

Quality of Surface Waters of the United States 1962

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

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1941

*Prepared in cooperation with the States
of Alabama, Connecticut, Delaware,
District of Columbia, Florida, Georgia,
Maryland, Mississippi, New Jersey,
New York, North Carolina, Pennsyl-
vania, South Carolina, and with other
agencies*



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

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agencies*



UNITED STATES DEPARTMENT OF THE INTERIOR

STEWART L. UDALL, *Secretary*

GEOLOGICAL SURVEY

Thomas B. Nolan, *Director*

PREFACE

This report was prepared by the Geological Survey in co-operation with the States of Alabama, Connecticut, Delaware, District of Columbia, Florida, Georgia, Maryland, Mississippi, New Jersey, New York, North Carolina, Pennsylvania, and 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 under the supervision of the following:

N. H. Beamer, district chemist Philadelphia, Pa.
G. A. Billingsley, district chemist..... Raleigh, N. C.
S. F. Kapustka, district chemist Baton Rouge, La.
K. A. MacKichan, district engineer..... Ocala, Fla.
F. H. Pauszek, district chemist..... Albany, N. Y.
J. W. Wark, project chief..... Rockville, Md.

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

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ILLUSTRATION

Figure 1. Map of the conterminous United States showing basins covered by the five water-supply papers on quality of surface waters in 1962.....

QUALITY OF SURFACE WATERS OF THE UNITED STATES, 1962

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 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 all uses. 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 content in streams may vary over wide ranges.

In 1941, the Geological Survey began publishing annual records of chemical quality, suspended sediment, and water temperature. 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. Beginning in 1950, the records were published in four volumes and beginning in 1959 in five volumes. The drainage basins covered in the five volumes are shown in Figure 1. The data given in this volume were collected during the water year October 1, 1961, to September 30, 1962. The records are arranged by drainage basins in downstream order according to the Geological Survey method of reporting streamflow. Stations on tributary streams are listed between stations on the main stem in the order in which those tributaries enter the main stem.

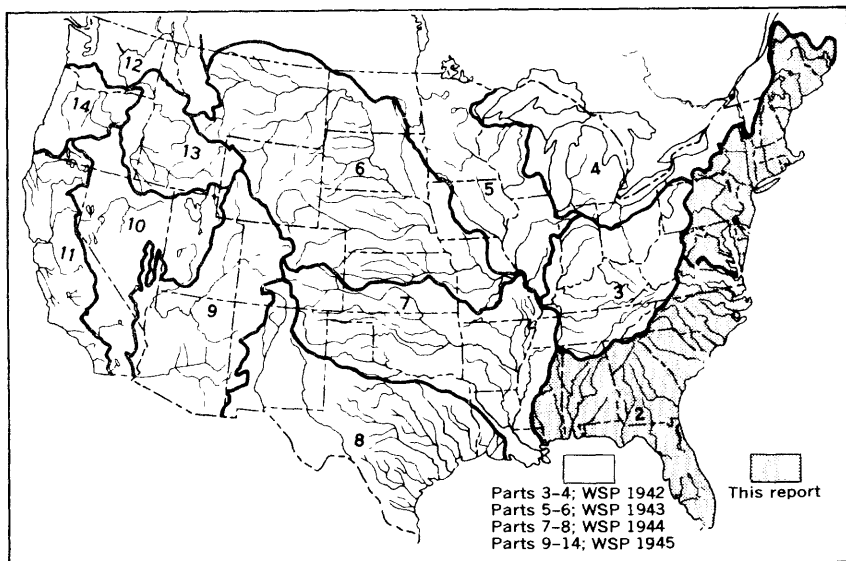


Figure 1.--Map of the conterminous United States showing basins covered by the five water-supply papers on quality of surface waters in 1962. The shaded portion represents the section of the country covered by this volume; the unshaded portion represents the section of the country covered by other water-supply papers.

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 where 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, 1962, the Geological Survey maintained 179 stations on 127 streams for the study of chemical and physical characteristics of surface water. Samples were collected daily and monthly at 105 of these locations for chemical-quality studies. Samples were also collected less frequently at many other points. Water temperatures were measured daily at 119 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 33.

Quantities of suspended sediment are reported for 44 stations during the year ending September 30, 1962. Sediment samples were collected one or more times daily at most stations, depending on the rate of flow and changes in stage of the stream. Particle-size distributions of sediments were determined at 22 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 concentration that existed without regard to the variable velocities of the individual fluid elements.

The near uniformly dispersed ions of the solute load move in suspension with the velocity of the transporting water elements. Accordingly, the mean section concentration of solutes determined from samples is a precise measure of the total solute load. 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 0.3 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 computed sediment loads presented in this report are usually less than the total sediment loads. For most streams the difference between the computed 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-evaporation 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

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 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 sediment 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 accommodate 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 in this report 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 equal to parts per million.

Equivalents per million are not reported, although the expression of analyses in equivalents per million is sometimes preferred. An equivalent per million (epm) is a unit chemical combining weight of a constituent in a million unit weights of water. Chemical equivalence in equivalents per million 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 conversion factors are computed from atomic weights based on carbon-12 (International Union of Pure and Applied Chemistry, 1961).

Conversion factors: Parts per million to equivalents per million

| Ion | Multiply by | Ion | Multiply by |
|---------------------------------------|----------------|--------------------------------------|----------------|
| Aluminum (Al^{+3})..... | 0.11119 | Hydroxide (OH^{-1})... | 0.05880 |
| Arsenic (As^{+2}) | .02669 | Iodide (I^{-1})..... | .00788 |
| Barium (Ba^{+2})..... | .01456 | Iron (Fe^{+3})..... | .05372 |
| Beryllium (Be^{+2}) | .22192 | Lead (Pb^{+2}) | .00965 |
| Bicarbonate (HCO_3^{-1}).. | .01639 | Lithium (Li^{+1})..... | .14411 |
| Bromide (Br^{-1})..... | .01251 | Magnesium (Mg^{+2}).. | .08226 |
| Cadmium (Cd^{+2}) | .01779 | Manganese (Mn^{+2}) .. | .03640 |
| Calcium (Ca^{+2}) | .04990 | Nickel (Ni^{+2}) | .03406 |
| Carbonate (CO_3^{-2}) | .03333 | Nitrate (NO_3^{-1}) | .01613 |
| Chloride (Cl^{-1})..... | .02821 | Phosphate (PO_4^{-3}).. | .03159 |
| Chromium (Cr^{+6})..... | .11539 | Potassium (K^{+1}).... | .02557 |
| Cobalt (Co^{+2})..... | .03394 | Sodium (Na^{+1}) | .04350 |
| Copper (Cu^{+2}) | .03148 | Strontium (Sr^{+2}).... | .02282 |
| Fluoride (F^{-1})..... | .05264 | Sulfate (SO_4^{-2}) | .02082 |
| Hydrogen (H^{+1}) | .99209 | Zinc (Zn^{+2}) | .03060 |

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. 24) 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, time-weighted, or discharge-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 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.

A program for computing these averages on an electronic digital computer was instituted in the 1962 water year. This program extended computations to include averages for pH values expressed in terms of hydrogen ion and averages for the concentration of individual constituents expressed in tons per day. Concentrations in tons per day are computed the same as daily sediment loads.

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 indicates sizes in millimeters. The size classification used in this report is that recommended by the American Geophysical Union subcommittee on Terminology (Land 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, sediment concentration when sample was collected, 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 unless otherwise noted.

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-inflow carrying appreciable quantities of chloride. Large quantities 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. Investigations have proved that fluoride concentrations of about 0.6 to 1.7 ppm reduced the incidence of dental caries and that concentrations greater than 1.7 ppm also protect the teeth from cavities but cause an undesirable black stain (Durfor and Becker, 1964). Public Health Service, 1962 (p. 8), states, "When fluoride is naturally present in drinking water, the concentration should not average more than the appropriate upper control limit (0.6 to 1.7 ppm). Presence of fluoride in average concentration greater than two times the optimum values shall constitute grounds for rejection of the supply." Concentration higher than the stated limits may cause mottled enamel in teeth, 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 methemoglobinemia ("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 (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. U.S. Public Health Service (1962) sets 45 ppm as the upper limit.

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 chromium in the hexavalent form constitute grounds for rejection of a water for domestic use on the basis of the standards of the U.S. Public Health Service (1962).

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 (1962) recommends that copper should not exceed 1.0 ppm in drinking and culinary water.

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 0.05 ppm are significant, as this concentration is the upper limit for drinking water in the standards adopted by the U. S. Public Health Service (1962). 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 water does not cause serious effects on health, but produces undesirable esthetic effects. The U. S. Public Health Service (1962, p. 55) recommends that the zinc content not exceed 5 ppm in drinking and culinary water.

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 (1962) states that water containing concentrations of barium in excess of 1 ppm is not suitable for drinking and culinary use because of the serious toxic effects of barium on heart, blood vessels, and nerves.

