163 ppm Sept. 21-30, 1940; minimum, 102 ppm Aug. 1-10, 1941.
Specific conductance: Maximum daily, 582 micromhos Sept. 21, 1940; minimum daily, 253 micromhos Aug. 26, 1941.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, November 1958 to August 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Nov. 5, 1958		1.8	0.01	52	5.0	30	1.6	154	28	48		0.0	242	150	24	441	7.7	65
Dec. 4		.5	.01	48	8.8	28	1.2	151	34	42		.0	237	156	32	430	7.6	14
Jan. 6, 1959		.8	.00	55	10	34	1.4	166	39	54		.0	276	178	42	505	7.8	25
Feb. 5		1.8	.00	51	9.0	34	.9	156	36	51		.0	261	164	36	482	7.8	25
Mar. 5		2.4	.01	50	11	30	1.3	160	38	42		.0	254	170	39	459	7.8	20
Apr. 1		2.7	.02	48	8.8	30	1.3	148	36	43		.0	243	156	34	437	7.9	24
May 6		2.6	.00	46	9.5	28	.8	144	34	40		.1	232	154	36	416	7.7	25
June 4		2.8	.02	50	7.1	26	.1	138	32	37		.3	223	154	41	399	8.0	20
July 2		5.8	.02	31	6.9	20	1.0	104	24	31	0.3	.1	171	106	21	305	8.0	32
Aug. 26		2.1	.02	29	6.7	18	.9	98	20	29		.0	154	100	20	285	7.7	35

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

2-2770. ST. LUCIE CANAL AT LOCK, NEAR STUART, FLA.

LOCATION.--At gaging station, 6.3 miles southwest of Stuart, Martin County.
RECORDS AVAILABLE.--Chemical analyses: November 1954 to July 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624. On days for which no discharge is shown, flow consists of leakage and lockage, generally less than 10 cfs.

Chemical analyses, in parts per million, October 1958 to July 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 24, 1958.....	--	1.0	0.01	52	0.4	22		138	19	33		0.1	196	131	18	360	7.3	40
Nov. 21.....	--	1.4	.01	58	3.8	26	1.9	170	44	42		.1	261	160	20	429	7.9	38
Jan. 7, 1959.....	--	5.3	.02	58	7.7	32	1.8	184	30	52		.0	278	176	25	504	8.2	45
Feb. 19.....	--	3.5	.00	60	5.5	36	1.1	174	28	54		.0	274	172	30	502	8.0	45
Mar. 23.....	--	2.8	.04	48	5.4	28	1.4	140	25	46		.0	226	142	28	415	7.8	50
May 6.....	2,330	2.6	.02	51	17	29	.1	156	35	41		.4	253	197	69	451	7.7	15
June 17.....	3,100	4.9	.02	40	7.8	23	1.3	128	27	35		.2	202	132	27	377	7.6	28
July 28.....	6,470	4.0	.03	24	3.2	12	.9	73	13	18	0.5	.0	112	73	13	200	7.3	65

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

2-2780. WEST PALM BEACH CANAL AT HGS-5, AT CANAL POINT, FLA.

LOCATION.--At bridge on U. S. Highway 441, 200 feet downstream from gaging station in hurricane gate structure 5 at Lake Okeechobee, in Canal Point, Palm Beach County.
RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, November 1958 to August 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Nov. 4, 1958	0	6.1	0.02	51	13	39	1.7	174	52	56	--	0.0	305	180	38	534	7.9	45
Nov. 11	258	.6	.01	47	9.8	30	2.2	156	36	45	--	.4	248	158	30	453	7.6	15
Dec. 4	0	.7	.00	50	9.0	29	1.2	158	36	44	--	.0	248	162	32	450	7.7	15
Jan. 6, 1959	0	8.9	.01	53	13	36	1.4	184	43	50	--	.0	296	186	34	518	7.9	25
Feb. 5	0	3.4	.02	48	13	32	1.5	172	34	45	0.3	.2	262	174	32	473	7.6	20
Mar. 5	0	1.4	.01	46	9.5	30	1.5	148	37	43	--	.0	241	154	32	440	8.2	20
Apr. 1	0	2.2	.01	48	11	32	1.3	150	42	45	--	.3	256	165	42	463	7.8	23
May 5	310	2.6	.02	45	9.6	28	1.0	144	34	42	--	.3	234	152	34	429	8.1	20
June 4	0	4.3	.03	42	9.5	23	.1	124	31	33	--	.1	204	144	42	368	7.9	28
July 2	0	4.2	.02	34	6.6	17	1.0	112	20	26	.2	.1	164	112	20	301	7.8	45
Aug. 5	1,220	3.1	.02	33	6.2	20	.8	106	22	31	--	.0	168	108	21	306	8.0	30

757-048 O - 65 - 24

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

2-2784.5. WEST PALM BEACH CANAL ABOVE S-5A, NEAR LOXAHATCHEE, FLA.

LOCATION.--At gaging station, 500 feet upstream from pump station S-5A, 0.3 mile upstream from Levee 8 Canal, 1.1 miles downstream from bridge on U. S. Highway 441 and confluence with Cross Canal, and 6 miles west of Loxahatchee, Palm Beach County.
RECORDS AVAILABLE.--Chemical analyses: November 1957 to September 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 15, 1958.....	262	35	0.13	133	35	200		482	130	268	--	3.9	1,040	476	81	1,770	7.6	180
Nov. 20.....	56	11	.01	65	20	104	5.1	246	73	140	--	.1	539	244	42	934	8.1	55
Dec. 8.....	58	4.2	.01	62	8.6	43	1.7	190	31	68	--	.0	313	190	34	565	7.9	45
Jan. 13, 1959.....	0	35	.06	120	32	222	6.2	446	124	270	--	5.8	1,040	431	66	1,710	7.5	200
Feb. 16.....	2	11	.01	80	15	118	2.3	272	63	165	--	.0	588	261	38	1,040	8.0	85
Mar. 12.....	-156	2.3	.03	61	8.3	40	.1	182	35	56	--	.0	293	186	37	552	7.7	30
May 7.....	195	23	.07	90	29	218	5.1	372	90	270	--	1.5	910	344	38	1,570	8.1	180
June 17.....	683	5.8	.03	40	6.8	34	1.0	136	14	54	0.2	.4	223	128	16	412	7.8	90
July 27.....	1,830	14	.04	64	19	89	3.2	252	54	118	.6	2.1	488	238	31	849	7.9	200
Sept. 4.....	2,270	12	.02	61	14	75	3.3	230	46	104	--	.0	428	210	22	726	7.5	85

NOTE.--Negative figures indicate reverse flow.

2-2805. HILLSBORO CANAL BELOW HGS-4, NEAR SOUTH BAY, FLA.

LOCATION.--At gaging station, 200 feet downstream from confluence with North New River Canal, 1,000 feet downstream from hurricane gate structure No. 4 and pump structure No. 2 at Lake Okeechobee, and 2 1/2 miles north of South Bay, Palm Beach County.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to August 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, November 1958 to August 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Nov. 4, 1958.....	-22	26	0.07	104	29	162	5.5	454	58	210		6.0	825	378	6	1,380	8.1	260
Dec. 5.....	53	3.4	.01	50	12	37	1.4	160	44	53		.0	280	174	44	507	8.0	27
Feb. 4, 1959.....	103	12	.04	58	20	95	2.8	246	46	126	0.5	.0	481	226	25	850	8.2	80
Mar. 5.....	-237	8.6	.03	57	18	64	2.3	210	54	84		.1	391	216	44	694	8.2	60
Apr. 1.....	-187	31	.07	131	51	155	5.2	494	197	200		6.4	1,020	536	132	1,690	8.1	150
May 5.....	351	3.2	.03	44	18	40	1.3	162	50	59		.0	296	184	51	533	7.8	30
June 3.....	-157	13	.03	70	20	60	.3	220	79	79		1.7	431	256	76	742	8.0	80
Aug. 26.....	-325	21	.03	83	29	84	3.8	288	104	101		.2	568	326	90	930	8.2	100

NOTE.--Negative figures indicate flow toward Lake Okeechobee.

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

2-2835. NORTH NEW RIVER CANAL BELOW HGS-4, NEAR SOUTH BAY, FLA.

LOCATION.--At gaging station, 800 feet downstream from confluence with Hillsboro Canal, 1,600 feet downstream from hurricane gate structure No. 4 and pump structure No. 2 at Lake Okeechobee, and 2 1/2 miles north of South Bay, Palm Beach County.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to August 1959.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, November 1958 to August 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Nov. 4, 1958.....	22	27	0.07	102	34	156	5.8	462	69	200		6.9	829	394	16	1,390	8.1	280
Dec. 5.....	323	3.4	.00	50	12	37	1.5	164	44	52		.0	281	174	40	506	7.9	30
Jan. 6, 1959.....	198	33	.05	117	43	184	6.4	480	126	250		3.9	999	469	76	1,650	8.1	220
Feb. 4.....	318	4.6	.00	56	11	45	1.1	180	43	62		.1	312	184	37	564	7.9	40
Mar. 5.....	237	16	.05	92	27	125	4.0	a350	86	159		1.5	683	340	54	1,160	8.5	120
Apr. 1.....	187	32	.06	135	52	158	5.5	506	212	210		5.1	1,060	551	136	1,730	8.2	160
May 5.....	340	3.6	.02	44	18	41	1.3	b160	52	59		.0	298	184	52	539	8.4	35
June 3.....	273	20	.05	96	29	94	.4	308	118	117		2.3	629	358	106	1,040	8.0	120
July 1.....	-650	13	.04	79	27	43	2.4	322	44	64	0.8	2.1	434	308	44	741	7.6	220
Aug. 6.....	-548	16	.05	84	18	42	2.7	288	42	53		.3	400	284	48	679	7.9	180
Aug. 26.....	325	16	.04	96	22	77	3.2	336	84	104		.0	568	330	54	985	8.2	160

a Includes equivalent 10 parts per million of carbonate (CO_3).
b Includes equivalent 2 parts per million of carbonate (CO_3).

NOTE.--Negative figures indicate flow toward Lake Okeechobee.

2-2848. NORTH NEW RIVER CANAL AT HOLLOWAY LATERAL, NEAR FORT LAUDERDALE, FLA.

LOCATION.--About 50 feet above confluence with Holloway lateral, 4 miles upstream from gaging station near Fort Lauderdale, and approximately 10 miles upstream from Fort Lauderdale, Broward County.
RECORDS AVAILABLE.--Chemical analyses: July 1950 to June 1952, October 1953 to August 1959.
EXTREMES, 1950-52.--Dissolved solids: Maximum, 864 ppm Mar. 3-7, 1952; minimum, 269 ppm Mar. 6-10, 1951.
Hardness: Maximum, 438 ppm Feb. 6-10, 1952; minimum, 145 ppm Mar. 6-10, 1951.
Specific conductance: Maximum daily, 1,210 micromhos Mar. 6, 1952; minimum daily, 395 micromhos Apr. 22, 1952.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, December 1958 to August 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Dec. 19, 1958.....		7.3	0.03	77	5.8	32	0.1	a234	19	48		1.6	306	216	34	542	8.5	80
Jan. 16, 1959.....		6.8	.02	78	7.2	51	1.1	258	21	74		.7	367	224	12	651	8.2	70
Feb. 27.....		5.4	.03	82	7.2	60	.9	256	22	84		1.3	389	234	24	703	8.1	70
Mar. 31.....		7.2	.03	69	14	53	.9	254	23	79		1.4	373	230	22	674	7.9	70
Apr. 27.....		6.5	.04	72	10	56	1.1	240	14	84		.9	363	220	24	675	7.7	70
May 25.....		10	.05	79	5.6	59	.1	250	14	88		.8	380	220	15	689	8.0	65
June 25.....		5.4	.05	40	1.9	11	2.2	114	10	17		.1	144	108	14	259	7.7	120
July 27.....		4.0	.03	42	9.5	30	1.0	164	8.4	45	0.3	.8	222	144	10	403	7.9	160
Aug. 28.....		14	.02	52	6.4	47	1.7	186	12	58		.0	283	156	4	494	7.9	70

a Includes equivalent of 6 parts per million of carbonate (CO_3).

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

2-2860.5. SOUTH NEW RIVER CANAL AT S-13-A NEAR DAVIE, FLA.

LOCATION.--At gaging station, 75 feet upstream from structure 13-A, 1.6 miles downstream from confluence with Snake Creek Canal, 9.5 miles downstream (east) from S-9 and 3 1/2 miles west of Davie, Broward County.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to August 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, November 1958 to August 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Nov. 6, 1958.....		8.7	0.02	88	8.4	45	1.1	303	14	62		0.0	376	254	6	652	7.8	90
Dec. 19.....		5.6	.03	93	3.9	31	.2	a260	21	46		.1	329	248	35	580	8.4	80
Jan. 16, 1959.....		6.6	.02	91	7.1	39	1.0	304	14	56		.4	365	256	7	653	7.9	65
Feb. 27.....		7.2	.00	89	9.2	43	.5	298	14	59		.7	370	260	16	668	8.1	75
Mar. 31.....		7.0	.03	52	32	36	.7	a294	16	55		.4	344	261	20	639	8.3	70
Apr. 27.....		9.3	.03	88	9.8	45	.7	302	12	69		1.1	384	260	12	685	8.2	80
May 25.....		8.4	.03	93	11	39	.1	300	17	55		.5	372	277	31	650	8.2	70
June 25.....		7.2	.01	88	5.0	23	2.4	254	19	36		.2	306	240	32	538	7.3	110
July 22.....		6.1	.03	86	7.2	20	2.0	272	20	33	0.4	.1	309	244	21	539	8.1	80
Aug. 28.....		.9	.02	89	5.4	17	.5	274	18	26		.0	292	244	20	515	7.9	60

a Includes equivalent of 4 parts per million of carbonate (CO_3).

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

2-2864. MIAMI CANAL AT HGS-3 AND S-3, AT LAKE HARBOR, FLA.

LOCATION.--At gaging station, 40 feet upstream from gate, 150 feet east of pump structure 3, at Lake Okeechobee, and 0.4 mile north of U. S. Highway 27, in Lake Harbor, Palm Beach County.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to August 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, November 1958 to August 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Nov. 4, 1958		5.5	0.01	57	14	45	2.8	190	54	63		0.1	335	200	44	585	7.7	55
Dec. 5		2.0	.00	50	11	36	1.4	162	41	50		.0	271	170	37	492	7.7	25
Jan. 6, 1959		7.4	.02	73	16	49	1.8	236	62	68		1.7	395	248	54	686	7.8	80
Feb 4		1.4	.00	54	9.6	33	.8	164	44	47		.1	271	174	40	492	8.2	25
Mar. 4		1.8	.02	43	9.8	30	1.4	140	36	42		.7	234	148	34	426	8.0	18
Apr. 1		7.4	.03	74	20	52	1.8	226	76	77		4.1	423	266	82	737	8.2	70
May 4		2.7	.02	44	12	40	1.8	138	49	54		.0	272	160	46	493	7.6	23
June 3		12	.03	74	18	54	.2	202	84	76		3.4	422	258	93	721	7.8	65
July 1		7.1	.08	72	12	32	1.3	244	24	54	0.7	.9	324	229	29	566	8.2	240
Aug. 5		11	.04	101	21	54	2.0	328	56	80		.0	487	338	70	836	8.2	180

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

MIAMI CANAL, EAST OF LEVEE 30, NEAR MIAMI, FLA.

LOCATION.--Approximately 200 feet downstream from Levee 30, 100 feet downstream from control structure 32, half a mile upstream from gaging station at broken dam near Miami, 20.0 miles upstream from mouth, and 18 miles northwest of Miami, Dade County.
RECORDS AVAILABLE.--Chemical analyses: November 1958 to September 1959.
Water temperatures: November 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 335 ppm May 1-10; minimum, 250 ppm July 1-10.
Hardness: Maximum, 216 ppm May 21-31; minimum, 166 ppm Apr. 21-30.
Specific conductance: Maximum daily, 575 micromhos May 4; minimum daily, 393 micromhos Feb. 4.
Water temperatures: Maximum, 88°F July 9, 10, 17, Aug. 1; minimum, 63°F Jan. 19.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, November 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Nov. 7-20, 1958....		4.9	0.04	65	5.6	22	1.0	226	6.4	31	0.2	1.5	269	185	0	447	7.7	55
Nov. 21-30.....		4.7	.04	68	4.3	21	.9	226	5.6	30	.3	.9	277	187	2	448	7.8	60
Dec. 1-10.....		6.9	.03	66	5.7	21	.9	228	5.2	30	.3	.9	275	188	1	444	8.2	55
Dec. 11-20.....		3.9	.03	67	5.8	21	.8	230	6.8	30	.3	.7	277	191	2	446	8.2	60
Dec. 21-31.....		4.2	.03	70	5.0	22	.9	234	7.6	31	.3	.9	280	195	3	454	8.2	60
Jan. 1-10, 1959....		5.0	.05	70	5.5	21	.8	241	5.6	31	.2	.3	285	197	0	460	7.9	50
Jan. 11-20.....		3.5	.04	71	5.8	23	.6	241	7.2	28	.2	.9	285	201	4	464	8.1	50
Jan. 21-31.....		3.3	.04	76	3.0	22	.6	a245	7.2	28	.2	.9	288	202	1	466	8.3	50
Feb. 1-10.....		3.2	.02	67	5.4	22	.6	a226	6.8	30	.2	.7	277	189	4	438	8.3	50
Feb. 11-20.....		3.2	.05	73	4.4	22	.6	235	6.4	29	.2	2.5	283	200	8	459	8.2	55
Feb. 21-28.....		2.5	.04	72	5.2	23	.6	a243	7.2	28	.2	1.1	283	201	2	459	8.3	55
Mar. 1-10.....		4.1	.02	64	6.0	22	.6	226	8.4	32	.2	.3	280	184	0	442	8.2	55
Mar. 11-20.....		4.3	.03	66	8.6	23	.6	238	8.0	32	.2	.6	295	200	5	469	7.9	55
Mar. 21-31.....		5.1	.02	62	7.7	24	.6	224	8.0	33	.1	.4	287	186	2	452	8.2	60
Apr. 1-10.....		6.1	.02	69	7.8	24	.6	242	8.8	36	.3	.6	305	204	6	482	8.1	60
Apr. 11-20.....		5.5	.03	70	7.2	25	.6	246	8.4	37	.2	.8	311	204	2	494	8.0	55
Apr. 21-30.....		5.1	.03	54	7.7	25	.6	196	7.6	37	.2	.5	269	166	6	420	8.2	50
May 1-10.....		5.9	.03	74	5.7	30	.7	264	8.8	38	.2	.4	335	208	0	523	8.0	60
May 11-20.....		6.0	.05	73	7.3	28	.8	256	8.8	40	.3	2.0	333	212	2	526	8.0	70
May 21-31.....		4.3	.04	74	7.7	26	.8	256	9.6	38	.4	1.2	b288	216	6	518	8.0	70
June 1-10.....		4.1	.02	73	4.4	27	.8	c234	5.2	38	.2	3.4	294	200	8	483	8.7	50
June 11-20.....		3.7	.02	69	5.6	25	.8	d223	5.2	33	.2	2.0	278	195	12	456	8.7	50
June 21-30.....		4.0	.02	65	5.1	21	.8	c212	4.8	30	.2	1.1	253	183	8	430	8.7	45

a Includes equivalent of 6 parts per million of carbonate (CO_3).
b Calculated from determined constituents.
c Includes equivalent of 14 parts per million of carbonate (CO_3).
d Includes equivalent of 16 parts per million of carbonate (CO_3).

July 1-10, 1959....		4.4	.02	64	5.0	20	.9	206	4.4	28	.2	4.2	250	180	11	425	8.1	50
July 11-20.....		4.3	.02	69	3.4	20	.8	e211	4.0	29	.2	3.5	255	186	12	432	8.5	50
July 21-31.....		5.7	.02	66	5.2	21	.8	f215	4.0	30	.2	.0	256	186	10	429	8.6	48
Aug. 1-10.....		6.8	.00	68	5.5	27	.1	224	7.2	35	.4	2.4	297	192	8	455	8.0	60
Aug. 11-20.....		6.6	.00	67	6.1	26	.2	220	4.8	38	.4	.9	289	192	12	460	7.7	60
Aug. 21-31.....		6.0	.01	70	2.8	27	.2	218	4.8	38	.4	.8	281	186	8	460	7.7	60
Sept. 1-10.....		5.4	.01	64	5.0	25	1.2	211	4.8	37	.3	.6	283	180	7	436	7.8	50
Sept. 11-20.....		7.3	.02	62	6.2	26	1.2	210	4.8	39	.4	1.2	289	180	8	443	7.9	50
Sept. 21-30.....		6.3	.02	67	4.1	28	1.4	210	4.8	42	.4	2.3	299	184	12	459	7.8	55
Time-weighted average.....		4.9	0.03	68	5.6	24	0.7	229	6.5	33	0.3	1.3	283	192	5	459	--	55

e Includes equivalent of 8 parts per million of carbonate (CO_3).
f Includes equivalent of 18 parts per million of carbonate (CO_3).

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

MIAMI CANAL, EAST OF LEVEE 30, NEAR MIAMI, FLA.--Continued

Temperature (°F) of water, November 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		--	76	74	71	74	75	77	76	83	88	--
2		--	75	78	--	69	76	74	83	85	86	--
3		--	78	73	79	--	73	76	80	81	82	83
4		--	73	75	75	--	67	74	84	84	83	83
5		--	75	74	78	74	70	74	83	83	82	82
6		--	--	75	74	78	76	72	78	84	82	80
7		79	72	--	74	70	77	73	78	84	86	82
8		72	76	79	70	68	76	74	80	82	87	84
9		75	78	72	75	77	--	73	80	88	81	84
10		70	78	--	79	74	74	72	80	88	82	81
11		70	77	71	80	--	76	73	81	82	83	83
12		79	78	70	74	78	75	79	73	84	83	83
13		70	74	73	79	70	79	76	79	80	83	83
14		--	76	73	78	79	70	77	78	78	84	83
15		--	71	73	74	73	73	78	78	84	81	84
16		--	72	68	76	78	78	80	79	80	82	85
17		--	74	66	75	80	--	--	78	88	80	78
18		--	72	66	75	--	82	76	79	78	83	83
19		--	78	63	--	--	76	76	83	80	80	82
20		--	74	73	72	79	74	77	79	78	85	84
21		--	--	73	--	72	75	76	87	82	86	83
22		--	71	76	73	79	75	72	--	82	--	83
23		--	70	70	72	75	70	72	84	78	--	82
24		78	--	--	--	74	--	79	81	83	83	82
25		79	71	69	78	79	70	77	83	84	81	84
26		--	73	73	82	--	72	77	83	84	--	78
27		77	78	70	84	--	76	77	85	84	--	82
28		78	74	74	78	70	72	76	84	85	82	82
29		78	73	70	--	74	72	76	81	--	--	85
30		76	--	72	--	74	--	78	81	--	--	80
31		--	74	74	--	--	--	76	--	--	--	--
Average		--	74	72	76	--	74	76	81	83	--	82

2-2885. MIAMI CANAL AT WATER PLANT, HIALEAH, FLA.

LOCATION.--At 54th Street bridge, half a mile downstream from gaging station at waterplant in Hialeah, Dade County.
RECORDS AVAILABLE.--Chemical analyses: March 1941 to February 1942, October 1953 to August 1959.
EXTREMES, 1941-42.--Dissolved solids: Maximum, 328 ppm Feb. 20-28, 1942; minimum, 282 ppm Sept. 21-30, 1941.
Hardness: Maximum, 254 ppm Feb. 20-28, 1942; minimum, 207 ppm Sept. 21-30, 1941.
Specific conductance: Maximum daily, 506 micromhos July 1, 1941; minimum daily, 405 micromhos Oct. 1, 1941.
REMARKS.--Records of discharge for October 1958 to February 1959 given in WSP 1624.

Chemical analyses, in parts per million, November 1958 to August 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Nov. 12, 1958.....	533	5.7	0.04	75	15	23	0.1	244	5.2	31	0.2	1.4	309	248	48	484	7.8	50
Jan. 2, 1959.....	666	5.4	.04	75	2.7	22	.1	232	4.8	29	.4	.4	284	198	8	446	7.1	45
Jan. 9.....	607	4.6	.03	77	4.4	24	.1	a241	6.8	34	.2	.5	309	210	12	484	8.5	45
Feb. 16.....	349	4.8	.03	76	6.4	24	.1	b246	6.4	33	.3	.0	312	216	14	490	8.5	50
Feb. 27.....	287	6.0	.02	62	5.2	22	.1	c210	8.2	30	.3	.3	261	176	4	414	8.4	45
Mar. 31.....	--	5.9	.02	72	7.4	20	.1	c232	10	30	.3	.6	294	210	20	460	8.6	47
May 4.....	--	3.8	.03	74	5.7	24	.1	d244	5.6	35	.2	.3	306	208	8	484	8.4	45
June 2.....	--	5.4	.02	76	5.5	22	.1	e244	8.8	33	.3	.1	314	212	12	484	8.6	50
Aug. 26.....	--	5.1	.01	70	5.0	16	.8	230	4.8	23	.3	.4	284	195	6	432	7.8	60

a Includes equivalent 12 parts per million of carbonate (CO_3).
b Includes equivalent 4 parts per million of carbonate (CO_3).
c Includes equivalent 10 parts per million of carbonate (CO_3).
d Includes equivalent 6 parts per million of carbonate (CO_3).
e Includes equivalent 8 parts per million of carbonate (CO_3).

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

2-2886. MIAMI CANAL AT N. W. 36th STREET, MIAMI, FLA. (BELOW CONTROL)

LOCATION.--At gaging station at downstream end of N. W. 36th Street Bridge fender in Miami, Dade County, 200 feet upstream from salinity control, 1.4 miles upstream from Tamiami Canal, and 5.7 miles upstream from mouth.
RECORDS AVAILABLE.--Specific conductance: April to September 1959.
REMARKS.--Salinity control dam closed April 15-20, and April 30-May 14. Records of discharge from February to September 1959 given in WSP 1624.

Specific conductance (micromhos at 25°C), April to September 1959
/Continuous conductivity recorder with automatic temperature compensator/

Day	April		May		June		July	
	max	min	max	min	max	min	max	min
1	--	--	4,200	2,100	500	500	400	395
2	--	--	4,800	1,850	510	500	400	400
3	--	--	4,000	1,760	520	510	400	400
4	--	--	6,500	1,610	520	500	400	400
5	--	--	12,800	2,600	500	500	400	400
6	--	--	16,500	9,400	500	500	400	400
7	--	--	13,600	7,800	510	500	425	400
8	--	--	10,000	8,000	510	500	425	425
9	510	500	13,800	9,000	525	500	425	425
10	510	495	15,800	7,800	530	510	425	425
11	510	500	16,700	10,200	525	510	425	425
12	510	505	17,000	4,150	510	500	425	425
13	510	505	6,500	3,600	500	500	425	425
14	550	510	10,500	500	510	500	450	425
15	3,100	550	500	500	500	500	480	450
16	5,050	3,100	500	500	510	500	480	480
17	5,050	1,800	500	500	595	590	480	480
18	2,400	750	500	500	590	500	480	480
19	3,500	730	500	500	505	500	480	480
20	2,500	550	500	500	500	500	480	480
21	550	540	500	500	500	500	480	480
22	550	540	500	500	450	425	480	480
23	550	540	500	500	425	410	480	480
24	550	540	500	500	410	400	480	480
25	550	540	500	500	400	400	480	480
26	550	540	500	500	400	400	480	480
27	550	540	500	500	400	400	480	480
28	550	500	500	500	400	400	480	480
29	525	500	500	500	400	400	480	480
30	2,200	525	500	500	400	395	480	480
31	--	--	500	500	--	--	480	480

Day	August		September	
	max	min	max	min
1	480	450	500	480
2	450	450	480	480
3	450	420	480	480
4	420	410	480	480
5	--	--	480	480
6	--	--	480	480
7	--	--	480	480
8	--	--	480	480
9	--	--	500	480
10	480	480	480	480
11	480	480	480	480
12	480	480	480	480
13	480	480	480	480
14	490	480	480	410
15	490	490	410	410
16	490	490	410	410
17	490	490	500	410
18	490	490	500	500
19	490	490	500	410
20	490	480	430	420
21	490	490	420	420
22	490	490	420	420
23	490	490	420	420
24	490	490	500	420
25	500	490	500	500
26	500	500	500	500
27	500	500	500	500
28	500	500	500	500
29	500	500	500	500
30	500	500	500	490
31	500	500	--	--

2-2890. TAMIAMI CANAL AT BRIDGE 45, 27 MILES WEST OF MIAMI, FLA.

LOCATION.--At bridge on U. S. Highway 41, 27 miles west of Miami, Dade County.
RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 31, 1958.....		7.1	0.02	44	1.5	9.4	0.2	137	10	14	--	0.1	a153	116	4	264	7.7	35
Nov. 26.....		4.5	.02	48	2.4	10	.6	152	5.6	18	--	.0	a164	130	6	295	7.9	28
Dec. 31.....		4.3	.01	57	2.4	11	.4	178	7.6	18	--	.2	a189	152	6	334	7.9	30
Feb. 13, 1959.....		4.7	.02	60	3.5	14	.7	192	4.0	22	0.3	2.2	234	164	6	372	8.0	40
Feb. 26.....		4.5	.01	70	2.8	14	1.0	210	5.6	25	.6	2.9	271	186	14	403	8.1	45
Mar. 16.....		.7	.01	70	3.3	14	.6	222	3.2	24	.4	.0	274	188	6	412	8.0	35
Mar. 30.....		2.4	.01	58	1.3	12	.6	178	4.0	21	.4	1.2	212	150	4	338	7.9	30
Apr. 29.....		3.9	.07	71	2.2	14	.8	216	4.8	24	.0	.9	269	186	9	408	7.8	45
May 29.....		5.1	.01	34	.7	5.7	.7	105	2.8	7.0	.1	.1	129	88	2	198	7.6	40
June 16.....		8.1	.01	51	2.2	8.6	.4	162	3.2	11	.2	.1	170	136	33	289	7.9	50
July 15.....		6.9	.07	38	1.7	5.0	.0	117	4.0	9.5	.0	.0	149	102	6	218	8.0	40
July 30.....		6.3	.01	38	1.2	5.5	.4	120	2.4	6.0	.2	.0	146	100	2	211	7.7	45
Sept. 1.....		7.0	.01	30	1.7	4.8	.6	100	2.8	6.0	.2	.0	130	82	0	181	7.5	45
Sept. 30.....		3.9	.02	27	1.1	4.8	.4	86	2.4	6.0	.2	.0	115	72	2	162	7.7	45

a Calculated from determined constituents.

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

2-2920. CALOOSAHATCHEE CANAL AT MOORE HAVEN, FLA.

LOCATION.--At gaging station at Moore Haven, Glades County, half a mile downstream from hurricane gate and lock 1, at Lake Okeechobee outlet, and 15 miles upstream from lock 2.
RECORDS AVAILABLE.--Chemical analyses: March 1941 to February 1942; November 1954 to September 1959.
EXTREMES, 1941-42.--Dissolved solids: Maximum, 236 ppm Dec. 12-20, 1941; minimum, 38 ppm Sept. 1-10, 1941.
Hardness: Maximum, 167 ppm Dec. 12-20, 1941; minimum, 28 ppm Sept. 1-10, 1941.
Specific conductance: Maximum daily 556 micromhos Apr. 1, 1941; minimum daily, 63 micromhos Sept. 11, 13, 1941.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624. On days for which no discharge is shown, flow consists of leakage and lockage, generally less than 10 cfs.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 8, 1958	--	2.5	0.01	35	6.0	20	0.8	112	22	28		0.1	169	112	20	307	7.4	80
Nov. 5	--	4.8	.03	59	12	40	2.1	195	53	56		.0	323	196	36	548	7.5	60
Jan. 7, 1959	--	7.6	.03	74	12	36	2.2	218	56	52		1.2	348	234	56	597	7.8	55
Jan. 29	--	2.6	.02	58	12	34	1.6	182	45	50		.4	294	194	45	523	7.6	45
Mar. 12	--	3.5	.03	58	9.6	34	1.6	176	43	48		.1	285	184	40	508	8.2	45
Apr. 27	2,260	2.5	.01	43	11	32	1.4	140	38	46		.3	243	152	38	445	7.9	35
June 2	2,280	3.5	.01	44	9.2	34	1.8	141	35	48		.0	245	148	32	436	7.4	30
July 28	3,800	7.0	.04	38	7.5	23	1.3	120	26	34		.0	196	126	28	345	7.2	90
Sept. 9	2,580	4.8	.03	43	7.9	23	1.6	136	23	31		.2	208	165	54	371	7.9	150

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

2-2924. CALOOSAHATCHEE CANAL AT ORTONA LOCK, NEAR LaBELLE, FLA.

LOCATION.--At gaging station, 350 feet upstream from upstream end of lock chamber, 1 3/4 miles south of Ortona station, and 9.0 miles from LaBelle, Hendry County.
RECORDS AVAILABLE.--Chemical analyses: November 1954 to September 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 8, 1958		7.1	0.01	46	5.1	19	1.2	142	19	28		0.0	195	136	20	348	7.6	60
Nov. 5		4.1	.02	44	3.9	18	1.1	138	22	26		.0	187	126	13	319	7.5	45
Jan. 7, 1959		8.8	.04	82	7.2	29	2.4	234	40	44		.7	329	234	42	571	7.6	90
Jan. 29		6.4	.03	83	10	34	2.7	254	44	50		.0	355	248	40	609	7.8	70
Mar. 12		5.4	.04	66	8.6	30	1.3	202	35	44		.7	291	200	34	514	7.9	70
Apr. 27		3.1	.02	45	11	32	1.6	142	39	46		.7	248	158	41	454	7.9	40
June 2		12	.02	45	9.6	34	2.0	140	36	48		.2	256	152	38	401	7.7	40
July 28		7.5	.03	42	6.1	24	1.2	125	25	35		.0	203	130	28	346	7.2	80
Sept. 9		5.7	.04	41	6.7	20	1.9	128	24	27		.7	190	130	25	338	7.7	120

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

2-2930. ORANGE RIVER NEAR FORT MYERS, FLA.

LOCATION.--At old staff gage site, 1 1/2 miles southeast of Buckingham, and 8 miles northeast of Fort Myers, Lee County.
DRAINAGE AREA.--83.4 square miles.
RECORDS AVAILABLE.--Chemical analyses: November 1954 to September 1959.
REMARKS.--No discharge records available for this station.

Chemical analyses, in parts per million, October 1958 to August 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1, 1958		4.8	0.00	42	4.1	9.8	0.4	136	11	17		0.1	156	122	10	282	8.0	30
Nov. 17		9.6	.01	85	8.3	30	.8	268	25	50		.1	341	246	26	594	7.9	22
Jan. 5, 1959		7.8	.01	89	5.8	30	.9	268	20	50		.2	336	246	26	599	7.8	15
Apr. 6		9.2	.05	91	7.1	26	.8	268	26	44		.1	336	256	36	574	8.1	30
May 18		9.2	.02	86	7.2	24	.6	262	18	42		.0	316	244	30	564	8.2	35
July 6		5.8	.02	37	3.3	11	.8	110	14	20	0.2	.3	146	106	16	263	7.4	40
Aug. 17		13	.01	70	6.2	24	.8	208	24	32		.0	272	200	30	466	8.0	40

SUWANNEE RIVER BASIN

2-3175. ALAPAHA RIVER AT STATENVILLE, GA.