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. It resembles chloride in that it tends to be concentrated in sea water.

Iodide (I)

Iodide is considerably less abundant both in rocks and water than bromine. 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 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.

Generally, bicarbonate and carbonate determine the proportions of "carbonate" hardness of water. Carbonate hardness is the amount of hardness chemically equivalent to the amount of bicarbonate and carbonate in solution. Carbonate hardness is approximately equal to the amount of hardness that is removed from water by boiling.

Noncarbonate hardness is the difference between the hardness calculated from the total amount of calcium and magnesium in solution and the carbonate hardness. If the carbonate hardness (expressed as calcium carbonate) equal the amount of calcium and magnesium hardness (also expressed as calcium carbonate) there is no noncarbonate hardness. Noncarbonate hardness is about equal to the amount of hardness remaining after water is boiled. The scale formed at high temperatures by the evaporation of water containing noncarbonate hardness commonly is tough, heat resistant, and difficult to remove.

Although many people talk about soft water and hard water, there has been no firm line of demarcation. Water that seems hard to an easterner may seem soft to a westerner. In this report hardness of water is classified as follows:

| Hardness range (calcium carbonate in ppm) | Hardness description |
|-------------------------------------------------|----------------------|
| 0-60 | Soft |
| 61-120 | Moderately hard |
| 121-180 | Hard |
| more than 180 | Very hard |

For public use, water with hardness above 200 parts per million generally requires softening treatment (Durfor and Becker, 1964).

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:

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

where the concentrations of the ions are expressed in milliequivalents 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 10, 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)

Specific conductance is a convenient, rapid determination used to estimate the amount of dissolved solids in water. It is a measure of the ability of water to transmit a small electrical current (see p. 8). The more dissolved solids in water than can transmit electricity the greater the specific conductance of the water. Commonly, the amount of dissolved solids (in parts per million) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream or from well to well and it may even vary in the same source with changes in the composition of the water (Durfor and Becker, 1964).

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 15 units generally passes unnoticed (U. S. Public Health Service, 1962). Some swamp waters have natural color in excess of 300 units.

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 presence 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 0.001 to 0.01 ppm.

Detergents (ABS). -- The chief surfactant in commercial detergents is anionic alkylbenzenesulfonate (ABS). ABS and other anionic surfactants resist chemical oxidation and biological breakdown. Their persistence in water over long periods of time contributes to pollution of both ground water and surface water. Some of the effects produced from detergent pollution are unpleasant taste, odor, and foaming (Wyman, Robertson, and Page, 1962). Although the physiological implications of ABS to human beings is unknown, prolonged ingestion of this material by rats is believed to be nontoxic (Paynter, 1960). The U.S. Public Health Service (1962) recommends that ABS should not exceed 0.5 ppm in drinking and culinary waters.

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 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). Although turbidity does not directly measure the safety of drinking water, it is related to the consumers acceptance of the water. A level of 5 units of turbidity becomes objectionable to a considerable number of people (U. S. Public Health, 1962).

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 maybe accelerated by agricultural practices. Sediment is also contributed by a number of industrial and construction activities. In certain sections, waste materials from mining, logging, oil-field, 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 solid 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 sand size (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 considerable 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 State 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.

State reports containing more complete records of stream discharge may be obtained by writing to the responsible District Engineer, Surface Water Branch, U.S. Geological Survey. For the area covered in this volume, the States, drainage basins, and locations of the district engineers are listed below.

| State | Drainage area | Surface Water Branch district office |
|-------------|-------------------------------------------------------|----------------------------------------------------------------------------|
| Connecticut | North Atlantic slope | 203 Federal Bldg. P.O. Box 715 Hartford, Conn. 06101 |
| Delaware | | 106 Engineering Bldg. University of Maryland College Park, Md. 20740 |
| Florida | South Atlantic slope and eastern Gulf of Mexico | Room 244 Federal Building Ocala, Fla. 32670 |
| Georgia | | Room 164 Peachtree Seventh Bldg. Atlanta, Ga. 30323 |

| State | Drainage basin | Surface Water Branch district office |
|----------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Maine | North Atlantic slope | Vickery-Hill Building Court Street Augusta, Maine 04330 |
| Maryland | | 106 Engineering Bldg. University of Maryland College Park, Md. 20740 |
| Mississippi | South Atlantic slope and eastern Gulf of Mexico | Room 302 Post Office Building Jackson, Miss. 39205 |
| New Hampshire | North Atlantic slope | Room 205 211 Congress Street Boston, Mass. 02110 |
| New Jersey | | P. O. Box 967 Room 433 Federal Bldg. Trenton, N. J. 08605 |
| New York | | P. O. Box 948 Federal Building Albany, N. Y. 12201 |
| North Carolina | South Atlantic slope and eastern Gulf of Mexico | P. O. Box 2857 Federal Building Raleigh, N. C. 27602 |
| Pennsylvania | North Atlantic slope | 1224 Mulberry Street Harrisburg, Pa. 17104 |
| South Carolina | South Atlantic slope and eastern Gulf of Mexico | Room 121 1801 Assembly Street Columbia, S. C. 29201 |
| Virginia | North Atlantic slope South Atlantic slope and eastern Gulf of Mexico | P. O. Box 3327 University Station Charlottesville, Va. 22903 |
| West Virginia | North Atlantic slope | Room 3303 New Federal Building 500 Quarrier St., East Charleston, W. Va. 25301 |

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 1941-62, are listed below:

Numbers of water-supply papers containing records for
Parts 1 and 2, 1941-62

| Year | WSP | Year | WSP | Year | WSP | Year | WSP |
|------|------|------|------|------|------|--------|------|
| 1941 | 942 | 1947 | 1102 | 1953 | 1290 | a 1959 | 1641 |
| 1942 | 950 | 1948 | 1132 | 1954 | 1350 | a 1960 | 1741 |
| 1943 | 970 | 1949 | 1162 | 1955 | 1400 | a 1961 | 1881 |
| 1944 | 1022 | 1950 | 1186 | 1956 | 1450 | 1962 | 1941 |
| 1945 | 1030 | 1951 | 1197 | 1957 | 1520 | | |
| 1946 | 1050 | 1952 | 1250 | 1958 | 1571 | | |

a To be published.

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 south-eastern 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. 28 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 |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------------------------|
| Alabama | State Geological Survey, Phillip E. LaMoreaux, State Geologist. | South Atlantic slope and eastern Gulf of Mexico | 6554 Florida Blvd. Baton Rouge, La. 70806 |
| Connecticut | State Water Resources | North Atlantic slope | P. O. Box 948 Room 348, Federal Bldg. 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 |
| District of Columbia | Department of Sanitary Engineers, David V. Auld, director. | | Room 3 3 North Perry Street Rockville, Md. 20850 |
| Florida | Florida Geological Survey, Dr. Robert O. Vernon, director, includes: Southwest Florida Water Management District, Alfred A. McKethan, chairman. | South Atlantic slope and eastern Gulf of Mexico | Room 244 Federal Bldg. Ocala, Fla. 32670 |

| State | Cooperating agency | Drainage basin | District office |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------|
| Florida | <p>Florida Geological Survey, Sarasota County, Board of County Commissioners, Warren S. Henderson, chairman. Central and Southern Florida Flood Control District, G. E. Dail, Jr., executive director. Dade County, E. A. Anderson, County Engineer. Hillsborough County, Board of County Commissioners, E. G. Simmons, chairman. Orange County, Board of County Commissioners, F. B. Surguine, Jr., chairman. Broward County, Board of County Commissioners, H. V. Saxon, chairman. City of Miami, Department of Water and Sewers, C. F. Wertz, director. City of Miami Beach, M. N. Lipp, City Manager.</p> | South Atlantic slope and eastern Gulf of Mexico | Room 244 Federal Bldg. Ocala, Fla. 32670 |

| State | Cooperating agency | Drainage basin | District office |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------------------|
| Georgia | Department of Mines, Mining and Geology, Captain Garland Peyton, director. | South Atlantic slope and eastern Gulf of Mexico | Room 244 Federal Bldg. Ocala, Fla. 32670 |
| Maryland | Department Geology, Mines and Water Resources, Dr. J. T. Singewald, Jr., director. | North Atlantic slope | Room 3 3 North Perry Street Rockville, Md. 20850 |
| Mississippi | Mississippi Board of Water Commissioners, S. A. Thompson, chairman. | South Atlantic slope and eastern Gulf of Mexico | 6554 Florida Blvd. Baton Rouge, La. 70806 |
| New Jersey | Department of Conservation and Economic Development, H. Matt Adams, Commissioner Division of Water Policy and Supply, George R. Shanklin, acting director and chief engineer. Division of Fish and Game, Dr. A. Heaton Underhill, director. | North Atlantic slope | Room 1302 U. S. Custom House 2nd and Chestnut Streets Philadelphia, Pa., 19106 |

| State | Cooperating agency | Drainage basin | District office |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------------------------------|
| New Jersey | New Jersey State Department of Health, Dr. Roscoe P. Kandle, Commissioner, Division of Environmental Health, Alfred H. Fletcher, director. New Jersey State Department of Agriculture, Phillip Alampi, secretary. State Soil Conservation Committee, Grant F. Walton, executive secretary. | North Atlantic slope | Room 1302 U. S. Custom House 2nd and Chestnut Streets Philadelphia, Pa., 19106 |
| New York | New York State Department of Commerce, Bureau of Industrial Development, Henry Gallien, director. | | P. O. Box 948 Room 348 Federal Bldg. Albany, N. Y., 12201 |
| North Carolina | North Carolina Department of Water Resources, H. E. Brown, director. | South Atlantic slope and eastern Gulf of Mexico | P. O. Box 2857 Raleigh, N. C. 27602 |

| State | Cooperating agency | Drainage basin | District office |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <p>Pennsylvania</p> | <p>Pennsylvania Department of Agriculture, Dr. William L. Henning, secretary.</p> <p>Pennsylvania Department of Forests and Waters, Maurice K. Goddard, secretary.</p> <p>Soil Conservation Commission, David Unger, director</p> <p>City of Philadelphia, Richardson Delworth, Mayor.</p> <p>Department of Water, Samuel S. Baxter, Water Commissioner.</p> <p>Conestoga Valley Association, John Kitch, president.</p> | <p>North Atlantic slope</p> | <p>Room 1302 U. S. Custom House 2nd and Chestnut Streets Philadelphia, Pa., 19106</p> |
| <p>South Carolina</p> | <p>South Carolina State Development Board, W. W. Harper, director.</p> | <p>South Atlantic slope and eastern Gulf of Mexico</p> | <p>P. O. Box 2857 Raleigh, N. C. 27602</p> |

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 Alabama and Mississippi, S. F. Kapustka; in Florida and Georgia, K. A. MacKichan; in New York and New England, F. H. Pauszek; and in District of Columbia, 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; Zeitsche. Anorg. Chem., v. 161, p. 161-179.
- Durfor, C. N. and Becker, E., 1964, Public water supplies of the 100 largest cities in the United States; 1962: U. S. Geol. Survey, Water-Supply Paper 1812.
- California State Water Pollution Control Board, 1952, Water-quality criteria: California State Water Pollution Control Board, pub. 3., p. 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.

- International Union of Pure and Applied Chemistry, 1961, Table of Atomic weights based on carbon-12: Chem. and Eng. News, v. 39, no. 42, Nov. 20, 1961, p. 43.
- 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.
- Paynter, O. E., 1960, The chronic toxicity of dodecylbenzene sodium sulfonate: U.S. Public Health Conference on Physiological Aspects of Water Quality Proc., Washington, D.C., Sept. 8-9, 1960, p. 175-179.
- 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 6, 1952, 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. Public Health Service, 1962, Drinking water standards: U. S. Dept. Health, Education, and Welfare, Public Health Service: Pub. no. 956.
- 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.
- Wayman, C. H., 1962, Limitations of the methylene blue method for ABS determinations: U. S. Geol. Survey, Prof. paper 450-B, art. 49, p. B117-B120.
- Wayman, C. H., Robertson, J. B., and Page, H. G., 1962, Foaming characteristics of synthetic-detergent solutions: U. S. Geol. Survey, Prof. paper 450D, art. 178, p. D198.

CHEMICAL ANALYSES, WATER TEMPERATURES, AND SEDIMENT

PART 1. NORTH ATLANTIC SLOPE BASINS

ST. CROIX RIVER BASIN

1-210. ST. CROIX RIVER AT BERING, MAINE

LOCATION.--Temperature recorder at gaging station at site of destroyed international highway bridge at Baring, Washington County.
 DRAINAGE AREA.--1,390 square miles, approximately.
 RECORDS AVAILABLE.--Water temperatures: October 1959 to September 1962.
 EXTREMES, 1961-62.--Water temperatures: Maximum, 76°F June 29; minimum, freezing point Dec. 24-28.
 EXTREMES, 1959-62.--Water temperatures: Maximum, 80°F July 23, 1961; minimum, freezing point on many days during winter months.
 REMARKS.--Discharge records unpublished. Gaging station operated as a supplement to station 1-200. St. Croix River near Baileyville, Maine.

Temperature °F of water, water year October 1961 to September 1962
 /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 | 65 | 66 | 65 | 64 | 62 | 61 | 62 | 61 | 61 | 61 | 60 | 60 | 61 | 61 | 60 | 54 | 53 | 56 | 55 | 54 | 52 | 51 | 50 | 49 | 49 | 49 | 49 | 48 | 49 | 49 | 49 | 56 |
| Minimum | 63 | 60 | 64 | 62 | 60 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 60 | 60 | 51 | 51 | 52 | 53 | 53 | 52 | 51 | 49 | 47 | 49 | 49 | 48 | 47 | 47 | 49 | 49 | 49 | 54 |
| November | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 49 | 48 | 48 | 49 | 50 | 51 | 51 | 50 | 49 | 48 | 47 | 45 | 45 | 44 | 44 | 44 | 44 | 44 | 44 | 42 | 41 | 41 | 42 | 42 | 42 | 41 | 41 | 40 | 40 | -- | 45 | |
| Minimum | 48 | 47 | 47 | 48 | 49 | 50 | 49 | 50 | 49 | 48 | 47 | 45 | 44 | 43 | 43 | 43 | 43 | 43 | 42 | 38 | 40 | 40 | 41 | 41 | 41 | 41 | 41 | 40 | 39 | 39 | -- | 44 |
| December | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 39 | 38 | 38 | 36 | 39 | 38 | 36 | 35 | 35 | 34 | 35 | 34 | 34 | 34 | 34 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 32 | 32 | 32 | 34 | 34 | 33 | 33 | 34 | |
| Minimum | 38 | 38 | 36 | 36 | 36 | 36 | 35 | 35 | 34 | 34 | 34 | 34 | 34 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 33 | 33 | 34 | |
| January | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 33 | 33 | 33 | 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 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 |
| February | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | -- | -- | -- | -- | -- | -- | 34 | 33 | 33 | -- | -- | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 34 | 34 | 34 | 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 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 |
| March | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 34 | 33 | 33 | 34 | 33 | 34 | 35 | 35 | 35 | 35 | 36 | 34 | 34 | 35 | 35 | 35 | -- | -- | -- | -- | 36 | 36 | 37 | 36 | 36 | 36 | 36 | 37 | 37 | 37 | 35 | |
| Minimum | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 34 | 34 | 34 | -- | -- | -- | -- | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 34 | |
| April | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 37 | 37 | 37 | 38 | 40 | 39 | 39 | 40 | 39 | 39 | 39 | 41 | 40 | 39 | 39 | 38 | 39 | 40 | 42 | 44 | 44 | 44 | 46 | 46 | 44 | 46 | 45 | 45 | 46 | 45 | -- | 41 |
| Minimum | 35 | 36 | 36 | 36 | 37 | 38 | 39 | 39 | 38 | 37 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 40 | 41 | 42 | 43 | 44 | 44 | 44 | 45 | 44 | 45 | 44 | -- | 39 |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 45 | 46 | 46 | 45 | 45 | 46 | 47 | 46 | 47 | 48 | 49 | 49 | 50 | 49 | 49 | 52 | 53 | 55 | 57 | 58 | 57 | 60 | 61 | 59 | 61 | 61 | 61 | 63 | 65 | 63 | 67 | 54 |
| Minimum | 44 | 44 | 44 | 45 | 44 | 45 | 44 | 45 | 44 | 46 | 45 | 46 | 47 | 47 | 48 | 49 | 49 | 51 | 52 | 54 | 56 | 57 | 58 | 58 | 59 | 59 | 60 | 60 | 62 | 51 | -- | 51 |
| June | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 64 | 64 | 63 | 67 | 70 | 65 | 65 | 67 | 69 | 67 | 67 | 66 | 69 | 70 | 75 | 74 | 75 | 73 | 70 | 69 | 73 | 73 | 69 | 69 | 72 | 74 | 72 | 74 | 76 | 74 | -- | 70 |
| Minimum | 63 | 62 | 61 | 59 | 63 | 61 | 61 | 62 | 63 | 63 | 63 | 64 | 63 | 64 | 65 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 67 | 66 | 67 | 67 | 68 | 69 | -- | 65 | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| July | 72 | 72 | 72 | 69 | 67 | 66 | 67 | 72 | 70 | 70 | 73 | 73 | 68 | 67 | 66 | 67 | 71 | 67 | 70 | 73 | 68 | 71 | 74 | 69 | 74 | 68 | 70 | 72 | 71 | 69 | 71 | 70 |
| Maximum ... | 69 | 68 | 67 | 65 | 63 | 64 | 64 | 58 | 66 | 66 | 67 | 66 | 66 | 58 | 57 | 67 | 66 | 65 | 65 | 66 | 66 | 66 | 66 | 66 | 65 | 61 | 65 | 66 | 67 | 68 | 67 | 65 |
| August | 68 | 74 | 75 | 73 | 70 | 72 | 74 | 72 | 75 | 70 | 69 | 71 | 74 | 72 | 73 | 73 | 69 | 71 | 71 | 69 | 68 | 68 | 70 | 71 | 71 | 75 | 71 | 68 | 68 | 70 | 71 | 71 |
| Maximum ... | 67 | 67 | 68 | 68 | 67 | 69 | 70 | 68 | 67 | 68 | 68 | 68 | 68 | 68 | 67 | 68 | 68 | 67 | 66 | 66 | 65 | 65 | 65 | 65 | 66 | 66 | 67 | 68 | 67 | 67 | 67 | 67 |
| September | 70 | 70 | 71 | 71 | 67 | 66 | 68 | 68 | 65 | 64 | 63 | 65 | 63 | 65 | 63 | 63 | 61 | 61 | 60 | 58 | 58 | 59 | 57 | 58 | 56 | 56 | 55 | 53 | 53 | 53 | 53 | 63 |
| Maximum ... | 67 | 67 | 63 | 62 | 65 | 62 | 63 | 63 | 63 | 64 | 62 | 62 | 61 | 62 | 61 | 61 | 60 | 56 | 57 | 58 | 57 | 56 | 56 | 56 | 55 | 55 | 53 | 53 | 53 | 53 | 53 | 60 |