LOCATION.--At gaging station at bridge on State Highway 94, a quarter of a mile west of Statenville, Echols County.
DRAINAGE AREA.--1,400 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: July 1958 to September 1959.
Water temperatures: July 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 74 ppm Feb. 11-20; minimum, 30 ppm Nov. 11-20.
Hardness: Maximum, 18 ppm Sept. 21-30, 1958; minimum, 4 ppm Mar. 11-20, 21-30, Apr. 1-10.
Specific conductance: Maximum daily, 68 micromhos Aug. 2, 1959; minimum daily, 24 micromhos Aug. 11, 1959.
Water temperatures: Maximum, 83°F July 11, Aug. 18, 1958, Aug. 8, 28, 1959; minimum, 41°F Dec. 17.
REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla. Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, July 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
July 11-20, 1958...	1,269	7.5	0.19	2.2	0.4	2.5	0.5	5	0.5	4.2	0.1	0.3	46	21	7	3	27	5.7	90
July 21-31.....	1,278	6.9	.22	1.8	.6	2.5	.5	6	2.0	4.2	.1	.2	46	22	7	2	27	6.1	100
Aug. 1-10.....	450	8.1	.25	2.2	.4	2.7	.5	6	2.0	4.8	.1	.3	44	24	7	2	29	5.9	90
Aug. 11-20.....	474	7.5	.24	2.4	.9	3.2	.6	7	2.0	4.8	.1	.3	49	25	10	4	32	6.0	90
Aug. 21-31.....	299	7.6	.28	2.2	.9	2.6	.6	7	1.5	5.0	.1	.2	46	24	9	4	31	6.3	90
Sept. 1-10.....	174	8.3	.12	2.6	1.3	2.0	.1	7	1.2	5.0	.2	.2	45	24	12	6	32	6.1	50
Sept. 11-20.....	114	9.1	.15	3.2	1.3	2.0	.1	8	1.8	5.2	.2	.2	42	27	14	7	34	6.5	46
Sept. 21-30.....	88	8.5	.16	3.4	2.2	2.0	.1	9	2.2	5.2	.2	.1	38	28	18	10	35	6.5	48
Oct. 1-10.....	89	8.1	.15	3.4	1.2	2.3	.0	9	.8	5.5	.2	.2	39	26	14	6	37	6.5	50
Oct. 11-20.....	62	8.3	.16	4.0	1.5	2.2	.0	9	1.8	5.0	.3	.1	42	28	16	8	39	6.6	48
Oct. 21-31.....	56	8.1	.16	3.6	1.1	2.5	.0	11	3.0	5.2	.2	.1	37	29	14	4	41	6.6	30
Nov. 1-10.....	62	8.2	.09	4.0	.6	2.3	.0	11	3.2	5.0	.2	.1	31	29	12	4	39	6.5	25
Nov. 11-20.....	49	8.5	.10	4.0	.6	2.6	.1	12	3.2	5.2	.2	.1	30	30	12	2	41	6.5	25
Nov. 21-30.....	43	8.5	.12	2.4	1.8	2.6	.1	12	3.6	5.0	.2	.1	36	30	14	4	40	6.3	25
Dec. 1-10.....	39	9.1	.06	3.6	1.3	3.2	1.0	16	2.8	5.0	.2	.0	40	34	14	2	47	7.2	13
Dec. 11-20.....	46	8.4	.06	3.6	1.1	3.1	1.0	15	2.8	4.5	.2	.0	41	32	14	1	45	7.1	14
Dec. 21-31.....	53	8.2	.06	3.0	1.0	3.1	1.0	13	3.2	4.8	.2	.0	40	31	12	1	42	6.9	12
Jan. 1-10, 1959....	111	8.5	.07	2.6	.9	3.2	1.2	10	3.0	5.2	.2	.0	38	30	10	2	38	6.7	42
Jan. 11-20.....	141	10	.09	2.8	1.1	3.2	.8	8	4.0	5.2	.2	.0	56	31	12	5	40	6.3	55
Jan. 21-31.....	175	11	.08	2.4	1.0	3.8	.8	7	5.2	6.0	.2	.0	43	34	10	4	44	6.5	55
Feb. 1-10.....	1,097	9.6	.20	2.0	.9	3.5	.6	5	4.4	5.5	.0	.2	70	29	8	4	41	5.6	110
Feb. 11-20.....	3,788	7.4	.24	1.4	.9	2.9	.7	4	3.6	4.2	.0	.2	74	24	14	4	36	5.2	130
Feb. 21-28.....	4,026	8.3	.28	1.6	.6	3.2	.7	3	4.4	5.0	.0	.2	64	26	6	4	35	5.2	110

SUWANNEE RIVER BASIN--Continued

2-3175. ALAPAHA RIVER AT STATENVILLE, GA.--Continued

Chemical analyses, in parts per million, July 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Mar. 1-10, 1959....	4,529	8.1	0.12	1.6	0.4	2.6	0.4	4	3.4	4.0	0.2	0.5	53	23	6	2	31	5.3	110
Mar. 11-20.....	9,045	6.1	.10	1.2	.2	2.2	.4	4	2.8	3.0	.1	.1	46	18	4	0	25	5.2	100
Mar. 21-31.....	7,039	6.0	.11	1.0	.4	2.3	.4	3	2.0	3.5	.1	.1	46	17	4	2	26	5.0	100
Apr. 1-10.....	4,861	6.1	.13	1.0	.4	3.0	.4	4	2.8	4.0	.1	.0	48	20	4	0	28	5.3	100
Apr. 11-20.....	3,675	7.8	.30	1.0	.6	2.8	.4	5	3.2	4.0	.1	.0	51	23	5	1	28	5.4	110
Apr. 21-30.....	1,306	7.2	.39	1.6	.4	3.5	.4	6	1.2	2.0	.2	.1	58	20	6	0	32	5.6	130
May 1-10.....	563	8.3	.32	1.4	.7	3.7	.4	7	1.6	4.0	.1	.0	54	24	6	1	35	5.9	100
May 11-20.....	336	12	.29	1.8	.6	3.8	.4	8	4.0	5.0	.1	.0	51	32	7	0	36	6.1	80
May 21-31.....	2,622	5.1	.48	1.6	.5	2.8	.4	5	1.6	3.2	.1	.0	53	18	6	2	28	5.2	150
June 1-10.....	3,270	6.0	.13	1.0	.9	2.8	.6	4	.4	4.0	.2	.1	45	18	6	2	27	5.9	110
June 11-20.....	2,394	7.4	.16	1.2	1.5	3.0	.5	6	.0	4.0	.2	.2	43	21	9	4	27	6.2	110
June 21-30.....	1,122	7.4	.18	1.2	1.1	5.0	.5	8	2.0	5.0	.2	.1	49	27	8	1	35	6.4	110
July 1-10.....	529	8.1	.24	1.8	1.6	2.5	.3	4	1.2	5.5	.1	.6	36	24	11	8	30	5.8	110
July 11-20.....	685	7.8	.24	1.6	.7	2.2	.3	3	.0	5.0	.2	.4	40	20	7	4	29	5.5	150
July 21-31.....	765	7.9	.34	1.6	.7	2.5	.3	3	.8	5.5	.1	.6	36	22	7	4	29	5.5	150
Aug. 1-10.....	705	7.6	.11	1.6	.7	5.3	.3	9	2.4	4.2	.2	.1	46	27	7	0	37	6.7	85
Aug. 11-20.....	762	7.1	.15	1.8	1.6	4.3	.5	8	5.2	4.8	.2	.0	49	30	11	4	34	6.7	85
Aug. 21-31.....	494	8.3	.17	1.6	1.5	4.8	.5	10	1.6	4.2	.2	.0	45	28	10	2	36	6.6	85
Sept. 1-10.....	298	9.0	.20	1.6	1.2	2.6	.4	8	6.0	4.0	.4	1.0	47	30	9	2	32	6.5	80
Sept. 11-20.....	420	8.2	.16	1.6	1.0	2.6	.5	6	2.4	6.8	.3	.7	52	27	8	3	30	6.3	100
Sept. 21-30.....	248	9.1	.18	1.8	1.0	3.3	.5	7	2.0	7.0	.4	.9	50	30	8	3	34	6.5	80
Time-weighted average.....	1,345	8.0	0.18	2.2	0.9	3.0	0.4	7	2.5	4.7	0.2	0.2	46	26	9	4	34	--	80

SUWANNEE RIVER BASIN--Continued

2-3175. ALAPAHA RIVER AT STATENVILLE, GA.--Continued

Temperature (°F) of water, July to September 1958

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										--	82	81
2										--	82	80
3										--	82	82
4										--	81	82
5										--	81	81
6										--	82	81
7										--	81	81
8										--	80	81
9										--	81	79
10										--	81	79
11										83	81	80
12										80	80	80
13										81	79	78
14										79	79	79
15										80	80	78
16										79	81	79
17										79	82	79
18										79	83	79
19										80	80	80
20										80	80	79
21										80	80	80
22										81	82	80
23										80	81	79
24										81	81	80
25										80	80	80
26										80	80	77
27										81	80	77
28										82	79	79
29										81	78	73
30										81	80	73
31										82	80	--
Aver-age										--	81	79

SUWANNEE RIVER BASIN--Continued

2-3175. ALAPAHA RIVER AT STATENVILLE, GA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	65	57	54	59	56	64	70	76	80	80	82
2	78	62	60	57	56	55	65	71	76	82	80	80
3	74	59	61	54	53	54	65	72	76	82	80	80
4	73	62	61	55	55	55	65	73	77	79	80	82
5	72	61	59	51	55	57	64	73	78	78	80	82
6	70	62	62	45	55	59	--	75	77	78	81	81
7	70	62	59	46	54	60	66	75	76	80	82	81
8	69	60	59	48	54	57	67	76	75	80	83	80
9	70	62	58	50	56	56	69	76	75	80	82	80
10	70	65	58	46	57	53	70	72	76	82	--	79
11	72	60	55	45	60	58	70	77	75	80	82	79
12	69	60	50	44	61	59	71	77	75	79	82	79
13	68	60	49	44	66	58	70	76	76	78	80	77
14	68	61	53	45	63	58	68	75	76	77	80	76
15	69	65	50	47	64	58	65	75	76	77	80	76
16	69	65	47	50	64	58	64	74	76	79	79	74
17	70	66	41	45	63	55	64	73	75	78	79	74
18	72	67	46	43	63	55	65	74	75	77	79	76
19	70	67	44	43	63	55	66	76	75	77	80	75
20	66	64	46	45	61	56	66	75	77	79	80	74
21	66	60	49	50	57	57	67	72	77	78	82	75
22	66	58	47	55	55	58	67	71	78	79	81	75
23	65	57	50	49	55	59	67	73	79	79	81	75
24	66	64	55	48	57	60	65	74	78	80	81	76
25	64	63	52	49	58	64	65	75	79	80	81	77
26	63	66	51	51	56	63	66	74	80	81	81	77
27	62	66	50	54	56	64	68	75	80	81	82	78
28	59	65	52	55	56	64	69	75	81	81	83	78
29	60	64	53	57	--	64	70	75	80	81	82	78
30	61	58	50	57	--	63	70	76	81	81	82	72
31	63	--	52	60	--	63	--	76	--	81	82	--
Average	68	63	53	50	58	58	67	74	77	79	81	78

2-3215. SANTA FE RIVER AT WORTHINGTON, FLA.

LOCATION.--At gaging station, at bridge on State Highway 23, half a mile south of Worthington, Union County, and three-fourths of a mile downstream from New River.
DRAINAGE AREA.--630 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: July 1957 to September 1959.
Water temperatures: July 1957 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 114 ppm Sept. 6; minimum, 59 ppm May 21-31.
Hardness: Maximum, 76 ppm June 1; minimum, 14 ppm Mar. 11-20, 21-31, June 11-20.
Specific conductance: Maximum daily, 204 June 1; minimum daily, 33 micromhos May 23.
Water temperatures: Maximum, 79°F Aug. 27, 28; minimum, 42°F Jan. 18, 19.
EXTREMES, 1957-59.--Dissolved solids: Maximum, 137 ppm July 15-19, 21, 1957; minimum, 59 ppm May 21-31, 1959.
Hardness: Maximum, 76 ppm June 1, 1959; minimum, 14 ppm Mar. 11-20, 21-31, June 11-20, 1959.
Specific conductance: Maximum daily, 204 micromhos Oct. 24, 1957; minimum daily, 33 micromhos July 7, 1958.
Water temperatures: Maximum, 84°F June 17, 1958; minimum, 40°F Feb. 19, 1958.
REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla. Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
															Calcium, magnesium	Noncarbonate			
Oct. 1-10, 1958....	28	7.2	0.16	9.8	3.8	8.8	0.9	37	13	10	0.3	0.3	99	72	40	10	121	7.2	120
Oct. 11-20.....	28	8.2	.13	11	4.3	8.8	.9	42	16	10	.3	.1	99	81	45	10	134	7.4	90
Oct. 21-31.....	40	9.3	.14	13	3.3	7.1	1.0	44	13	9.8	.3	.2	104	80	46	10	127	6.9	140
Nov. 1-7.....	83	8.5	.12	12	4.1	6.3	1.3	45	12	9.8	.4	.4	105	78	47	10	130	7.0	100
Nov. 8-19.....	223	8.8	.23	8.0	2.7	6.0	.9	23	8.8	10	.4	.2	107	58	31	12	92	6.4	220
Nov. 20-30.....	57	7.8	.25	8.4	3.4	6.6	.9	31	9.6	10	.4	.2	106	63	35	10	104	6.7	180
Dec. 1-10.....	118	9.0	.22	10	3.2	6.4	1.0	34	9.2	11	.4	.2	106	68	38	10	109	6.7	150
Dec. 11-20.....	410	7.7	.23	6.0	2.4	5.6	.8	16	8.0	10	.4	.1	102	49	25	12	83	6.3	200
Dec. 21-31.....	276	8.2	.23	6.4	2.4	6.4	.7	16	8.4	11	.4	.0	102	52	26	13	86	6.4	180
Jan. 1-10, 1959....	1,776	6.8	.25	4.8	1.9	4.8	.8	10	7.2	9.5	.4	.1	94	42	20	12	69	5.9	210
Jan. 11-20.....	887	7.3	.25	4.4	2.2	5.3	.7	9	12	10	.4	.1	95	47	20	12	72	5.9	210
Jan. 21-31.....	529	5.8	.20	5.8	3.5	6.8	.4	13	8.8	11	.2	.3	93	49	29	18	82	6.2	200
Feb. 1-10.....	654	5.1	.23	7.0	2.3	6.4	.6	14	8.8	10	.2	.3	92	48	27	16	83	6.2	260
Feb. 11-20.....	896	4.8	.23	6.4	1.5	5.9	.5	12	6.4	9.5	.2	.3	94	42	22	12	72	6.1	260
Feb. 21-28.....	328	5.2	.28	6.4	2.9	6.8	.5	16	9.6	10	.2	.4	98	50	28	15	88	6.4	260
Mar. 1-10.....	1,988	4.1	.24	5.6	2.9	4.5	.4	8	5.6	8.0	.3	.3	83	36	26	20	60	6.0	180
Mar. 11-20.....	3,874	6.0	.14	3.6	1.3	3.9	.2	9	5.6	7.6	.1	.2	67	33	14	7	54	5.9	150
Mar. 21-31.....	3,979	3.2	.17	3.6	1.2	3.3	.1	7	5.6	7.5	.0	.2	61	28	14	8	49	5.7	200

SUWANNEE RIVER BASIN--Continued

2-3215. SANTA FE RIVER AT WORTHINGTON, FLA.--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collectiou	Mean discharge (cfs)	Silica (SiO_2)	Irou (Fe)	Cal-cium (Ca)	Mag-uesium (Mg)	Sodium (Na)	Potas-sium (K)	Bicar-bonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue ou evap-oration at 180°C)	Dissolved solids (calcu-lated)	Hardness as $CaCO_3$		Specific couduct-ance (micro-mhos at 25°C)	pH	Col-or
															Calcium, mag-nesium	Non-carbon-ate			
Apr. 1-10, 1959....	1,387	4.3	0.24	3.8	1.6	4.1	0.2	10	6.7	7.8	0.1	0.2	74	34	16	8	57	6.0	200
Apr. 11-20.....	608	3.6	.30	4.2	1.6	4.9	.2	10	7.2	9.2	.1	.3	76	36	17	9	63	6.0	260
Apr. 21-30.....	838	4.9	.29	3.6	2.1	4.0	.2	11	7.2	9.5	.1	.2	75	37	18	8	58	6.2	200
May 1-10.....	293	4.5	.30	4.6	1.9	5.0	.1	11	8.0	9.8	.1	.2	81	40	20	10	67	6.2	210
May 11-20.....	235	5.2	.28	4.8	2.2	5.0	.2	14	7.6	10	.1	.2	80	42	21	10	71	6.4	210
May 21-31.....	4,357	4.8	.32	4.0	1.6	3.0	.0	8	3.2	7.0	.2	.7	59	29	16	10	44	6.1	220
June 1.....	2,700	--	--	18	7.5	--	--	0	--	62	--	--	--	--	76	--	204	3.6	280
June 2-10.....	2,059	3.9	.22	3.2	1.7	3.3	.0	7	2.4	6.0	.2	.6	67	25	15	10	44	6.0	280
June 11-20.....	1,090	4.1	.22	3.6	1.2	3.6	.0	8	3.2	6.8	.2	.5	69	27	14	8	49	6.0	280
June 21-25.....	690	4.5	.07	4.0	1.2	4.2	.6	11	4.0	6.5	.4	.3	68	31	15	6	50	6.2	60
June 26-28, 30.....	452	4.9	--	3.6	1.6	4.6	.5	11	5.0	6.5	.2	.3	--'	33	16	6	52	6.3	60
July 1.....	508	6.1	--	5.6	2.4	2.3		18	4.8	6.2	--	.7	--	37	24	9	61	6.0	300
July 2-4.....	705	8.3	.12	4.8	1.2	4.3	.6	14	3.2	5.5	.2	.3	68	35	17	6	52	6.2	180
July 5-9.....	722	5.4	.11	4.8	1.2	4.2	.6	13	4.0	6.2	.2	.4	74	34	17	6	51	6.3	180
July 10-14.....	539	7.7	.10	5.6	3.2	4.8	.6	20	4.8	7.0	.3	.2	75	44	27	10	63	6.8	180
July 15-20.....	914	5.8	.14	4.0	1.9	4.0	.5	14	2.4	5.5	.2	1.1	85	32	18	6	50	6.8	220
July 21-29.....	694	7.7	.15	4.2	1.5	4.9	.4	14	5.2	7.0	.2	.7	92	39	16	5	57	6.7	220
Aug. 1-10.....	307	7.9	.17	3.4	3.0	5.5	.6	18	5.6	7.5	.3	1.7	89	45	21	6	65	6.9	250
Aug 11-20.....	413	11	.25	4.6	2.6	5.5	.6	20	4.8	8.0	.3	.5	99	49	22	6	69	6.8	250
Aug. 21.....	288	11	--	6.4	1.0	5.4	.7	20	2.4	8.0	.2	.6	84	46	20	4	64	6.3	200
Aug. 22.....	237	5.9	--	5.6	2.4	5.4	.7	18	3.2	8.0	.2	.8	88	41	24	9	64	6.0	200
Aug. 23.....	202	10	--	7.2	1.9	6.5	.7	24	4.0	8.0	.2	.6	106	51	26	6	75	6.1	220
Aug. 24.....	177	12	--	7.2	1.5	6.8	.7	25	5.2	7.0	.2	.9	102	54	24	4	83	6.1	200
Aug. 25.....	160	6.8	--	5.6	2.4	6.3	.7	19	4.4	8.0	.2	.9	96	45	24	8	70	6.1	200
Aug. 27.....	135	10	--	7.2	1.0	6.0	.7	18	3.2	--	--	.7	98	--	22	7	70	6.2	250
Aug. 28.....	128	7.3	--	6.4	2.4	6.0	.7	18	4.8	8.0	--	--	92	44	26	11	70	6.0	220
Aug. 29.....	220	22	--	8.0	4.9	7.8	1.4	35	4.0	8.0	--	--	110	73	40	12	92	6.5	200
Aug. 30.....	237	11	--	8.8	1.5	6.5	.8	30	4.8	8.0	.2	.7	104	57	28	4	84	6.3	150
Aug. 31.....	265	8.1	--	9.6	1.9	4.5	1.0	19	3.2	8.0	--	--	90	46	32	16	70	6.1	200
Sept. 1.....	333	8.5	--	8.0	3.4	4.8	.8	21	4.8	8.0	.2	--	90	48	34	17	70	6.1	200
Sept. 2.....	368	8.1	--	6.4	2.9	4.8	.8	21	3.2	8.0	--	--	92	44	28	11	66	6.1	200
Sept. 3.....	303	8.3	--	7.2	2.9	4.8	.8	20	4.4	7.0	.2	.6	96	46	30	14	70	6.3	220
Sept. 4.....	242	8.1	--	8.0	2.4	5.9	.8	24	3.6	8.0	.2	--	100	49	30	10	76	6.2	200
Sept. 5.....	235	--	--	8.0	2.4	5.2	.8	21	2.4	7.0	--	--	100	--	30	13	69	6.1	200
Sept. 6.....	266	15	--	9.6	2.9	7.8	.8	30	4.0	8.0	--	--	114	63	36	12	89	6.3	200
Sept. 7.....	316	13	--	7.2	3.9	5.9	.8	30	4.4	9.0	--	--	108	59	34	10	77	6.4	220

Sept. 8, 1959.....	342	8.1	--	7.2	1.9	5.0	.5	19	3.2	8.0	.1	.7	98	44	26	10	65	6.5	200
Sept. 9.....	348	9.5	--	7.2	1.9	5.4	.5	20	2.8	8.0	--	--	100	45	26	10	65	6.1	220
Sept. 10.....	333	5.4	--	5.6	2.9	4.9	.7	14	2.8	7.0	.2	.7	94	37	26	14	59	6.3	220
Sept. 11.....	329	1.9	--	7.2	1.0	5.6	.1	20	2.0	1.0	--	--	84	29	22	6	64	6.2	250
Sept. 12.....	317	1.9	--	5.6	2.4	5.1	.1	17	1.6	4.0	--	--	90	29	24	10	61	6.1	220
Sept. 13.....	341	2.8	--	8.0	2.4	5.5	.1	16	6.4	--	--	--	102	--	30	17	93	6.0	220
Sept. 14.....	410	3.5	--	6.4	1.5	5.8	.1	19	2.4	--	--	--	78	--	22	6	63	6.2	220
Sept. 15.....	623	--	--	6.4	2.4	5.0	.1	20	--	--	--	--	76	--	26	10	63	6.1	220
Sept. 16.....	1,200	3.9	--	4.0	3.4	4.0	.2	12	1.2	4.0	--	--	70	27	24	14	53	5.7	220
Sept. 17.....	1,940	4.6	--	6.4	1.5	4.6	.2	15	2.8	1.0	--	--	82	28	22	10	54	5.9	250
Sept. 18.....	2,280	--	--	4.0	1.9	--	--	11	--	--	--	--	74	--	18	9	47	6.5	250
Sept. 19.....	2,250	3.9	--	4.8	2.9	5.4	.2	18	2.0	2.0	--	--	80	30	24	9	56	6.0	250
Sept. 20.....	2,170	4.5	--	5.6	1.5	5.8	.1	20	3.6	4.0	--	--	84	35	20	4	56	6.0	250
Sept. 21.....	2,220	3.0	--	4.0	2.4	4.0	.1	10	1.6	2.0	--	--	74	22	20	12	48	6.0	250
Sept. 22.....	2,340	--	--	4.0	2.4	4.0	.1	12	--	--	--	--	76	--	20	10	49	5.8	260
Sept. 23.....	2,060	3.2	--	4.8	1.9	4.2	.1	12	1.6	2.0	--	--	80	24	20	10	49	5.6	250
Sept. 24.....	1,760	9.3	--	6.4	2.9	6.1	.1	26	2.0	2.0	--	--	104	42	28	6	61	6.7	250
Sept. 25.....	1,480	2.5	--	4.8	1.9	4.8	.1	16	2.0	--	--	--	96	--	20	7	56	5.9	240
Sept. 26.....	1,230	4.6	--	7.2	1.0	5.3	.1	16	2.8	2.0	--	--	82	31	22	9	57	5.9	240
Sept. 27.....	1,050	4.3	--	4.8	1.9	5.3	.1	14	2.8	5.0	--	--	82	31	20	8	53	6.4	260
Sept. 28.....	910	3.4	--	4.8	2.9	5.3	.1	14	1.6	3.0	--	--	106	28	24	12	56	6.1	260
Sept. 29.....	783	2.1	--	3.2	2.4	5.0	.1	13	3.2	6.0	--	--	80	28	18	8	56	5.8	260
Sept. 30.....	672	2.0	--	4.8	1.9	5.2	.1	11	3.2	--	--	--	76	--	20	11	54	5.7	260
Time-weighted average.....	a954	6.4	0.21	6.0	2.4	5.4	0.1	17	7.1	8.7	0.2	0.4	88	45	25	11	75	--	200

a Represents 99 percent of runoff for water year October 1958 to September 1959.

SUWANNEE RIVER BASIN--Continued

2-3215. SANTA FE RIVER AT WORTHINGTON, FLA.

Temperature (°F) of water, water year October 1958 to September 1959
/Continuous ethyl alcohol-actuated thermograph/

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	78	72	63	62	58	57	56	52	60	59	56	56	64	63	68	68	74	74	77	76	77	77	75	75
2	78	74	63	60	60	58	57	56	59	55	56	54	64	64	68	67	74	74	77	77	77	76	76	75
3	77	72	60	58	60	60	57	56	56	54	54	53	64	63	69	68	75	74	77	76	76	75	77	76
4	72	72	60	58	60	60	56	56	62	56	57	54	64	64	69	68	75	75	76	75	77	76	77	76
5	74	72	60	59	60	58	56	52	62	62	58	57	64	62	70	69	75	74	75	74	76	76	76	75
6	72	69	62	60	60	60	52	48	62	60	60	58	64	63	71	70	74	73	75	74	77	75	76	74
7	73	68	63	62	60	60	48	48	60	57	60	56	64	63	71	70	73	73	75	75	78	76	76	75
8	76	68	63	62	60	59	50	48	59	58	56	54	66	64	73	71	73	72	76	75	78	77	76	76
9	75	68	63	62	59	58	50	50	61	59	56	54	67	66	74	72	72	72	76	76	78	76	76	76
10	77	68	64	63	59	58	50	47	62	61	58	56	68	67	74	72	72	72	76	76	76	76	76	74
11	79	68	64	62	58	52	47	44	64	62	58	57	68	68	74	72	73	72	76	74	76	76	75	74
12	75	68	62	60	52	49	44	43	64	64	60	58	68	68	74	72	74	73	74	74	76	74	75	74
13	74	67	61	60	49	48	45	43	66	64	59	56	68	68	74	72	74	74	74	73	76	74	74	74
14	76	66	62	60	50	48	47	45	67	66	56	54	68	62	72	71	75	74	74	73	76	75	74	74
15	75	68	64	62	50	49	48	47	67	66	56	55	62	60	72	72	75	75	74	74	76	76	74	73
16	75	68	65	64	49	47	50	48	67	66	57	56	60	60	72	71	75	74	74	74	76	74	73	71
17	74	68	66	65	47	47	50	44	66	64	56	55	62	60	72	71	74	73	74	74	74	73	72	72
18	70	67	66	65	47	46	44	42	66	64	55	55	64	62	72	71	73	72	74	74	74	74	72	72
19	67	66	66	65	47	46	44	42	66	63	55	54	66	64	72	72	73	72	74	74	76	74	72	72
20	66	65	66	64	47	46	46	44	63	59	56	54	68	66	72	71	74	73	75	74	76	75	72	71
21	65	64	64	62	48	47	54	46	59	55	58	56	68	67	71	70	74	74	75	75	77	76	72	72
22	64	63	62	59	50	48	54	53	56	52	60	58	67	66	70	70	74	74	75	75	77	76	72	72
23	64	62	60	58	52	50	53	49	59	54	61	60	66	65	71	70	76	74	75	75	77	76	72	72
24	66	63	62	60	54	52	49	47	62	59	62	61	65	63	73	71	76	76	76	75	77	75	72	72
25	66	63	64	62	54	52	50	48	62	60	62	62	63	62	73	73	77	76	76	76	78	76	73	72
26	64	61	64	64	52	51	53	50	60	59	64	62	63	62	74	73	78	77	76	76	78	76	74	73
27	63	59	64	63	52	51	55	53	59	58	64	64	64	63	74	74	78	78	76	76	79	77	74	73
28	62	56	65	63	53	52	57	55	58	56	64	63	66	64	74	74	78	78	77	76	79	78	74	74
29	58	57	65	61	53	52	58	57	--	--	63	61	67	66	74	74	78	76	77	76	78	76	74	74
30	60	58	61	57	52	50	60	58	--	--	61	61	68	67	74	74	77	76	77	76	76	76	75	74
31	62	60	--	--	52	51	60	60	--	--	63	61	--	--	74	74	--	--	--	--	76	75	--	--
Average	70	66	63	61	54	52	52	49	62	60	59	57	65	64	72	71	75	74	75	75	77	76	74	74

2-3495. FLINT RIVER AT MONTEZUMA, GA.

LOCATION.--At gaging station at bridge on State Highways 26 and 49, 1,000 feet upstream from Central of Georgia Railway bridge, 1,400 feet upstream from Atlanta, Birmingham and Coast Railroad bridge, just upstream from Buck Creek, 1 mile west of Montezuma, Macon County, and at mile 180.8.
DRAINAGE AREA.--2,900 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: October 1943 to September 1944, July 1958 to September 1959.
Water temperatures: October 1943 to September 1944, July 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 46 ppm Sept. 21-22, 24, 26-30, 1959; minimum, 29 ppm Feb. 11-20.
Hardness: Maximum, 76 ppm Aug. 15, 1958; minimum, 8 ppm Mar. 1-10, 11-20, 21-31, June 1-10, Sept. 8, 1959.
Specific conductance: Maximum daily, 441 micromhos Sept. 25, 1959; minimum daily, 29 micromhos June 5.
Water temperatures: Maximum, 84°F Aug. 14, 1958; minimum, freezing point Jan. 5, 6, 17.
EXTREMES, 1943-44, 1958-59.--Dissolved solids: Maximum, 46 ppm Sept. 21-22, 24, 26-30, 1959; minimum, 26 ppm Feb. 21-29, 1944.
Hardness: Maximum, 76 ppm Aug. 15, 1958; minimum, 8 ppm during several periods in 1944 and 1959.
Water temperatures: Maximum, 85°F June 15, 1944, Aug. 14, 1958; minimum, freezing point Jan. 5, 6, 17, 1959.
REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla. Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, July 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
July 9-11, 13-20, 1958	3,877	11	0.04	3.6	1.6	3.0	1.2	19	2.8	2.2	0.1	0.3	40	16	0	41	7.2	20
July 21-31	5,262	10	.03	3.8	1.0	2.7	1.4	18	2.5	1.8	.1	.1	a32	14	0	40	7.2	--
Aug. 1-10	2,746	11	.04	4.8	1.0	3.5	1.2	24	3.2	2.0	.1	.3	41	16	0	50	7.2	17
Aug. 11-14, 16-17, 19-20	2,093	11	.02	4.4	.9	4.0	1.2	24	3.0	2.2	.1	.4	41	14	0	49	6.9	8
Aug. 15	1,940	--	--	--	--	--	--	96	--	2.0	--	--	--	76	--	149	8.1	--
Aug. 18	3,010	--	--	--	--	--	--	2	--	28	--	--	--	28	26	413	4.9	--
Aug. 21-31	1,595	11	.01	4.0	.7	4.0	1.2	25	3.0	2.2	.1	.4	39	13	0	49	7.2	5
Sept. 1-10	1,193	13	.01	4.8	.7	3.2	.7	22	2.0	3.5	.1	.1	a39	15	0	47	6.9	2
Sept. 11-20	1,118	11	.00	3.4	1.6	4.1	.6	22	2.2	3.0	.1	.2	a37	15	0	46	7.2	2
Sept. 21-30	1,458	11	.01	3.8	1.0	4.3	.9	24	2.5	3.0	.1	.1	40	14	0	49	6.9	3
Oct. 1-10	1,439	11	.02	2.4	.7	4.4	1.1	22	2.0	3.0	.1	.2	36	9	0	47	7.3	3
Oct. 11-16, 18-20	1,132	11	.03	2.6	.9	4.9	1.0	22	2.4	3.0	.1	.1	a37	10	0	46	7.1	3
Oct. 17	1,090	--	--	4.0	.5	--	--	22	--	--	--	--	--	12	0	79	7.3	--
Oct. 21-31	1,063	11	.03	2.8	.7	5.5	.9	23	2.0	2.5	.1	.0	40	10	0	48	7.1	3
Nov. 1-10	1,226	9.7	.02	2.8	1.8	5.0	.7	24	.0	3.0	.1	.0	33	14	0	47	6.6	4
Nov. 11-20	1,235	10	.04	3.2	1.1	4.5	.7	22	1.6	3.0	.1	.0	45	12	0	45	6.8	5
Nov. 21-30	1,329	10	.08	3.2	1.9	5.0	.7	24	2.4	3.2	.1	.1	38	16	0	49	6.6	10
Dec. 1-10	1,609	11	.00	2.8	.7	4.6	1.0	24	1.7	2.2	.0	.2	36	10	0	48	7.1	10
Dec. 11-20	1,984	11	.01	2.6	.7	4.1	.7	20	1.6	2.5	.0	.3	35	10	0	44	7.0	15
Dec. 21-31	1,870	12	.00	2.6	.9	3.9	.7	20	1.6	2.0	.0	.3	32	10	0	43	6.9	10

a Calculated from determined constituents.