SHEEPSOOT RIVER BASIN

1-380. SHEEPSOOT RIVER AT NORTH WHITEFIELD, MAINE

LOCATION --Temperature recorder at gaging station at North Whitefield, Lincoln County, just upstream from highway bridge, and 0.5 mile downstream from Pleasant Pond Brook.

DRAINAGE AREA --148 square miles.

RECORDS AVAILABLE --Water temperatures: October 1957 to September 1962.

EXTREMES, 1961-62. --Water temperatures: Maximum, 70°F July 23, Aug. 8; minimum, freezing point on several days during winter months.

EXTREMES, 1957-62. --Water temperatures: Maximum, 83°F Aug. 9, 1961; minimum, freezing point on many days during winter months.

Temperature °F of water, water year October 1961 to September 1962
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 | 68 | 67 | 69 | 69 | 66 | 65 | 64 | 65 | 55 | 66 | 66 | 65 | 66 | 65 | 65 | 62 | 60 | 60 | 60 | 61 | 61 | 61 | 61 | 61 | 60 | 59 | 60 | 59 | 59 | 57 | 57 | 63 |
| Minimum | 60 | 66 | 60 | 66 | 65 | 64 | 64 | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 62 | 60 | 58 | 59 | 60 | 60 | 61 | 61 | 60 | 59 | 59 | 59 | 59 | 57 | 57 | 57 | 57 | 62 |
| November | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 57 | 56 | 54 | 52 | 52 | 51 | 51 | 50 | 48 | 45 | 42 | 42 | 43 | 44 | 45 | 44 | 44 | 43 | 42 | 39 | 38 | 37 | 38 | 37 | 38 | 38 | 37 | 37 | 36 | 36 | -- | 44 |
| Minimum | 36 | 34 | 52 | 51 | 51 | 51 | 50 | 48 | 45 | 42 | 41 | 41 | 42 | 43 | 44 | 43 | 44 | 43 | 42 | 39 | 36 | 37 | 37 | 37 | 38 | 37 | 37 | 36 | 36 | 36 | -- | 43 |
| December | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 36 | 36 | 36 | 36 | 37 | 37 | 36 | 36 | 36 | 35 | 35 | 36 | 35 | 35 | 35 | 41 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 36 | 38 | 37 | 34 | 35 | 36 |
| Minimum | 36 | 36 | 36 | 35 | 35 | 36 | 36 | 35 | 35 | 34 | 35 | 35 | 35 | 34 | 34 | 34 | 34 | 34 | 34 | 33 | 33 | 33 | 33 | 32 | 32 | 33 | 32 | 32 | 33 | 33 | 33 | 34 |
| January | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 34 | 34 | 34 | 34 | 35 | 35 | 35 | 35 | 35 | 35 | 34 | 35 | 35 | 35 | 35 | 34 | 35 | 34 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 36 | 34 | 34 | 37 | 37 | 34 | 35 |
| Minimum | 34 | 34 | 34 | 33 | 33 | 34 | 33 | 35 | 35 | 34 | 34 | 34 | 34 | 34 | 34 | 32 | 34 | 34 | 34 | 34 | 34 | 34 | 35 | 34 | 34 | 34 | 34 | 33 | 33 | 33 | 33 | 34 |
| February | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 35 | 38 | 35 | 34 | 34 | 34 | 40 | 38 | 33 | 33 | 37 | 37 | 37 | 37 | 37 | 34 | 37 | 34 | 35 | 36 | 35 | 34 | 35 | 35 | 35 | 35 | 36 | 34 | 33 | -- | -- | 35 |
| Minimum | 33 | 33 | 33 | 33 | 33 | 32 | 33 | 33 | 32 | 33 | 32 | 32 | 32 | 33 | 33 | 34 | 33 | 34 | 33 | 33 | 33 | 33 | 34 | 34 | 32 | 32 | 32 | 33 | 33 | -- | -- | 33 |
| March | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 35 | 34 | 35 | 34 | 32 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 33 | 34 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 38 | 38 | 38 | 38 | 37 | 37 | 37 | 38 | 38 | 37 | 35 |
| Minimum | 33 | 32 | 32 | 32 | 32 | 32 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 33 | 34 | 35 | 35 | 35 | 35 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 37 | 37 | 37 | 34 |
| April | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 39 | 38 | 38 | 40 | 41 | 42 | 42 | 42 | 44 | 44 | 45 | 45 | 45 | 43 | 43 | 44 | 44 | 45 | 47 | 48 | 49 | 50 | 51 | 51 | 49 | 47 | 49 | 51 | 50 | 50 | -- | 45 |
| Minimum | 37 | 37 | 38 | 38 | 39 | 40 | 42 | 42 | 42 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 44 | 44 | 46 | 47 | 48 | 49 | 49 | 49 | 47 | 47 | 47 | 49 | 50 | 48 | -- | 44 |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 48 | 48 | 48 | 48 | 49 | 51 | 51 | 51 | 52 | 53 | 54 | 54 | 56 | 55 | 53 | 53 | 55 | 53 | 58 | 61 | 62 | 63 | 63 | 63 | 61 | 61 | 62 | 63 | 63 | 64 | 65 | 56 |
| Minimum | 47 | 48 | 48 | 48 | 48 | 49 | 49 | 49 | 50 | 51 | 51 | 52 | 53 | 53 | 52 | 52 | 52 | 53 | 56 | 58 | 59 | 59 | 59 | 59 | 57 | 59 | 59 | 59 | 59 | 59 | 61 | 54 |
| June | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 65 | 64 | 64 | 63 | 63 | 62 | 62 | 63 | 63 | 63 | 64 | 64 | 63 | 62 | 63 | 64 | 65 | 66 | 66 | 62 | 64 | 65 | 64 | 65 | 63 | 63 | 64 | 66 | 68 | 69 | -- | 64 |
| Minimum | 63 | 63 | 61 | 61 | 61 | 61 | 61 | 60 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 63 | 65 | 62 | 62 | 63 | 63 | 62 | 63 | 62 | 63 | 63 | 64 | 64 | 66 | -- | 62 |
| July | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 69 | 69 | 68 | 66 | 65 | 61 | 63 | 63 | 64 | 66 | 65 | 65 | 67 | 66 | 63 | 63 | 64 | 64 | 66 | 66 | 67 | 69 | 70 | 68 | 62 | 61 | 61 | 63 | 67 | 67 | 67 | 65 |
| Minimum | 66 | 66 | 65 | 65 | 64 | 60 | 60 | 61 | 62 | 62 | 62 | 62 | 64 | 63 | 63 | 62 | 61 | 62 | 63 | 63 | 64 | 60 | 60 | 60 | 60 | 60 | 61 | 61 | 63 | 63 | 63 | 62 |
| August | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 67 | 66 | 67 | 67 | 67 | 68 | 69 | 70 | 69 | 67 | 64 | 65 | 64 | 63 | 66 | 67 | 68 | 68 | 66 | 67 | 66 | 66 | 67 | 67 | 68 | 68 | 67 | 68 | 68 | 67 | 66 | 67 |
| Minimum | 63 | 63 | 64 | 65 | 65 | 66 | 67 | 66 | 66 | 64 | 63 | 62 | 63 | 63 | 63 | 64 | 66 | 64 | 66 | 64 | 64 | 65 | 64 | 63 | 63 | 64 | 65 | 66 | 67 | 66 | 65 | 64 |
| September | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 66 | 65 | 67 | 66 | 65 | 63 | 62 | 63 | 63 | 64 | 64 | 65 | 65 | 65 | 65 | 64 | 62 | 62 | 61 | 60 | 58 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 56 | 55 | -- |
| Minimum | 64 | 64 | 63 | 63 | 62 | 61 | 59 | 60 | 61 | 62 | 63 | 63 | 63 | 63 | 63 | 63 | 62 | 60 | 60 | 60 | 59 | 57 | 56 | 56 | 56 | 57 | 57 | 57 | 56 | 55 | -- | 60 |

PAWTUXET RIVER BASIN

1-1165. PAWTUXET RIVER AT CRANSTON, R. I.

LOCATION.--Temperature recorder at gaging station at Cranston, Providence County, 0.7 mile upstream from Pocasset River. DRAINAGE AREA.--200 square miles.

RECORDS AVAILABLE, --Water temperatures: November 1961 to September 1962.

EXTREMES, November 1961 to September 1962.--Water temperatures: Maximum, 81°F Aug. 8; minimum, 33°F Dec. 31 to Jan. 2.

Temperature °F of water, November 1961 to September 1962

Continuous ethyl alcohol-actuated thermograph/

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

POTOMAC RIVER BASIN

1-1169.1. HUNT RIVER NEAR DAVISVILLE, R. I.

LOCATION.--Temperature recorder at gaging station at downstream side of bridge on U.S. Highway 1, 1.5 miles north of Davisville, Washington County, Maryland.

DRAINAGE AREA.--17.3 square miles.

RECORDS AVAILABLE.--Water temperatures: January to September 1962.

EXTREMES, January to September 1962.--Water temperatures: Maximum, 72°F Aug. 7-9; minimum, 33°F Jan. 20-22.

Temperature °F of water, January to September 1962
Continuous ethyl alcohol-actuated thermometer

| 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 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Minimum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| November | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Minimum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| December | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Minimum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| January | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Minimum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| February | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 34 | 34 | 35 | 37 | 37 | 36 | 35 | 35 | 35 | 35 | 35 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| Minimum | 34 | 34 | 34 | 34 | 34 | 35 | 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 | 34 | 34 |
| March | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 35 | 35 | 34 | 34 | 35 | 35 | 35 | 35 | 36 | 36 | 38 | 39 | 38 | 35 | 36 | 37 | 38 | 39 | 39 | 39 | 40 | 40 | 41 | 41 | 43 | 43 | 42 | 42 | 45 | 49 | 50 | 39 | |
| Minimum | 35 | 34 | 34 | 34 | 34 | 34 | 35 | 35 | 35 | 35 | 37 | 35 | 34 | 34 | 35 | 36 | 37 | 37 | 37 | 38 | 39 | 39 | 39 | 39 | 39 | 39 | 42 | 42 | 45 | 49 | 50 | 39 | |
| April | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 50 | 50 | 47 | 45 | 46 | 48 | 48 | 50 | 50 | 50 | 47 | 46 | 45 | 44 | 44 | 44 | 44 | 44 | 46 | 48 | 50 | 50 | 53 | 54 | 54 | 54 | 59 | 63 | 64 | 60 | | | 50 |
| Minimum | 49 | 47 | 45 | 43 | 43 | 46 | 48 | 48 | 49 | 49 | 47 | 46 | 45 | 44 | 43 | 43 | 43 | 42 | 43 | 46 | 46 | 47 | 50 | 49 | 48 | 49 | 51 | 56 | 59 | 53 | | | 47 |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 53 | 49 | 49 | 51 | 55 | 54 | 58 | 55 | 56 | 58 | 57 | 58 | 59 | 56 | 54 | 52 | 57 | 60 | 63 | 65 | 65 | 64 | 64 | 62 | 64 | 63 | 64 | 63 | 62 | 64 | | | 59 |
| Minimum | 49 | 49 | 49 | 49 | 51 | 52 | 53 | 52 | 51 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 51 | 54 | 57 | 61 | 62 | 59 | 59 | 60 | 60 | 60 | 60 | 58 | 60 | 63 | | | 55 |
| June | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 71 | 70 | 68 | 66 | 66 | 62 | 64 | 65 | 66 | 68 | 68 | 68 | 64 | 60 | 62 | 67 | 69 | 70 | 71 | 70 | 68 | 64 | 63 | 64 | 67 | 68 | 68 | 69 | 69 | | | | 67 |
| Minimum | 66 | 67 | 64 | 62 | 62 | 62 | 60 | 61 | 61 | 62 | 64 | 64 | 60 | 59 | 59 | 61 | 64 | 66 | 66 | 68 | 64 | 62 | 62 | 62 | 64 | 67 | 65 | 64 | 63 | 65 | | | 63 |
| July | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 68 | 68 | 67 | 67 | 67 | 66 | 68 | 69 | 69 | 69 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 67 | 66 | 64 | 67 | 67 | 66 | 65 | 65 | 65 | 65 | 66 | 68 | | | 67 |
| Minimum | 66 | 64 | 63 | 63 | 63 | 63 | 63 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | | | 65 | |
| August | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 67 | 68 | 67 | 68 | 68 | 70 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 70 | 68 | 67 | 69 | 69 | 64 | 65 | 63 | 64 | 71 | 68 | 66 | | | 67 |
| Minimum | 67 | 66 | 65 | 66 | 66 | 68 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 68 | 67 | 64 | 65 | 68 | 64 | 62 | 62 | 64 | 66 | 66 | 66 | | | 65 |
| September | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 67 | 67 | 67 | 65 | 63 | 63 | 61 | 61 | 61 | 67 | 70 | 68 | 68 | 71 | 66 | 63 | 64 | 65 | 65 | 60 | 57 | 53 | 55 | 55 | 58 | 62 | 60 | 59 | 58 | 58 | | | 63 |
| Minimum | 67 | 67 | 65 | 63 | 61 | 59 | 59 | 59 | 59 | 60 | 65 | 64 | 63 | 63 | 63 | 61 | 60 | 61 | 60 | 55 | 51 | 53 | 53 | 53 | 53 | 53 | 53 | 56 | 59 | 58 | | | 60 |

THAMES RIVER BASIN

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

LOCATION.--Water stage recorder 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.--Chemical analyses: October 1955 to September 1956.

TEMPERATURES.--October 1955 to September 1956: October 1956 to September 1962.

EXTREMES, 1965-62.--Water temperatures: Maximum, 81°F Aug. 8, minimum, 35°F Jan. 7-9, 15-17.

EXTREMES, 1955-56, 1958-62.--Water temperatures: Maximum, 83°F July 26, 27, 1961, minimum, freezing point Jan. 21, 1956.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro- mhos at 25°C) | pH | Color |
|--------------------|--------------------|-------------------------------|--------------|-----------------|-------------------|----------------|------------------|------------------------------------|-------------------------------|------------------|-----------------|-------------------------------|----------------------------------------------|----------------------------------|----------------------------------|--------------------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non- magne-carbon- sum ate | | | |
| Jan. 17, 1962..... | 3,560 | 5.9 | 0.20 | 4.4 | 1.3 | 5.4 | 1.6 | 11 | 11 | 6.1 | 0.1 | 2.3 | 49 | 17 | 8 | 71 | 6.0 | 13 |
| Apr. 3..... | 5,160 | 4.3 | .22 | 3.2 | 1.4 | 3.0 | .9 | 6 | 9.5 | 4.0 | .1 | 2.0 | 36 | 14 | 9 | 50 | 5.7 | 22 |
| May 28..... | 680 | 1.8 | .35 | 5.0 | 1.5 | 7.5 | 1.5 | 18 | 12 | 6.6 | .2 | 2.1 | 54 | 19 | 4 | 84 | 6.3 | 22 |
| July 3..... | 339 | -- | .40 | 5.5 | 1.1 | 9.8 | 1.2 | 26 | 10 | 7.5 | -- | 1.7 | 60 | 18 | 0 | 97 | 6.5 | -- |
| July 31..... | 180 | 3.9 | .49 | 6.6 | 1.3 | 13 | 1.8 | 29 | 12 | 10 | -- | 3.0 | 69 | 22 | 0 | 119 | 6.5 | -- |
| Aug. 28..... | 248 | 2.5 | .33 | 8.2 | 1.3 | 15 | 1.9 | 41 | 14 | 9.9 | -- | 1.8 | 83 | 26 | 0 | 138 | 6.8 | -- |