APALACHICOLA RIVER BASIN--Continued

2-3495. FLINT RIVER AT MONTEZUMA, GA.--Continued

Chemical analyses, in parts per million, July 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Jan. 1-10, 1959....	2,534	11	0.01	2.8	0.7	3.5	0.6	18	2.2	2.0	0.0	0.3	a32	10	0	41	7.0	15
Jan. 11-20.....	2,755	13	.01	3.2	.4	4.0	.6	18	2.0	2.5	.0	.0	37	10	0	43	7.0	--
Jan. 21-31.....	3,378	13	.01	3.2	.4	3.4	.7	17	2.4	2.2	.0	.2	38	10	0	40	7.3	--
Feb. 1-10.....	7,473	8.3	.06	3.2	1.0	3.1	1.0	14	3.2	3.2	.0	.0	a30	12	0	37	6.8	--
Feb. 11-20.....	9,064	10	.15	2.8	1.0	2.6	.9	12	2.8	2.8	.0	.4	a29	11	1	35	6.9	--
Feb. 21-28.....	4,130	10	.10	2.8	1.2	3.4	.8	16	2.4	2.5	.0	.3	a31	12	0	39	7.0	--
Mar. 1-10.....	6,092	11	.07	2.2	.7	3.5	1.0	16	2.8	3.0	.0	.1	a32	8	0	36	6.9	--
Mar. 11-20.....	7,050	11	.13	2.2	.6	3.2	1.0	14	3.2	3.0	.0	.1	a31	8	0	34	6.9	--
Mar. 21-31.....	6,273	13	.10	2.4	.6	3.3	.7	16	3.6	2.5	.1	.0	a35	8	0	37	6.8	--
Apr. 1-10.....	5,792	11	.11	2.8	.6	3.4	.8	16	4.8	2.2	.0	.4	a34	10	0	39	7.1	--
Apr. 11-20.....	4,461	11	.12	3.0	.7	3.6	.8	22	2.0	2.0	.0	.3	41	10	0	41	7.4	15
Apr. 21-30.....	3,052	12	.12	3.2	.7	4.1	.8	21	2.4	2.5	.0	.4	41	11	0	44	7.1	15
May 1-10.....	2,069	12	.01	3.0	.7	4.5	.7	20	2.0	2.5	.1	.9	a36	10	0	47	6.6	5
May 11-20.....	2,419	11	.01	3.0	.9	5.0	.8	21	2.4	2.2	.1	.3	39	11	0	50	6.9	5
May 21-31.....	5,470	11	.19	2.8	.6	3.4	.9	16	4.0	2.2	.1	.4	a33	10	0	40	6.6	--
June 1-10.....	13,245	8.2	.02	2.2	.6	3.6	.9	13	1.6	1.5	.0	2.9	34	8	0	36	7.0	15
June 11-20.....	3,161	12	.00	2.8	1.2	5.1	.7	22	2.0	2.5	.0	1.6	a39	12	0	50	6.5	10
June 21-30.....	1,961	11	.00	4.2	.1	5.6	.5	25	2.0	3.0	.0	.2	a37	11	0	58	6.5	10
July 1-10.....	1,805	9.8	.02	3.6	1.0	3.7	1.0	19	2.0	2.0	.0	1.6	38	13	0	43	6.7	8
July 11-20.....	2,369	9.3	.01	3.4	.5	5.7	1.4	22	2.4	2.2	.0	.0	37	10	0	46	6.6	8
July 21-31.....	3,086	9.5	.03	3.6	.5	4.6	1.5	20	2.4	2.0	.0	.1	35	11	0	46	6.6	8
Aug. 1-10.....	1,958	10	.01	2.8	1.0	6.3	1.2	21	2.4	2.5	.2	.9	39	11	0	52	6.7	5
Aug. 11-20.....	1,378	9.8	.01	2.6	1.1	5.6	1.2	22	2.4	2.2	.2	.0	37	11	0	49	6.9	5
Aug. 21-31.....	1,352	10	.00	2.6	1.0	6.0	1.4	22	2.0	2.5	.2	.0	44	10	0	52	7.0	5
Sept. 1-2,4-7,9-10.	1,510	11	.00	2.4	.7	6.6	1.1	20	2.4	2.0	.1	1.5	41	9	0	52	6.8	2
Sept. 3.....	1,770	--	--	2.4	1.0	--	--	72	--	2.0	--	--	--	10	0	152	7.5	--
Sept. 8.....	1,460	--	--	2.8	.2	--	--	16	--	2.0	--	--	--	8	0	111	7.1	--
Sept. 11-15, 17-20.	2,682	10	.00	2.4	.9	6.4	1.4	22	2.8	2.5	.2	.0	43	10	0	51	6.8	3
Sept. 16.....	3,220	--	--	3.2	1.0	--	--	128	--	3.0	--	--	--	12	0	259	7.6	--
Sept. 21-22, 24, 26-30.....	1,538	12	.00	2.8	.5	8.9	1.2	22	3.2	2.0	.2	.3	46	9	0	53	7.0	5
Sept. 23.....	1,720	--	--	2.8	.7	--	--	100	--	6.0	--	--	--	10	0	198	7.5	--
Sept. 25.....	1,460	--	--	4.0	.5	--	--	226	--	5.0	--	--	--	12	0	441	7.9	--
Time-weighted average.....	3,191	11	0.04	3.1	0.9	4.3	0.9	21	2.4	2.8	0.1	0.4	37	11	0	48	--	8

a Calculated from determined constituents.

APALACHICOLA RIVER BASIN--Continued

2-3495. FLINT RIVER AT MONTEZUMA, GA.--Continued

Temperature (°F) of water, July to September 1958

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										--	--	78
2										--	--	--
3										--	--	77
4										--	--	75
5										--	--	78
6										--	--	77
7										--	--	78
8										--	80	78
9										80	--	74
10										79	--	76
11										78	82	74
12										--	--	72
13										79	--	74
14										78	84	74
15										78	--	74
16										77	--	76
17										79	--	74
18										80	--	74
19										78	--	73
20										79	--	78
21										80	--	78
22										78	--	78
23										78	--	77
24										79	--	78
25										79	--	78
26										79	--	77
27										80	--	74
28										79	--	74
29										79	--	74
30										80	--	72
31										81	--	--
Average										--	--	76

APALACHICOLA RIVER BASIN--Continued

2-3495. FLINT RIVER AT MONTEZUMA, GA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	72	63	52	49	55	51	65	66	66	78	81	81
2	72	55	53	48	48	43	64	65	66	79	80	79
3	70	56	57	50	45	52	66	65	70	78	79	78
4	65	54	55	54	47	44	58	70	70	79	81	71
5	64	60	53	32	52	51	67	72	70	80	80	80
6	65	65	49	32	54	49	67	72	68	81	82	79
7	65	55	51	42	58	48	77	71	--	80	82	79
8	65	59	50	45	55	47	74	69	75	79	81	79
9	65	62	55	44	58	49	73	66	71	81	81	80
10	62	66	54	39	59	48	72	69	73	81	82	78
11	68	57	47	42	58	48	76	66	70	78	81	79
12	63	58	42	39	49	48	74	70	67	80	80	78
13	65	55	48	48	48	45	50	67	70	78	81	77
14	63	60	40	50	58	51	44	65	70	79	82	76
15	68	68	38	46	61	54	51	64	69	78	80	77
16	65	--	38	40	61	50	56	75	69	79	82	78
17	65	--	39	32	54	48	59	74	68	80	81	70
18	65	64	41	38	59	47	59	66	65	80	80	70
19	69	61	39	39	46	49	60	66	70	61	--	71
20	65	59	44	47	45	44	63	68	70	80	81	70
21	65	56	40	50	36	--	65	65	70	79	79	74
22	64	58	38	40	48	--	55	68	70	78	79	70
23	65	60	45	43	47	--	56	69	70	78	79	72
24	65	62	39	38	55	--	55	68	71	78	80	71
25	62	64	39	46	55	--	69	68	70	79	82	73
26	60	60	41	47	56	--	71	69	70	78	81	74
27	65	55	40	53	56	--	74	68	71	78	80	73
26	55	59	46	--	56	--	70	67	70	81	82	74
29	57	49	49	55	--	--	57	67	73	80	82	71
30	64	49	48	58	--	--	65	69	79	80	83	73
31	65	--	49	57	--	--	--	67	--	81	82	--
Average	65	59	46	45	53	--	64	68	70	79	81	75

2-3525. FLINT RIVER AT ALBANY, GA.

LOCATION.--Temperature recorder at gaging station on right bank at downstream side of Georgia Northern Railway bridge in Albany, Dougherty County.
DRAINAGE AREA.--5,310 square miles, approximately.
RECORDS AVAILABLE.--Water temperatures: July 1957 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 93°F Aug. 28, 29; minimum, 48°F Jan. 13, 19-21.
EXTREMES, 1957-59.--Water temperatures: Maximum, 93°F Aug. 28, 29, 1959; minimum, 41°F Feb. 19-22, 1958.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Temperature (°F) of water, water year October 1958 to September 1959
(Continuous ethyl alcohol-actuated thermograph)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	82	82	68	67	64	62	53	53	56	56	57	57	64	63	74	72	84	84	92	92	91	90	91	90
2	82	79	67	66	62	61	54	53	56	56	57	56	66	64	75	74	84	83	92	91	91	90	90	90
3	79	77	66	65	62	61	54	53	56	54	57	56	67	66	75	75	84	84	92	92	91	90	90	89
4	77	76	66	66	61	61	53	53	54	53	57	56	67	67	76	75	85	84	92	91	91	90	90	90
5	76	75	66	65	61	60	53	52	54	53	57	57	67	67	78	76	85	85	92	91	91	90	90	89
6	75	74	65	65	61	61	52	51	54	54	58	57	68	67	79	77	85	84	91	90	91	91	90	89
7	75	73	65	65	61	60	51	50	54	54	58	57	69	68	80	78	84	82	92	91	91	90	90	90
8	74	73	66	65	60	59	50	49	54	54	57	57	70	69	82	80	82	81	92	90	91	90	90	90
9	75	73	66	66	59	59	50	49	54	54	57	57	71	70	82	81	82	81	92	90	90	90	90	89
10	75	74	66	65	59	58	50	50	55	54	57	57	71	70	82	80	82	81	92	91	90	89	90	89
11	75	75	66	65	58	56	50	49	56	55	58	57	71	70	83	81	82	81	91	91	90	89	89	89
12	75	74	66	65	56	55	49	49	56	56	58	58	71	70	82	82	83	82	91	90	90	89	89	88
13	74	73	65	65	55	54	49	48	57	56	58	57	71	70	82	81	84	83	90	88	89	68	86	86
14	73	71	65	64	54	53	49	49	58	57	57	57	70	68	82	81	85	84	88	88	89	88	86	84
15	73	72	66	65	53	52	51	49	59	58	57	57	68	68	82	80	85	83	88	88	89	88	84	83
16	73	73	67	66	52	51	52	51	59	59	57	57	68	67	82	80	84	84	88	88	89	88	83	82
17	73	72	68	67	51	50	52	51	59	59	57	57	68	67	82	80	85	84	88	88	89	89	83	82
18	73	73	68	68	51	50	51	49	59	59	57	57	68	67	83	81	86	85	88	88	89	88	83	83
19	73	72	68	68	50	50	49	48	59	59	57	56	68	68	83	82	86	85	88	88	90	89	83	83
20	72	72	68	68	51	50	48	48	59	58	57	56	69	68	83	82	86	86	88	88	90	90	83	82
21	72	72	68	67	51	51	52	48	58	56	58	57	69	69	82	80	87	86	89	88	90	90	83	82
22	72	71	67	66	52	51	53	52	56	56	58	58	69	69	82	80	87	86	89	88	91	80	83	82
23	71	71	66	65	52	52	53	52	56	56	60	58	69	68	83	82	88	87	89	88	91	90	84	83
24	72	71	65	65	53	52	52	51	57	56	61	60	69	68	83	82	87	87	90	89	91	91	84	83
25	72	71	66	65	53	53	51	51	57	57	62	61	69	68	84	83	88	87	90	89	92	91	84	84
26	72	71	66	66	53	52	52	51	57	57	63	62	70	69	84	84	88	88	91	90	91	91	84	84
27	71	70	67	66	52	52	53	52	57	57	64	63	70	70	85	84	90	88	92	90	92	91	86	84
28	70	69	67	67	52	51	54	53	57	57	65	64	71	70	85	84	90	90	92	90	93	91	86	85
29	69	68	67	65	52	51	54	54	--	--	65	63	71	71	84	84	91	90	92	91	93	92	86	85
30	68	68	65	64	53	52	55	54	--	--	63	62	73	71	84	84	92	91	91	90	92	91	85	85
31	68	68	--	--	53	53	56	55	--	--	63	62	--	--	84	84	--	--	91	91	91	91	--	--
Average	74	73	66	66	55	55	52	51	57	56	59	58	69	68	82	80	86	85	90	90	91	90	87	86

2-3755. ESCAMBIA RIVER NEAR CENTURY, FLA.

LOCATION.--At gaging station, 16 feet downstream from bridge on State Highway 4, 1.2 miles downstream from Escambia Creek, and 1 3/4 miles east of Century, Escambia County.
DRAINAGE AREA.--3,817 square miles.
RECORDS AVAILABLE.--Chemical analyses: January 1952 to December 1952, September 1954 to September 1959.
Water temperatures: January 1952 to December 1953, October 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 98 ppm Nov. 21-30; minimum, 58 ppm Feb. 21-28, Mar. 1-10, 11-20, June 1-10.
Hardness: Maximum, 50 ppm Nov. 11-20, 21-30; minimum, 18 ppm Mar. 21-31.
Specific conductance: Maximum daily, 140 micromhos Dec. 11; minimum daily 42 micromhos Apr. 4.
Water temperatures: Maximum 85°F Aug. 29; minimum 42°F Dec. 14.
EXTREMES, 1952-53, 1958-59.--Dissolved solids: Maximum, 101 ppm Sept. 11-20, 1953; minimum, 51 ppm Apr. 1-6, 9-10, 1952, Dec. 21-30, 1953.
Hardness: Maximum, 50 ppm Nov. 11-20, 21-30, 1958; minimum, 6 ppm Feb. 15, 1953.
Specific conductance: Maximum daily, 178 micromhos Aug. 27, 1953; minimum daily, 22 micromhos Feb. 15, 1953.
Water temperatures: Maximum 98°F July 1, 1952; minimum 39°F Dec. 30, 1953.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Oct. 1-10, 1958....	2,195	12	0.17	14	1.2	5.5	1.0	36	5.2	10	0.0	0.3	86	40	10	104	7.2	30
Oct. 11-20.....	1,536	12	.14	15	1.1	7.1	1.2	41	4.4	14	.1	.8	97	42	8	120	7.2	20
Oct. 21-31.....	1,367	12	.14	17	.4	7.9	1.2	40	4.8	16	.1	.7	97	44	11	124	7.0	20
Nov. 1-10.....	1,740	12	.13	14	2.2	7.4	1.2	37	4.0	15	.1	.6	94	44	14	116	7.1	20
Nov. 11-20.....	1,500	14	.14	16	2.4	7.1	1.2	40	4.8	13	.1	.3	92	50	17	116	7.1	25
Nov. 21-30.....	1,443	13	.15	16	2.4	7.2	1.0	40	4.8	14	.1	.2	98	50	17	117	7.2	30
Dec. 1-10.....	1,672	13	.12	13	.4	7.1	.7	40	3.2	10	.1	.6	79	34	1	110	7.1	20
Dec. 11-20.....	2,241	11	.11	11	.6	6.6	.7	34	3.6	11	.1	.4	71	30	2	102	6.9	20
Dec. 21-31.....	2,127	11	.12	11	.6	6.7	.7	34	3.6	10	.1	.4	66	30	2	102	7.0	20
Jan. 1-10, 1959....	2,531	16	.23	10	1.0	6.4	.7	32	4.0	10	.1	.0	66	29	3	99	6.9	30
Jan. 11-20.....	2,927	10	.12	10	1.0	5.8	.8	30	4.0	8.8	.1	.0	62	29	4	95	7.0	33
Jan. 21-31.....	3,856	10	.12	8.8	1.0	4.9	.8	26	4.0	8.0	.1	.3	63	26	4	89	6.8	48
Feb. 1-10.....	12,998	8.1	.13	7.6	.1	3.3	.7	18	4.0	6.5	.0	.2	59	20	4	60	6.6	80
Feb. 11-20.....	12,520	8.6	.16	6.4	1.1	2.9	.6	18	4.8	5.8	.0	.1	62	20	6	59	6.6	90
Feb. 21-28.....	6,970	8.6	.15	8.2	1.1	3.5	.6	24	4.8	6.5	.0	.1	58	25	6	70	6.9	60
Mar. 1-10.....	8,535	8.8	.12	7.8	.5	3.7	.4	23	4.1	6.8	.0	.6	58	22	2	66	6.9	65
Mar. 11-20.....	9,325	9.3	.15	8.0	.2	3.1	.6	22	4.1	5.5	.0	.5	58	21	3	62	6.9	90
Mar. 21-31.....	13,602	7.5	.16	6.2	.6	2.8	.6	19	3.6	5.0	.0	.4	a64	18	2	54	6.9	120

a Organic matter present; equals or exceeds 40 percent.

Apr. 1-10, 1959....	16,205	9.5	.19	6.4	1.2	3.2	.6	22	4.8	4.5	.1	.0	a63	21	3	56	6.8	50
Apr. 11-20.....	11,105	12	.22	7.2	1.2	4.5	.5	28	6.0	5.5	.0	.0	68	23	0	70	6.9	50
Apr. 21-30.....	6,402	11	.38	9.2	1.0	4.6	.5	32	5.6	6.0	.0	.0	65	27	1	78	7.0	15
May 1-10.....	3,363	13	.19	12	1.0	6.1	.4	39	6.8	8.5	.0	.0	78	34	2	101	7.1	10
May 11-20.....	2,379	11	.17	12	1.0	6.5	.5	37	6.4	10	.0	.1	75	34	4	105	7.2	20
May 21-31.....	4,821	10	.18	9.2	.7	4.6	.5	29	6.0	7.0	.1	.0	71	26	2	80	6.9	45
June 1-10.....	10,755	10	.14	7.2	1.5	3.2	.0	22	2.4	6.2	.1	.5	58	24	6	66	7.0	65
June 11-20.....	13,059	9.6	.12	7.6	.9	3.2	.0	22	2.4	6.0	.1	.5	62	22	4	67	7.0	85
June 21-30.....	2,916	11	.25	12	1.2	5.9	.0	35	3.2	10	.1	.5	74	35	6	100	7.3	50
July 1-10.....	4,649	12	.13	10	1.0	4.9	.7	32	3.6	8.0	.0	.9	61	29	3	81	6.7	45
July 11-20.....	4,162	12	.09	8.8	1.9	5.4	.7	31	3.2	8.5	.0	.8	66	30	4	83	6.7	45
July 21-31.....	3,283	13	.09	11	.6	6.0	.7	31	3.2	10	.0	.6	65	30	4	90	6.6	45
Aug. 1-10.....	4,430	16	.09	8.8	1.5	5.8	.7	31	3.2	8.5	.0	.6	68	28	2	82	6.7	45
Aug. 11-20.....	2,991	15	.10	12	.5	7.0	.7	34	3.2	10	.0	.4	68	32	4	94	7.1	45
Aug. 21-31.....	2,444	19	.09	12	1.5	8.6	.7	40	4.0	12	.0	.5	79	36	3	111	6.9	45
Sept. 1-10.....	1,965	17	.05	12	1.0	8.0	.9	40	2.8	13	.0	.5	90	34	1	108	6.7	30
Sept. 11-13, 15-20.	11,667	21	.07	9.6	.2	5.9	.9	36	2.0	5.0	.1	.7	86	25	0	81	6.8	70
Sept. 14.....	16,400	13	--	6.4	1.0	4.3	.9	24	1.2	7.0	.2	.6	84	20	0	56	6.5	--
Sept. 21-30.....	4,005	14	.07	12	.7	6.3	.7	39	3.2	10	.2	.7	84	33	1	98	7.4	45
Time-weighted average.....	5,532	12	0.14	11	1.0	5.5	0.7	32	4.1	9.0	0.1	0.4	73	28	2	89	--	46

a Organic matter present; equals or exceeds 40 percent.

ESCAMBIA RIVER BASIN--Continued

2-3755. ESCAMBIA RIVER NEAR CENTURY, FLA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	62	56	52	--	56	62	72	76	79	80	81
2	73	61	55	52	54	56	63	73	76	79	83	83
3	71	60	58	52	52	55	63	74	76	74	84	83
4	70	59	58	51	52	57	65	75	76	81	83	83
5	72	60	58	47	53	58	64	75	75	79	83	83
6	72	61	52	45	51	52	66	73	76	79	83	83
7	75	61	54	47	52	55	65	77	76	79	82	83
8	71	61	54	48	53	55	67	77	74	79	81	80
9	74	65	52	50	55	57	69	77	74	82	83	82
10	74	63	52	47	58	52	69	77	74	80	83	81
11	74	61	51	46	52	57	67	77	74	81	84	78
12	72	61	50	46	56	52	66	76	75	80	82	75
13	71	62	49	48	59	57	64	76	75	78	78	72
14	71	65	42	50	61	56	--	78	76	80	78	72
15	71	73	45	52	61	57	61	75	75	80	79	73
16	72	75	47	--	60	55	62	77	76	82	79	73
17	72	72	49	45	60	55	62	76	77	81	78	74
18	71	70	47	46	60	55	64	77	79	82	79	74
19	71	65	47	47	55	55	66	75	79	79	78	75
20	71	64	50	49	54	56	66	73	81	82	79	75
21	73	60	49	56	54	58	65	74	82	81	79	75
22	70	60	48	50	55	59	64	75	81	79	81	76
23	71	59	52	49	57	59	64	75	82	79	82	77
24	70	61	52	48	55	59	64	75	81	81	82	77
25	69	64	49	49	54	60	66	72	82	83	82	78
26	65	65	47	52	55	60	67	77	84	82	82	75
27	66	62	49	54	56	64	68	77	84	81	83	74
28	63	50	50	--	52	62	69	78	84	82	64	76
29	66	60	52	54	--	61	70	76	83	82	85	77
30	61	50	52	56	--	62	70	76	82	80	81	78
31	62	--	52	55	--	64	--	76	--	81	79	--
Average	70	62	51	50	55	57	65	76	78	80	81	78

PERDIDO RIVER BASIN

2-3765. PERDIDO RIVER AT BARRINEAU PARK, FLA.

LOCATION.--At gaging station at county highway bridge, 1,000 feet downstream from Alligator Creek, half a mile upstream from St. Louis-San Fransisco Railroad Bridge, and half a mile southwest of Barrineau Park, Escambia County.
DRAINAGE AREA.--394 square miles.
RECORDS AVAILABLE.--Chemical analyses: December 1957 to August 1959.
Water temperatures: December 1957 to December 1958.
EXTREMES, 1957-58.--Dissolved solids: Maximum, 52 ppm Sept. 1-10, 1958; minimum, 21 ppm Feb. 21-28, Mar. 21-31, Apr. 1-10, Nov. 11-20, 1958.
Hardness: Maximum, 14 ppm Sept. 21-25; minimum, 4 ppm Feb. 11-20, Apr. 1-10, 11-20, July 21-31, Dec. 1-10, 1958.
Specific conductance: Maximum daily, 68 micromhos Aug. 5, 1958; minimum daily, 17 micromhos Oct. 24.
Water temperatures: Maximum, 88°F Aug. 14; minimum, 42°F Feb. 20, 1958.
REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla. Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Chemical analyses, in parts per million, October 1958 to August 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
Oct. 1-10, 1958....	364	9.9	0.07	3.0	1.1	2.7	0.2	6	0.5	3.2	0.1	0.0	26	12	7	23	6.4	20
Oct. 11-20.....	293	15	.06	2.4	.4	1.6	.8	8	.4	3.5	.1	.3	32	8	1	23	6.4	5
Oct. 21-31.....	282	12	.05	2.4	1.7	2.7	.9	8	.0	3.5	.0	.3	34	13	6	25	6.5	5
Nov. 1-10.....	369	8.5	.05	1.6	.6	2.9	.2	10	1.4	3.2	.1	.0	24	6	0	29	6.7	10
Nov. 11-20.....	303	9.3	.06	1.4	.4	2.3	.2	8	1.2	3.0	.1	.0	a22	5	0	24	6.3	10
Nov. 21-30.....	345	9.5	.05	1.6	.4	2.3	.2	7	1.2	3.2	.1	.0	25	6	0	25	6.3	10
Dec. 1-10.....	326	11	.04	1.6	.1	2.4	.2	7	1.2	3.2	.1	.1	23	4	0	24	6.3	8
Dec. 11-20.....	374	11	.05	1.8	.1	2.8	.2	9	.4	3.1	.1	.0	a24	5	0	26	6.6	5
Dec. 21-31.....	385	10	.07	1.6	.2	2.3	.2	6	.6	3.2	.1	.2	22	5	0	24	6.3	8
Jan. 28, 1959.....	365	8.1	.00	.8	.2	1.8	.0	2	1.9	3.8	.0	.0	23	3	2	18	6.1	3
Mar. 11.....	693	7.3	.02	.8	.2	2.3	.0	2	1.8	3.8	.0	.1	a17	3	2	22	5.3	7
Apr. 21.....	968	4.7	.04	.6	.4	1.9	.0	3	.5	3.2	.0	.1	21	3	0	18	5.7	10
June 6.....	1,450	7.3	.23	.8	.2	2.2	.0	1	.9	4.5	.1	.1	b36	3	2	25	4.8	60
July 15.....	1,000	8.8	.16	.8	.1	1.6	.1	2	.6	3.5	.1	.0	27	2	1	21	5.1	40
Aug. 25.....	528	6.1	.05	.6	.6	1.8	.4	4	.4	2.0	.0	.2	22	4	0	18	5.6	23

a Calculated from determined constituents.
b Organic matter present; sum of mineral constituents 17 parts per million.

757-048 O - 65 - 26

PERDIDO RIVER BASIN--Continued

2-3765. PERDIDO RIVER AT BARRINEAU PARK, FLA.--Continued

Temperature (°F) of water, October to December 1958

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	73	65	57									
2	72	64	58									
3	75	61	60									
4	78	--	58									
5	73	61	61									
6	73	63	59									
7	70	83	56									
8	72	63	58									
9	73	61	57									
10	74	67	--									
11	69	--	56									
12	69	62	56									
13	68	63	56									
14	--	65	54									
15	68	72	46									
16	68	--	48									
17	69	70	46									
18	--	70	50									
19	68	67	51									
20	68	63	53									
21	69	59	53									
22	69	59	53									
23	69	60	56									
24	68	60	--									
25	68	63	--									
26	68	66	53									
27	64	68	53									
28	62	63	53									
29	61	59	52									
30	61	55	55									
31	64	--	53									
Average	69	63	54									

MOBILE RIVER BASIN

2-3885. OOSTANAULA RIVER AT ROME, GA.

LOCATION.--Intake of filtration plant of Rome Water Works, just below Southern Railway bridge in Rome, Floyd County, 1 1/4 miles downstream from Dry Creek, 2 miles upstream from mouth, and 2 1/2 miles downstream from gaging station.
DRAINAGE AREA.--2,150 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1941 to September 1942, July 1958 to September 1959.
Water temperatures: October 1941 to September 1942, July 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 87 ppm Aug. 1-10, 1959; minimum, 45 ppm Jan. 22-26.
Hardness: Maximum, 55 ppm Oct. 1-10; minimum, 22 ppm Jan. 22-26.
Specific conductance: Maximum daily, 153 micromhos Oct. 30, 1958, Aug. 2, Sept. 4, 1959; minimum daily, 50 micromhos Jan. 25.
Water temperatures: Maximum, 90°F Aug. 2, 9, 1959; minimum, 35°F Jan. 7, 8.
EXTREMES, 1941-42, 1958-59.--Dissolved solids: Maximum, 87 ppm Aug. 1-10, 1959; minimum, 43 ppm Mar. 21-31, 1942.
Hardness: Maximum, 60 ppm Oct. 1-10, 1941; minimum, 22 ppm Jan. 22-26, 1959.
Water temperatures: Maximum, 90°F Aug. 2, 9, 1959; minimum, 33°F Jan. 11, 1942.
REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla. Records of discharge for gaging station near Rome for water year October 1958 to September 1959 given in WSP 1624. No appreciable inflow between gaging station and sampling point except during periods of heavy local rains.

Chemical analyses, in parts per million, July 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
July 10-20, 1958...	3,777	8.0	0.01	10	0.9	2.9	1.2	31	6.8	3.8	0.0	0.4	50	28	3	76	7.3	4
July 21-31.....	3,624	9.1	.01	11	1.7	3.4	1.0	42	4.2	4.2	.0	.2	57	34	0	86	7.5	4
Aug. 1-10.....	1,744	11	.01	15	2.6	4.6	1.0	56	4.0	7.0	.0	.3	a74	48	2	111	7.6	4
Aug. 11-20.....	1,488	10	.01	14	3.4	4.9	1.0	51	2.5	6.0	.0	.2	a67	49	7	104	7.5	4
Aug. 21-31.....	1,179	9.3	.00	15	2.8	5.3	1.2	56	4.0	7.5	.0	.3	a73	49	3	114	7.7	4
Sept. 1-10.....	869	8.5	.00	14	3.4	6.1	1.1	60	4.5	9.0	.1	.0	a77	49	0	125	7.9	3
Sept. 11-20.....	844	8.1	.00	14	3.2	6.5	1.2	62	4.0	9.5	.1	.0	a78	48	0	129	7.9	3
Sept. 21-30.....	1,890	7.9	.00	12	2.4	4.2	1.5	48	3.5	7.0	.1	.0	63	40	0	100	7.6	6
Oct. 1-10.....	1,310	10	.00	16	3.6	5.1	.8	53	4.0	9.0	.1	.2	a75	55	12	118	7.4	4
Oct. 11-20.....	895	8.9	.00	14	4.1	6.6	.7	58	2.0	11	.1	.1	a82	52	4	133	7.4	3
Oct. 21-31.....	765	8.1	.02	16	2.9	8.0	1.1	62	3.2	12	.1	.0	77	52	1	132	7.2	5
Nov. 1-10.....	900	7.7	.01	14	2.9	6.4	.9	60	3.2	10	.1	.0	84	47	0	125	7.0	5
Nov. 11-20.....	902	7.6	.02	14	3.2	6.9	.9	62	3.6	11	.1	.0	85	48	0	134	6.9	5
Nov. 21-30.....	940	7.0	.02	14	3.9	7.4	.7	61	2.8	12	.1	.5	83	51	1	132	7.2	5
Dec. 1-10.....	1,142	8.4	.01	12	2.7	6.5	1.1	52	4.4	8.8	.1	.0	a70	41	0	116	7.2	3
Dec. 11-20.....	889	8.4	.01	13	2.8	8.0	1.0	56	3.6	11	.1	.0	a76	44	0	131	7.8	3
Dec. 21-31.....	1,376	7.8	.01	14	2.4	6.0	1.0	56	4.2	8.2	.1	.0	a72	45	0	122	7.6	2

a Calculated from determined constituents.

MOBILE RIVER BASIN--Continued

2-3885. OOSTANAULA RIVER AT ROME, GA.--Continued

Chemical analyses, in parts per million, July 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Jan. 1-8, 1959	1,444	8.3	0.03	12	2.7	4.4	1.0	50	4.6	5.2	0.1	0.0	63	41	0	108	7.1	6
Jan. 9-14	1,353	7.8	.01	13	2.7	5.6	.8	54	4.2	8.0	.1	.0	a69	44	0	118	7.2	2
Jan. 15-21	2,983	7.1	.02	10	2.6	3.4	1.2	43	5.2	4.5	.1	.0	57	36	1	92	7.5	12
Jan. 22-26	10,536	5.5	.04	7.0	1.1	1.8	1.5	25	4.4	4.0	.1	.0	45	22	2	58	6.9	37
Jan. 27-31	2,706	7.5	.02	12	2.6	3.6	1.0	48	4.8	5.5	.2	.7	63	40	1	102	7.6	2
Feb. 1-10	2,351	7.8	.00	15	2.1	4.2	.9	54	5.6	5.5	.0	.5	73	46	2	113	7.2	7
Feb. 11-20	7,347	7.1	.04	10	1.8	2.8	1.0	38	5.6	3.8	.0	.3	67	32	2	82	7.2	33
Feb. 21-28	2,670	14	.00	13	2.3	3.8	.7	50	4.4	5.2	.0	.6	74	42	1	106	7.5	3
Mar. 1-10	3,318	8.8	.02	13	2.2	3.8	.8	49	4.8	5.0	.0	.3	64	42	2	103	7.3	7
Mar. 11-20	4,938	9.8	.04	11	2.1	3.0	.8	43	5.6	3.8	.0	.2	64	36	1	88	7.3	22
Mar. 21-31	4,081	11	.03	12	2.2	3.3	.8	47	4.4	4.5	.0	.2	70	39	0	97	7.4	15
Apr. 1-10	3,142	9.3	.03	13	2.1	3.6	.9	50	4.4	4.0	.0	.3	a63	41	0	102	7.2	5
Apr. 11-20	7,823	7.0	.03	11	1.1	3.2	1.0	41	4.4	2.5	.0	.3	57	32	0	83	7.2	10
Apr. 21-30	7,480	7.6	.01	11	1.2	2.4	.9	42	4.0	2.2	.0	.3	54	32	0	80	7.2	10
May 1-10	2,138	8.9	.01	12	2.8	4.3	.6	54	3.2	5.0	.0	.3	65	42	0	107	7.3	5
May 11-20	1,662	8.1	.00	12	2.9	4.5	.7	55	2.8	5.8	.1	.5	67	42	0	111	7.3	5
May 21-31	3,645	10	.06	10	2.1	3.0	1.0	42	6.0	3.5	.1	.2	71	34	0	86	7.2	60
June 1, 3-10	4,817	7.4	.00	11	1.8	4.2	.9	44	4.0	3.2	.2	.0	a55	35	0	88	7.6	5
June 2	10,400	--	--	12	4.9	--	--	39	--	--	--	--	--	50	16	177	7.4	--
June 11-20	1,851	7.5	.00	13	2.3	4.9	.9	52	3.2	5.5	.2	.0	a64	42	0	107	7.5	5
June 21-30	1,881	7.8	.01	12	2.9	5.3	1.2	51	4.0	6.0	.2	.0	64	42	0	106	7.4	5
July 1	1,270	--	--	--	--	--	--	50	4.0	11	--	--	--	46	5	115	7.0	--
July 2-7	2,095	7.3	.00	11	3.0	2.9	1.1	42	4.0	4.0	.0	.2	a54	40	6	89	7.0	2
July 8-10	1,180	8.8	.00	13	2.8	4.3	.9	50	4.0	6.5	.0	.2	a66	44	3	106	7.9	2
July 11-16, 18-20	1,302	8.6	.00	13	2.8	7.0	.9	56	4.0	7.5	.1	.1	72	44	0	123	8.0	2
July 17	1,400	--	--	--	--	--	--	35	2.8	5.0	--	--	--	32	4	82	6.8	--
July 21	1,690	--	--	--	--	--	--	52	4.0	12	--	--	--	48	6	125	7.0	--
July 22-31	1,457	8.7	.00	12	1.9	4.9	.9	44	3.6	7.5	.0	.1	a62	38	2	98	7.7	2
Aug. 1-10	965	10	.00	14	2.9	8.2	.6	55	4.0	9.5	.2	.0	87	47	2	129	7.2	5
Aug. 11-20	852	10	.00	14	2.7	7.6	.4	56	3.6	9.5	.3	.1	84	46	0	130	7.4	5
Aug. 21-31	876	11	.00	14	2.4	7.7	.7	52	4.0	10	.2	.0	86	45	2	129	7.1	5
Sept. 1-10	1,122	7.6	.00	13	2.1	8.6	1.6	52	3.6	12	.1	.1	80	41	0	123	7.6	5
Sept. 11-20	1,068	8.9	.00	12	2.4	8.3	1.2	51	3.6	10	.1	.0	78	40	0	120	7.0	5
Sept. 21-30	680	8.9	.00	14	2.7	9.4	1.2	58	3.2	12	.2	.0	86	46	0	138	7.2	5
Time-weighted average	2,387	8.7	0.01	13	2.5	5.3	1.0	51	4.1	7.1	0.1	0.2	70	43	1	110	--	8

a Calculated from determined constituents.