THAMES RIVER BASIN--Continued
 1-1270. QUINEBAUG RIVER AT JEWETT CITY, CONN.--Continued
 Temperature °F of water, water year October 1961 to September 1962
 /Continuous water-stage recorder with 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 | 66 | 65 | 65 | 65 | 63 | 61 | 61 | 61 | 62 | 63 | 64 | 64 | 64 | 63 | 63 | 63 | 61 | 59 | 57 | 58 | 57 | 57 | 56 | 54 | 54 | 54 | 52 | 53 | 53 | 53 | 52 | 54 | | |
| | 65 | 65 | 65 | 63 | 61 | 60 | 60 | 61 | 61 | 62 | 62 | 63 | 63 | 63 | 63 | 61 | 59 | 56 | 56 | 56 | 56 | 54 | 53 | 52 | 52 | 52 | 51 | 50 | 51 | 51 | 52 | 58 | | |
| November | 54 | 53 | 53 | 53 | 55 | 55 | 56 | 55 | 54 | 53 | 50 | 49 | 47 | 47 | 48 | 48 | 49 | 48 | 48 | 47 | 45 | 44 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 42 | 40 | -- | 48 | |
| | 53 | 52 | 52 | 52 | 53 | 54 | 55 | 54 | 53 | 50 | 49 | 47 | 47 | 47 | 48 | 48 | 47 | 47 | 47 | 45 | 44 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 42 | 40 | 39 | -- | 47 | |
| December | 39 | 39 | 39 | 39 | 40 | 40 | 41 | 40 | 40 | 39 | 39 | 39 | 39 | 39 | 40 | 38 | 38 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 38 | 38 | |
| | 39 | 39 | 39 | 39 | 40 | 40 | 40 | 40 | 40 | 39 | 39 | 39 | 39 | 39 | 40 | 38 | 38 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | |
| January | 36 | 36 | 36 | 36 | 37 | 37 | 37 | 35 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 35 | 35 | 36 | 36 | 36 | 36 | 36 | 36 | 37 | 37 | 37 | 37 | 37 | 37 | 36 | 36 | 36 | |
| | 36 | 36 | 36 | 36 | 36 | 37 | 37 | 35 | 35 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 35 | 35 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 37 | 37 | 37 | 37 | 37 | 36 | 36 | 36 | |
| February | 36 | 37 | 36 | 36 | 37 | 37 | 37 | 37 | 37 | 36 | 37 | 37 | 37 | 38 | 37 | 37 | 37 | 37 | 36 | 37 | 36 | 36 | 36 | 36 | 36 | 36 | 37 | 37 | 37 | 37 | 37 | -- | 37 | |
| | 36 | 36 | 36 | 36 | 36 | 37 | 37 | 37 | 36 | 36 | 36 | 36 | 36 | 37 | 37 | 37 | 37 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 37 | 37 | 37 | -- | -- | 36 | |
| March | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 38 | 39 | 39 | 39 | 39 | 38 | 38 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 40 | 42 | 42 | 42 | 43 | 46 | 49 | 39 | 39 | |
| | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 38 | 39 | 39 | 39 | 38 | 38 | 38 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 40 | 42 | 42 | 42 | 42 | 43 | 46 | 39 | 39 | |
| April | 50 | 50 | 48 | 46 | 46 | 48 | 49 | 51 | 52 | 52 | 51 | 50 | 48 | 46 | 45 | 45 | 45 | 46 | 48 | 50 | 51 | 54 | 55 | 55 | 55 | 58 | 60 | 63 | 63 | -- | 51 | 51 | 51 | |
| | 50 | 48 | 46 | 46 | 48 | 49 | 49 | 49 | 51 | 51 | 51 | 50 | 48 | 46 | 45 | 45 | 45 | 46 | 48 | 49 | 51 | 54 | 55 | 55 | 55 | 58 | 60 | 63 | 63 | -- | 50 | 50 | 50 | |
| May | 61 | 58 | 55 | 53 | 54 | 55 | 57 | 57 | 58 | 59 | 58 | 58 | 58 | 58 | 58 | 58 | 59 | 61 | 65 | 71 | 71 | 70 | 71 | 68 | 70 | 69 | 68 | 68 | 70 | 62 | 62 | 62 | 62 | |
| | 58 | 55 | 53 | 52 | 53 | 54 | 55 | 57 | 56 | 56 | 56 | 56 | 58 | 58 | 58 | 58 | 58 | 58 | 61 | 65 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 67 | 66 | 67 | 68 | 61 | 61 | |
| June | 73 | 75 | 75 | 74 | 71 | 71 | 71 | 70 | 71 | 72 | 72 | 71 | 68 | 66 | 73 | 71 | 75 | 74 | 75 | 74 | 72 | 71 | 71 | 73 | 73 | 73 | 73 | 73 | 74 | 75 | -- | 72 | 72 | |
| | 69 | 71 | 71 | 71 | 70 | 70 | 69 | 69 | 70 | 71 | 70 | 68 | 66 | 65 | 65 | 68 | 70 | 72 | 74 | 72 | 71 | 70 | 71 | 70 | 71 | 71 | 71 | 71 | 71 | 71 | -- | 70 | 70 | |
| July | 77 | 78 | 77 | 77 | 75 | 75 | 75 | 76 | 73 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 74 | 73 | 72 | 76 | 77 | 73 | 74 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 73 | 75 | 75 | |
| | 73 | 74 | 73 | 71 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 73 | 72 | 73 | 72 | 73 | 72 | 71 | 70 | 72 | 72 | 73 | 72 | 71 | 72 | 71 | 72 | 70 | 69 | 70 | 71 | -- | 72 |
| August | 75 | 77 | 76 | 79 | 80 | 81 | 78 | 81 | 79 | 73 | 70 | 73 | 71 | 71 | 74 | 75 | 73 | 75 | 74 | 73 | 75 | 75 | 75 | 75 | 75 | 73 | 73 | 73 | 73 | 73 | 74 | -- | 75 | 75 |
| | 73 | 71 | 73 | 72 | 72 | 75 | 76 | 76 | 73 | 70 | 69 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 71 | 71 |
| September | 72 | 71 | 74 | 72 | 70 | 70 | 69 | 70 | 70 | 69 | 73 | 72 | 73 | 71 | 72 | 72 | 69 | 69 | 69 | 68 | 67 | 67 | 63 | 62 | 62 | 64 | 62 | 61 | 60 | 61 | -- | 68 | 68 | |
| | 71 | 71 | 70 | 70 | 70 | 69 | 68 | 66 | 67 | 69 | 68 | 68 | 68 | 68 | 69 | 69 | 68 | 67 | 68 | 65 | 65 | 63 | 61 | 61 | 59 | 61 | 61 | 60 | 60 | 59 | -- | 66 | 66 | |

CONNECTICUT RIVER BASIN

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 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 76°F on several days in July and August; minimum, freezing point on many days in January, February, and March.

EXTREMES, 1954-65.--Water temperatures: Maximum, 85°F Aug. 5, 6, 1955, July 29, Aug. 17, 1959; minimum, freezing point on many days during winter months.

Temperature °F of water, water year October 1961 to September 1962

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

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 1962.

EXTREMES, 1961-62 --Water temperatures: Maximum, 77°F on several days during summer months; minimum, freezing point on many days in January, February, and March.

EXTREMES, 1954-62 --Water temperatures: Maximum, 86°F Aug. 5, 1955, Aug. 1, 1959; minimum, freezing point on many days during winter months.