MOBILE RIVER BASIN--Continued

2-3885. OOSTANAULA RIVER AT ROME, GA.--Continued

Temperature (°F) of water, July to September 1958

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										--	82	78
2										--	81	75
3										--	81	76
4										--	81	76
5										--	81	73
6										--	81	77
7										--	80	78
8										--	80	73
9										--	80	74
10										74	82	76
11										74	80	73
12										75	80	72
13										75	80	72
14										75	79	74
15										--	80	75
16										78	81	75
17										77	79	76
18										78	80	75
19										78	80	75
20										78	80	75
21										80	80	75
22										78	80	75
23										76	80	74
24										75	79	75
25										75	77	74
26										75	78	--
27										78	75	74
28										78	75	75
29										80	77	72
30										84	79	70
31										83	78	--
Average										--	80	75

MOBILE RIVER BASIN--Continued

2-3885. COOSTANAULA RIVER AT ROME, GA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	66	55	45	45	50	52	57	65	70	83	85	80
2	65	55	45	45	50	52	62	65	70	83	90	80
3	64	55	46	45	46	52	60	72	70	80	85	80
4	62	55	46	44	45	50	60	70	70	80	85	80
5	64	58	43	40	44	48	60	70	75	80	85	80
6	66	57	45	38	44	48	62	77	70	80	80	80
7	65	55	45	35	44	47	65	75	72	80	85	80
8	65	55	44	35	45	50	65	75	70	80	80	80
9	64	58	43	46	46	50	67	78	70	80	90	80
10	62	55	41	46	46	80	67	75	75	80	85	80
11	65	55	40	38	50	50	65	75	75	80	80	80
12	65	54	40	36	50	50	65	70	75	80	80	70
13	64	54	--	40	53	50	50	70	75	80	80	75
14	64	56	40	40	50	50	55	70	75	80	80	70
15	63	55	38	42	52	50	55	70	75	80	80	70
16	64	57	38	46	55	50	65	70	75	80	85	70
17	64	57	37	40	55	55	60	70	80	78	80	70
18	65	62	37	40	50	50	60	70	85	80	80	70
19	65	60	37	40	50	50	63	70	75	80	80	70
20	65	58	37	40	45	50	65	70	75	80	85	70
21	65	56	38	40	45	50	62	70	80	80	80	70
22	65	54	38	42	45	55	62	70	80	80	80	75
23	65	54	38	42	45	55	62	75	80	80	85	75
24	64	54	40	42	40	55	60	72	75	80	85	70
25	64	54	38	42	45	60	--	73	75	80	85	65
26	60	53	38	43	50	60	60	74	75	80	85	75
27	60	51	40	--	50	50	65	75	77	80	85	75
28	58	48	40	44	45	52	65	75	78	--	85	75
29	56	46	--	46	--	55	65	70	80	85	85	75
30	56	46	46	50	--	55	65	72	82	85	80	75
31	56	--	46	50	--	55	--	70	--	85	80	--
Average	63	55	41	42	48	52	60	72	75	81	83	75

2-3920. ETOWAH RIVER AT CANTON, GA.

LOCATION.--At Canton Water Treatment Plant intake in Canton, Cherokee County, half a mile upstream from gaging station, 1 1/4 miles upstream from Canton Creek, and 1 1/4 miles downstream from Hickory Log Creek.
DRAINAGE AREA.--605 square miles (above gaging station)
RECORDS AVAILABLE.--Chemical analyses: July 1958 to September 1959.
Water temperatures: July 1956 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 52 ppm Feb. 11-20, 21-28; minimum, 32 ppm Dec. 1-10, 11-20, Jan. 1-10.
Hardness: Maximum, 58 ppm Sept. 13, 1959; minimum, 14 ppm Dec. 1-10, 11-20, 21-31, Jan. 1-10.
Specific conductance: Maximum daily, 252 micromhos May 16; minimum daily, 35 micromhos Sept. 11, 12, 1959.
Water temperatures: Maximum, 80°F Aug. 23, 1959; minimum, freezing point Jan. 5, 6.
REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla. Records of discharge for water year October 1958 to September 1959 given in WSP 1624. No appreciable inflow between sampling point and gaging station except during periods of heavy local rains.

Chemical analyses, in parts per million, July 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
July 10-20, 1958...	1,274	9.8	0.01	7.6	0.2	2.1	1.2	27	2.2	3.8	0.0	0.3	a40	20	0	49	7.4	5
July 21-31.....	1,351	10	.01	7.2	.7	1.6	.8	26	2.8	1.2	.0	.1	38	21	0	51	7.5	4
Aug. 1-5, 7-10.....	844	11	.02	6.4	1.0	1.9	.8	26	1.8	1.8	.0	.2	a38	20	0	46	7.5	4
Aug. 6.....	950	--	--	--	--	--	--	90	--	2.0	--	--	--	76	2	147	8.0	--
Aug. 11-20.....	812	10	.04	5.6	1.2	1.6	.9	23	2.0	1.5	.0	.2	35	19	0	42	7.4	7
Aug. 21-31.....	665	10	.03	5.6	1.2	1.9	.9	23	1.5	1.8	.0	.2	34	19	0	43	7.4	4
Sept. 1-10.....	474	13	.05	5.0	.9	1.3	.4	21	.5	1.8	.0	.2	a33	16	0	36	7.3	2
Sept. 11-20.....	520	14	.01	4.0	2.3	1.2	.5	22	1.0	1.8	.0	.1	a36	20	2	42	7.0	2
Oct. 1-10.....	837	11	.01	6.4	1.0	1.2	.5	24	2.0	1.8	.1	.2	a36	20	0	45	6.6	4
Oct. 11-20.....	492	11	.03	5.8	1.3	1.4	.6	23	1.0	1.8	.1	.2	37	20	1	43	7.0	6
Oct. 21-31.....	464	11	.06	5.4	1.5	1.4	.6	22	1.0	1.8	.1	.1	a34	20	2	42	7.0	5
Nov. 1-10.....	523	11	.03	6.8	1.1	1.1	.7	22	1.6	2.0	.1	.0	a35	22	4	40	6.6	5
Nov. 11-20.....	471	10	.02	5.2	.9	1.4	.7	22	1.6	1.0	.1	.0	42	16	0	49	6.6	5
Nov. 21-30.....	519	9.9	.03	5.8	1.1	1.4	.7	22	.8	2.0	.1	.2	42	19	1	39	6.7	7
Dec. 1-10.....	504	12	.01	5.2	.4	1.6	.5	23	.8	.8	.0	.0	a32	14	0	39	7.1	4
Dec. 11-20.....	479	11	.01	5.2	.2	1.6	.3	23	1.6	.8	.0	.0	32	14	0	39	6.9	4
Dec. 21-31.....	690	10	.01	5.0	.4	1.6	.4	22	1.2	1.0	.0	.0	33	14	0	39	7.2	5
Jan. 1-10, 1959....	722	11	.03	5.2	.2	1.6	.4	22	.9	1.2	.0	.2	a32	14	0	39	7.3	4
Jan. 11-20.....	633	9.9	.01	5.4	.5	1.8	.8	24	1.2	.8	.1	.0	37	16	0	43	7.1	3
Jan. 21-31.....	1,351	9.8	.03	6.0	.7	1.8	.9	24	1.2	.8	.1	.2	a34	18	0	48	6.9	7
Feb. 1-10.....	653	11	.00	5.8	.9	1.6	.8	24	1.6	1.8	.0	.2	41	18	0	47	7.0	2
Feb. 11-20.....	2,103	8.8	.01	6.4	.7	1.7	.9	26	2.0	1.5	.0	.3	52	19	0	49	7.2	6
Feb. 21-28.....	978	11	.00	5.6	1.0	1.8	.7	24	2.4	1.8	.0	.3	52	18	0	45	7.3	3

a Calculated from determined constituents.

MOBILE RIVER BASIN--Continued

2-3920. ETOWAH RIVER AT CANTON, GA.--Continued

Chemical analyses, in parts per million, July 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
Mar. 6, 1959	2,220	--	--	16	0.7	--	--	56	--	--	--	--	--	43	0	96	7.8	--
Mar. 1-5, 7-10	1,085	10	0.01	5.4	.7	2.0	0.6	24	2.0	1.5	0.0	0.2	35	16	0	45	6.7	5
Mar. 11-20	1,686	9.7	.03	6.0	.5	1.7	.6	24	1.8	1.2	.0	.3	35	17	0	46	7.0	15
Mar. 21-31	1,147	9.8	.00	5.4	.6	1.7	.6	24	1.2	1.2	.0	.0	34	16	0	41	7.4	3
Apr. 1-10	1,287	10	.00	5.8	.4	2.0	.8	25	2.4	1.0	.0	.2	36	16	0	46	7.1	5
Apr. 11-20	1,863	8.5	.00	7.6	.6	1.8	1.1	30	2.8	.8	.0	.3	39	22	0	55	7.2	5
Apr. 21-30	1,341	9.6	.02	5.8	.4	2.9	.7	27	2.4	1.2	.0	.2	37	16	0	50	7.1	5
May 9	857	--	--	5.2	--	--	--	37	--	--	--	--	--	--	--	71	7.3	--
May 1-8, 10	966	11	.00	4.8	.7	2.6	.6	22	1.6	1.2	.0	.2	a34	15	0	44	7.1	5
May 16	838	--	--	6.4	--	--	--	126	--	--	--	--	--	--	--	252	8.0	--
May 11-15, 17-20	906	11	.02	5.4	.6	2.6	.6	23	2.0	1.0	.1	.2	35	16	0	46	7.2	5
May 21	1,400	--	--	15	--	--	--	56	--	--	--	--	--	--	--	102	7.8	--
May 25	990	--	--	6.8	--	--	--	92	--	--	--	--	--	--	--	174	7.7	--
May 22-24, 26-31	1,329	9.6	.10	6.6	.6	2.4	.7	26	2.0	1.0	.1	.6	41	19	0	53	7.1	10
June 1-10	1,629	8.2	.00	6.2	.4	3.0	.9	24	2.4	1.5	.1	.1	a35	17	0	51	6.4	0
June 11-20	852	11	.00	5.6	.6	3.9	.9	26	2.0	1.5	.1	.0	44	16	0	53	6.8	1
June 21-23, 27-30	720	10	.00	4.0	1.7	1.8	.7	24	1.6	1.5	.1	.0	33	17	0	48	6.6	0
June 24	857	--	--	5.2	--	--	--	44	--	--	--	--	--	--	--	84	7.1	--
June 25	1,140	--	--	11	--	--	--	39	--	--	--	--	--	--	--	68	6.9	--
June 26	1,070	--	--	15	--	--	--	52	--	--	--	--	--	--	--	92	7.2	--
July 1-10	614	11	.00	5.2	1.0	2.3	.6	23	1.2	2.5	.0	.1	a35	17	0	48	7.3	2
July 11-16, 18-20	696	11	.00	6.2	.1	1.6	.6	22	1.2	2.0	.0	.2	36	16	0	46	7.0	2
July 17	782	--	--	--	--	--	--	64	1.6	4.0	--	--	--	52	0	115	7.5	--
July 21-31	646	12	.00	6.0	.7	2.3	.6	24	1.2	2.0	.0	.2	a37	18	0	48	7.0	2
Aug. 1-10	479	13	.00	4.8	1.0	2.3	.1	22	.8	1.0	.2	.0	37	16	0	40	7.0	5
Aug. 11-20	474	11	.00	5.0	.6	4.2	.1	26	1.2	1.0	.2	.0	46	15	0	49	7.3	5
Aug. 21-31	435	12	.00	5.0	.6	3.3	.1	24	1.6	1.0	.2	.0	a36	15	0	46	7.2	5
Sept. 1-10	642	9.6	.00	5.6	.2	2.6	.8	24	1.6	.5	.1	.0	34	15	0	46	7.1	1
Sept. 11-12, 14-20	529	11	.00	4.8	.5	2.2	.8	22	.8	.5	.1	.0	34	14	0	42	6.6	1
Sept. 13	522	--	--	--	--	--	--	66	--	1.0	--	--	--	58	4	111	7.1	--
Sept. 21-30	390	11	.00	4.4	.6	3.0	1.0	22	5.2	1.0	.1	.0	42	14	0	44	6.4	1
Time-weighted average	873	11	0.01	5.7	0.8	2.0	0.7	25	1.7	1.4	0.1	0.1	37	18	0	47	--	4

a Calculated from determined constituents.

MOBILE RIVER BASIN--Continued

2-3920. ETOWAH RIVER AT CANTON, GA.--Continued

Temperature (°F) of water, July to September 1958

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										--	73	71
2										--	73	71
3										--	74	69
4										--	70	69
5										--	74	69
6										--	73	66
7										--	74	68
8										--	74	68
9										--	74	66
10										--	75	65
11										70	75	65
12										71	74	65
13										74	73	68
14										69	72	63
15										69	73	66
16										70	74	68
17										72	73	69
18										75	71	--
19										69	71	66
20										77	72	68
21										74	72	--
22										73	73	--
23										72	74	--
24										73	74	--
25										70	73	--
26										71	71	--
27										74	71	--
28										73	71	--
29										71	70	--
30										75	71	--
31										71	73	--
Average										--	73	--

MOBILE RIVER BASIN--Continued

2-3920. ETOWAH RIVER AT CANTON, GA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	63	48	43	45	50	--	55	62	71	77	71	75
2	62	49	44	44	47	46	56	62	70	78	76	75
3	59	51	45	46	45	46	55	66	67	77	78	75
4	58	51	46	45	43	43	55	69	69	78	77	76
5	58	52	46	32	42	44	54	65	69	76	77	75
6	59	50	45	32	42	44	55	67	72	74	76	76
7	59	53	43	36	40	44	57	67	67	72	75	75
8	57	54	40	36	42	45	60	67	70	74	77	74
9	58	50	45	37	45	45	61	68	70	72	76	73
10	59	51	39	36	48	45	63	65	70	76	76	73
11	56	47	39	35	50	46	64	65	70	76	75	74
12	59	46	39	34	49	45	63	66	71	74	77	73
13	56	46	39	37	46	44	62	66	73	71	76	72
14	55	47	38	43	50	47	51	65	73	75	75	68
15	56	51	35	44	55	47	51	62	70	75	74	66
16	57	53	35	43	50	46	53	63	72	73	76	66
17	58	56	34	36	49	46	66	63	72	75	77	68
18	60	58	35	37	50	46	59	65	69	74	75	68
19	60	56	35	33	47	46	59	65	70	71	75	68
20	60	51	37	36	47	47	63	69	69	73	75	68
21	58	47	37	39	42	50	60	67	70	73	76	66
22	58	46	39	47	40	52	58	70	75	74	78	67
23	58	45	36	42	42	51	56	70	71	75	80	65
24	58	48	43	38	45	59	56	71	74	75	77	66
25	59	50	39	40	46	53	54	70	73	74	78	69
26	57	51	37	40	45	55	64	68	75	76	78	68
27	54	49	38	41	45	55	60	72	72	76	76	69
28	50	49	40	44	48	56	62	70	76	77	76	70
29	50	43	44	46	--	53	62	68	76	77	76	68
30	48	47	44	47	--	48	62	66	79	78	76	67
31	48	--	45	48	--	50	--	65	--	78	76	--
Average	57	50	40	40	46	48	59	67	72	75	76	70

MOBILE RIVER BASIN--Continued

2-4017. OHATCHEE CREEK AT READS, ALA.

LOCATION.--Temperature recorder at gaging station on left bank, 50 feet upstream from Louisville and Nashville Railroad bridge, and 100 feet downstream from highway bridge at Reads, Calhoun County.
DRAINAGE AREA.--44.2 square miles.
RECORDS AVAILABLE.--Water temperatures: September 1958 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 76°F Aug. 30; minimum, 45°F Jan. 17, 23, 24.
REMARKS.--Recorder stopped Aug. 13-18; range in temperature, maximum 73°F; minimum 68°F. Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Temperature (°F) of water, September 1958
(Continuous ethyl alcohol-actuated thermograph)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1																							--	--
2																							--	--
3																							68	64
4																							68	64
5																							69	64
6																							68	63
7																							68	64
8																							68	63
9																							67	61
10																							67	61
11																							64	63
12																							65	63
13																							66	62
14																							67	62
15																							67	64
16																							68	64
17																							68	65
18																							68	65
19																							67	63
20																							66	65
21																							70	65
22																							70	67
23																							68	66
24																							71	67
25																							69	67
26																							69	66
27																							69	67
28																							67	64
29																							65	61
30																							64	62
31																							--	--
Average																							68	64

MOBILE RIVER BASIN--Continued

2-4017. OHATCHEE CREEK AT READS, ALA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
/Continuous ethyl alcohol-actuated thermograph/

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	65	64	60	59	54	52	55	53	53	53	58	56	60	59	66	62	70	68	74	70	73	71	73	71
2	65	62	59	58	55	54	53	53	53	52	57	54	62	60	68	64	69	68	74	71	74	70	73	70
3	62	62	59	57	56	55	53	52	52	50	57	55	63	59	68	64	68	68	74	70	75	70	71	69
4	63	62	59	58	56	55	52	50	50	49	56	53	63	59	68	64	68	67	73	70	74	71	72	69
5	63	61	60	59	57	56	50	48	49	48	55	53	63	58	68	64	67	66	72	70	73	70	72	69
6	63	61	61	59	56	54	49	48	49	48	53	52	64	59	70	66	67	66	73	70	72	70	72	69
7	63	61	59	58	54	52	50	48	50	48	53	51	66	61	70	66	67	67	73	70	72	70	71	69
8	63	61	59	56	52	51	50	48	52	50	53	51	68	62	71	66	68	66	72	69	74	70	72	69
9	64	62	60	59	52	51	49	48	54	52	56	53	69	63	68	65	68	67	72	69	72	68	71	69
10	65	63	59	57	51	51	49	48	57	54	56	54	66	64	69	66	68	67	72	69	72	68	71	69
11	63	61	58	56	52	51	49	48	57	53	56	53	64	63	68	66	69	67	72	69	72	68	71	69
12	63	61	59	56	51	51	50	48	53	50	53	52	63	59	69	67	70	68	72	69	70	68	69	68
13	62	60	59	57	51	51	52	50	50	49	54	51	59	55	68	68	72	68	72	69	--	--	68	67
14	62	60	59	58	51	50	54	52	56	50	54	54	57	54	69	66	72	68	73	70	--	--	67	66
15	62	60	61	59	50	49	55	51	57	55	56	53	57	55	66	63	70	67	72	69	--	--	66	65
16	64	62	63	61	49	48	51	47	55	52	56	54	60	57	66	62	70	68	72	69	--	--	69	66
17	64	62	63	61	49	48	47	45	55	52	55	53	62	59	66	62	72	68	72	70	--	--	69	65
18	64	62	64	61	50	49	46	46	55	53	55	53	61	61	68	62	71	68	73	70	--	--	69	67
19	64	62	61	58	50	49	49	46	54	51	55	54	62	61	67	64	71	67	73	71	71	69	69	67
20	64	62	59	57	52	50	52	49	51	50	56	55	62	61	66	66	71	66	72	70	74	68	69	65
21	63	61	59	57	51	49	55	52	50	48	58	56	62	61	69	66	71	66	74	70	72	70	69	65
22	63	61	58	56	50	49	55	47	50	49	58	56	61	59	70	67	70	67	74	70	74	69	69	65
23	63	61	59	56	51	50	47	45	54	50	58	55	60	58	70	67	71	68	73	70	73	69	68	65
24	62	60	59	57	51	49	46	45	56	54	60	57	61	57	71	67	72	69	75	70	72	69	69	65
25	61	60	59	57	51	50	48	46	55	54	62	58	62	58	69	68	72	69	74	70	73	69	68	65
26	61	59	59	58	50	49	50	48	57	54	61	61	63	59	68	68	73	69	74	72	73	69	68	66
27	60	58	58	56	51	50	51	50	58	56	61	60	64	61	69	67	73	69	74	72	73	69	70	67
28	59	57	57	54	50	50	54	51	58	56	61	58	66	62	69	68	73	69	74	71	72	69	69	67
29	59	57	54	51	52	50	55	53	--	--	59	56	64	62	69	67	74	69	75	71	72	70	70	67
30	60	58	52	51	53	52	55	54	--	--	58	55	65	62	68	67	74	69	73	71	76	71	69	68
31	60	59	--	--	55	53	54	53	--	--	60	57	--	--	70	68	--	--	73	71	72	71	--	--
Average	63	61	59	57	52	51	51	49	54	51	57	55	63	60	68	66	70	68	73	70	73	69	70	67

MOBILE RIVER BASIN--Continued

2-4018. TALLAHATCHEE CREEK NEAR WELLINGTON, ALA.

LOCATION.--Temperature recorder at gaging station on left bank at upstream side of abandoned covered bridge, 100 feet upstream from bridge on Calhoun County Road 25, three-fourths of a mile downstream from unnamed tributary, and 1 mile east of Wellington, Calhoun County.
DRAINAGE AREA.--88.6 square miles.
RECORDS AVAILABLE.--Water temperatures: August 1958 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 77°F June 30, July 29; minimum, 40°F Jan. 6.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Temperature (°F) of water, August to September 1958
/Continuous ethyl alcohol-actuated thermograph/

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1																					--	--	74	72
2																					--	--	74	71
3																					--	--	74	71
4																					--	--	74	72
5																					--	--	74	72
6																					--	--	74	71
7																					--	--	74	72
8																					--	--	74	71
9																					--	--	71	68
10																					--	--	71	67
11																					--	--	70	68
12																					--	--	70	69
13																					--	--	70	68
14																					--	--	70	68
15																					--	--	73	71
16																					--	--	74	72
17																					--	--	75	73
18																					--	--	74	74
19																					--	--	74	70
20																					74	72	72	72
21																					75	72	75	72
22																					75	73	74	74
23																					75	73	74	72
24																					74	73	74	73
25																					74	73	74	73
26																					73	71	74	72
27																					72	70	74	72
28																					72	70	72	69
29																					73	70	69	66
30																					74	70	68	67
31																					74	71	--	--
Average																					--	--	73	71

MOBILE RIVER BASIN--Continued

2-4018. TALLAHATCHEE CREEK NEAR WELLINGTON, ALA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Continuous ethyl alcohol-actuated thermograph)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	70	67	59	59	53	51	55	53	54	54	58	56	63	62	68	64	72	71	76	74	75	74	75	73
2	67	65	60	58	55	53	53	51	54	51	56	53	65	62	71	67	71	71	75	72	76	74	75	73
3	65	64	58	55	57	55	52	50	51	50	56	54	66	62	71	67	71	71	74	72	76	74	74	73
4	65	64	58	57	57	55	51	47	50	50	55	55	64	61	71	66	71	69	74	72	76	74	74	72
5	64	63	60	58	57	55	47	42	50	48	55	54	64	59	71	67	70	70	72	71	76	74	74	73
6	65	64	62	60	56	52	43	40	50	49	54	53	67	61	72	69	70	69	73	71	76	74	75	73
7	66	65	61	56	52	49	46	42	50	48	54	51	69	64	72	69	70	70	74	71	74	73	75	74
8	65	63	57	53	50	47	49	46	54	50	54	51	71	66	72	69	71	70	73	71	75	73	75	74
9	67	65	60	57	50	48	49	46	56	54	57	54	71	67	70	68	71	70	73	70	75	72	75	74
10	69	66	60	57	49	49	46	44	61	56	57	54	70	68	71	68	70	70	73	71	74	71	74	73
11	68	64	57	54	50	49	44	42	61	55	57	56	68	66	71	69	72	70	74	72	74	71	73	72
12	64	62	56	53	50	48	46	43	55	52	56	54	66	62	71	70	72	72	74	72	74	72	73	72
13	63	61	57	53	49	48	51	46	54	50	57	51	62	56	70	70	74	72	73	72	74	72	72	88
14	64	61	59	55	48	47	55	51	60	54	56	55	58	54	70	68	73	72	73	71	74	72	68	68
15	64	62	63	59	47	45	54	52	60	58	58	54	60	56	68	64	72	70	73	72	74	73	67	66
16	65	63	66	63	45	43	52	45	58	53	58	54	64	60	66	62	73	70	73	72	74	72	68	67
17	66	64	66	64	47	44	45	42	58	55	56	54	65	61	66	62	74	72	74	72	74	72	69	66
18	65	66	66	63	48	46	44	43	58	56	56	53	65	65	69	64	73	71	74	72	75	73	70	69
19	66	64	65	59	48	46	49	44	56	52	56	54	66	64	71	68	72	70	74	72	75	73	70	69
20	65	63	59	55	49	48	54	49	52	50	57	56	67	64	71	70	72	69	75	73	75	72	70	68
21	64	62	55	52	48	46	58	54	51	48	60	57	66	64	71	71	73	69	75	73	74	72	69	66
22	64	62	55	52	47	45	56	48	52	50	60	57	64	62	72	71	74	70	76	74	75	73	70	67
23	64	62	59	52	50	46	48	46	56	52	59	55	62	59	71	70	74	72	75	74	75	73	70	67
24	64	61	--	52	53	50	48	46	56	55	62	58	63	59	73	70	75	72	76	74	76	74	70	68
25	61	59	--	--	52	48	49	48	55	54	62	60	66	61	72	71	75	73	76	74	76	74	70	67
26	60	58	61	59	48	46	51	49	56	54	63	63	67	63	71	69	76	73	76	74	76	74	71	69
27	58	56	60	57	50	48	53	51	57	56	63	62	69	66	71	70	76	73	76	73	76	74	72	71
28	57	55	57	55	51	49	55	53	58	56	63	60	68	66	72	70	76	73	76	74	75	72	73	71
29	57	54	55	52	52	51	55	53	--	--	61	57	67	65	72	70	76	74	77	74	75	73	73	71
30	57	54	52	50	53	51	57	55	--	--	60	55	67	63	71	70	77	74	76	75	75	73	73	72
31	59	56	--	--	54	53	56	54	--	--	63	59	--	--	72	70	--	--	76	75	74	74	--	--
Average	64	62	a59	b56	51	49	51	46	55	53	58	55	66	62	71	68	73	71	74	73	75	73	72	72

a Includes estimated maximum temperature 59°F, on missing days.
b Includes estimated minimum temperature of 53°F, on missing days.

2-4635. HURRICANE CREEK NEAR HOLT, ALA.

LOCATION.--Temperature recorder at gaging station on left bank on downstream side of pier of bridge on 6tate Highway 116, half a mile downstream from Cottondale Creek, 2-3/4 miles southeast of Holt, and 6 miles upstream from mouth, Tuscaloosa County.
DRAINAGE AREA.--108 square miles.
RECORDS AVAILABLE.--Water temperatures: August 1958 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 90°F June 30; minimum, freezing point, Dec. 17, 19, Jan. 6, 7.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624. Flow regulated at times by small lake above station.

Temperature (°F) of water, August to September 1958
/Continuous ethyl alcohol-actuated thermograph/

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1																					--	--	83	77
2																					--	--	81	78
3																					--	--	81	77
4																					--	--	81	77
5																					--	--	82	77
6																					--	--	82	76
7																					--	--	81	79
8																					--	--	81	77
9																					--	--	79	73
10																					--	--	76	70
11																					--	--	75	72
12																					--	--	73	71
13																					--	--	71	70
14																					--	--	72	71
15																					--	--	73	72
16																					--	--	75	73
17																					--	--	77	75
18																					--	--	76	74
19																					--	--	74	73
20																					--	--	73	73
21																					--	--	73	71
22																					--	--	71	71
23																					--	--	71	71
24																					--	--	72	71
25																					--	--	73	72
26																					81	79	74	73
27																					79	75	74	73
28																					80	76	73	69
29																					82	76	69	66
30																					82	77	67	66
31																					82	76	--	--
Average																					--	--	75	73

MOBILE RIVER BASIN--Continued

2-4635. HURRICANE CREEK NEAR HOLT, ALA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
/Continuous ethyl alcohol-actuated thermograph/

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	66	64	55	55	48	47	42	41	42	42	54	54	60	60	71	69	72	71	89	86	83	83	86	83
2	64	64	55	55	48	48	42	40	42	42	54	52	63	60	72	70	72	71	87	83	84	83	85	83
3	64	63	55	53	50	48	40	39	42	41	53	52	63	61	73	72	73	71	87	84	85	84	85	82
4	63	63	53	53	50	48	39	38	41	41	53	51	63	61	74	72	73	71	87	83	85	84	82	81
5	63	62	54	53	50	49	38	34	41	41	--	--	63	60	75	73	72	72	85	83	85	85	82	82
6	63	62	56	54	50	47	34	32	41	40	55	54	64	61	75	74	73	72	87	82	86	85	82	81
7	63	63	56	53	47	45	34	32	40	40	54	52	66	63	76	74	74	72	88	83	86	84	84	81
8	63	62	53	50	--	--	36	34	40	40	52	51	68	65	76	75	74	74	88	84	85	84	--	--
9	65	63	54	52	43	42	36	36	42	40	54	52	68	67	76	75	74	74	88	84	84	83	85	82
10	66	65	54	53	42	42	--	--	44	42	54	53	68	67	75	75	75	74	87	84	83	81	82	79
11	66	64	53	50	43	42	--	--	44	44	54	53	67	66	76	75	76	74	84	78	82	81	79	78
12	64	61	51	50	43	42	34	33	44	44	54	54	66	63	76	74	76	75	82	79	82	81	78	78
13	62	60	51	50	42	42	36	34	44	44	54	53	63	61	74	74	76	74	84	80	83	81	78	75
14	61	60	52	51	42	41	39	36	46	44	54	53	61	58	74	74	--	--	84	81	85	81	75	75
15	61	60	57	52	--	--	41	39	46	46	--	--	59	58	74	72	78	75	86	83	86	82	75	74
16	62	60	58	57	--	--	41	39	46	45	55	55	62	58	72	71	80	77	87	84	87	82	74	72
17	62	62	60	58	33	32	--	--	45	44	55	54	63	61	73	71	82	79	86	80	86	83	73	72
18	64	62	60	60	34	33	36	36	45	44	54	53	63	63	--	--	82	79	81	80	87	82	75	73
19	64	63	60	58	34	32	36	35	--	--	54	53	66	63	75	72	82	78	81	79	86	83	76	74
20	63	62	58	53	35	34	40	36	--	--	55	54	66	65	72	70	81	77	80	79	86	82	76	75
21	62	61	54	50	35	34	46	40	--	--	58	55	66	65	70	70	82	77	--	--	86	83	76	75
22	62	61	51	50	--	--	45	42	--	--	58	58	65	64	71	70	82	78	--	--	87	83	76	75
23	62	61	50	49	35	34	42	41	--	--	58	55	64	63	71	70	82	80	86	83	87	83	76	75
24	62	60	50	50	38	35	41	39	--	--	58	56	64	62	72	70	82	79	86	84	86	83	76	75
25	60	59	51	50	38	38	39	38	--	--	59	57	--	--	75	72	--	--	84	82	86	81	76	75
26	59	56	53	51	38	35	39	38	--	--	62	59	67	65	75	74	--	--	84	82	87	83	76	76
27	56	55	53	52	37	36	40	39	--	--	62	62	--	--	74	72	87	83	85	83	87	83	78	76
28	56	53	52	51	38	37	41	40	54	53	62	60	70	68	--	--	87	84	--	--	87	84	78	77
29	54	53	51	50	40	38	41	41	--	--	60	60	70	69	75	74	88	84	82	81	87	84	78	77
30	54	53	50	48	40	40	42	41	--	--	60	58	70	68	74	72	90	85	83	82	87	83	78	78
31	55	54	--	--	41	40	42	42	--	--	60	59	--	--	72	72	--	--	--	--	87	85	--	--
Average	62	60	54	52	41	40	39	38	--	--	56	55	65	63	74	72	79	76	85	82	85	83	79	77

MOBILE RIVER BASIN--Continued

2-4645. NORTH RIVER NEAR TUSCALOOSA, ALA.

LOCATION.--Temperature recorder at gaging station on downstream side of pier near center of bridge on State Highway 69, 1,000 feet upstream from Tierce Creek and 10 miles north of Tuscaloosa.
DRAINAGE AREA.--366 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1958 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 87°F on many days in August; minimum, 36°F Dec. 16-19, 22.
REMARKS.--Record of discharge for water year October 1958 to September 1959 given in WSP 1624.

Temperature (°F) of water, water year October 1958 to September 1959
(Continuous ethyl alcohol-actuated thermograph)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	72	68	56	56	45	45	45	45	50	49	53	52	58	57	70	67	68	68	86	84	--	--	83	80
2	68	66	56	55	46	45	45	44	49	48	53	50	61	58	72	68	70	68	85	83	--	--	80	79
3	66	65	55	54	48	46	44	43	48	47	53	51	61	59	73	69	71	69	84	82	--	--	82	79
4	66	65	54	54	48	47	43	42	47	47	52	50	61	59	75	70	72	70	84	82	--	--	81	79
5	66	64	55	54	49	48	42	39	47	45	53	52	61	58	76	72	72	71	84	82	87	85	84	80
6	67	65	56	55	49	47	39	37	46	45	53	52	61	59	75	72	72	71	84	81	86	83	80	79
7	66	65	56	54	47	43	38	37	46	45	53	50	64	60	75	72	73	72	84	81	87	81	80	78
8	66	65	54	53	43	41	39	38	47	46	51	48	66	63	76	73	73	72	85	83	84	83	80	77
9	68	66	55	53	42	41	40	39	51	47	52	50	66	66	76	73	73	72	--	--	83	79	83	79
10	70	68	55	54	41	40	40	39	56	51	53	51	66	65	74	73	73	73	--	--	82	78	81	78
11	69	67	54	52	40	40	40	38	56	54	53	53	65	63	75	73	73	71	--	--	83	76	78	75
12	67	64	52	52	40	40	39	38	54	52	53	53	63	60	75	74	73	71	--	--	85	78	75	74
13	66	63	52	52	40	40	40	39	52	52	53	50	60	57	74	73	72	71	--	--	84	79	74	72
14	65	63	53	52	40	39	43	40	54	52	52	51	57	54	73	71	73	71	--	--	85	79	72	70
15	64	63	56	52	39	38	44	42	56	54	55	52	56	54	72	69	74	71	--	--	86	80	70	69
16	65	64	59	56	38	36	45	44	56	53	55	53	59	55	71	67	76	73	--	--	85	80	69	68
17	65	65	60	59	36	36	44	41	53	52	54	51	61	58	70	67	77	75	--	--	86	80	70	68
18	67	65	61	60	36	36	41	40	53	53	52	50	61	61	72	69	78	76	--	--	87	80	71	70
19	66	65	60	58	37	36	40	40	53	49	52	51	62	61	72	70	78	75	--	--	86	81	72	71
20	65	64	58	55	37	37	44	40	49	47	53	52	63	62	70	70	78	74	--	--	87	79	73	71
21	65	64	55	52	37	37	52	44	47	44	56	53	63	63	70	68	78	75	--	--	85	80	73	71
22	65	64	53	51	37	36	52	46	46	44	56	55	63	62	70	70	78	76	--	--	87	80	74	72
23	65	64	51	51	37	37	46	43	49	45	56	54	62	60	71	69	79	77	--	--	85	81	75	72
24	64	62	51	50	41	37	43	42	50	49	56	53	61	59	71	70	80	77	--	--	84	78	75	72
25	62	61	51	51	41	40	43	42	50	50	57	54	63	60	74	71	80	78	--	--	82	78	76	72
26	61	60	52	51	40	39	45	43	50	49	59	57	64	62	74	73	82	79	--	--	83	80	74	72
27	60	58	52	50	41	40	47	45	52	50	59	58	67	64	73	70	84	81	--	--	85	79	76	73
28	58	57	50	49	42	41	49	47	53	51	58	58	67	67	72	70	86	81	--	--	86	80	78	74
29	57	56	49	47	43	42	49	48	--	--	58	56	69	66	72	70	86	81	--	--	86	80	79	75
30	57	56	47	45	44	43	50	59	--	--	57	55	69	66	70	69	86	83	--	--	86	80	78	75
31	56	56	--	--	45	44	50	50	--	--	57	56	--	--	69	67	--	--	--	--	86	81	--	--
Average	65	63	54	53	42	41	44	42	51	49	54	53	63	61	73	70	76	74	--	--	85	80	77	74

MOBILE RIVER BASIN--Continued

2-4654. BIO SANDY CREEK AT DUNCANVILLE, ALA.

LOCATION.--Temperature recorder at gaging station near right bank on downstream side of bridge on U. S. Highway 82, three-eights of a mile upstream from Bear Creek, half a mile southeast of Duncanville, Tuscaloosa County, and 2 3/4 miles downstream from Lye Branch.
DRAINAGE AREA.--56.0 square miles.
RECORDS AVAILABLE.--Water temperatures: July 1958 to September 1959.
EXTREMES, 1958-59.--Water temperatures: Maximum, 75°F July 29, 1959; minimum, 39°F Jan. 6, 7.
REMARKS.--Records of discharge for water year October 1958 to September 1959 given in WSP 1624.

Temperature (°F) of water, July to September 1958
(Continuous ethyl alcohol-actuated thermograph)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1																			--	--	74	72	72	70
2																			--	--	74	73	72	70
3																			--	--	74	72	72	70
4																			--	--	74	72	71	70
5																			--	--	73	71	72	70
6																			--	--	73	71	72	70
7																			--	--	73	71	72	71
8																			--	--	74	72	72	71
9																			--	--	73	72	72	68
10																			--	--	74	72	69	66
11																			--	--	75	72	68	67
12																			--	--	74	72	68	68
13																			--	--	74	72	69	68
14																			--	--	73	72	69	68
15																			--	--	73	72	70	69
16																			--	--	73	72	71	70
17																			--	--	73	72	72	71
18																			--	--	73	71	72	71
19																			--	--	72	70	71	70
20																			--	--	72	70	70	70
21																			72	72	72	70	72	70
22																			72	71	72	70	72	72
23																			72	71	72	71	72	72
24																			72	71	72	71	72	72
25																			72	72	72	71	72	71
26																			72	71	72	72	72	70
27																			72	72	72	69	72	71
28																			73	72	70	68	71	68
29																			74	73	71	68	68	64
30																			73	72	71	69	66	65
31																			74	72	71	69	--	--
Average																			--	--	73	71	71	69

MOBILE RIVER BASIN--Continued

2-4654. BIG SANDY CREEK AT DUNCANVILLE, ALA.--Continued

Temperature (°F) of water, water year October 1958 to September 1959
(Continuous ethyl alcohol-actuated thermograph)

Day	October		November		December		January		February		March		April		May		June		July		August		September	
	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
1	66	66	59	59	49	46	52	51	50	50	55	55	60	59	65	63	70	68	74	72	74	72	73	71
2	66	64	59	57	51	49	51	48	50	49	55	51	62	60	66	64	68	68	73	72	74	72	72	71
3	64	64	57	54	53	51	48	47	49	48	54	52	62	60	66	65	69	68	74	72	74	72	72	70
4	64	64	56	55	53	51	47	46	48	48	54	51	61	60	67	65	69	68	73	72	74	72	72	70
5	64	64	58	56	53	51	46	41	48	47	56	52	61	58	67	66	68	68	73	71	74	72	71	70
6	64	63	60	58	53	49	41	39	47	47	58	55	62	60	67	66	68	68	72	72	74	72	71	70
7	64	63	60	56	49	47	43	39	47	46	55	52	65	62	67	65	68	68	73	71	74	72	72	70
8	64	63	56	54	47	44	45	43	50	46	52	51	66	64	69	67	68	68	73	71	73	72	73	71
9	65	63	57	54	45	44	46	45	53	50	56	52	67	66	68	66	68	68	72	71	73	71	74	72
10	67	65	58	56	45	45	45	42	56	53	56	54	67	65	66	66	70	68	71	70	71	69	73	72
11	67	64	56	53	45	45	42	40	56	52	56	55	65	64	68	66	70	70	72	70	71	69	72	70
12	64	62	54	52	45	44	43	41	52	51	56	54	64	60	68	68	70	70	72	70	71	69	70	70
13	62	60	55	53	44	44	47	43	52	51	54	52	60	57	68	67	70	70	72	70	71	70	70	68
14	61	60	57	55	45	44	51	47	56	52	55	53	57	54	68	67	70	70	72	70	71	70	68	68
15	61	60	61	57	44	42	52	51	57	55	57	55	55	55	67	64	70	69	73	70	72	70	68	67
16	63	61	63	61	42	40	51	44	55	52	57	55	59	55	64	61	71	69	73	71	72	70	68	67
17	64	63	65	63	42	40	44	40	54	52	56	54	61	59	63	61	71	70	72	71	73	71	68	67
18	65	64	65	63	43	42	42	40	55	54	54	52	62	61	68	63	71	70	72	71	73	71	70	68
19	65	64	64	59	44	43	44	42	55	49	55	55	64	62	66	65	70	69	72	71	72	71	69	67
20	64	63	59	54	46	44	51	44	49	48	57	55	64	64	66	66	70	68	73	72	72	70	69	67
21	64	63	54	51	46	44	56	51	48	46	61	57	64	63	67	66	69	67	73	72	73	71	68	67
22	63	62	53	51	44	42	55	45	48	46	61	58	63	61	68	67	70	68	74	72	73	71	68	66
23	63	62	53	51	46	43	45	44	55	48	58	56	61	59	68	67	71	69	74	72	73	71	68	67
24	63	62	53	51	49	46	44	44	55	54	59	57	59	58	68	68	72	70	73	72	72	71	68	67
25	62	60	55	53	49	46	44	44	54	53	59	56	61	59	69	68	72	70	74	72	73	71	69	67
26	60	57	57	55	46	44	46	44	53	51	61	59	63	61	70	69	73	70	74	72	73	71	69	67
27	58	57	57	53	47	44	49	46	55	53	61	61	65	63	70	70	73	71	74	72	73	71	69	68
28	57	55	53	52	49	47	51	49	55	54	61	59	66	65	70	70	73	71	74	72	74	71	71	69
29	56	54	52	48	51	49	51	49	--	--	59	57	66	66	70	69	73	71	75	73	74	72	71	69
30	58	56	48	46	51	50	52	50	--	--	58	56	66	64	69	68	74	72	74	73	73	72	71	69
31	59	58	--	--	51	50	52	50	--	--	59	58	--	--	70	69	--	--	74	72	73	72	--	--
Average	63	61	57	55	47	45	48	45	52	50	57	55	63	61	68	66	70	69	73	71	73	71	70	69

PASCAGOULA RIVER BASIN

2-4790.2. PASCAGOULA RIVER NEAR BENNDALE, MISS.

LOCATION.--At bridge on State Highway 26, 2 miles east of Benndale, George County, about 5 miles downstream from Whiskey Creek, and 5 miles upstream from Big Creek.
RECORDS AVAILABLE.--Chemical analyses: August 1958 to September 1959.
Water temperatures: August 1958 to September 1959.
EXTREMES, 1958-59.--Dissolved solids: Maximum, 158 ppm Aug. 28 to Sept. 17, 1958; minimum, 65 ppm Sept. 18-30, 1958.
Hardness: Maximum, 22 ppm Aug. 8-27, Aug. 28 to Sept. 17, Oct. 11-31, 1958; minimum, 11 ppm Sept. 18-30, 1958.
Specific conductance: Maximum daily, 352 micromhos Sept. 6, 1958; minimum daily, 30 micromhos June 2.
Water temperatures: Maximum, 86°F Sept. 2, 1958; minimum, 43°F Jan. 6.
REMARKS.--Records of specific conductance of daily samples are available in district office at Little Rock, Ark. Records of discharge for gaging station at Merrill, Miss. for water year October 1958 to September 1959 given in WSP 1624. No appreciable inflow between gaging station and sampling site.

Chemical analyses, in parts per million, August 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Lithium (Li)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Phosphate (PO_4)	Dissolved solids (residue at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Total acidity as H^{+1}	Specific conductance (micromhos at 25°C)	pH	Color	Copper (Cu)
Aug.1-7,1958	14,490	1.8		0.42	--	5.6	1.2	8.6	1.6		16		2.0	17	0.0	2.0	--	78	19	6		82	6.7	60	--
Aug. 8-27...	5,060	3.1		.68	--	7.2	.9	19	2.1		20		7.2	29	.0	1.2	--	98	22	5		133	7.0	45	--
Aug. 28-Sept. 17..	2,646	6.5		.29	--	5.9	1.7	37	1.2		24		4.2	56	.0	.7	--	158	22	2		242	6.7	15	--
Sept. 18-30.	20,360	1.8		.41	--	3.6	.5	8.2	1.2		12		2.2	12	.0	.9	--	65	11	1		73	6.3	40	--
Oct. 1-10...	8,109	6.0		.10	0.00	5.6	1.1	16	1.4		20		3.0	24	.2	1.5	0.09	96	18	2		118	7.2	40	0.12
Oct. 11-31..	2,895	7.2		.08	.00	7.0	1.0	14	1.2		25		3.8	20	.3	1.4	.08	88	22	1		113	6.7	30	.07
Nov. 1-30...	2,784	4.7		.07	.00	5.9	1.1	13	1.3		20		3.0	19	.2	1.7	.13	80	19	2		104	6.9	22	.07
Dec. 1-31...	3,753	3.9		.32	--	5.6	1.3	12	1.5		18		3.8	19	.1	1.7	--	82	20	4		98	7.1	30	--
Jan. 1-31, 1959.....	8,067	3.0		.18	.00	5.2	1.2	8.4	1.5		16		4.8	14	.2	1.2	.01	79	18	5		96	6.9	45	.12
Feb. 1-28...	16,910	2.6		.12	.00	4.8	1.0	6.5	1.1		12		4.0	11	.1	1.0	.00	66	16	6		80	5.8	45	.12
Mar. 1-31...	10,790	2.6		.15	.00	5.1	.8	7.2	1.0		14		3.6	12	.1	1.4	.00	68	16	4		82	6.5	45	.13
Apr. 1-30...	13,060	2.3		.23	.00	5.9	.9	9.1	1.1		17		3.0	15	.1	1.6	.01	78	18	4		95	6.5	50	.18
May 1-31....	5,800	7.9		.25	.00	6.9	.9	20	1.4		24		4.8	29	.0	1.7	.00	104	20	1		147	6.7	25	.00
June 1-30...	18,010	5.5		.34	.00	5.8	.4	15	1.2		18		4.0	22	.0	2.0	.00	86	16	1		110	6.7	40	.00
July 1-31...	5,944	5.0		.26	.00	5.5	1.0	27	1.8		18		4.8	40	.0	2.1	.00	119	18	2		181	6.7	40	.00
Aug. 1-31...	4,282	7.4		.34	.00	6.0	1.3	27	1.8		20		4.8	42	.0	2.0	.00	128	20	4		191	7.0	40	.00
Sept. 1-30..	3,798	4.7		.06	.00	5.4	1.8	20	.1		17		4.4	32	.2	1.9	--	111	21	7		150	6.6	45	.06
Time-weighted average.	a 8,135	4.6		0.24	--	5.7	1.1	16	1.3		18		4.1	25	0.1	1.6	--	94	18	4		126	--	38	--

a Mean discharge for water year October 1958 to September 1959 was 8,062 cubic feet per second (cfs).

PASCAGOULA RIVER BASIN--Continued

2-4790.2. PASCAGOULA RIVER NEAR BENNDALE, MISS.--Continued

Temperature (°F) of water, August to September 1958

Month	Day																											Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
August.....	80	81	81	82	84	84	85	84	83	84	85	84	84	85	85	84	83	84	85	85	85	84	82	82	81	81	80	82	81	84	84	83
September.....	85	86	81	82	83	84	85	85	85	84	84	84	82	84	78	81	84	80	81	80	80	76	75	76	76	77	78	76	76	75	--	81

Temperature (°F) of water, water year October 1958 to September 1959

Month	Day																											Average
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
October	76	72	70	70	71	71	73	72	72	72	74	70	72	72	72	72	73	73	70	72	74	73	73	72	72	67	68	66	67	62	62	71
November ..	63	60	61	60	61	62	60	63	64	64	64	63	64	65	67	67	70	72	67	65	63	61	58	57	63	65	65	60	55	55	--	63
December ..	54	54	58	55	62	54	53	58	54	53	49	50	49	48	45	45	46	45	46	48	46	46	48	53	50	51	49	50	53	50	--	51
January	50	50	50	50	47	43	44	47	45	46	47	45	50	49	50	49	46	46	46	47	53	52	46	47	-	48	48	49	50	51	50	46
February	52	50	51	51	51	50	49	49	50	54	55	56	58	58	58	60	59	60	55	54	52	53	55	55	54	53	54	53	--	--	--	52
March	55	--	52	56	49	46	--	53	58	56	57	59	60	58	59	58	55	57	56	56	59	60	61	59	62	63	59	63	63	64	64	58
April	64	66	67	65	64	67	68	70	70	70	68	65	62	61	60	59	60	62	65	66	65	64	63	64	63	63	64	65	68	69	--	65
May	75	75	73	74	74	74	73	75	73	70	71	73	73	73	74	73	76	74	75	74	70	73	73	72	72	71	71	72	71	70	71	74
June	70	65	67	68	68	69	69	68	70	69	69	70	--	71	72	71	72	74	74	74	78	77	77	76	75	76	77	77	76	79	--	72
July.....	82	80	79	79	76	75	78	77	77	75	77	75	81	79	81	80	80	81	77	78	78	75	76	75	74	75	76	76	77	78	78	78
August.....	77	77	77	76	78	78	78	77	77	77	--	76	75	73	74	73	73	75	74	75	76	74	73	74	74	--	76	77	77	76	71	75
September ..	76	76	74	75	77	74	75	73	--	72	68	67	64	64	63	65	69	66	67	66	69	69	68	68	67	--	65	67	69	--	--	69

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS

PASQUOTANK RIVER BASIN IN NORTH CAROLINA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2A-438.5. PASQUOTANK RIVER TRIBUTARY NEAR ELIZABETH CITY																		
Aug. 18, 1959.....	2.10	8.5		4.5	1.8	5.9	0.3	8	13	5.0	0.4	6.0	52	19	12	62	5.3	

CHOWAN RIVER BASIN IN NORTH CAROLINA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2A-532. POTECASI CREEK NEAR UNION																		
Feb. 5, 1959.....	430	7.2	0.07	2.5	0.9	3.7	1.5	10	3.4	5.1	0.1	0.9	30	10	2	43	5.5	60
Sept. 17.....	349	18	.72	4.6	1.6	4.9	1.5	13		6.7	.1	2.0	57	18	7	59	6.0	
2A-535. AHOSKIE CREEK AT AHOSKIE																		
Feb. 5, 1959.....	146	7.7	0.11	2.4	0.8	3.3	1.4	7	2.9	4.8	0.1	0.9	27	9	4	40	5.6	75
Sept. 17.....	10.9	15	.86	4.2	1.2	4.8	1.4	15	2.6	5.5	.1	1.8	44	16	3	55	6.0	

ROANOKE RIVER BASIN IN NORTH CAROLINA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2A-685. DAN RIVER NEAR FRANCISCO																		
Dec. 15, 1958.....	105	13	0.04	2.4	0.8	2.1	0.7	15	0.2	0.5	0.0	0.5	27	9	0	29	6.7	6
July 6, 1959.....	39.7	11	.04	2.7	.7	2.1	.7	16	1.6	1.0	.0	.4	28	10	0	31	6.9	3
2A-685.22. PINCH GUT CREEK NEAR FRANCISCO																		
Sept. 24, 1959.....	4.07	20	0.20	4.1	1.0	3.6	1.4	25	0.4	2.4	0.0	0.5	46	14	0	47	7.0	
2A-685.52. NORTH DOUBLE CREEK NEAR VADE MECUM																		
Sept. 24, 1959.....	3.22	18	0.11	3.7	1.5	3.7	1.5	25	1.3	2.5	0.1	0.3	45	15	0	49	6.9	
2A-685.62. NORTH DOUBLE CREEK TRIBUTARY NEAR VADE MECUM																		
Sept. 24, 1959.....	1.35	14	0.07	4.1	0.9	3.8	1.5	22	0.9	4.0	0.1	0.4	41	14	0	51	6.7	
2A-687.17. SNOW CREEK NEAR PRESTONVILLE																		
Sept. 24, 1959.....	10.2	29	0.13	6.7	2.1	5.2	1.4	38	0.3	3.2	0.0	0.3	67	25	0	74	7.4	
2A-688.56. TOWN FORK CREEK NEAR POPLAR SPRINGS																		
Sept. 24, 1959.....	6.43	23	0.08	4.5	1.3	5.4	1.8	29	0.1	3.5	0.2	0.5	54	17	0	60	6.9	
2A-688.71. NEATMANS CREEK NEAR GERMANTON																		
Sept. 24, 1959.....	3.82	23	0.11	4.5	1.4	5.3	1.6	30	0.2	3.6	0.0	0.5	55	17	0	61	7.0	
2A-688.91. BUFFALO CREEK AT GERMANTON																		
Sept. 24, 1959.....	1.29	22	0.09	7.0	2.8	5.3	1.5	43	0.3	3.3	0.1	0.5	64	29	0	82	7.1	
2A-689.11. OLD FIELD CREEK NEAR WALNUT COVE																		
Sept. 24, 1959.....	5.75	23	0.18	5.2	2.5	5.4	1.5	37	0.7	3.8	0.1	0.4	61	23	0	73	7.0	
2A-689.88. LICK CREEK AT WALNUT COVE																		
Sept. 24, 1959.....	3.30	50	0.29	8.0	2.7	10	1.4	a56	1.5	4.3	0.2	0.5	107	31	0	100	8.5	

a Includes equivalent of 3 parts per million of carbonate (CO_3).

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

ROANOKE RIVER BASIN IN NORTH CAROLINA--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2A-690.34. EAST BELEWS CREEK NEAR GRIMES CROSSROADS																		
Sept. 24, 1959.....	2.54	28	0.13	6.0	2.4	5.6	1.6	41	2.1	3.0	0.1	0.5	69	25	0	76	7.0	
2A-690.37. BELEWS CREEK NEAR WALNUT COVE																		
Sept. 24, 1959.....	15.1	31	0.27	6.7	2.8	6.0	1.6	42	0.3	4.7	0.0	0.4	75	28	0	79	7.5	
2A-690.44. WEST BELEWS CREEK NEAR WALNUT COVE																		
Sept. 24, 1959.....	4.25	28	0.13	6.0	1.3	5.8	1.6	36	0.1	4.3	0.0	0.7	66	20	0	67	7.1	
2A-690.5. BELEWS CREEK NEAR PINE HALL																		
Nov. 28, 1958.....	29.3			4.8	2.2	4.3	1.2	33	1.0	1.8		0.4		21	0	62	7.1	
2A-694.1. BIG BEAVER ISLAND CREEK NEAR MADISON																		
Nov. 28, 1958.....	8.05					4.3	1.2	31	1.3	2.0		0.1		18	0	56	6.6	
2A-705. MAYO RIVER NEAR PRICE																		
Mar. 10, 1959.....	268	14	0.00	3.2	1.1	2.6	0.8	20	1.1	1.1	0.0	0.5	34	13	0	40	6.7	2
Aug. 26.....	126	15	.02	4.5	1.3	2.8	1.6	23	1.8	1.0	.0	1.2	40	16	0	50	6.8	2
2A-705.28. PAPAW CREEK NEAR STONEVILLE																		
Sept. 24, 1959.....	2.09	26	0.20	4.5	1.6	2.8	1.2	25	0.2	3.3	0.0	0.5	52	18	0	52	7.4	
2A-706.58. HOGAN CREEK AT ELISBORO																		
Sept. 24, 1959.....	5.39	21	0.30	3.4	1.8	3.7	1.4	24	0.9	3.3	0.0	0.9	49	16	0	57	6.8	
2A-707.2. HOGAN CREEK NEAR MADISON																		
Nov. 28, 1958.....	9.29			3.5	1.6	4.0	1.0	28	1.2	1.0		0.3		16	0	49	7.0	
2A-709.07. JACOBS CREEK NEAR MADISON																		
Sept. 24, 1959.....	10.6	24	0.25	6.3	1.5	4.9	1.5	32	0.8	3.3	0.0	0.6	59	22	0	64	6.9	

2A-710. DAN RIVER NEAR WENTWORTH

Mar. 10, 1959.....	1,040	15	0.00	3.6	1.2	3.1	1.0	20	2.0	1.8	0.1	0.6	38	14	0	46	6.4	4
Aug. 26.....	385	14	.01	4.1	1.5	3.4	1.8	24	2.4	1.7	.1	1.3	42	16	0	51	6.9	4

2A-710.03. ROCKHOUSE CREEK NEAR WENTWORTH

Sept. 24, 1959.....	5.02	28	0.24	5.9	1.7	5.8	1.7	34	0.9	4.1	0.0	0.8	66	22	0	72	7.1	

2A-710.33. BUFFALO CREEK ABOVE LEAKSVILLE

Sept. 25, 1959.....	2.09	26	0.13	5.0	1.4	4.5	1.5	30	0.7	2.7	0.0	0.5	57	18	0	58	6.9	

2A-711.13. BUFFALO CREEK NEAR STONEVILLE

Sept. 25, 1959.....	4.90	25	0.16	5.1	2.1	5.7	1.2	35	1.5	3.3	0.1	0.7	62	21	0	73	7.6	

2A-714.56. MATRIMONY CREEK AT LEAKSVILLE

Sept. 25, 1959.....	7.22	24	0.16	5.1	1.4	5.1	1.5	30	0.9	3.5	0.0	1.1	58	18	0	68	7.5	

2A-740. SMITH RIVER AT SPRAY

Mar. 10, 1959.....	246	15	0.00	4.8	1.8	3.7	1.1	26	2.9	2.5	0.1	1.3	46	20	0	59	6.6	4
Aug. 26.....	216	13	.07	5.3	2.2	6.0	1.6	32	3.3	4.2	.0	2.1	54	22	0	77	7.0	7

2A-740.56. TOWN CREEK NEAR LEAKSVILLE

Sept. 25, 1959.....	2.22	29	0.42	7.6	3.1	7.3	1.5	49	2.9	4.4	0.1	0.6	81	32	0	100	7.0	

2A-740.62. TOWN CREEK TRIBUTARY NEAR LEAKSVILLE

Sept. 25, 1959.....	0.46	30	0.21	6.8	2.7	6.9	1.6	44	2.3	3.5	0.1	1.1	77	28	0	93	7.3	

2A-750.68. HOGANS CREEK NEAR REIDSVILLE

Sept. 25, 1959.....	1.00	21	0.10	12	5.5	5.9	1.6	70	1.7	4.2	0.0	0.7	87	52	0	125	7.2	

2A-751.24. EAST PRONG MOON CREEK NEAR YANCEYVILLE

Sept. 25, 1959.....	1.00	33	0.33	7.9	2.5	5.8	1.3	48	0.7	3.4	0.2	0.7	80	30	0	87	7.4	

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

ROANOKE RIVER BASIN IN NORTH CAROLINA--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2A-751.42. EAST PRONG MOON CREEK TRIBUTARY NEAR YANCEYVILLE																		
Sept. 25, 1959.....	1.02	26	0.24	5.7	0.9	2.9	1.3	28	0.2	2.8	0.1	0.7	55	18	0	54	7.0	
2A-751.9. RATTLESNAKE CREEK AT BLANCHE																		
Sept. 24, 1959.....	3.21	27	0.14	9.1	3.2	7.9	2.1	53	2.1	6.5	0.0	0.5	85	36	0	108	7.4	
2A-752.08. COUNTRY LINE CREEK NEAR LOCUST HILL																		
Sept. 24, 1959.....	3.07	31	0.37	7.2	3.6	7.1	1.5	48	1.1	4.2	0.0	0.7	81	33	0	94	7.3	
2A-752.3. SOUTH COUNTRY LINE CREEK NEAR HIGHTOWERS																		
Sept. 24, 1959.....	0.22	24	0.12	11	5.7	9.1	1.4	60	9.2	7.7	0.1	0.6	99	50	1	152	7.2	
2A-752.37. PENSON CREEK NEAR FITCH																		
Sept. 24, 1959.....	0.16	16	0.11	14	8.6	11	1.7	101	4.7	6.5	0.0	1.3	114	70	0	208	6.9	
2A-771.82. NORTH HYCO CREEK NEAR HIGHTOWERS																		
Sept. 24, 1959.....	0.56	29	0.16	9.7	2.8	9.2	1.4	50	2.8	6.8	0.0	0.7	88	36	0	116	7.3	
2A-772.02. NORTH HYCO CREEK NEAR LEASBURG																		
Sept. 24, 1959.....	0.93	21	0.23	10	3.2	8.1	1.6	53	2.7	6.6	0.1	0.8	80	38	0	123	7.0	
2A-772.52. SOUTH HYCO CREEK NEAR LONGS STORE																		
Sept. 25, 1959.....	0.34	19	0.49	9.9	4.3	7.6	1.5	60	1.4	5.4	0.1	0.9	81	42	0	128	7.0	
2A-772.56. RICHLAND CREEK NEAR LONGS STORE																		
Sept. 25, 1959.....	0.31	31	0.19	2.8	0.9	7.5	1.2	26	0.5	4.3	0.0	0.9	62	11	0	60	7.5	
2A-776.6. MAYO CREEK NEAR WOODSDALE																		
Sept. 26, 1959.....	3.23	19	0.23	6.4	1.3	4.9	1.1	32	0.4	4.6	0.1	0.7	55	21	0	65	7.0	
2A-805. ROANOKE RIVER AT ROANOKE RAPIDS																		
Feb. 4, 1959.....	17,500	9.5	0.06	5.8	3.0	6.2	1.7	36	4.0	4.1	0.1	1.0	53	27	0	79	6.6	28
Sept. 1.....	9,500	9.8	.06	7.2	3.4	6.0	1.6	42	4.8	5.5	.1	1.4	61	32	0	93	6.9	35

PAMLICO RIVER BASIN IN NORTH CAROLINA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2A-815. TAR RIVER NEAR TAR RIVER																		
Feb. 10, 1959.....	118	13	0.06	4.0	2.1	4.4	0.7	23	4.5	3.9	0.1	0.7	44	19	3	57	6.3	35
Sept. 9.....	79	11	.05	3.2	1.4	3.5	1.7	16	3.5	3.3	.0	1.5	37	14	0	55	6.6	60
FISHING CREEK AT WARRENTON																		
June 17, 1959.....		23	0.40	5.1	2.5	4.9	1.0	34	0.5	4.0	0.1	0.4	59	24	0	70	7.3	20
2A-818. CEDAR CREEK NEAR LOUISBURG																		
Feb. 10, 1959.....	50	19	0.12	3.2	1.4	5.1	1.2	22	0.9	3.0	0.1	0.9	46	14	0	50	6.3	9
Sept. 9.....	52	23	.07	5.0	1.2	4.8	1.4	28	2.4	4.0	.1	1.4	57	17	0	62	7.5	20
2A-820. TAR RIVER NEAR NASHVILLE																		
Sept. 16, 1959.....	255	23	0.44	5.1	1.6	5.6	1.7	27	1.8	4.6	0.0	1.2	58	19	0	67	6.8	
2A-825. SAPONY CREEK NEAR NASHVILLE																		
Feb. 6, 1959.....	370	5.8	0.11	3.4	1.7	3.3	0.9	14	5.0	3.4	0.1	1.3	32	15	4	47	5.9	90
Sept. 16.....	9.5	15	.58	5.7	2.7	5.5	1.1	32	.0	5.7	.1	1.4	54	25	0	72	6.7	
2A-827.1. SANDY CREEK NEAR ALERT																		
Nov. 28, 1958.....	18.5			4.0	1.5	5.7	1.3	28	1.3	3.8		0.3		16	0	61	6.5	
TAR RIVER AT TARBORO																		
Dec. 1, 1958.....		19	0.57	5.6	2.4	7.4	1.7	33	4.4	6.5	0.1	1.2	a68	25	0	85	6.8	45
2A-838. CONETOE CREEK NEAR BETHEL																		
Feb. 5, 1959.....	580	4.4	0.09	3.0	1.0	2.8	1.4	6	4.6	3.5	0.1	2.5	26	12	7	43	5.4	55
Sept. 16.....	36	11	.21	6.9	1.8	5.6	1.8	9	14	8.2	.1	2.5	56	25	17	87	6.0	
TAR RIVER AT GREENVILLE																		
Sept. 30, 1959.....		16	0.49	6.4	2.3	10	1.6	28	5.8	10	0.2	1.3	a75	26	3	100	6.8	30

a Dissolved solids (residue at 180°C).

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

PAMLICO RIVER BASIN IN NORTH CAROLINA--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2A-845. HERRING RUN NEAR WASHINGTON																		
Feb. 19, 1959.....	10	11	0.48	2.7	1.8	4.9	0.3	6	9.3	5.7	0.2	0.9	40	14	9	57	5.5	50
Sept. 16.....	6.5	15	.09	3.4	1.8	3.5	2.8	8	9.8	4.8	.2	.5	46	16	9	63	5.8	40
TRANTERS CREEK AT WASHINGTON																		
June 2, 1959.....		8.7	0.49	5.8	1.8	6.5	1.3	20	7.8	7.8	0.2	0.7	b85	22	6	73	7.0	210
2A-845.4. DURHAM CREEK AT EDWARD																		
Aug. 18, 1959.....	1.03	14	2.7	3.9	2.4	4.3	0.2	11	1.9	11	0.3	5.1	51	20	11	59	5.5	

b Dissolved solids (residue at 180°C). Large proportion of organic matter present.

NEUSE RIVER BASIN IN NORTH CAROLINA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2A-850. ENO RIVER AT HILLSBORO																		
Feb. 11, 1959.....	52	15	0.06	4.3	1.8	5.3	0.6	23	3.8	3.5	0.0	1.1	46	18	0	59	6.7	25
Sept. 11.....	12	16	.08	5.3	1.5	15	1.7	30	9.7	18	.0	2.2	84	19	0	132	6.7	70
2A-852.2. LITTLE RIVER NEAR ORANGE FACTORY																		
Nov. 28, 1958.....	3.96			6.9	3.3	6.1	1.5	45	1.4	3.8		0.3		31	0	87	7.4	
2A-855. FLAT RIVER AT BAHAMA																		
Feb. 11, 1959[a].....	195	10	0.05	3.6	1.7	3.6	1.2	15	5.1	3.5	0.0	1.2	38	16	5	50	6.3	55
Feb. 11[b].....	105	13	.04	3.4	1.8	4.6	.7	20	3.1	3.9	.0	.9	41	16	0	52	6.3	20
Sept. 11.....	24	12	.05	4.1	2.1	3.3	1.9	22	3.2	3.7	.1	1.0	42	19	1	54	6.7	25
2A-860. DIAL CREEK NEAR BAHAMA																		
Feb. 11, 1959.....	3.87	17	0.16	3.4	1.2	4.5	0.6	19	1.6	2.9	0.1	0.3	41	13	0	46	6.4	11
Sept. 11.....	1.8	22	.03	4.2	1.3	4.4	1.2	26	2.6	3.7	.1	1.0	54	16	0	55	7.5	20
2A-865. FLAT RIVER AT DAM NEAR BAHAMA																		
Sept. 11, 1959.....	70	9.0	0.05	3.8	1.5	3.3	1.7	21	3.5	3.0	0.0	1.2	37	16	0	53	7.2	40
2A-870. NEUSE RIVER NEAR NORTHSIDE																		
Feb. 10, 1959.....	555	11	0.06	5.3	1.8	5.9	1.2	22	5.2	5.2	0.1	2.2	49	21	3	70	6.6	45
Sept. 9.....	420	12	.10	5.2	1.8	5.4	2.2	25	4.4	6.7	.0	1.8	52	21	0	77	6.5	110
2A-875. NEUSE RIVER NEAR CLAYTON																		
Sept. 1, 1959.....	2,150	10	0.26	4.2	1.2	6.8	2.5	20	4.0	7.3	0.2	1.4	48	15	0	74	6.2	85
2A-880. MIDDLE CREEK NEAR CLAYTON																		
Feb. 2, 1959.....	69.5	11	0.12	2.2	1.4	4.5	0.8	15	2.1	3.7	0.0	0.8	34	11	0	42	6.1	25
Sept. 1.....	290	9.9	.26	2.7	1.0	3.0	1.2	14	2.2	3.8	.1	1.3	32	11	0	39	6.8	120

a Collected at 2:15 p.m.
b Collected at 4:25 p.m.

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

NEUSE RIVER BASIN IN NORTH CAROLINA--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2A-885. LITTLE RIVER NEAR PRINCETON																		
Feb. 17, 1959.....	569	8.8	0.13	2.0	1.0	4.6	1.2	12	3.3	4.2	0.1	1.0	32	9	0	42	6.1	53
Sept. 14.....	91	14	.54	2.4	1.2	4.4	1.6	17	1.8	3.6	.1	.4	38	11	0	46	6.8	80
2A-910. NAHUNTA SWAMP NEAR SHINE																		
Feb. 20, 1959.....	82.6	9.3	0.11	4.0	1.0	5.8	1.0	9	5.1	7.4	0.1	2.4	40	14	7	59	5.7	25
Sept. 17.....	94	12	.45	4.5	1.5	5.8	1.0	16	3.4	7.7	.1	1.2	46	17	4	68	6.8	40
2A-915. CONTENTNEA CREEK AT HOOKERTON																		
Feb. 19, 1959.....	2,820	7.3	0.16	3.0	1.2	5.6	1.3	11	4.8	6.6	0.1	1.5	37	12	3	55	5.8	50
Sept. 16.....	277	12	.39	4.5	1.0	6.1	1.7	13	9.4	7.5	.0	1.2	50	15	5	71	6.3	70
2A-917. LITTLE CONTENTNEA CREEK NEAR FARMVILLE																		
Feb. 20, 1959.....	130	6.8	0.29	5.0	1.4	6.9	1.1	15	8.6	8.8	0.1	2.1	48	18	6	70	6.2	70
Sept. 17.....	13.9	14		8.2	1.8	9.6	2.0	26	7.6	11	.2	2.0	70	28	6	110	7.2	50
2A-920.2. PALMETTO SWAMP NEAR VANCEBORO																		
Aug. 19, 1959.....	0.74	14	0.86	8.3	1.8	2.9	1.0	29	1.2	6.6	0.2	2.0	53	28	4	72	6.4	

NEW RIVER BASIN IN NORTH CAROLINA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2A-930. NEW RIVER NEAR GUM BRANCH																		
Feb. 18, 1959.....	141	5.2	0.25	17	1.1	4.8	0.5	50	4.8	6.5	0.1	1.9	67	46	5	101	6.5	90
Sept. 15.....	28	9.7	.14	37	1.8	5.1	.6	106	5.9	6.5	.2	1.3	120	99	12	219	7.5	80

CAPE FEAR RIVER BASIN IN NORTH CAROLINA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2A-932.9. HAW RIVER NEAR SUMMERFIELD																		
Dec. 4, 1958.....	9.38			5.1	2.5	4.4	1.4	34	1.3	2.3		0.6		23	0	66	6.8	
2A-938. REEDY FORK NEAR OAK RIDGE																		
Mar. 11, 1959.....	16	17	0.01	4.7	1.7	4.1	1.5	27	2.5	2.7	0.1	1.0	48	19	0	62	6.6	2
Aug. 27.....	9.2	19	.02	5.4	2.1	4.9	2.4	32	2.8	2.8	.0	1.3	57	22	0	68	6.9	3
2A-940. HORSEPEN CREEK AT BATTLE GROUND																		
Mar. 12, 1959.....	14	19	0.00	8.2	3.4	5.3	1.6	44	3.5	3.6	0.1	1.3	68	34	0	98	6.5	2
Aug. 26.....	3.4	23	.01	9.1	3.7	5.4	2.2	55	2.1	2.4	.1	1.0	76	38	0	99	7.2	3
2A-945. REEDY FORK NEAR GIBSONVILLE																		
Mar. 12, 1959.....	63	15	0.03	5.1	2.0	4.4	1.5	29	3.5	2.7	0.1	0.6	49	21	0	65	6.8	9
Aug. 25.....	25	11	.04	4.8	1.8	3.5	3.3	22	3.8	2.9	.1	3.7	46	19	1	64	6.3	19
2A-949.8. SOUTH BUFFALO CREEK AT WILLOW ROAD AT GREENSBORO																		
Dec. 5, 1958.....	5.84					36	36	a1.1	20	122		0.6				612	3.7	
2A-955. NORTH BUFFALO CREEK NEAR GREENSBORO																		
Mar. 12, 1959.....	45	22	0.54	17	7.0	79	6.6	191	50	24	0.2	0.3	304	70	0	510	7.1	
2A-960. STONY CREEK NEAR BURLINGTON																		
Mar. 9, 1959.....	20	19	0.07	6.8	3.9	5.3	0.7	39	6.2	3.7	0.1	0.7	65	33	1	90	6.8	28
Aug. 25.....	6.7	16	.03	8.5	4.5	4.4	2.8	56	3.5	2.7	.1	1.9	72	40	0	99	7.5	15
2A-966.1. LITTLE ALAMANCE CREEK NEAR WHITSETT																		
Dec. 4, 1958.....	6.07			9.8	5.8	8.9	1.2	65	4.1	7.1		0.3		48	0	131	6.7	
2A-967. ALAMANCE CREEK NEAR ELON COLLEGE																		
Mar. 12, 1959.....	67	18	0.01	6.4	3.2	5.9	0.8	36	4.5	4.0	0.1	0.7	62	29	0	87	6.7	3
Aug. 25.....	52	15	.02	8.0	2.3	5.5	2.0	38	4.4	4.5	.0	1.9	63	30	0	87	6.9	8

a Acidity as H^{+1}.