Temperature °F of water, water year October 1961 to September 1962

/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 | 63 | 62 | 62 | 60 | 56 | 59 | 60 | 59 | 62 | 60 | 59 | 60 | 61 | 59 | 56 | 50 | 49 | 51 | 54 | 54 | 54 | 53 | 49 | 49 | 49 | 49 | 51 | 48 | 46 | 50 | 51 | 51 | 55 |
| Maximum | 57 | 59 | 60 | 55 | 51 | 53 | 54 | 56 | 57 | 55 | 58 | 57 | 59 | 56 | 50 | 47 | 45 | 46 | 49 | 50 | 52 | 49 | 46 | 45 | 43 | 47 | 44 | 41 | 45 | 49 | 50 | 51 | |
| Minimum | 50 | 45 | 49 | 53 | 55 | 55 | 54 | 52 | 47 | 42 | 40 | 40 | 44 | 45 | 46 | 44 | 47 | 45 | 41 | 37 | 38 | 39 | 39 | 39 | 39 | 37 | 37 | 35 | 34 | -- | 44 | | |
| November | 44 | 41 | 44 | 49 | 53 | 54 | 52 | 47 | 42 | 39 | 37 | 39 | 44 | 43 | 41 | 44 | 41 | 41 | 37 | 36 | 36 | 37 | 38 | 39 | 39 | 37 | 37 | 35 | 34 | -- | 41 | | |
| Maximum | 25 | 26 | 25 | 26 | 28 | 27 | 27 | 37 | 35 | 35 | 35 | 35 | 36 | 35 | 37 | 35 | 35 | 35 | 34 | 33 | 33 | 33 | 34 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 35 | 35 | |
| Minimum | 33 | 34 | 34 | 35 | 36 | 37 | 37 | 35 | 34 | 34 | 35 | 35 | 35 | 34 | 34 | 34 | 35 | 34 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 34 | |
| December | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 32 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | -- | -- | -- | -- | -- | -- | -- | -- | 32 | 32 | 32 | 33 | 33 | 33 | -- |
| Maximum | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 34 | 33 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | -- | 33 | 33 | |
| Minimum | 33 | 33 | 33 | 33 | 32 | 32 | 33 | 33 | 33 | 33 | 34 | 33 | 33 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | -- | -- | 32 | |
| January | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 33 | 33 | 33 | 34 | 34 | 35 | 34 | 35 | 34 | 36 | 35 | 36 | 35 | 36 | 35 | 34 | 35 | 34 | 33 | 33 | |
| Maximum | 32 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 34 | 34 | 34 | 34 | 35 | 34 | 36 | 35 | 36 | 35 | 34 | 35 | 35 | 35 | 35 | 33 | |
| Minimum | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | -- | -- | -- | -- | -- | -- | -- | 32 | 32 | 32 | 33 | 33 | 33 | -- |
| February | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 32 | 32 | 33 | 34 | 33 | 33 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 33 | 33 | 33 | 33 | |
| Maximum | 33 | 33 | 33 | 33 | 32 | 32 | 33 | 33 | 33 | 33 | 34 | 33 | 33 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | -- | -- | 33 | |
| Minimum | 33 | 33 | 33 | 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 | |
| March | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 34 | 35 | 34 | 35 | 34 | 36 | 35 | 36 | 35 | 36 | 35 | 34 | 35 | 34 | 33 | 33 | |
| Maximum | 32 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 34 | 34 | 34 | 34 | 35 | 34 | 36 | 35 | 36 | 35 | 34 | 35 | 35 | 35 | 35 | 33 | |
| Minimum | 33 | 33 | 34 | 35 | 36 | 36 | 37 | 39 | 41 | 41 | 40 | 39 | 38 | 39 | 39 | 39 | 38 | 40 | 41 | 44 | 45 | 47 | 49 | 47 | 49 | 52 | 56 | 60 | 59 | 55 | -- | 43 | |
| April | 33 | 33 | 33 | 33 | 34 | 36 | 36 | 37 | 39 | 41 | 38 | 39 | 37 | 37 | 37 | 38 | 37 | 37 | 40 | 41 | 41 | 43 | 47 | 44 | 44 | 47 | 49 | 54 | 55 | 50 | -- | 40 | |
| Maximum | 50 | 48 | 46 | 45 | 48 | 48 | 51 | 50 | 52 | 53 | 56 | 57 | 54 | 54 | 58 | 64 | 69 | 69 | 67 | 67 | 68 | 69 | 67 | 65 | 66 | 64 | 66 | 67 | 70 | 72 | 59 | 53 | |
| Minimum | 48 | 46 | 45 | 45 | 45 | 46 | 46 | 47 | 48 | 49 | 51 | 51 | 51 | 53 | 53 | 57 | 61 | 64 | 62 | 62 | 64 | 62 | 60 | 59 | 61 | 62 | 60 | 59 | 56 | 59 | 64 | 53 | |
| May | 71 | 70 | 69 | 70 | 65 | 65 | 65 | 66 | 69 | 72 | 73 | 69 | 64 | 68 | 73 | 76 | 77 | 73 | 74 | 72 | 70 | 72 | 70 | 69 | 76 | 73 | 76 | 76 | 74 | 76 | -- | 71 | |
| Maximum | 65 | 62 | 61 | 58 | 62 | 61 | 61 | 60 | 59 | 62 | 66 | 64 | 61 | 60 | 60 | 63 | 63 | 67 | 68 | 67 | 66 | 63 | 67 | 66 | 65 | 67 | 67 | 64 | 63 | 64 | 64 | -- | 63 |
| Minimum | 74 | 72 | 72 | 71 | 72 | 73 | 73 | 77 | 68 | 74 | 73 | 72 | 73 | 75 | 73 | 68 | 70 | 70 | 76 | 75 | 76 | 70 | 66 | 66 | 67 | 63 | 67 | 63 | 67 | 73 | 70 | 71 | |
| Maximum | 64 | 60 | 59 | 59 | 60 | 57 | 59 | 60 | 64 | 62 | 61 | 62 | 64 | 62 | 63 | 63 | 63 | 63 | 61 | 66 | 63 | 62 | 62 | 61 | 63 | 61 | 59 | 62 | 64 | 66 | 62 | 62 | |
| Minimum | 76 | 75 | 75 | 75 | 76 | 77 | 73 | 74 | 69 | 66 | 62 | 63 | 66 | 67 | 73 | 73 | 70 | 71 | 74 | 75 | 68 | 72 | 73 | 72 | 74 | 71 | 71 | 71 | 76 | 77 | 72 | 72 | |
| June | 67 | 65 | 63 | 67 | 66 | 68 | 66 | 68 | 66 | 62 | 61 | 62 | 64 | 64 | 64 | 64 | 68 | 65 | 61 | 66 | 68 | 65 | 62 | 62 | 63 | 64 | 66 | 68 | 70 | 70 | 69 | 65 | |
| Maximum | 77 | 74 | 72 | 70 | 66 | 67 | 67 | 67 | 72 | 71 | 70 | 70 | 70 | 71 | 69 | 64 | 62 | 64 | 61 | 59 | 57 | 54 | 58 | 55 | 56 | 59 | 57 | 56 | 60 | 59 | -- | 64 | |
| Minimum | 72 | 66 | 62 | 62 | 64 | 60 | 55 | 57 | 63 | 66 | 65 | 61 | 65 | 62 | 58 | 56 | 59 | 56 | 53 | 49 | 48 | 51 | 51 | 50 | 55 | 56 | 55 | 56 | 55 | 56 | 55 | -- | 58 |

CONNECTICUT RIVER BASIN--Continued

1-1900. FARMINGTON RIVER AT RAINBOW, CONN.

LOCATION.--At dam of Farmington River Power Co., Hartford County, 0.4 mile upstream from gaging station, and 6.0 miles downstream from Salmon Brook.

DRAINAGE AREA.--591 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1958.

Water temperatures: October 1957 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 74°F July 12, Aug. 6-10; minimum, freezing point on many days during winter months.

EXTREMES, 1957-62.--Water temperatures: Maximum, 82°F July 2, 1958; minimum, freezing point on many days during winter months.

Temperature °F of water, water year October 1961 to September 1962

Once-daily measurement at approximately 0800Z

| | | Police daily measurements at approximately noon | | | | | | | | | | | | | | | | | | | | | | | | | | | | Aver- age | | | |
|----------------|----|-------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------|----|----|----|
| | | Day | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Month | | 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 | 61 | 60 | 60 | 59 | 58 | 58 | 57 | 57 | 57 | 58 | 58 | 60 | 61 | 61 | 58 | 56 | 52 | 54 | 52 | 54 | 54 | 53 | 50 | 49 | 49 | 49 | 49 | 50 | 49 | 55 | | |
| November | 49 | 49 | 49 | 49 | 49 | 49 | 50 | 51 | 51 | 48 | 46 | 44 | 43 | 46 | 44 | 44 | 44 | 44 | 44 | 43 | 44 | 42 | 41 | 39 | 39 | 38 | 37 | 39 | 38 | 38 | 36 | 44 | |
| December | 36 | 34 | 34 | 34 | 34 | 34 | 36 | 36 | 35 | 36 | 34 | 34 | 34 | 34 | 34 | 34 | 36 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 34 | |
| 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 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | |
| March | 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 | 45 | 42 | 41 | 42 | 42 | 43 | 44 | 45 | 42 | 43 | 44 | 44 | 42 | 41 | 41 | 41 | 42 | 41 | 42 | 44 | 46 | 52 | 51 | 52 | 52 | 54 | 56 | 56 | 60 | 60 | 46 | — | |
| May | 59 | 54 | 53 | 51 | 50 | 52 | 56 | 55 | 54 | 55 | 55 | 56 | 58 | 57 | 56 | 57 | 62 | 66 | 64 | 62 | 64 | 65 | 67 | 68 | 67 | 67 | 68 | 67 | 67 | 68 | 59 | 65 | |
| June | 67 | 67 | 65 | 71 | 72 | 70 | 69 | 69 | 68 | 68 | 68 | 69 | 70 | 68 | 64 | 63 | 63 | 72 | 64 | 65 | 67 | 70 | 71 | 72 | 71 | 70 | 71 | 70 | 71 | 71 | 71 | 69 | — |
| July | 72 | 72 | 72 | 73 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 74 | 73 | 71 | 72 | 72 | 72 | 72 | 70 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 70 | 71 | 72 | 72 | 72 |
| August | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 74 | 73 | 71 | 72 | 72 | 72 | 72 | 70 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 70 | 70 | 70 | 70 | 71 | 70 |
| September .. | 71 | 70 | 71 | 71 | 71 | 70 | 69 | 68 | 68 | 66 | 66 | 66 | 66 | 67 | 67 | 67 | 67 | 67 | 65 | 63 | 60 | 60 | 59 | 58 | 58 | 58 | 58 | 58 | 59 | 59 | 65 | — | 65 |

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.