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

CAPE FEAR RIVER BASIN IN NORTH CAROLINA--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2A-967.8. SOUTH PRONG STINKING QUARTER CREEK NEAR BELLEMONT																		
Dec. 4, 1958.....	5.09			6.5	3.2	6.3	1.0	44	1.6	3.8		0.3		29	0	86	6.7	
2A-968.5. CANE CREEK NEAR TEER																		
Sept. 10, 1959.....	7.3	17	0.33	6.8	1.2	4.3	1.8	28	1.8	5.1	0.1	1.5	54	22	0	71	6.6	160
2A-968.6. CANE CREEK NEAR CARRBORO																		
Dec. 3, 1958.....	3.46			5.9	2.5	4.8	1.1	37	1.7	3.1		0.5		25	0	71	6.7	
HAW RIVER AT BYNUM																		
May 13, 1959.....		18	0.05	9.0	2.6	21	2.1	54	8.3	15	0.7	2.5	b110	34	0	169	7.5	15
2A-970. HAW EIVER NEAR PITTSBORO																		
Feb. 24, 1959.....	920	15	0.12	5.6	2.7	12	1.6	36	6.8	9.6	0.3	1.9	74	25	0	109	6.6	45
Sept. 25.....	279	19	.20	11	2.8	36	3.1	69	13	30	.6	4.0	154	40	0	245	7.7	
2A-990. EAST FORK DEEP RIVER NEAR HIGH POINT																		
Mar. 11, 1959.....	9.3	12	0.00	7.9	3.6	5.4	1.1	46	3.3	2.8	0.1	0.8	60	34	0	95	7.0	5
Aug. 27.....	4.3	26	.01	8.4	3.5	5.4	1.6	52	2.6	2.0	.1	.8	76	36	0	93	7.3	3
DEEP RIVER AT JAMESTOWN																		
May 13, 1959.....		15	0.05	8.7	3.2	5.0	1.3	42	4.0	3.6	0.1	0.7	b70	36	2	98	6.9	10
2A-995. DEEP RIVER NEAR RANDLEMAN																		
Mar. 11, 1959.....	53	18	0.04	8.8	3.7	22	2.2	36	12	26	0.2	5.0	116	37	8	192	6.4	19
Aug. 27.....	23	17	.09	12	3.8	22	3.7	48	9.2	25	.2	9.3	126	45	5	202	6.8	17
2A-1001.8. POLECAT CREEK NEAR CLIMAX																		
Dec. 4, 1958.....	3.63			7.4	3.9	6.7	1.0	51	2.8	3.5		0.2		34	0	95	6.7	

b Dissolved solids (residue at 180°C).

2A-1005. DEEP RIVER AT RAMSEUR

Feb. 27, 1959.....	294	16	0.03	7.4	2.6	10	1.4	35	6.3	9.4	0.1	2.6	73	29	0	114	6.5	7
Sept. 24.....	30	19	.06	8.7	2.9	14	1.9	48	5.6	12	.1	2.0	90	34	0	144	6.7	

2A-1007.1. BRUSH CREEK NEAR COLERIDGE

Dec. 5, 1958.....	5.16			5.6	2.7	5.4	1.4	37	1.4	4.0		0.3		25	0	74	7.0	

2A-1007.3. FORK CREEK NEAR COLERIDGE

Dec. 5, 1958.....	6.20			5.6	1.9	6.7	1.0	37	2.3	3.9		0.3		22	0	74	6.6	

2A-1010. BEAR CREEK AT ROBBINS

Feb. 26, 1959.....	96	12	0.05	3.5	0.8	4.4	0.5	19	3.4	3.2	0.1	0.5	37	12	0	47	6.4	9
Sept. 24.....	11.3	16	.24	4.5	1.1	5.6	.8	27	1.1	4.7	.0	1.0	48	16	0	65	6.8	

2A-1018. TICK CREEK NEAR MOUNT VERNON SPRINGS

Feb. 27, 1959.....	6.8	8.8	0.02	8.7	2.5	4.6	0.4	33	8.0	4.6	0.1	1.7	55	32	5	88	6.8	2
Sept. 24.....	.8	17	.02	9.9	4.1	5.8	.4	50	4.4	5.5	.0	1.0	73	42	1	109	7.0	

2A-1018.9. BEAR CREEK NEAR GOLDSTON

Dec. 5, 1958.....	0.87			6.9	3.5	6.2	2.5	38	2.5	8.6		0.4		32	0	98	6.4	

2A-1020. DEEP RIVER AT MONCURE

Feb. 24, 1959.....	850	12	0.13	4.8	1.5	5.2	1.1	21	5.9	4.8	0.1	1.7	47	18	1	65	6.6	32
Sept. 22.....	240	15	.40	5.7	2.3	5.1	1.7	28	2.1	5.9	.0	2.0	54	24	1	73	6.7	

2A-1024.8. NEAL CREEK NEAR LILLINGTON

Dec. 3, 1958.....	12.6			2.6	1.0	6.2	1.1	16	2.3	5.4		1.0		11	0	54	6.2	

2A-1035. LITTLE RIVER AT LINDEN

Feb. 24, 1959.....	674	5.1	0.04	1.0	0.4	2.5	0.7	4	2.4	2.9	0.0	0.9	18	4	1	27	5.5	17
Sept. 10.....	830	7.5	.42	.6	.4	1.9	.6	3	.8	3.8	.1	1.2	18	3	1	22	5.6	100

757-048 O - 65 - 28

MISCELLANSOUS ANALYSES OF STREANS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF NEXICO BASINS--Continued

CAPE FEAR RIVER BASIN IN NORTH CAROLINA--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2A-1035.2. STEWARTS CREEK AT LINDEN																		
Dec. 3, 1958.....	1.23			1.7	0.5	7.2	0.7	5	2.3	10		0.4		6	2	57	5.2	
LITTLE CROSS CREEK AT FAYETTEVILLE																		
Dec. 5, 1958.....		4.6	0.22	1.6	0.5	3.0	0.5	8	0.4	4.2	0.0	1.2	b23	7	1	31	6.3	40
BIG CROSS CREEK AT FAYETTEVILLE																		
Dec. 5, 1958.....		4.0	0.15	0.4	0.5	1.8	0.3	4	0.1	3.3	0.0	1.3	b20	4	0	20	6.1	25
2A-1055. CAPE FEAR RIVER NEAR TARHEEL																		
Feb. 24, 1959.....	4,170	9.2	0.13	3.4	1.6	5.1	1.2	14	4.5	5.0	0.1	1.5	39	15	4	58	6.2	40
Sept. 10.....	10,800	8.9	.15	3.1	1.3	2.9	1.3	12	3.6	4.7	.2	1.8	34	13	3	45	6.4	40
2A-1056.3. TURNBULL CREEK NEAR ELIZABETHTOWN																		
Dec. 2, 1958.....	20.2					3.2	0.2	a0.4	2.8	4.5		0.2		5	0	48	4.2	
2A-1056.9. HAMMOND CREEK NEAR LISBON																		
Dec. 2, 1958.....	3.38			18	1.6	5.6	1.0	56	3.2	7.5		0.3		51	5	128	7.0	
2A-1059. HOOD CREEK NEAR LELAND																		
Feb. 26, 1959.....	22.7	5.1	0.13	4.0	1.8	3.5	0.2	16	2.3	5.3	0.1	0.3	31	17	4	51	6.3	110
Sept. 9.....	62	7.5	.31	7.0	.5	2.4	.2	16	1.0	4.7	.2	2.3	34	20	6	48	6.2	220
2A-1060. LITTLE COHARIE CREEK NEAR ROSEBORO																		
Feb. 27, 1959.....	125	4.9	0.14	1.2	0.1	5.3	0.9	4	2.8	6.4	0.0	0.4	24	4	0	41	5.6	90
Sept. 8.....	144	10	.63	1.1	.5	4.2	1.0	5	2.8	6.5	.2	2.2	31	5	1	38	5.6	220
2A-1065. BLACK RIVER NEAR TOMAHAWK																		
Feb. 27, 1959.....	946	5.3	0.16	2.2	0.8	4.8	0.7	6	4.0	6.0	0.1	0.4	27	9	4	47	5.8	65
Sept. 8.....	1,910	7.8	.47	4.2	.2	2.5	1.0	6	4.5	4.2	.2	2.3	30	12	7	37	5.4	220

a Acidity as H^{+1}.
b Dissolved solids (residue at 180°C).

2A-1067.6. MINGO SWAMP NEAR DUNN

Dec. 2, 1958.....	15.7			2.4	0.7	11	1.6	6	2.6	13		3.6		9	4	78	6.1	

2A-1070. SOUTH RIVER NEAR PARKERSBURG

Feb. 27, 1959.....	696	3.3	0.13	1.3	0.5	5.1	1.0	4	3.9	6.1	0.1	0.1	24	5	2	45	5.2	100
Sept. 8.....	696	9.2	.44	1.3	.7	3.5	1.0	3	1.5	5.1	.0	.3	24	6	4	34	5.2	160

2A-1075. COLLY CREEK NEAR KELLY

Feb. 26, 1959.....	234	3.6	0.20	1.6	0.7	2.5	0.5	0	5.3	4.4	0.1	0.1	19	7	7	39	4.5	280
Sept. 9.....	167	8.1	.76	2.2	1.0	2.0	.7	13	1.7	5.3	.2	.3	28	10	0	44	4.8	400

2A-1076. NORTHEAST CAPE FEAR RIVER NEAR SEVEN SPRINGS

Feb. 17, 1959.....	82.6	4.0	0.19	2.7	0.7	13	1.1	9	6.6	19	0.1	1.9	53	10	2	93	5.7	90
Sept. 14.....	21	10	.42	2.7	1.8	78	2.0	8	1.4	127	.1	1.2	229	14	8	459	5.8	140

2A-1065. ROCKFISH CREEK NEAR WALLACE

Feb. 27, 1959.....	79	4.5	0.16	3.8	0.8	4.7	0.7	8	5.2	6.5	0.1	0.4	31	13	6	54	5.9	55
Sept. 9.....	274	7.7	.65	4.3	.3	3.2	1.0	8	3.8	5.5	.2	2.4	33	12	6	45	5.8	200

2A-1088.3. ALLEN CREEK NEAR SOUTHPORT

Dec. 2, 1958.....	6.22					5.5	0.2	55	1.6	7.4		0.3		45	0	120	6.8	
Aug. 17, 1959.....	4.04	8.0	0.43	23	1.2	5.5	.2	73	2.2	7.2	0.1	2.3	86	62	13	128	6.9	

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

PEE DEE RIVER BASIN IN NORTH CAROLINA AND SOUTH CAROLINA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2A-1110. YADKIN RIVER AT PATTERSON, N. C.																		
Dec. 18, 1958.....	20	13	0.02	2.6	0.6	2.4	0.6	16	1.2	0.8	0.0	0.3	30	9	0	28	6.5	5
Aug. 12, 1959.....	22.8	13	.00	3.5	.7	2.7	1.0	20	1.2	.7	.1	.1	33	12	0	37	6.5	10
2A-1112.6. STONY FORK CREEK NEAR FERGUSON, N. C.																		
June 23, 1959.....	30.2	21	0.01	2.1	0.5	2.3	0.9	14	0.9	2.0	0.0	0.5	37	7	0	32		
2A-1113.2. NORTH PRONG LEWIS FORK CREEK AT CHAMPION, N. C.																		
June 23, 1959.....	31.9	21	0.03	2.0	0.4	2.1	0.8	13	1.8	2.0	0.0	0.4	37	7	0	26	6.5	
2A-1113.7. SOUTH PRONG LEWIS FORK CREEK AT CHAMPION, N. C.																		
June 23, 1959.....	31.1	13	0.02			2.9	0.8	10	1.6	3.6	0.0	0.9		11	3	39	6.5	
2A-1115. REDDIES RIVER AT NORTH WILKESBORO, N. C.																		
Dec. 16, 1958.....	36	15	0.04	2.2	0.7	2.4	0.7	14	0.6	2.2	0.0	0.5	31	8	0	29	6.4	7
June 30, 1959.....	63.0	12	.04	2.1	.4	2.2	.9	14	1.1	.6	.0	.4	27	7	0	26	7.0	3
2A-1121.7. BUGABOO CREEK AT RHONDA, N. C.																		
June 24, 1959.....	9.03	10	0.04	1.8	0.8	1.3	0.5	12	1.0	1.6	0.1	0.9	24	8	0	26	6.3	
LOVILLS CREEK AT MOUNT AIRY, N. C.																		
June 8, 1959.....		12	0.06	3.4	0.8	1.8	0.7	16	2.3	1.3	0.2	0.5	a32	12	0	30	7.0	8
2A-1130. FISHER RIVER NEAR COPELAND, N. C.																		
Dec. 15, 1958.....	96	12	0.05	2.5	0.7	2.0	0.6	14	1.3	0.6	0.0	0.6	27	9	0	27	6.6	10
2A-1145. LITTLE YADKIN RIVER NEAR DONNAHA, N. C.																		
June 24, 1959.....	14.0	20	0.04	5.1	2.0	3.9	1.3	32	0.4	3.4	0.2	0.8	53	21	0	62	6.8	
2A-1155. FORBUSH CREEK NEAR YADKINVILLE, N. C.																		
Dec. 15, 1958.....	9.2	16	0.02	3.4	1.4	2.9	0.9	24	0.4	1.1	0.1	0.3	39	14	0	40	6.8	4
July 6, 1959.....	5.75	15	.02	3.3	1.4	2.6	.8	23	1.5	1.0	.0	.9	38	14	0	42	7.4	4

a Dissolved solids (residue at 180°C).

2A-1156.1. NORTH DEEP CREEK NEAR YADKINVILLE, N. C.

June 24, 1959.....	15.3	18	0.01	3.6	2.5	2.7	1.2	24	1.5	3.4	0.1	1.1	46	19	0	54	6.7	

2A-1172.2. SOUTH YADKIN RIVER NEAR STATESVILLE, N. C.

June 30, 1959.....	36.0	19	0.00	4.3	1.2	2.6	1.1	22	0.7	2.0	0.1	1.1	43	16	0	48	6.6	

2A-1175. ROCKY CREEK AT TURNERSBURG, N. C.

Dec. 21, 1958.....	59	14	0.18	2.2	1.2	2.5	0.9	18	0.7	1.1	0.0	0.5	32	11	0	32	6.6	17
Aug. 10, 1959.....	54	15	.02	3.4	1.0	2.6	1.4	20	.9	1.8	.1	1.0	37	13	0	41	7.4	5

2A-1185. HUNTING CREEK NEAR HARMONY, N. C.

Dec. 16, 1958.....	52	14	0.07	2.8	0.8	2.2	0.8	17	0.6	0.8	0.0	0.8	31	10	0	30	6.6	14
Aug. 10, 1959.....	85.4	14	.03	3.5	.1	2.2	1.3	16	.8	1.8	.1	.7	32	9	0	33	6.8	10

BEAR CREEK NEAR MOCKSVILLE, N. C.

Apr. 13, 1959.....		12	0.01	4.7	1.5	2.3	1.2	22	3.9	1.5	0.1	1.2	a50	18	0	50	6.7	50

2A-1190. SOUTH YADKIN RIVER AT COOLEEMEE, N. C.

Dec. 17, 1958.....	238	17	0.12	3.8	1.3	22	1.4	70	2.4	3.0	0.0	0.3	85	15	0	127	7.2	20
June 18, 1959.....	290	17	.09	4.4	1.5	19	1.5	53	5.1	9.5	.0	1.2	85	17	0	130	7.2	30

2A-1194. THIRD CREEK SUBWATERSHED NO. 7A (INFLOW) NEAR STONY POINT, N. C.

Dec. 28, 1958.....	94	--	--	2.5	1.1	1.7	2.3	4	5.2	2.5	--	4.1	--	11	7	39	6.2	--
Apr. 19, 1959.....	280	5.9	0.09	3.2	.7	1.5	2.4	2	1.9	3.0	0.0	8.3	28	11	9	46	5.0	--
Aug. 8.....	--	4.7	.03	1.8	.3	1.2	2.3	4	2.1	2.0	.0	3.4	20	6	2	27	5.9	8
Sept. 30.....	240	4.4	.06	2.2	.9	1.5	3.7	6	2.8	3.0	.0	3.5	25	9	4	42	5.7	30

2A-1194. THIRD CREEK SUBWATERSHED NO. 7A (OUTFLOW) NEAR STONY POINT, N. C.

Dec. 30, 1958.....	52	--	--	2.4	1.1	1.7	2.6	4	5.2	2.6	--	5.6	--	11	7	41	6.0	--
Apr. 29, 1959.....	5.3	11	0.01	2.2	1.0	2.8	1.5	8	2.0	3.0	0.0	4.6	32	10	3	42	6.4	5
June 18.....	2.11	12	.02	2.9	.8	3.3	2.0	11	.9	5.0	.0	.7	34	10	1	49	6.6	6
Aug. 30.....	52.4	6.5	.01	2.2	.2	1.8	2.8	3	1.4	3.2	.0	5.0	24	6	4	35	5.6	--

a Dissolved solids (residue at 180°C).

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

PEE DEE RIVER BASIN IN NORTH CAROLINA AND SOUTH CAROLINA--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2A-1205. THIRD CREEK AT CLEVELAND, N. C.																		
Dec. 17, 1958.....	38	22	0.05	6.6	2.7	4.8	1.4	36	1.7	2.5	0.1	2.5	62	28	0	75	6.5	12
Sept. 16, 1959.....	56	22	.07	7.3	2.4	4.9	1.9	39	2.9	2.5	.1	.9	64	28	0	81	7.3	15
2A-1214.1. SOUTH SECOND CREEK NEAR LIBERTY, N. C.																		
June 23, 1959.....	7.11	29	0.07	10	4.0	7.9	1.2	59	2.2	5.6	0.1	1.7	91	42	0	130	6.9	
2A-1225. YADKIN RIVER AT HIGH ROCK, N. C.																		
Dec. 8, 1958.....	3,030	16	0.02	4.7	1.6	8.4	1.8	33	2.7	4.5	0.1	2.3	58	19	0	76	6.6	12
July 8, 1959.....	4,600	10	.01	5.9	1.0	6.9	1.6	32	2.8	4.0	.1	1.4	50	19	0	74	6.6	3
2A-1225.3. LICK CREEK AT HEALING SPRINGS, N. C.																		
June 23, 1959.....	0.59	21	0.02	7.0	3.5	7.9	0.9	40	1.5	9.8	0.1	1.4	73	32	0	103	6.6	
2A-1230. UWHARRIE RIVER NEAR TRINITY, N. C.																		
Jan. 27, 1959.....		17	0.01	6.8	3.4	6.1	0.8	33	6.3	5.2	0.1	1.5	a75	31	4	91	7.0	13
2A-1235. UWHARRIE RIVER NEAR ELDORADO, N. C.																		
Sept. 23, 1959.....	44	21	0.13	8.3	3.1	5.9	1.1	46	1.3	4.5	0.0	0.8	69	34	0	90	7.3	
DROWNING CREEK AT CANDOR, N. C.																		
July 9, 1959.....		5.2	0.16	4.3	0.6	4.3	0.5	7	9.3	4.0	0.1	1.9	a44	16	10	60	6.4	20
2A-1240.8. CLARKE CREEK NEAR HARRISBURG, N. C.																		
June 23, 1959.....	2.69	37	0.04	12	3.4	8.9	1.8	61	3.2	7.0	0.1	1.0	104	43	0	140	7.1	
2A-1241.6. MALLARD CREEK AT HARRISBURG, N. C.																		
June 23, 1959.....	6.33	29	0.01	11	5.6	8.3	1.3	69	2.7	5.6	0.1	0.8	98	50	0	145	7.1	
2A-1243.2. REEDY CREEK AT ROCKY RIVER, N. C.																		
June 23, 1959.....	5.28	35	0.10	12	5.2	8.6	1.6	71	2.6	5.7	0.1	0.9	107	51	0	150	7.1	

a Dissolved solids (residue at 180°C).

2A-1250. BIG BEAR CREEK NEAR RICHFIELD, N. C.

Dec. 31, 1958.....	36	9.1	0.02	6.3	3.1	5.1	1.4	1	10	9.6	0.1	8.7	58	28	19	92	6.3	18
July 8, 1959.....	.62	15	.04	6.5	1.9	5.5	1.0	34	2.2	5.5	.1	1.3	56	24	0	77	6.9	20

2A-1270. BROWN CREEK NEAR POLKTON, N. C.

Feb. 25, 1959.....	30	8.0	0.15	4.3	2.1	6.7	1.4	18	5.6	9.4	0.0	0.5	47	19	5	76	6.3	33
Sept. 22.....	1.7	12	.54	6.1	3.3	5.9	1.7	36	.2	7.5	.0	1.3	57	29	0	87	6.8	

2A-1280. LITTLE RIVER NEAR STAR, N. C.

Feb. 26, 1959.....	70	16	0.03	4.0	1.2	4.5	0.6	24	3.7	2.5	0.1	0.3	45	15	0	50	6.8	12
Sept. 23.....	24	23	.20	4.4	2.2	5.5	.7	30	.3	4.3	.0	.7	56	20	0	60	7.2	

2A-1306. CEDAR CREEK AT SOCIETY HILL, S. C.

May 18, 1959.....	56.9	4.6	0.21	0.7	0.5	1.0	0.3	4	0.3	2.1	0.1	0.7	a24	4	1	18	5.4	60

2A-1306.2. PEE DEE RIVER NEAR SOCIETY HILL, S. C.

May 19, 1959.....	1,950	10	0.06	3.8	1.8	8.0	1.0	28	1.9	5.0	0.1	1.1	a51	17	0	77	7.2	20

2A-1309. BIG BLACK CREEK NEAR McBEE, S. C.

Apr. 17, 1959.....	303	4.0	0.00	0.8	0.2	2.2	0.4	2	2.4	2.8	0.2	0.3	a30	3	1	25	5.0	70

2A-1310. PEE DEE RIVER AT PEEDEE, S. C.

Apr. 9, 1959.....	11,600	9.8	0.05	3.8	1.6	5.8	1.1	22	3.7	5.5	0.1	1.7	a54	16	0	63	7.3	40

2A-1314.4. LYNCHES RIVER NEAR BETHUNE, S. C.

May 18, 1959.....	190	8.3	0.13	2.1	1.0	2.7	0.6	15	0.3	2.2	0.2	0.9	a37	9	0	46	6.2	20

2A-1314.8. LITTLE LYNCHES RIVER NEAR BETHUNE, S. C.

May 18, 1959.....	71.8	9.0	0.14	1.4	0.9	1.8	0.4	6	2.9	2.8	0.1	0.5	a31	7	2	34	6.0	26

a Dissolved solids (residue at 180°C).

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

PEE DEE RIVER BASIN IN NORTH CAROLINA AND SOUTH CAROLINA--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2A-1315. LYNCHES RIVER NEAR BISHOPVILLE, S. C.																		
Apr. 9, 1959.....	802	8.1	0.05	2.2	1.1	4.3	0.7	12	2.5	4.8	0.0	1.5	a40	10	0	42	6.6	40
2A-1320. LYNCHES RIVER AT EFFINGHAM, S. C.																		
Jan. 30, 1959.....	1,100	8.4	0.11	2.2	0.8	4.9	0.8	9	2.9	5.0	0.0	0.7	b51	9	1	43	6.0	55
2A-1325. LITTLE PEE DEE RIVER NEAR DILLON, S. C.																		
Apr. 7, 1959.....	1,360	1.2	0.13	1.3	0.7	4.2	0.6	6	2.8	6.7	0.1	0.4	b38	6	1	37	6.0	120
2A-1345. LUMBER RIVER AT BOARDMAN, N. C.																		
Sept. 10, 1959.....	1,230	10	0.50	2.5	0.3	2.2	0.6	4	2.6	3.3	0.1	1.9	26	7	4	31	5.2	200
2A-1350. LITTLE PEE DEE RIVER AT GALIVANTS FERRY, S. C.																		
Apr. 8, 1959.....	7,930	2.1	0.13	1.9	0.6	4.4	0.8	8	2.5	7.5	0.1	0.2	b50	7	1	42	6.0	160
2A-1361. BLACK MINGO CREEK AT NESMITH, S. C.																		
May 26, 1959.....	16.4	10	0.22	15	1.7	4.9	0.8	46	3.9	6.9	0.1	0.4	a92	43	6	108	6.9	100

a Dissolved solids (residue at 180°C).
b Dissolved solids (residue at 180°C). Large proportion of organic matter present.

SANTEE RIVER BASIN IN NORTH CAROLINA AND SOUTH CAROLINA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2A-1380. CATAWBA RIVER NEAR MARION, N. C.																		
Dec. 18, 1958.....	99	15	0.03	2.7	1.1	20	1.1	36	2.5	15	0.0	3.2	79	11	0	113	6.5	10
July 9, 1959.....	136	15	.06	3.2	.9	8.1	1.0	23	2.7	7.3	.0	1.2	50	12	0	63	7.3	4
2A-1380.7. ARMSTRONG CREEK AT SEVIER, N. C.																		
June 24, 1959.....	33.3	21	0.02	3.1	0.7	2.0	0.8	17	1.5	1.2	0.0	0.5	39	11	0	35	6.5	
2A-1382.2. NORTH MUDDY CREEK NEAR NEBO, N. C.																		
July 9, 1959.....	27.2	18	0.01	5.1	1.9	6.3	1.3	28	1.3	5.4	0.1	1.2	55	21	0	72	6.4	
2A-1382.7. SOUTH MUDDY CREEK NEAR BRIDGEWATER, N. C.																		
June 24, 1959.....	38.9	20	0.01	4.4	1.1	2.2	0.7	24	1.0	1.0	0.1	0.7	43	15	0	45	6.2	
July 9.....	27.0	21	.05	2.7	1.8	2.7	.6	22	.5	2.0	.1	.6	43	14	0	42	6.7	
2A-1384.1. MILL TIMBER CREEK AT CROSSNORE, N. C.																		
June 24, 1959.....	3.58	21	0.02	2.7	1.0	2.1	0.6	14	0.5	1.4	0.0	0.9	37	11	0	32	6.4	
2A-1385. LINVILLE RIVER AT BRANCH, N. C.																		
Dec. 18, 1958.....	36	9.8	0.03	2.3	0.6	1.8	0.6	13	0.6	0.5	0.1	0.6	23	8	0	26	6.6	10
July 8, 1959.....	34	7.4	.01	2.2	.6	1.4	.6	12	.5	.5	.1	.3	a24	8	0	24	6.8	5
2A-1393.9. WARRIOR FORK NEAR MORGANTON, N. C.																		
June 24, 1959.....	60.1	17	0.00	3.9	0.7	2.3	0.6	18	0.9	3.0	0.1	0.6	38	13	0	39	6.5	
2A-1415.6. DROWNING CREEK NEAR HILDEBRAN, N. C.																		
June 30, 1959.....	13.1	15	0.00	2.2	1.8	3.0	1.3	14	2.3	4.0	0.0	1.0	38	13	2	42	6.6	
RHODHISS LAKE AT LENOIR, N. C.																		
Apr. 17, 1959.....		11	0.09	2.4	1.1	2.8	0.5	16	1.6	3.5	0.1	0.8	a38	12	0	39	6.9	30

a Dissolved solids (residue at 180°C).

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

SANTEE RIVER BASIN IN NORTH CAROLINA AND SOUTH CAROLINA--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2A-1420. LOWER LITTLE RIVER NEAR ALL HEALING SPRINGS, N. C.																		
Dec. 21, 1958.....	16	13	0.06	2.4	0.9	1.9	0.8	15	0.3	0.7	0.1	0.4	28	10	0	29	6.7	15
June 18, 1959.....	20.1	13	.09	2.7	.6	2.0	1.0	14	.8	1.2	.0	1.0	29	9	0	32	6.7	7
2A-1423.8. GLADE CREEK AT MILLERSVILLE, N. C.																		
June 30, 1959.....	8.80	12	0.02	1.7	0.9	1.1	0.9	9	0.5	3.0	0.1	1.2	25	8	0	26	6.3	
2A-1425. CATAWBA RIVER AT CATAWBA, N. C.																		
Sept. 17, 1959.....	4,810	11	0.02	3.8	0.5	4.3	1.2	19	2.6	3.0	0.1	0.6	36	12	0	47	7.1	10
2A-1426. MOUNTAIN CREEK NEAR TERRELL, N. C.																		
Dec. 18, 1958.....	19	19	0.15	5.8	2.3	3.3	1.1	35	1.5	1.0	0.1	0.3	52	24	0	61	7.0	13
July 17, 1959.....	21.8	19	.23	6.3	2.3	3.0	1.3	34	3.7	1.0	.0	.6	54	25	0	64	7.5	10
2A-1426.9. LEEPERS CREEK NEAR LOWESVILLE, N. C.																		
June 23, 1959.....	23.5	22	0.04	6.0	1.4	3.4	1.1	28	1.0	2.6	0.1	1.1	53	21	0	59	6.8	
2A-1427.1. KILLIAN CREEK NEAR LOWESVILLE, N. C.																		
June 23, 1959.....	14.4	26	0.05	6.4	2.4	4.8	1.3	39	3.5	2.6	0.2	0.8	67	26	0	77	6.7	
2A-1430. HENRY FORK NEAR HENRY RIVER, N. C.																		
Dec. 18, 1958.....	46	11	0.04	1.8	0.7	1.6	0.7	11	1.1	0.5	0.0	0.3	23	7	0	23	6.5	13
Aug. 21, 1959.....	65	11	.01	1.6	.7	1.9	1.1	8	3.1	1.8	.0	1.4	27	7	1	28	6.3	5
2A-1431.8. MAIDEN CREEK AT MAIDEN, N. C.																		
June 30, 1959.....	8.44	15	0.07	2.4	0.7	2.1	1.0	12	0.6	2.2	0.1	1.4	32	9	0	32	6.4	
2A-1434.4. INDIAN CREEK NEAR FLAY, N. C.																		
June 23, 1959.....	18.8	12	0.00	2.6	1.9	4.0	1.2	15	0.2	2.0	0.1	1.1		15	2	38	6.4	
2A-1435.6. BEAVERDAM CREEK NEAR CROUSR, N. C.																		
June 23, 1959.....	12.3	26	0.00	6.3	2.3	4.6	1.4	35	1.2	2.8	0.1	2.0	64	25	0	76	6.6	

2A-1440. LONG CREEK NEAR BESSEMER CITY, N. C.																		
Dec. 18, 1958.....	13	19	0.16	5.2	2.0	3.3	0.9	31	1.4	1.5	0.1	0.7	49	21	0	56	6.8	15
2A-1450. SOUTH FORK CATAWBA RIVER AT LOWELL, N. C.																		
Jan. 2, 1959.....	2,320	9.3	0.02	4.1	2.5	6.1	2.4	22	6.8	7.1	0.1	2.3	52	20	2	54	6.8	12
June 25.....	480	15	.11	4.6	1.3	6.5	1.8	26	2.9	5.4	.0	1.8	52	17	0	68	7.4	14
2A-1465. LITTLE SUGAR CREEK NEAR CHARLOTTE, N. C.																		
Dec. 31, 1958.....	20	20	0.14	19	4.2	27	3.4	73	29	26	0.3	2.4	167	65	5	258	6.7	37
Sept. 21, 1959.....	12.0	21	.00	22	6.2	15	2.2	106	12	10	.2	.7	142	61	0	227	7.3	10
2A-1474. FISHING CREEK NEAR FORT LAWN, S. C.																		
May 4, 1959.....	106	23	0.00	8.2	3.7	11	1.5	60	4.3	6.3	0.3	0.2	88	36	0	124	6.7	4
2A-1460. WATEREE RIVER NEAR CAMDEN, S. C.																		
Jan. 27, 1959.....	b8,280	9.2	0.03	4.2	1.4	8.2	1.6	24	6.1	4.7	0.0	0.9	a58	16	0	74	6.2	22
2A-1490. COVE CREEK NEAR LAKE LURE, N. C.																		
Dec. 17, 1958.....	57	18	0.05	2.2	0.9	2.8	0.7	17	0.9	0.8	0.1	0.5	35	9	0	32	6.7	10
July 13, 1959.....	107	14	.01	1.8	.9	1.9	.8	12	1.4	.5	.1	.7	28	8	0	30	6.5	10
2A-1492.4. MOUNTAIN CREEK NEAR RUTHERFORDTON, N. C.																		
July 27, 1959.....	45.3	20	0.08	3.7	1.8	3.4	1.0	25	0.4	2.1	0.0	0.5	45	17	0	48	6.7	
2A-1502.6. FLOYDS CREEK NEAR CLIFFSIDE, N. C.																		
June 24, 1959.....	28.8	12	0.10	3.4	0.7	3.5	1.6	18	1.1	4.0	0.0	1.4	37	11	0	46	6.9	
July 27.....	27.4	22	.04	3.8	.4	3.1	1.5	17	.4	2.8	.0	1.6	44	11	0	44	6.6	
2A-1521. FIRST BROAD RIVER NEAR CASAR, N. C.																		
Sept. 23, 1959.....	40	16	0.05	3.4	0.7	2.7	1.0	18	2.1	1.5	0.0	0.3	37	11	0	37	7.0	5

a Dissolved solids (residue at 180°C).
b Daily mean discharge.

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

SANTEE RIVER BASIN IN NORTH CAROLINA AND SOUTH CAROLINA--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2A-1525. FIRST BROAD RIVER NEAR LAWNDALE, N. C.																		
Dec. 17, 1958.....	126	13	0.11	2.2	0.9	6.8	1.0	24	1.4	2.1	0.0	1.1	41	9	0	49	6.9	14
July 7, 1959.....	132	13	.07	2.6	1.3	4.0	1.1	19	1.6	2.2	.1	.7	36	12	0	44	6.8	10
2A-1533.77. BUFFALO CREEK NEAR EARL, N. C.																		
Jan. 15, 1959.....		15	0.06	4.4	2.2	7.5	1.4	20	3.5	8.7	0.1	1.7	a59	20	4	71	6.7	10
2A-1534.8. BUFFALO CREEK NEAR BLACKSBURG, S. C.																		
May 11, 1959.....	179	16	0.04	3.7	1.5	4.7	1.6	24	2.5	4.7	0.1	0.7	47	15	0	58	6.8	2
2A-1535. BROAD RIVER NEAR GAFFNEY, S. C.																		
Feb. 18, 1959.....	b2,770	13	0.02	2.6	1.1	3.3	0.9	17	0.8	2.7	0.1	0.7	a36	11	0	41	6.8	5
2A-1536. KINGS CREEK AT KINGS CREEK, S. C.																		
May 4, 1959.....	45.2	14	0.04	15	3.5	4.0	1.4	62	7.8	2.5	0.2	0.1	80	52	1	128	6.8	5
2A-1537.05. THICKETTY CREEK AT THICKETTY, S. C.																		
May 5, 1959.....	45.3	12	0.00	3.2	1.4	5.6	1.5	20	3.8	6.7	0.0	0.6	45	14	0	63	6.5	4
2A-1545. NORTH PACOLET RIVER AT FINGERVILLE, S. C.																		
Feb. 18, 1959.....	b201	14	0.01	2.8	1.3	8.0	0.9	32	1.0	2.2	0.1	0.5	a48	12	0	62	6.9	5
2A-1560. PACOLET RIVER NEAR CLIFTON, S. C.																		
Feb. 17, 1959.....	b521	12	0.03	3.0	1.1	2.9	0.9	19	0.3	2.0	0.1	0.8	a36	12	0	41	7.1	5
2A-1570. NORTH TYGER RIVER NEAR FAIRMONT, S. C.																		
Jan. 27, 1959.....	b46	13	0.00	3.0	1.3	2.6	0.8	19	0.1	2.4	0.1	1.3	a37	13	0	41	6.8	5
2A-1580. NORTH TYGER RIVER NEAR MOORE, S. C.																		
Jan. 26, 1959.....	b199	10	0.11	3.5	1.0	20	2.0	48	5.8	6.8	0.0	2.7	a84	13	0	122	6.3	18

2A-1585. SOUTH TYGRR RIVER NEAR REIDVILLE, S. C.

Jan. 27, 1959.....	b121	10	0.00	2.9	0.7	3.3	1.3	12	1.4	2.3	0.0	1.7	a36	10	0	38	5.9	8

2A-1590. SOUTH TYGRR RIVER NEAR WOODRUFF, S. C.

Jan. 26, 1959.....	b134	13	0.01	2.9	1.2	3.4	1.3	17	1.8	2.0	0.0	1.2	a42	12	0	41	6.1	6

2A-1605. RNOREE RIVER NEAR ENOREE, S. C.

Jan. 27, 1959.....	b270	13	0.00	2.8	1.1	7.6	1.5	25	2.6	2.1	0.0	1.0	a48	11	0	56	6.3	8

2A-1605.2. WARRIOR CREEK AT LANFORD, S. C.

May 19, 1959.....	12.2	26	0.03	3.8	1.5	4.6	0.9	28	0.3	0.3	0.2	1.2	a55	16	0	58	6.8	4

2A-1605.6. ENOREE RIVER NEAR CLINTON, S. C.

May 14, 1959.....		15	0.01	3.2	0.8	12	1.9	37	4.6	4.0	0.0	1.3	a66	11	0	79	6.7	10

2A-1606.5. DUNCAN CREEK NEAR CLINTON, S. C.

May 14, 1959.....		22	0.06	4.0	1.1	4.4	1.8	26	1.5	2.0	0.0	0.9	a57	15	0	51	6.6	20

2A-1620.7. SOUTH SALUDA RIVER NEAR GREENVILLE, S. C.

May 13, 1959.....		7.5	0.01	0.8	0.6	0.9	0.3	5	2.2	0.5	0.0	0.1	15	4	0	14	6.5	5

2A-1623.25. NORTH SALUDA RIVER RESERVOIR NEAR GREENVILLE, S. C.

May 13, 1959.....		9.5	0.02	1.9	1.2	1.9	0.9	12	1.2	1.5	0.0	0.0	a26	10	0	25	6.5	10

2A-1625. SALUDA RIVER NEAR GREENVILLE, S. C.

Jan. 27, 1959.....	b450	9.4	0.01	1.8	0.1	2.1	0.7	11	0.9	0.5	0.0	0.4	a34	5	0	22	6.0	10

2A-1630. SALUDA RIVER NEAR PELZER, S. C.

Jan. 27, 1959.....	b561	12	0.03	1.6	0.8	2.5	0.8	14	0.2	2.0	0.1	0.8	a32	7	0	27	6.9	5

a Dissolved solids (residue at 180°C).
b Daily mean discharge.

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

SANTEE RIVER BASIN IN NORTH CAROLINA AND SOUTH CAROLINA--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2A-1635. SALUDA RIVER NEAR WARE SHOALS, S. C.																		
Jan. 26, 1959.....	b732	12	0.01	2.6	0.6	11	0.9	19	2.6	9.0	0.1	1.1	a56	9	0	75	6.8	5
2A-1650. REEDY RIVER NEAR WARE SHOALS, S. C.																		
Jan. 26, 1959.....	b266	12	0.13	3.4	1.5	28	2.9	50	11	12	0.4	4.6	a108	15	0	165	6.8	60
2A-1667.5. CORONACA CREEK NEAR NINETY SIX, S. C.																		
Dec. 10, 1958.....	6.19	21	0.01	7.2	2.4	8.9	2.1	46	1.7	5.0	0.0	1.7	a80	28	0	94	6.3	10
2A-1669. WILSON CREEK NEAR NINETY SIX, S. C.																		
Jan. 26, 1959.....	30.8	20	0.11	6.3	2.5	9.5	2.1	35	4.5	8.0	0.0	2.2	a86	26	0	103	6.4	35
2A-1670. SALUDA RIVER AT CHAPPELLS, S. C.																		
Jan. 28, 1959.....	a1,310	12	0.03	3.4	1.2	17	1.8	40	5.2	7.3	0.0	1.7	70	13	0	108	6.6	12
2A-1690. SALUDA RIVER NEAR COLUMBIA, S. C.																		
Apr. 23, 1959.....	a558	8.2	0.00	3.1	1.1	6.3	1.3	22	3.4	4.8	0.1	0.3	a41	12	0	60	6.5	17
2A-1695.5. CONGAREE CREEK AT CAYCE, S. C.																		
May 29, 1959.....	176	3.8	0.11	0.8	0.4	1.2	0.2	4	0.3	1.7	0.1	0.4	a15	4	0	13	5.7	25
2A-1705. LAKES MARION-MOULTRIE DIVERSION CANAL NEAR PINEVILLE, S. C.																		
Jan. 22, 1959.....	b12,900	7.8	0.01	4.0	1.4	8.2	1.6	29	4.6	4.2	0.0	0.9	a59	16	0	70	6.3	19

EDISTO RIVER BASIN IN SOUTH CAROLINA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2A-1725. SOUTH FORK EDISTO RIVER NEAR MONTMORENCI																		
Apr. 24, 1959.....	240	5.2	0.09	1.4	0.1	2.3	0.5	6	0.4	2.4	0.1	0.6	a25	4	0	24	5.9	37
2A-1725.2. SHAW CREEK NEAR EUREKA																		
May 19, 1959.....	b28.8	5.4	0.09	0.8	0.4	3.0	0.3	8	0.1	3.0	0.1	0.6	a27	4	0	26	6.8	25
2A-1730. SOUTH FORK EDISTO RIVER NEAR DENMARK																		
May 28, 1959.....	950	7.1	0.27	2.0	0.7	1.3	0.2	7	0.3	2.8	0.1	1.1	c42	8	2	26	5.9	100
2A-1733. NORTH FORK EDISTO RIVER NEAR NORTH																		
May 28, 1959.....	b555	6.0	0.27	1.0	0.4	1.0	0.3	3	0.2	1.7	0.1	0.9	c29	4	2	17	5.4	70
2A-1740. EDISTO RIVER NEAR BRANCHVILLE																		
May 29, 1959.....	2,480	7.2	0.18	3.0	0.6	2.9	0.4	8	0.5	4.3	0.1	1.1	c47	10	3	36	5.9	95
2A-1750. EDISTO RIVER NEAR GIVHANS																		
Jan. 29, 1959.....	1,530	6.5	0.11	4.0	0.4	3.4	0.6	7	4.4	4.6	0.0	0.9	c58	12	6	42	5.7	60

a Dissolved solids (residue at 180°C).
b Discharge at time of sampling.
c Dissolved solids (residue at 180°C). Large proportion of organic matter present.

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

SAVANNAH RIVER BASIN IN SOUTH CAROLINA AND GEORGIA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2A-1834.9. CHAUGA RIVER NEAR WESTMINISTER, S. C.																		
May 14, 1959.....	a112	12	0.01	2.3	0.5	2.0	0.7	15	0.9	1.1	0.0	0.2	b28	8	0	28	6.5	4
2A-1845. WHITEWATER RIVER AT JOCASSEE, S. C.																		
May 13, 1959.....	268	6.1	0.03	0.9	0.1	1.1	0.5	6	0.7	0.5	0.1	0.1	b16	3	0	13	6.1	15
2A-1850. KEOWEE RIVER NEAE JOCASSEE, S. C.																		
May 13, 1959.....	712	7.0	0.01	0.9	0.2	1.5	0.5	7	1.1	0.5	0.1	0.2	15	3	0	14	6.1	5
2A-1866. CONNRROSS CREEK AT RICHLAND, S. C.																		
May 14, 1959.....	a54.4	15	0.06	2.8	1.0	5.4	1.1	20	1.4	4.5	0.1	0.6	42	11	0	52	6.4	5
2A-1873. BIG GENEROSTEE CREEK NEAR STARR, S. C.																		
May 8, 1959.....	a50.6	16	0.00	3.8	1.3	7.0	2.0	20	1.9	6.9	1.5	2.5	b57	15	0	73	6.3	3
2A-1875. SAVANNAH RIVER NEAR IVA, S. C.																		
May 14, 1959.....	3,830	12	0.06	1.8	0.7	5.0	1.0	19	2.0	2.4	0.2	0.0	34	7	0	42	6.2	2
2A-1880. ROCKY RIVER NEAR CALHOUN FALLS, S. C.																		
Feb. 24, 1959.....	319	17	0.03	3.2	1.5	4.5	1.6	22	1.4	3.2	0.2	1.2	b47	14	0	54	6.9	5
2A-1890. SAVANNAH RIVER NEAR CALHOUN FALLS, S. C.																		
Apr. 17, 1959.....	5,930	11	0.02	1.9	0.6	3.3	1.0	15	1.5	2.3	0.1	0.2	29	7	0	34	6.3	3
2A-1925. LITTLE RIVER NEAR MOUNT CARMEL, S. C.																		
Apr. 17, 1959.....	163	19	0.04	4.9	2.1	4.8	1.3	28	7.2	2.0	0.2	0.5	56	21	0	68	6.8	2
2A-1970. SAVANNAH RIVER AT AUGUSTA, GA.																		
Mar. 4, 1959.....	6,230	13	0.01	2.4	1.2	5.2	1.0	22	1.3	3.0	0.1	0.4	b44	11	0	50	6.6	5

2A-1975. SAVANNAH RIVER NEAR MILLHAVEN, GA.

Feb. 2, 1959.....	7,040	11	0.01	3.2	1.1	4.7	0.9	23	0.8	3.0	0.1	0.3	b42	13	0	50	6.9	5

2A-1985. SAVANNAH RIVER NEAR CLYO, GA.

Feb. 2, 1959.....	8,260	11	0.01	4.0	1.1	4.4	0.9	25	0.3	2.6	0.1	0.3	b44	15	0	54	7.0	5

a Discharge at time of sampling.
b Dissolved solids (residue at 180°C).

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

ST. JOHNS RIVER BASIN IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
CRYSTAL LAKE NEAR KEYSTONE HEIGHTS																		
Oct. 2, 1958.....		4.4	0.01	4.0	0.2	3.8	0.4	10	3.5	5.0	0.1	0.1	24	11	3	38	6.7	5
Mar. 20, 1959.....		1.4	.00	1.4	.4	2.7	.0	3	2.4	4.5	.1	.2	16	5	2	27	5.7	2
NEWNANS LAKE NEAR GAINESVILLE																		
Oct. 7, 1958.....		1.6	0.00	3.6	1.3	5.1		11	1.5	10	0.3	0.0	a29	14	6	63	5.6	50
Mar. 20, 1959.....		3.0	.07	4.2	.9	3.8	0.0	10	1.2	.2.5	.2	.1	a21	14	6	49	6.0	110
2B-2410. CAMP'S CANAL NEAR ROCHELLE																		
Oct. 7, 1958.....	34	1.9	0.00	3.8	1.1	4.8		10	2.0	10	0.2	0.0	a29	14	6	63	5.6	60
Mar. 20, 1959.....	833	2.0	.04	4.4	1.0	5.2	0.0	8	4.8	8.8	.2	1.7	a32	15	8	58	5.8	110
LAKE LOCHLOOSA NEAR LOCHLOOSA																		
Oct. 7, 1958.....		0.4	0.00	15	3.3	12		50	12	16	0.3	0.4	84	51	10	142	6.6	15
Mar. 17, 1959.....		.8	.04	14	1.7	7.8	0.1	36	6.8	12	.3	.9	91	.42	12	122	6.7	45
2B-2440. OKLAWAHA RIVER AT RIVERSIDE LANDING NEAR ORANGE SPRINGS																		
Nov. 13, 1958.....	1,720	7.0	0.14	65	5.8	28	1.0	132	57	49	0.2	0.1	352	186	78	487	7.3	110
Jan. 9, 1959.....	1,660	6.4	.08	57	7.8	29	1.2	126	59	54	.2	.1	340	174	70	487	8.3	80
Mar. 5.....	2,200	7.5	.10	48	7.1	22	1.2	122	40	40	.2	.5	285	149	49	403	7.6	90
May 1.....	3,500	6.6	.13	38	4.6	16	.0	102	24	28	.3	.0	223	114	30	301	7.4	120
June 26.....	3,600	7.5	.16	40	2.9	18	.1	98	23	31	.4	.4	224	112	32	304	7.6	140
Aug. 20.....	3,330	8.3	.11	38	7.1	20	1.3	102	22	34	.3	.3	226	124	40	317	7.5	90
SAND HILL LAKE NEAR KEYSTONE HEIGHTS																		
Oct. 1, 1958.....		3.0	0.01	0.6	0.6	4.8		3	3.5	5.5	0.1	0.0	a20	4	2	28	5.5	2
Mar. 20, 1959.....		2.4	.03	1.4	.5	3.4	0.0	1	.8	5.8	.1	.1	26	6	4	37	4.8	38
LAKE BROOKLYN NEAR KEYSTONE HEIGHTS																		
Oct. 1, 1958.....		1.0	0.01	1.6	1.2	4.4	0.4	2	5.5	6.0	0.1	0.1	22	9	8	40	5.5	3
Mar. 19, 1959.....		.9	.00	1.4	.5	3.9	.0	1	5.2	6.0	.1	.0	21	6	4	36	5.1	2

LAKE GENEVA NEAR KEYSTONE HEIGHTS

Oct. 1, 1958.....		0.9	0.00	2.0	0.7	5.6	0.7	2	6.8	10	0.1	0.1	26	8	6	56	5.2	3
Mar. 19, 1959.....		.8	.00	1.2	1.1	6.4	.0	1	6.8	10	.1	.2	31	8	6	55	5.1	2

PEBBLE LAKE NEAR KEYSTONE HEIGHTS

Oct. 1, 1958.....		1.7	0.00	1.0	0.1	3.2		3	1.5	4.0	0.1	0.1	a14	3	0	23	5.4	3
Mar. 19, 1959.....		1.0	.00	.8	.4	2.0	0.0	2	2.0	3.5	.1	.1	13	4	2	21	5.3	3

JOHNSON LAKE AT GOLD HEAD BRANCH STATE PARK NEAR KEYSTONE HEIGHTS

Oct. 1, 1958.....		2.4	0.01	0.8	0.2	2.4	0.4	3	8.2	4.0	0.0	0.1	18	3	0	22	6.6	5
Mar. 19, 1959.....		2.8	.00	.6	.2	2.0	.0	2	1.2	3.2	.1	.0	14	2	1	20	5.2	5

SMITH LAKE NEAR KEYSTONE HEIGHTS

Oct. 2, 1958.....		1.0	0.00	3.6	2.4	14	1.1	1	20	20	0.1	0.4	74	19	18	123	4.9	0
Mar. 20, 1959.....		1.4	.00	3.2	2.1	9.1	.0	1	17	14	.1	.0	61	16	16	95	5.0	3

HALL LAKE NEAR KEYSTONE HEIGHTS

Oct. 2, 1958.....		1.1	0.00	1.8	2.1	11		1	16	14	0.1	0.0	a47	13	12	89	4.7	3
Mar. 20, 1959.....		1.1	.00	2.0	1.6	7.3	0.0	0	13	12	.1	.2	44	12	12	76	4.7	0

ATES CREEK NEAR PENNEY FARMS

Feb. 13, 1959.....		6.2	0.27	2.0	1.0	5.9	0.0	1	3.2	9.8	0.2	0.4	b74	9	8	55	4.7	220
Mar. 17.....		2.9	.09	.8	.5	2.7	.0	1	2.2	4.5	.1	.1	c38	4	3	27	4.8	130

a Calculated from determined constituents.
b Organic matter present; sum of mineral constituents 29 parts per million.
c Organic matter present; sum of mineral constituents 14 parts per million.

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

LAKE OKEECHOBEE AND THE EVERGLADES IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
ALLIGATOR LAKE NEAR ASHTON																		
Oct. 8, 1958.....		0.7	0.00	2.0	1.5	5.8	0.4	5	6.0	11		0.0	30	11	7	64	6.0	25
Sept. 11, 1959.....		.5	.01	2.4	1.1	6.2	.2	6	4.4	10		.0	28	10	6	52	5.9	40
HART LAKE NEAR NARCOOSSEE																		
Oct. 8, 1958.....		0.5	0.00	2.8	1.2	6.0	0.4	6	7.2	11		0.0	32	12	7	68	6.0	50
Sept. 10, 1959.....		1.1	.01	3.2	.7	5.4	.2	6	4.0	9.2		.0	27	11	6	48	5.7	90
EAST TOHOPEKALIGA LAKE AT ST. CLOUD																		
Oct. 8, 1958.....		0.4	0.01	3.6	1.5	6.4	0.6	8	7.2	12		0.0	36	15	8	75	6.4	35
Sept. 10, 1959.....		1.0	.03	3.2	1.2	5.6	.5	7	4.8	9.5		.0	29	13	8	56	5.8	60
TOHOPEKALIGA LAKE AT KISSIMMEE																		
Oct. 9, 1958.....		2.7	0.01	6.0	1.7	7.6	0.8	16	9.6	13		0.0	49	22	9	94	6.6	45
Sept. 9, 1959.....		2.7	.02	8.8	.7	4.7	.7	25	4.0	7.8		.1	42	25	4	75	7.5	120
CYPRESS LAKE NEAR ST. CLOUD																		
Nov. 11, 1958.....		0.8	0.02	4.4	1.5	8.4	0.6	9	7.2	14		0.0	41	17	10	83	6.2	35
Jan. 28, 1959.....		2.4	.02	5.6	1.2	9.0	.8	12	10	15		.0	50	19	9	86	6.7	35
July 8.....		1.5	.06	4.0	1.2	5.6	.7	7	4.0	11		.1	32	15	10	64	6.2	90
LAKE HATCHINEHA NEAR HAINES CITY																		
Nov. 10, 1958.....		2.4	0.03	5.2	1.7	8.1	0.8	13	8.2	14		0.0	47	20	10	84	6.7	45
Jan. 28, 1959.....		6.0	.04	8.8	2.7	7.1	.6	21	11	14		.0	60	33	16	98	6.8	80
July 8.....		3.6	.08	4.8	1.2	4.9	.2	10	4.4	8.8		.2	33	17	9	65	6.5	120
LAKE KISSIMMEE NEAR LAKE WALES																		
Nov. 10, 1958.....		2.2	0.02	6.0	2.2	7.7	0.6	16	7.6	14		0.0	48	24	11	90	6.6	40
Jan. 28, 1959.....		4.8	.04	8.0	1.9	7.2	.8	19	8.8	14		.0	55	28	12	97	6.6	70
July 8.....		3.1	.07	6.4	1.9	4.9	.4	14	7.2	9.0		.2	40	24	12	73	6.7	90

WEOHYAKAPKA-ROSALIE CANAL NEAR LAKE WALES

Nov. 21, 1958.....		5.5	0.01	5.6	1.7	6.2	0.5	17	6.0	10		0.1	44	21	7	75	6.7	19
Feb. 13, 1959.....		4.6	.00	5.0	1.9	6.4	.0	16	6.4	9.2		.7	42	20	8	77	6.9	20
July 8.....		5.2	.06	6.0	1.5	4.9	.4	16	4.0	8.5		.0	38	21	8	71	6.8	80

LAKE ARBUCKLE NEAR AVON PARK

Nov. 5, 1958.....		1.7	0.03	7.2	2.7	5.8	1.0	13	19	12		0.0	56	29	18	96	6.7	65
Jan. 30, 1959.....		2.5	.03	8.4	2.4	5.2	1.0	14	20	10		.0	56	31	20	108	6.5	55
Apr. 16.....		3.4	.04	8.4	2.4	5.3	1.0	14	15	9.5		.1	52	31	20	100	6.8	90

2B-2720. ISTOKPOGA CANAL NEAR CORNWELL

Nov. 5, 1958.....	50	1.2	0.01	5.6	2.2	4.6	0.8	9	12	9.0		0.0	40	23	16	84	6.1	70
July 28, 1959.....	1,230	2.0	.02	4.8	1.3	4.5	.2	10	7.2	7.5		.0	32	18	10	58	6.2	110
Sept. 9.....	1,290	2.1	.03	4.4	1.5	4.3	.6	11	4.4	7.5		.1	30	17	8	59	6.6	150

2B-2745. TAYLOR CREEK ABOVE OKEECHOBEE

Nov. 5, 1958.....	18	2.9	0.02	26	4.1	41	1.2	46	27	76		0.0	201	82	44	381	7.0	80
Mar. 12, 1959.....	25	2.5	.08	23	5.5	37	1.4	50	28	60		.0	182	80	39	339	7.8	110
Apr. 27.....	12	3.5	.02	50	18	138	2.2	54	77	260		.3	576	199	154	1,060	7.5	65
Aug. 21.....	50	3.6	.04	16	1.7	13	.2	42	8.8	20		.0	84	47	12	150	6.8	90
Sept. 10.....	121	3.1	.05	16	2.7	16	.6	40	13	24		.1	96	51	18	176	7.3	220

SOUTHWEST FORK LOXAHATCHEE RIVER (C-18) NEAR JUPITER

Oct. 29, 1958.....		16	0.02	101	5.8	36		314	20	54		0.7	389	276	18	669	8.0	30
Nov. 21.....		13	.01	78	2.8	34	1.2	228	20	55		.1	316	206	19	547	8.1	23
Jan. 7, 1959.....		7.5	.02	48	3.4	20	.6	144	13	32		.0	196	134	16	349	7.8	50
Feb. 25.....		12	.00	63	2.7	32	.3	a164	18	52		.1	267	168	24	471	8.4	30
Mar. 23.....		7.7	.03	49	3.3	20	.3	150	12	31		.5	198	136	13	357	7.9	40
May 6.....		9.0	.05	74	.9	25	.0	208	16	40		.0	267	188	18	478	8.0	30
June 17.....		9.4	.02	70	2.3	24	.8	204	12	37		.4	256	184	17	460	7.9	45
July 27.....		6.5	.02	36	1.5	13	.6	112	7.2	21	0.2	.1	141	96	4	247	7.5	45
Sept. 8.....		5.6	.02	32	1.0	12	.2	94	6.8	17		.0	121	84	7	204	7.3	30

a Includes equivalent of 6 parts per million of carbonate (CO_3).

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

LAKE OKEECHOBEE AND THE EVERGLADES IN FLORIDA--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
LEVEE 8 CANAL AT S-76 NEAR CANAL POINT																		
Nov. 5, 1958		12	0.02	97	13	68	2.0	309	38	106		1.1	489	296	42	851	7.6	110
Jan. 6, 1959		19	.06	72	17	108	3.2	278	34	166		.5	557	250	22	994	8.2	140
Jan. 7		6.0	.06	22	5.1	30		73	15	46		1.6	162	76	16	300	7.6	160
Mar. 5		1.1	.02	46	10	29	1.3	148	38	42		.0	240	156	34	439	8.2	20
Apr. 1		6.1	.09	37	5.7	34	.7	116	13	54		.5	208	116	21	392	7.5	140
May 6		3.2	.02	43	13	28	1.1	146	33	42		.3	236	161	42	433	7.6	20
2B-2785.5. LEVEE 8 CANAL AT WEST PALM BEACH CANAL NEAR LOXAHATCHEE (formerly published as LEVEE 8 CANAL AT S-5A NEAR LOXAHATCHEE)																		
Oct. 15, 1958	194	8.8	0.02	55	8.0	48		178	26	72	--	0.5	306	170	24	563	7.4	55
Nov. 19	129	7.0	.03	77	12	66	3.4	246	41	97	--	.2	425	242	40	738	8.2	90
Dec. 8	149	1.5	.02	62	8.1	42	2.5	190	34	66	--	.0	310	188	32	558	7.9	45
Jan. 13, 1959	228	6.2	.04	52	8.9	58	1.7	176	28	83	--	.2	325	166	22	584	8.1	75
Feb. 16	200	5.1	.00	62	7.2	49	1.0	183	34	71	--	.6	320	184	34	577	8.1	45
May 7	226	4.9	.03	56	7.4	38	.1	166	34	62	--	.7	285	170	34	513	7.7	35
June 17	173	7.3	.03	45	6.2	39	1.2	142	14	62	0.2	.9	246	138	22	451	7.9	90
July 28	318	7.8	.03	40	7.8	36	1.3	138	15	52	.2	.9	229	132	19	416	7.8	80
Sept. 4	44	7.9	.01	37	7.7	52	2.6	b113	19	74	--	.0	267	124	12	449	8.8	100
HILLSBORO CANAL NEAR DEERFIELD BEACH (at S-39)																		
Oct. 29, 1958		8.7	0.02	40	8.5	38		161	11	52	--	0.1	237	135	3	434	7.3	90
Nov. 28		3.6	.02	60	22	170	8.9	234	68	240	--	.6	688	240	48	1,240	7.8	90
Dec. 30		8.6	.04	60	17	124	.4	a196	73	171	--	.1	563	220	60	999	8.8	130
Feb. 12, 1959		4.0	.31	47	4.0	40	1.5	134	22	60	--	.0	245	134	24	441	7.7	150
Mar. 10		5.9	.04	66	7.7	67	2.0	214	22	90	--	.4	366	196	20	657	8.1	100
May 8		9.7	.05	54	11	61	.1	184	24	87	--	.0	338	180	28	614	7.9	120
July 7		5.9	.04	23	1.8	16	.8	69	8.0	26	0.5	.3	116	65	8	201	7.1	260
July 27		5.6	.04	52	15	70	2.8	206	44	90	.2	1.0	382	191	22	674	7.8	220
Sept. 3		4.5	.04	38	5.1	26	1.4	124	15	36	--	.0	187	116	14	332	8.0	130

SNAPPER CREEK CANAL AT MILLER DRIVE NEAR SOUTH MIAMI

Dec. 2, 1958.....		4.6	0.02	81	1.9	11	0.1	244	4.8	15	0.2	0.6	c274	210	10	430	8.2	32
Jan. 2, 1959.....		2.3	.01	77	2.9	11	.6	244	4.8	16	.6	2.1	c259	204	4	418	8.2	45
Feb. 2.....		3.8	.01	79	3.6	11	.1	d230	5.6	14	.2	1.4	c274	212	10	433	8.4	35
Mar. 6.....		1.3	.02	81	3.4	12	.1	250	4.6	14	.2	2.2	c277	216	11	441	8.2	30
Apr. 3.....		6.2	.03	82	2.8	11	.1	e234	5.6	13	.2	.3	c276	216	8	443	8.5	40
May 1.....		10	.02	86	4.7	11	.1	f250	6.4	15	.2	7.7	c301	234	22	462	8.3	40
June 3.....		4.5	.02	83	5.1	11	.1	d238	5.6	15	.2	.4	c272	228	20	437	8.4	30
Aug. 5.....		4.9	.01	72	4.5	9.6	.6	233	4.0	11	.3	.0	c251	198	7	396	8.0	50
Sept. 2.....		4.8	.01	71	2.7	9.8	.6	222	4.0	11	.3	.0	c238	188	6	384	7.8	35
BISCAYNE CANAL AT RED ROAD NEAR OPA-LOCKA																		
Dec. 1, 1958.....		4.4	0.03	77	4.4	25	0.1	g222	8.0	37	0.3	0.0	c320	210	16	490	8.4	55
Jan. 2, 1959.....		4.7	.03	92	2.1	12	1.0	276	9.6	19	.7	.0	c310	238	12	485	8.2	55
Feb. 2.....		1.3	.03	91	6.1	28	.9	292	16	41	.4	.2	c339	252	12	580	7.9	55
Mar. 6.....		4.8	.03	94	4.3	26	.1	282	12	39	.3	.0	c367	252	21	569	8.2	50
Apr. 2.....		6.1	.03	95	5.1	19	.1	e266	16	29	.3	.0	c397	258	24	538	8.5	50
May 1.....		5.3	.03	86	6.2	22	.1	d258	6.4	33	.3	.0	c343	240	15	524	8.4	55
June 3.....		5.4	.03	86	4.3	18	.1	a252	12	26	.2	.0	c329	232	16	500	8.3	50
Aug. 5.....		5.8	.02	82	4.7	11	1.9	258	9.2	9.0	.3	.3	c321	224	12	464	7.9	80
Sept. 2.....		5.2	.01	93	1.5	10	2.5	270	12	16	.4	.1	c326	238	16	461	8.0	85
EVERGLADES STATION 1-5 - NW1/4 sec. 4, T. 44 S., R. 40 E.																		
Nov. 12, 1958.....		23	0.03	101	34	350	7.4	502	110	450		5.9	1,330	392	0	2,240	7.7	130
Feb. 3, 1959.....		8.1	.01	68	16	107	2.2	240	58	142		.2	520	236	39	927	8.0	80
June 22.....		16	.06	52	9.4	44	3.1	128	43	54		12	297	168	63	513	7.5	180
Sept. 28.....		6.2	.03	56	15	59	2.3	220	34	80		0	361	201	20	646	7.6	60
EVERGLADES STATION 1-7 - sec. 26, T. 45 S., R. 40 E.																		
Dec. 2, 1958.....		3.2	0.01	9.2	1.5	12	0.5	16	5.2	24		4.1	68	29	16	133	5.9	45
Feb. 17, 1959.....		1.8	.03	9.0	2.1	15	.7	20	4.0	26	0.1	.7	69	31	14	135	6.4	50
Apr. 21.....		2.0	.01	7.8	2.1	14	.3	26	4.8	25		.1	69	28	6	144	6.1	45
June 15.....		1.7	.02	5.6	1.2	10	.4	16	.0	18		.9	46	19	6	94	6.7	40
Sept. 25.....		1.0	.02	4.4	.5	7.0	.4	14	.8	10		.0	31	13	2	62	6.4	40

a Includes equivalent of 6 parts per million of carbonate (CO_3).
b Includes equivalent of 12 parts per million of carbonate (CO_3).
c Dissolved solids (residue at 180°C).
d Includes equivalent of 8 parts per million of carbonate (CO_3).
e Includes equivalent of 10 parts per million of carbonate (CO_3).
f Includes equivalent of 4 parts per million of carbonate (CO_3).
g Includes equivalent of 7 parts per million of carbonate (CO_3).

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

LAKE OKEECHOBEE AND THE EVERGLADES IN FLORIDA--Continued

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (calculated)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
EVERGLADES STATION 1-8 - SW 1/4 sec. 35, T. 45 S., R. 41 E.																		
Nov. 13, 1958.....		20	0.04	118	26	230	8.2	442	82	315		1.9	1,020	402	40	1,760	7.9	180
Feb. 3, 1959.....		11	.21	85	14	112	2.8	278	55	170	0.4	.0	587	270	42	1,050	7.8	140
June 22.....		.0	.05	38	8.0	28	2.2	d104	24	38		4.6	202	128	30	359	8.8	200
Sept. 28.....		4.6	.03	47	11	51	2.0	178	25	70		.0	299	162	16	541	7.8	200
EVERGLADES STATION 1-9 - sec. 19, T. 46 S., R. 41 E.																		
Dec. 2, 1958.....		2.4	0.06	6.4	0.7	9.1	0.3	17	2.4	18		0.0	48	19	5	88	6.4	40
Feb. 17, 1959.....		2.0	.02	7.6	1.5	11	.5	22	4.4	20		.4	58	25	7	107	6.3	45
Apr. 21.....		2.0	.03	8.0	1.9	13	.6	27	4.0	22		.0	65	28	6	140	6.2	45
June 24.....		.0	.03	3.2	1.0	5.8	.1	12	.8	10		.0	27	12	2	54	6.2	60
Sept. 25.....		.3	.02	2.8	.7	4.7	.2	12	.0	8.0		.1	23	10	0	47	6.7	45
EVERGLADES STATION 1-10 - sec. 3, T. 46 S., R. 39 E.																		
June 23, 1959.....		2.3	0.00	34	15	58	3.6	h24	46	76		3.1	290	146	60	566	10.1	320
Sept. 13.....		.0	.02	4.0	.2	4.7	.0	12	.0	7.5		.1	22	11	1	45	7.0	60
EVERGLADES STATION 1-11 - sec. 24, T. 46 S., R. 39 E.																		
June 16, 1959.....		0.0	0.02	10	3.6	15	0.2	34	2.0	24		0.0	72	40	12	140	7.3	100
Sept. 17.....		.0	.07	4.0	.5	4.7	.0	12.	.0	6.5		.2	22	12	2	44	7.0	45
EVERGLADES STATION 2-16 - sec. 15, T. 47 S., R. 40 E.																		
Dec. 9, 1958.....		12	0.04	48	12	64	4.0	212	11	94		0.0	349	170	0	639	7.7	90
Feb. 20, 1959.....		13	.04	74	9.8	94	1.4	249	26	130		.0	471	225	21	833	8.0	120
EVERGLADES STATION 2-17 - sec. 11, T. 48 S., R. 39 E.																		
Nov. 11, 1958.....		0.0	0.01	37	14	63	1.2	e180	13	78		0.1	305	150	0	550	8.6	90
Feb. 20, 1959.....		6.6	.00	84	6.2	99	.8	246	12	155		1.1	486	235	34	895	8.1	80
May 20.....		3.9	.02	47	14	80	3.0	206	14	113		2.5	378	175	6	708	7.9	75
Aug. 7.....		21	.03	75	25	103	4.7	i306	44	144		.6	582	290	16	997	8.4	200

EVERGLADES STATION 2-18 - SW1/4 sec. 22, T. 41 S., R. 38 E.

Dec. 1, 1958.....		9.8	0.02	98	23	100	2.0	428	8.0	140		0.1	592	339	0	1,060	8.2	80
Dec. 29.....		12	.02	80	22	58	1.6	370	6.8	72		.0	434	290	0	766	8.0	80

EVERGLADES STATION 2-19 - SE1/4 sec. 24, T. 48 S., R. 40 E.

Dec. 9, 1958.....		2.1	0.03	37	8.1	59	2.6	156	14	81		0.0	281	126	0	521	7.7	85
Feb. 20, 1959.....		1.7	.04	46	10	79	2.8	180	20	110		.0	359	156	8	660	7.5	110
May 19.....		1.5	.02	41	9.1	66	2.2	160	9.6	97		.2	306	140	9	576	7.9	100

EVERGLADES STATION 2-21 - SE1/4 sec. 32, T. 49 S., R. 40 E.

Nov. 11, 1958.....		4.3	0.02	73	25	61	3.1	288	52	85		0.1	446	285	49	762	8.2	90
Jan. 28, 1959.....		2.4	.02	56	12	46	1.6	202	33	63		.0	314	189	24	567	7.9	45
May 19.....		.5	.02	41	9.1	56	1.5	182	6.4	75		.6	280	140	0	527	7.9	50
Aug. 9.....		10	.03	29	8.6	45	1.7	122	16	68		.2	239	108	8	421	7.7	80

EVERGLADES STATION 2-22 - NE1/4 sec. 27, T. 49 S., R. 39 E.

Nov. 11, 1958.....		12	0.03	96	22	66	3.5	386	46	90		0.0	526	330	14	851	8.0	180
Jan. 28, 1959.....		4.4	.03	62	13	49	2.6	200	53	72		2.0	357	208	44	639	7.9	55
May 19.....		2.9	.01	51	15	46	3.0	184	42	63		.4	314	188	38	580	8.1	50
Aug. 12.....		17	.02	38	8.5	60	2.5	176	15	66		1.1	295	130	0	493	7.6	50

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

PEACE RIVER BASIN IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Phosphate (PO_4)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2B-2970. PEACE RIVER AT ARCADIA																			
Nov. 17, 1958...	342	17	0.29	36	6.1	15	1.5	60	67	15	1.1	0.1	238	5.1	115	66	307	6.8	100
Jan. 27, 1959...	789	9.5	.08	29	6.9	14	1.6	46	41	17	1.2	.1	196	6.3	101	58	279	7.3	90
Feb. 26.....	434	15	.04	41	7.4	19	.2	71	81	18	1.2	.1	248	5.4	133	75	363	7.2	50
June 17.....	1,590	8.0	.19	18	2.4	8.1	.0	30	28	9.5	1.1	1.2	131	3.4	55	30	158	7.0	150
June 25.....	10,600	5.4	.23	6.2	1.7	4.7	.1	14	7.2	7.0	.5	1.0	89	1.8	22	11	73	6.4	210

LITTLE MANATEE RIVER BASIN IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Phosphate (PO_4)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2B-3005. LITTLE MANATEE RIVER NEAR WIMAUMA																			
Oct. 7, 1958.....	69	7.0	0.23	4.2	1.8	3.8	0.5	8	0.2	7.5	0.2	0.0	a68	0.6	18	12	61	5.1	200
July 16, 1959.....	642	4.4	.24	2.4	1.0	2.8	.0	4	2.6	5.5	.3	.4	b60	.7	10	6	46	5.5	200
Sept. 8.....	642	3.8	.19	2.2	1.0	2.5	.2	6	1.6	5.0	.2	.8	c49	.9	10	4	33	5.4	60

a Organic matter present; sum of mineral constituents 30 parts per million.
b Organic matter present; sum of mineral constituents 22 parts per million.
c Organic matter present; sum of mineral constituents 20 parts per million.

ALAFIA RIVER BASIN IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Phosphate (PO_4)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2B-3015. ALAFIA RIVER AT LITHIA																			
July 16, 1959.....	1,920	11	0.24	20	2.7	9.1	0.1	10	24	19		0.1	148	17	61	53	183	6.3	100
Sept. 8.....	1,400	16	.18	26	3.2	8.2	.6	10	29	14		.3	166	30	78	70	189	6.0	120

HILLSBOROUGH RIVER BASIN IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Phosphate (PO_4)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2B-3030. HILLSBOROUGH RIVER NEAR ZEPHYRHILLS																			
Oct. 6, 1958.....	114	11	0.02	55	3.2	4.6	0.6	169	8.2	8.5	0.3	0.5	181	0.3	150	12	305	7.5	15
July 13, 1959.....	1,150	5.0	.19	14	1.1	3.6	.1	35	4.8	6.2	.4	.7	a91	.7	40	11	95	6.7	150
Sept. 17.....	3,420	4.7	.12	17	1.1	3.2	.3	50	4.0	6.0	.2	.3	89	.6	47	6	104	6.7	100

a Organic matter present; sum of mineral constituents 53 parts per million.

WITHLACOOCHEE RIVER BASIN IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2B-3130. WITHLACOOCHEE RIVER NEAR HOLDER																		
Nov. 5, 1958.....	1,370	5.0	0.08	52	1.1	4.9	0.0	114	34	7.0	0.2	0.2	197	134	40	277	7.2	60
Jan. 12, 1959.....	1,210	6.2	.05	50	2.7	5.8	.3	134	24	12	.2	.2	196	136	26	291	7.9	45
Mar. 6.....	1,170	3.7	.07	46	2.2	5.8	.1	124	22	9.0	.2	.1	175	124	22	267	7.6	70
May 8.....	3,170	4.7	.22	31	1.3	4.2	.0	90	6.8	7.0	.3	.1	134	83	9	177	7.6	150
June 25.....	2,360	6.7	.13	37	1.6	4.0	.0	106	8.0	6.5	.2	.3	151	99	12	206	7.6	75
Aug. 25.....	3,720	5.3	.09	26	1.9	3.1	.2	80	5.6	6.0	.2	.4	104	73	8	151	7.1	90

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

SUWANNEE RIVER BASIN IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2B-3190. WITHLACOOCHEE RIVER NEAR PINETTA																			
Nov. 4, 1958	139	13	0.32	40	5.8	20	0.9	160	19	6.5	0.6	0.9	198	186	124	0	304	7.4	90
Jan. 6, 1959	261	.9	.29	20	3.6	17	1.4	83	16	8.0	.1	1.2	133	109	65	0	200	8.3	90
Feb. 24	3,650	.6	.28	5.6	1.0	5.2	.8	18	6.4	6.0	.2	.3	65	36	18	3	66	6.5	120
Apr. 21	2,420	6.9	.90	7.8	1.5	4.7	.0	29	6.0	5.0	.4	.2	84	47	26	2	80	6.7	150
June 16	5,020	7.1	.60	3.8	1.0	3.1	.0	12	2.8	4.5	.3	1.0	69	30	14	4	46	6.2	140
Aug. 19	871	11	.46	17	.1	5.2	.7	42	6.4	6.5	.3	.8	84	69	43	8	102	7.0	95
SANTA FE LAKE NEAR MELROSE																			
Oct. 1, 1958		1.6	0.03	2.4	1.2	7.0	0.6	4	3.5	12	0.1	0.0	48	30	11	8	63	5.8	25
Mar. 19, 1959		.5	.01	2.6	1.2	6.8	.1	2	5.2	13	.1	1.0	45	32	12	10	64	5.3	20
HAMPTON LAKE AT HAMPTON BEACH																			
Oct. 2, 1958		2.7	0.01	2.2	1.5	7.6		2	10	11	0.2	0.2		36	12	10	67	5.1	10
Mar. 20, 1959		1.0	.02	2.4	1.2	6.0	0.0	2	7.2	9.8	.1	.4	52	29	11	10	63	5.0	45
SAMPSON RIVER AT GRAHAM																			
Oct. 2, 1958		3.2	0.01	8.4	2.4	11		18	23	10	0.3	0.3		68	31	16	126	6.5	40
Mar. 18, 1959		3.8	.07	4.2	.9	5.4	0.1	2	4.8	6.8	.2	.2	67	28	14	12	63	5.0	150
2B-3205. SUWANNEE RIVER AT BRANFORD																			
Nov. 6, 1958	3,250	8.5	0.04	54	8.4	4.6	0.1	176	18	4.0	0.2	2.1	205	187	619	25	323	7.6	15
Jan. 8, 1959	3,130	4.1	.07	40	7.1	4.8	.4	a145	18	5.0	.3	.0	160	151	129	10	262	8.6	50
Feb. 25	12,300	7.6	.27	7.0	1.3	4.5	.3	20	4.0	5.0	.2	.2	87	40	23	6	62	6.4	220
Apr. 23	19,200	6.0	.22	24	2.9	3.4	.0	78	6.8	4.5	.3	.1	120	86	72	8	151	7.4	150
June 18	16,900	6.1	.39	17	2.1	2.9	.0	52	6.0	4.5	.3	.1	103	65	51	8	109	7.4	220
Aug. 13	8,960	7.1	.12	29	4.3	2.9	.5	99	8.4	6.0	.3	.6	120	108	90	9	182	7.2	110
HATCHET CREEK NEAR GRAHAM (4 mi. above confluence of Santa Fe River)																			
Oct. 2, 1958		9.2	0.00	13	4.5	4.4		55	2.5	8.5	0.3	0.1		70	51	6	115	6.5	90
Mar. 18, 1959		1.8	.20	.4	.4	2.0	0.0	0	.4	2.5	.1	.5	42	8	2	2	29	4.3	100

2B-3207. SANTA FE RIVER NEAR GRAHAM

Oct. 20, 1958.....	30	6.3	0.24	3.6	3.4	5.1	0.8	15	8.8	9.0	0.2	0.2	105	45	23	10	53	6.2	250
Dec. 15.....	97	4.0	.21	2.8	1.9	4.3	.5	4	3.2	9.2	.2	.7	80	29	15	12	55	5.2	220
Feb. 6, 1959.....	29	4.4	.13	3.2	2.2	6.4	.0	5	6.4	12	.5	.6	98	38	17	13	67	5.2	280
May 28.....	338	2.2	.40	1.2	1.1	3.6	.1	2	.4	3.5	.2	.5	82	14	8	6	41	4.8	300
July 21.....	136	2.3	.52	1.8	1.1	5.6	.1	0	1.2	3.5	.2	.7	97	17	9	9	57	4.4	340
Sept. 15.....	276	3.5	.35	2.4	.6	4.3	.7	4	.8	8.0	.2	.6	76	23	8	5	49	5.0	200

ROCKY CREEK NEAR LaCROSS

Oct. 3, 1958.....		9.6	0.12	10	3.6	3.5	0.8	43	2.8	6.5	0.4	0.0	70	58	40	5	90	7.3	45
Mar. 19, 1959.....		3.4	.11	2.8	.9	2.9	.1	4	4.0	5.5	.2	.1	49	22	10	7	41	5.5	120

2B-3210. NEW RIVER NEAR LAKE BUTLER

Oct. 23, 1958.....	6.6	12	0.09	30	7.5	15	2.8	114	11	16	0.5	7.7	189	b159	106	12	273	7.2	100
Feb. 5, 1959.....	273	7.3	.23	5.0	2.2	5.6	.0	11	5.6	9.8	.3	.7	86	42	22	12	73	5.6	200
May 28.....	969	3.6	.32	5.6	1.2	2.6	.1	15	4.4	4.5	.2	1.2	78	31	19	6	49	6.2	220
July 23.....	245	3.9	.21	4.6	.9	2.0	.1	9	2.8	3.8	.3	1.8	71	25	15	8	41	5.9	150
Sept. 16.....	1,260	4.9	.23	5.0	.5	2.9	.7	11	.8	5.5	.3	.7	64	27	14	6	43	5.8	100

2B-3218. OLUSTEE CREEK NEAR PROVIDENCE

Oct. 27, 1958.....	0.6	6.9	0.27	4.0	1.6	3.4	0.6	16	1.0	7.0	0.3	0.4	64	c33	16	4	54	6.6	120
Feb. 10, 1959.....	111	8.6	.28	3.4	2.1	5.4	.0	4	3.6	10	.4	.4	103	36	17	14	63	5.0	240
Mar. 18.....	3,020	3.4	.18	1.8	.6	2.4	.0	2	.4	3.5	.2	.8	49	16	7	6	29	5.1	180
July 27.....	113	3.5	.51	2.6	1.0	3.0	.4	7	.8	5.5	.4	1.8	80	23	10	5	41	5.2	240
Sept. 18.....	552	3.7	.25	2.2	1.1	2.0	.3	10	1.2	5.5	.2	.4	64	22	10	2	36	5.1	200

2B-3220. SANTA FE RIVER NEAR HIGH SPRINGS

Nov. 3, 1958.....	283	13	0.02	66	10	7.9	1.0	166	65	14	0.3	0.4	299	260	206	70	432	7.7	20
Jan. 5, 1959.....	874	10	.16	24	4.9	6.7	.8	53	24	12	.4	.3	148	109	80	36	187	6.8	170
Feb. 23.....	990	8.7	.12	32	3.9	7.9	.0	71	34	12	.3	.6	180	135	96	38	230	6.8	150
Apr. 20.....	1,690	8.9	.08	42	4.6	6.5	.0	107	32	10	.3	1.0	202	158	124	36	274	7.5	90
June 15.....	2,900	7.2	.24	26	3.4	4.7	.0	65	20	7.5	.4	1.0	148	102	79	26	177	7.3	180
Aug. 14.....	1,160	11	.06	47	5.5	6.2	.7	127	36	10	.2	.0	181	180	140	36	299	7.3	55

a Includes equivalent of 4 parts per million of carbonate (CO_3).
b Includes 2.9 parts per million phosphate (PO_4).
c Includes 0.8 parts per million phosphate (PO_4).

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

OCHLOCKONEE RIVER BASIN IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2B-3290. OCHLOCKONEE RIVER NEAR HAVANA																			
Oct. 22, 1958	148	10	0.23	9.2	2.7	13	0.9	28	9.6	20	0.2	1.2	90	81	34	11	138	7.1	45
Dec. 11	93	11	.35	8.8	4.6	19	.8	32	8.8	22	.1	1.5	109	93	41	15	155	6.8	65
Feb. 5, 1959	1,690	1.6	.16	2.4	1.1	3.9	.7	8	4.4	5.8	.1	.3	55	24	10	4	42	6.7	120
Apr. 2	3,210	5.6	.50	2.0	.9	3.9	.0	9	1.4	5.8	.2	.2	57	25	8	1	42	6.0	90
May 27	1,270	6.6	.29	3.0	1.0	3.6	.1	10	1.6	6.0	.1	.9	66	28	12	4	48	5.9	40
July 23	1,890	7.4	.16	2.8	.7	3.8	.9	7	.4	6.5	.1	1.0	53	27	10	4	41	5.8	90
Sept. 15	686	9.9	.49	3.6	1.9	7.2	.8	18	3.2	11	.1	.1	81	47	17	2	72	6.3	70

APALACHICOLA RIVER BASIN IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
APALACHICOLA RIVER NEAR BLOUNTSTOWN																		
Oct. 22, 1958		7.8	0.00	17	3.3	3.3	0.9	63	2.8	3.5	0.2	1.2	72	56	4	112	7.5	4
Dec. 9		7.7	.00	15	1.1	5.5	.8	54	3.2	3.5	.1	1.3	67	42	0	108	6.9	3
Feb. 4, 1959		8.5	.06	8.4	1.0	3.6	.9	32	4.0	3.0	.1	1.1	49	25	0	73	7.2	20
May 26		8.0	.01	15	.6	3.7	.1	49	3.6	3.0	.1	1.7	a99	40	0	100	7.2	13
May 31		7.7	.18	7.6	.9	3.0	.0	25	3.6	3.5	.2	.9	59	22	2	62	6.6	20
July 21		8.5	.00	16	.7	3.2	1.0	53	2.0	3.5	.1	1.7	66	43	0	106	7.2	2
Sept. 16		6.1	.02	15	.2	3.0	.8	48	2.8	3.8	.0	1.0	74	38	0	92	6.7	15
2B-3590. CHIPOLA RIVER NEAR ALTHA																		
Oct. 21, 1958	750	7.3	0.00	34	3.9	2.1	0.1	127	2.0	3.5	0.1	1.6	b118	101	0	202	8.1	4
Dec. 9	770	7.5	.01	39	1.6	3.2	.0	124	1.2	4.0	.1	2.0	120	104	2	213	7.7	5
Feb. 3, 1959	1,030	6.2	.01	31	3.3	4.3	.2	110	2.0	6.0	.0	.4	110	91	1	200	8.3	5
Mar. 31	2,670	4.9	.15	18	1.2	3.8	.0	62	4.4	6.0	.1	1.0	91	50	0	121	7.2	25
May 26	2,070	6.5	.05	26	2.7	2.6	.0	85	1.2	4.0	.1	1.9	94	76	6	157	7.3	17
July 21	1,790	7.2	.04	18	8.0	3.5	.5	86	2.8	6.5	.1	1.4	95	78	8	162	7.5	25
Sept. 16	1,580	7.6	.01	28	2.4	3.4	.3	93	2.0	6.5	.0	1.8	112	80	4	165	7.0	10

a Organic matter present; sum of mineral constituents 60 parts per million.
b Calculated from determined constituents.

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

CHOCTAWHATCHEE RIVER BASIN IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Dissolved solids (calculated)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
CHOCTAWHATCHEE RIVER NEAR IZAGORA																			
Jan. 26, 1959		8.0	0.01	5.8	0.9	2.8	0.6	20	3.2	3.8	0.1	0.1	36	35	18	2	52	7.3	5
Mar. 13		6.2	.11	4.4	.7	2.3	.5	16	4.0	3.2	.0	.1	34	29	14	1	42	7.0	40
Apr. 20		7.0	.29	6.0	.6	2.5	.0	20	.8	3.5	.2	.6	53	31	18	1	51	6.7	15
June 2		7.0	.16	4.4	.6	2.0	.1	13	2.4	3.5	.1	.5	58	27	14	3	45	6.2	110
July 13		8.6	.28	7.2	.9	2.4	.0	26	2.4	3.2	.1	.8	65	39	22	0	60	7.2	10
Aug. 24		8.4	.05	10	1.1	3.4	.7	37	5.6	4.0	.2	1.0	--	52	30	0	77	7.0	15

YELLOW RIVER BASIN IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2B-3680. YELLOW RIVER AT MILLIGAN																		
Oct. 7, 1958	449	8.6	0.00	11	1.5	2.1	0.3	42	2.0	3.8	0.1	0.3	a51	34	0	79	7.0	7
Nov. 18	373	7.5	.02	10	.7	2.8	.1	33	2.0	3.0	.0	.3	45	28	1	65	6.8	7
Jan. 6, 1959	616	7.7	.03	6.2	.9	2.7	.3	23	1.6	3.5	.1	.1	38	19	0	55	7.2	5
Feb. 17	1,590	7.0	.06	4.4	.9	2.3	.0	16	1.2	3.8	.1	.0	41	14	2	41	7.0	30
Mar. 31	2,100	4.4	.08	2.2	.7	2.2	.2	8	2.8	3.0	.0	.3	32	8	2	29	5.8	60
May 14	520	6.6	.07	7.6	1.1	2.0	.0	26	.7	3.0	.1	.5	43	24	2	56	6.9	18
June 23	898	7.6	.32	6.6	.9	2.0	.0	24	1.6	3.2	.2	.3	53	20	0	52	7.0	50
Aug. 4	1,050	6.5	.07	5.4	.5	2.0	.6	20	.4	3.5	.1	.3	30	16	0	42	6.5	45
Sept. 19	2,150	6.6	.09	4.4	.5	1.9	.6	14	1.2	4.2	.1	.8	42	13	2	38	5.8	60
YELLOW RIVER NEAR HOLT																		
Oct. 1, 1958		6.1	0.00	5.8	1.1	1.6	0.1	24	0.8	3.5	0.0	0.0	32	19	0	48	6.7	15
Mar. 12, 1959		5.0	.05	2.4	.5	1.6	.1	8	.8	2.8	.1	.0	b31	8	2	25	6.7	30
Aug. 26		5.2	.01	3.2	.4	1.4	.4	12	.0	2.5	.0	.3	24	10	0	27	6.5	25

a Calculated from determined constituents.
b Organic matter present; sum of mineral constituents 17 parts per million.

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

BLACKWATER RIVER BASIN IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2B-3701. BLACKWATER RIVER NEAR HOLT																		
Oct. 28, 1958		6.6	0.00	1.0	0.1	1.4	0.0	4	2.0	3.2	0.0	0.0	a16	3	0	17	5.7	5
Dec. 9		6.5	.02	1.2	1.2	1.9	.0	4	.0	2.5	.0	.2	18	8	4	16	6.2	5
Jan. 29, 1959		7.0	.01	1.0	.2	1.7	.0	2	2.9	2.8	.0	.1	22	4	2	18	5.7	4
Mar. 12		4.7	.02	1.2	.2	1.9	.0	2	2.5	3.2	.0	.2	23	4	2	21	5.3	10
Apr. 23		2.5	.03	.8	.2	1.9	.0	2	.9	2.5	.0	.2	a10	3	2	18	5.5	17
June 6		8.0	.08	.8	.2	1.7	.1	1	.8	3.5	.1	.1	26	3	2	24	4.9	45
July 16		7.5	.08	.8	.2	1.5	.1	2	.4	3.5	.0	.0	a15	3	2	18	5.3	25
Aug. 26		4.0	.05	.8	.2	1.7	.2	5	1.2	2.2	.0	.2	17	3	0	18	5.6	23
2B-3702. BIG JUNIPER CREEK NEAR MUNSON																		
Oct. 1, 1958	33	6.8	0.06	8.0	0.2	1.3	0.4	25	0.8	3.0	--	0.1	a33	21	0	49	7.0	20
Mar. 13, 1959	56	6.6	.00	.6	.2	1.3	.1	2	.4	2.5	0.1	.0	24	2	1	15	5.7	7
Aug. 27	39	7.5	.01	.6	.5	1.4	.4	4	.4	2.0	.0	.1	19	4	0	14	5.3	12
2B-3702.3. SWEETWATER CREEK NEAR MUNSON																		
Oct. 1, 1958		6.8	0.00	2.8	0.7	1.4	0.4	12	0.8	3.2	--	0.0	a22	10	0	28	6.6	17
Mar. 13, 1959		6.7	.00	.8	.2	1.4	.0	2	2.0	2.0	0.1	.0	a14	3	2	18	5.3	8
Aug. 27		6.0	.01	.8	.1	1.2	.4	4	.8	2.0	.0	.1	17	2	0	15	5.4	8
2B-3702.7. BIG JUNIPER CREEK NEAR HAROLD																		
Oct. 28, 1958		7.0	0.00	1.8	0.4	1.3	0.0	7	1.2	3.2	0.1	0.0	a18	6	0	20	6.4	5
Dec. 9		6.8	.03	1.0	.2	1.8	.0	4	.0	2.8	.0	.2	19	4	0	16	6.1	10
Jan. 29, 1959		7.0	.03	.8	.1	1.5	.0	2	1.6	2.5	.0	.0	23	2	1	16	6.3	4
Mar. 12		5.9	.00	1.0	.1	1.8	.0	2	1.4	3.2	.0	.3	20	3	2	19	5.2	4
Apr. 23		6.4	.02	.8	.2	1.6	.0	2	1.4	2.5	.0	.2	23	3	2	18	5.2	18
June 6		6.8	.05	.6	.4	1.5	.0	2	.5	3.5	.0	.3	23	3	2	17	5.2	15
July 16		7.8	.08	.6	.2	1.6	.1	2	.0	2.5	.0	.0	18	2	1	18	5.5	25
Aug. 25		5.8	.01	.8	.2	1.5	.2	4	.8	2.5	.2	.2	16	3	0	17	5.5	10
EAST FORK BIG COLDWATER CREEK NEAR MUNSON																		
Oct. 1, 1958		8.9	0.00	0.8	0.0	1.3	0.4	3	0.4	3.5	--	0.1	a17	2	0	17	5.5	15
Mar. 13, 1959		6.8	.00	.8	.2	1.5	.1	2	2.0	2.5	0.1	.0	25	3	2	18	5.4	5
Aug. 27		8.0	.01	.8	.2	1.5	.4	4	.4	2.2	.0	.1	24	3	0	17	5.4	17

2B-3703. WEST FORK BIG COLDWATER CREEK NEAR COBBTOWN

Oct. 2, 1958.....	42	7.3	0.00	0.6	0.4	1.5	0.4	4	0.0	4.0	--	0.3	a16	3	0	17	6.1	15
Mar. 13, 1959.....	62	6.4	.00	.8	.2	1.8	.1	4	.8	2.8	0.0	.0	24	3	0	18	5.9	5
Aug. 26.....	42	11	.02	1.0	.2	2.0	.2	4	.4	3.5	.0	.0	32	4	0	18	6.0	8

2B-3705. BIG COLDWATER CREEK NEAR MILTON

Oct. 8, 1958.....	328	8.1	0.01	0.6	0.1	1.5	0.1	4	0.8	3.5	0.0	0.0	18	2	0	16	6.0	5
Nov. 18.....	315	8.9	.00	.6	.2	1.4	.1	4	.4	3.8	.1	.2	a18	2	0	16	5.9	8
Jan. 7, 1959.....	328	11	.00	.8	.4	1.5	.1	4	.0	3.2	.1	.3	19	4	0	17	6.1	8
Feb. 19.....	435	8.1	.01	1.0	.1	1.9	.1	3	1.2	2.8	.0	.2	19	3	0	18	6.1	10
May 15.....	300	7.6	.04	.6	.4	1.6	.0	2	.5	3.8	.0	.4	21	3	2	17	5.8	5
June 26.....	304	8.3	.05	.7	.2	1.3	.0	2	1.6	3.2	.0	.6	21	2	1	28	6.0	10
Aug. 6.....	335	7.5	.04	2.2	.4	1.8	.2	2	.8	3.5	.0	.7	a18	7	6	19	5.8	7
Sept. 18.....	450	7.0	.03	.8	.2	1.8	.4	4	.4	3.0	.1	.6	22	3	0	18	5.8	12

2B-3707. POND CREEK NEAR MILTON

Oct. 2, 1958.....	57	8.4	0.00	0.6	0.1	1.7	0.4	4	0.0	3.5	--	0.0	a17	2	0	16	5.8	8
Mar. 12, 1959.....	57	6.9	.01	.6	.1	1.7	.1	4	1.2	2.8	0.1	.2	20	2	0	16	5.7	5
Aug. 26.....	71	6.2	.01	.4	.2	1.6	.4	4	.8	3.0	.1	.0	16	2	0	15	5.5	8

a Calculated from determined constituents.

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

ESCAMBIA RIVER BASIN IN ALABAMA AND FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$		Specific conductance (micromhos at 25°C)	pH	Color
														Calcium, magnesium	Noncarbonate			
2B-3750. ESCAMBIA CREEK AT FLOMATON, ALA.																		
Oct. 2, 1958.....		11	0.03	2.2	0.7	1.5	0.6	10	0.8	3.5	--	0.4	a26	8	0	28	6.4	20
Mar. 13, 1959.....		8.2	.00	1.2	.2	1.8	.1	4	.4	2.5	0.1	.0	a17	4	0	19	6.1	2
Aug. 26.....		8.5	.03	1.0	.4	1.8	.4	7	.8	2.2	.2	.1	23	4	0	18	6.2	13
2B-3758. MOORE CREEK NEAR CHUMUCKLA, FLA.																		
Oct. 2, 1958.....		7.2	0.00	1.0	0.2	1.7	0.4	5	0.0	3.2	--	0.6	a17	4	0	19	6.1	3
Mar. 13, 1959.....		5.0	.00	.8	.4	1.6	.1	3	.8	2.8	0.0	1.0	20	4	1	18	6.0	3
Aug. 26.....		5.6	.01	.6	.5	1.7	.4	6	.0	2.5	.0	.5	15	4	0	18	5.8	3
CANOE CREEK NEAR BLUFF SPRINGS, FLA.																		
Oct. 2, 1958.....		9.0	0.09	1.0	0.2	1.4	0.6	4	0.0	3.5	--	0.3	a18	4	0	18	6.1	12
Mar. 13, 1959.....		6.4	.00	1.0	.2	1.6	.1	4	.8	2.5	0.1	.2	25	4	0	18	5.8	3
Aug. 26.....		7.5	.02	1.2	.1	2.0	.4	5	.4	3.0	.4	.2	a18	4	0	18	6.1	8
2B-3760. PINE BARREN CREEK NEAR BARTH, FLA.																		
Nov. 4, 1958.....	91	7.7	0.00	0.8	0.2	1.9	0.2	4	0.0	2.5	0.3	0.2	23	3	0	16	6.0	5
Dec. 10.....	92	7.7	.00	.8	.2	1.9	.2	4	.0	2.8	.0	.0	21	3	0	16	6.1	2
Jan. 28, 1959.....	86	7.2	.01	.6	.4	1.9	.2	4	.0	2.8	.0	.1	18	3	0	16	6.0	0
Mar. 11.....	116	5.6	.02	.8	.4	1.8	.0	3	1.5	3.0	.0	.1	19	4	1	18	5.9	3
Apr. 21.....	260	3.3	.05	.8	.2	1.3	.0	2	.7	2.8	.0	.0	a10	3	2	17	5.2	35
June 6.....	182	7.3	.20	.8	.4	1.5	.0	3	.7	3.8	.1	.1	a16	4	1	19	5.6	35
July 15.....	164	7.2	.34	.8	.4	1.4	.0	4	.4	3.0	.1	.2	a16	4	0	21	6.0	10
Aug. 26.....	105	6.8	.09	.6	.4	1.8	.3	5	.0	3.0	.1	.5	a16	3	0	20	6.0	15
ESCAMBIA RIVER NEAR QUINTETTE, FLA.																		
Oct. 2, 1958.....		10	0.03	8.4	0.6	3.9	0.8	24	2.8	8.2	--	0.0	a47	24	4	72	6.8	25
Mar. 13, 1959.....		8.4	.04	5.8	.7	3.1	.1	18	4.4	4.5	0.1	.4	47	18	2	54	6.7	20
Aug. 25.....		11	.03	9.6	.2	4.9	.6	27	2.8	8.5	.5	.1	a50	25	3	76	6.8	8

a Calculated from determined constituents.

PERDIDO RIVER BASIN IN ALABAMA AND FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
2B-3761. BAYOU MARCUS CREEK NEAR PENSACOLA																		
Oct. 2, 1958.....	55	6.2	0.00	1.0	0.2	2.2	0.6	4	0.4	4.2	--	0.0	a17	3	0	24	5.9	30
Mar. 13, 1959.....	31	4.2	.01	.6	.5	2.5	.1	2	.8	4.0	0.0	.2	22	4	2	22	6.3	10
Aug. 25.....	26	6.9	.00	1.4	.2	2.9	.4	5	.8	5.5	.1	.0	26	4	0	27	6.0	8

a Calculated from determined consistuents.

BAYOU MARCUS CREEK BASIN IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
PERDIDO RIVER NEAR NOKOMIS, ALA.																		
Oct. 2, 1958.....		11	0.00	1.2	0.2	1.5	0.4	6	0.0	2.8	--	0.3	a20	4	0	19	6.1	8
Mar. 13, 1959.....		7.4	.00	.8	.2	1.5	.0	3	1.2	2.5	0.0	.0	17	3	0	15	6.3	5
Aug. 25.....		12	.01	.8	.1	1.9	.3	5	.0	3.0	.1	.0	26	2	0	15	6.2	8
BRUSHY CREEK NEAR WALNUT HILL, FLA.																		
Oct. 2, 1958.....		8.3	0.00	1.4	0.2	3.2	0.7	6	0.4	5.2	--	1.5	a24	4	0	31	6.1	5
Mar. 13, 1959.....		8.7	.00	1.0	.4	3.9	.1	4	1.2	6.0	0.1	.3	32	4	0	32	5.9	5
Aug. 25.....		9.2	.00	1.0	.1	4.9	.5	6	.8	7.5	.1	.0	32	3	0	33	6.0	8
McDAVID CREEK NEAR BARRINEAU PARK, FLA.																		
Oct. 2, 1958.....		9.0	0.00	0.6	0.1	1.3	0.4	3	0.0	4.0	--	0.0	a17	2	0	15	5.4	12
Mar. 13, 1959.....		7.6	.00	.6	.1	1.5	.1	2	1.2	2.5	0.1	.1	23	2	0	16	5.4	8
Aug. 25.....		8.5	.05	.6	.1	1.8	.1	2	.4	3.5	.1	.2	17	2	0	16	5.9	15
JACKS BRANCH NEAR MUSCOGEE, FLA.																		
Oct. 2, 1958.....		7.2	0.00	0.6	0.2	1.8	0.6	2	3.2	4.5	--	0.1	a19	2	1	25	4.9	20
Mar. 13, 1959.....		5.2	.01	.8	.2	2.2	.1	1	3.2	3.0	0.1	.2	a16	3	2	25	4.8	12
Aug. 25.....		8.6	.01	.8	.2	2.2	.3	2	.8	4.0	.1	.1	a18	3	2	20	5.2	18

a Calculated from determined constituents.

MISCELLANSOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

ELEVEN NILE CREEK BASIN IN FLORIDA

Chemical analyses, in parts per million, water year October 1958 to September 1959

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids (residue on evaporation at 180°C)	Hardness as $CaCO_3$: Calcium, magnesium	Hardness as $CaCO_3$: Noncarbonate	Specific conductance (micromhos at 25°C)	pH	Color
ELEVEN MILE CREEK NEAR ENSLEY																		
Oct. 2, 1958.....		12	0.08	20	1.2	220	0.7	a410	39	88	1.3	0.0	914	55	0	978	8.5	1,250
Mar. 13, 1959.....		12	.42	17	1.8	96	2.7	90	52	81	.5	.7	392	50	0	534	7.6	500
Aug. 25.....		15	.01	26	1.7	126	3.1	196	44	99	.7	.3	478	72	0	689	6.9	550

a Includes equivalent of 8 parts per million of carbonate (CO_3).

PEARL RIVER BASIN IN LOUISIANA

Chemical analyses, in parts per million, water year October 1958 to September 1959--Continued

Date of collection	Mean discharge (cfs)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Carbonate (CO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Boron (B)	Dissolved solids (calculated): Parts per million	Dissolved solids (calculated): Tons per acre-foot	Dissolved solids (calculated): Tons per day	Hardness as $CaCO_3$: Calcium, Magnesium	Hardness as $CaCO_3$: Noncarbonate	Sodium adsorption ratio	Specific conductance (micromhos at 25°C)	pH
2-4926. PEARL RIVER, WEST CHANNEL, AT PEARL RIVER																						
Oct. 28, 1958.....		12	0.21	5.0	1.1	6.9	1.5	15		9.4	8.2	0.1	0.2		a51	0.07		17	5	0.7	75	6.4
Jan. 16, 1959.....		11	.19	4.0	.7	6.9	1.6	11		7.8	8.5	.5	.1		46	.06		13	4	.8	67	6.1
Apr. 22.....		8.8	.29	4.5	1.2	4.4	1.3	12		8.6	5.0	.1	.7		41	.06		16	6	.5	59	6.4
July 22.....		10	.11	4.1	.9	5.1	1.1	17		2.4	6.1	.1	1.1		39	.05		14	0	.6	67	6.1
2-4926. PEARL RIVER, EAST CHANNEL, AT PEARL RIVER																						
Oct. 28, 1958.....		14	0.22	3.5	.8	10	1.3	23		5.6	7.5	0.3	0.3		a56	0.08		12	0	1.3	72	6.3
Jan. 28, 1959.....		12	.17	3.1	.5	8.0	1.0	17		5.0	6.8	.2	.4		a51	.07		10	0	1.1	69	6.5
Apr. 22.....		8.2	.32	2.9	.7	4.4	1.4	10		3.6	6.9	.1	.6		33	.04		10	2	.6	45	6.2
July 27.....		10	.22	2.3	.5	5.5	.9	12		.4	6.9	.1	.6		33	.04		8	0	.8	45	6.3

a Residue at 180°C.

INDEX

U. S. GOVERNMENT PRINTING OFFICE : 1965 O - 757-048