RECORDS AVAILABLE.—Chemical analyses: October 1955 to September 1956.
Water temperatures: October 1955 to September 1962.
EXTREMES.—Maximum, 75°F. Sept. 2; minimum, freezing point on many days during winter months.
EXTREMES, 1961-62.—Water temperatures: Maximum, 81°F. June 20, 1967; minimum, freezing point on many days during winter months.
EXTREMES, 1955-62.—Water temperatures: Maximum, 81°F. June 20, 1967; minimum, freezing point on many days during winter months.

[illegible]

HOUSATONIC RIVER BASIN--Continued
1-2050. LAKE ZOAR AT STEVENSON, CONN.

LOCATION.--On Housatonic River at Stevenson, Fairfield County.
DRAINAGE AREA.--1,545 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1960 to September 1962.
EXTREMES, 1961-62.--Water temperatures: Maximum, 78°F on several days during June, July, and August; minimum, freezing point on many days during winter months.
EXTREMES, 1960-62.--Water temperatures: Maximum, 84°F Sept. 1, 5, 1961; minimum, freezing point on many days during winter months.
REMARKS.--Records furnished by the Connecticut Light and Power Company.

Temperature °F of water, water year October 1961 to September 1962
/Once-daily measurement at approximately 1300/

| 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..... | 70 | 70 | 72 | 66 | 68 | 70 | 70 | 69 | 69 | 69 | 69 | 69 | 67 | 67 | 67 | 62 | 62 | 64 | 63 | 63 | 62 | 59 | 60 | 61 | 59 | 59 | 58 | 59 | 58 | 59 | 59 | 65 |
| November.... | 72 | 70 | 53 | 51 | 61 | 64 | 64 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 65 |
| December... | 43 | 43 | 43 | 44 | 44 | 44 | 43 | 41 | 40 | 40 | 42 | 42 | 41 | 38 | 34 | 34 | 35 | 38 | 38 | 38 | 38 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 39 |
| January..... | 32 | 32 | 33 | 36 | 36 | 32 | 35 | 35 | 32 | 32 | 34 | 32 | 34 | 34 | 34 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 33 |
| 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 | 32 | 32 | 33 |
| March..... | 32 | 32 | 32 | 32 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 34 | 33 | 33 | 34 | 34 | 34 | 34 | 34 | 36 | 35 | 35 | 36 | 37 | 37 | 36 | 40 | 42 | 42 | 35 |
| April..... | 43 | 43 | 44 | 44 | 47 | 44 | 43 | 43 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 44 | 43 | 43 | 45 | 46 | 46 | 47 | 47 | 48 | 53 | 55 | 57 | 55 | 55 | 55 | 46 |
| May..... | 53 | 53 | 52 | 51 | 53 | 56 | 54 | 54 | 54 | 54 | 54 | 54 | 55 | 55 | 56 | 56 | 57 | 60 | 62 | 63 | 63 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 65 | 65 | 70 |
| June..... | 74 | 73 | 73 | 73 | 69 | 70 | 75 | 73 | 74 | 72 | 69 | 69 | 73 | 73 | 73 | 73 | 73 | 75 | 78 | 74 | 75 | 75 | 76 | 73 | 73 | 73 | 74 | 73 | 78 | 77 | 77 | 73 |
| July..... | 75 | 77 | 73 | 76 | 74 | 74 | 75 | 76 | 76 | 74 | 76 | 76 | 78 | 78 | 78 | 76 | 76 | 76 | 78 | 75 | 75 | 74 | 74 | 74 | 75 | 75 | 72 | 75 | 75 | 75 | 74 | 75 |
| August..... | 78 | 78 | 78 | 78 | 77 | 77 | 77 | 77 | 75 | 75 | 75 | 74 | 73 | 76 | 73 | 76 | 76 | 76 | 74 | 74 | 74 | 74 | 74 | 74 | 75 | 76 | 76 | 74 | 74 | 75 | 76 | 76 |
| September.. | 76 | 74 | 74 | 76 | 73 | 72 | 72 | 72 | 72 | 71 | 71 | 72 | 76 | 73 | 76 | 72 | 73 | 70 | 69 | 69 | 67 | 67 | 67 | 67 | 67 | 67 | 68 | 67 | 66 | 66 | 66 | 71 |

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 --3,499 square miles, approximately 1957 to September 1962.

RECORDS AVAILABLE --Water temperatures: November, 1957 to September 1962.

EXTREMES, 1961-62 --Water temperatures: Minimum, freezing point on many days in January, February, and March.

EXTREMES, 1957-62 --Water temperatures: Maximum, 79°F Aug. 21, Sept. 2, 3, 1959; minimum, freezing point on many days during winter months.

REMARKS --No discharge records available.

| Temperature °F of water, water year October 1961 to September 1962 /Once-daily measurement at approximately 0900/ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------------------------------------------------------------------------------------------|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------|
| 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 | Aver- age |
| October..... | 67 | 67 | 65 | 62 | 60 | 61 | 62 | 61 | 61 | 61 | 61 | 63 | 63 | 62 | 60 | 58 | 58 | 58 | 57 | 58 | 56 | 57 | 56 | 55 | 56 | 55 | 55 | 55 | 54 | 54 | 54 | 59 | |
| November .. | 53 | 51 | 53 | 55 | 53 | 52 | 53 | 52 | 50 | 50 | 47 | 46 | 47 | 48 | 47 | 48 | 47 | 45 | 44 | 44 | 43 | 40 | 40 | 42 | 41 | 40 | 40 | 39 | 38 | 38 | 37 | 47 | |
| December .. | 38 | 38 | 39 | 40 | 39 | 38 | 38 | 38 | 37 | 37 | 37 | 38 | 37 | 37 | 35 | -- | -- | 35 | 34 | 34 | 34 | 34 | 33 | 34 | 33 | -- | 33 | 33 | 33 | -- | 36 | | |
| January | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 34 | 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 | 32 | 32 | 32 | |
| March | 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 | 61 | 35 | 35 | 34 | 35 | 35 | 38 | 38 | 38 | 38 | 39 | 40 | 40 | 39 | 39 | 40 | 40 | 41 | 42 | 44 | 47 | 47 | 46 | 44 | 47 | 47 | 47 | 47 | 47 | 48 | -- | 41 | |
| May | 48 | 49 | 49 | 49 | 45 | 46 | 47 | 47 | 49 | 49 | 50 | 51 | 51 | 53 | 53 | 55 | 55 | -- | 62 | 63 | 65 | 65 | 67 | 66 | -- | 63 | 64 | 64 | 65 | 65 | 65 | 56 | |
| June | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 70 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| July | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| August | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| September .. | 74 | 75 | 74 | 72 | 72 | 71 | 69 | 67 | 68 | 70 | 69 | 67 | 65 | 68 | 67 | 65 | 65 | 65 | 64 | 61 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 59 | 57 | -- | 66 |

HUDSON RIVER BASIN--Continued

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

LOCATION.--Temperature recorder at gaging station at upstream side of highway bridge, 0.5 mile south of West Milton, Saratoga County, 1.5 miles upstream from mouth, and 4 miles northwest of Ballston Spa.
DRAINAGE AREA.--26.0 square miles.
RECORDS AVAILABLE.--Chemical analyses: March 1953 to September 1956.

Water temperatures: March 1953 to September 1962.
Maximum, 79°F May 19; minimum, freezing point on many days during winter months.
EXTREMES, 1961-62.--Water temperatures: Maximum, 82°F July 24, 1961; minimum, freezing point on many days during winter months.
EXTREMES, 1953-62.--Water temperatures: Maximum, 82°F July 24, 1961; minimum, freezing point on many days during winter months.

| Temperature °F of water, water year October 1961 to September 1962 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Aver- age |
|--------------------------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------|
| Continuous water-stage recorder with thermograph | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Month | 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 | 62 | 62 | 60 | 58 | 56 | 55 | 57 | 60 | 60 | 61 | 61 | 61 | 59 | 56 | 54 | 52 | 52 | 52 | 51 | 51 | 51 | 51 | 50 | 49 | 48 | 49 | 48 | 46 | 48 | 48 | 54 |
| Maximum | 59 | 60 | 60 | 58 | 56 | 55 | 56 | 56 | 57 | 57 | 57 | 59 | 58 | 56 | 54 | 52 | 51 | 51 | 51 | 51 | 51 | 50 | 49 | 47 | 47 | 47 | 48 | 45 | 46 | 48 | 53 | |
| Minimum | 48 | 47 | 48 | 48 | 51 | 50 | 50 | 48 | 45 | 43 | 42 | 43 | 44 | 44 | 44 | 43 | 44 | 43 | 44 | 43 | 40 | 38 | 39 | 40 | 43 | 42 | 38 | 40 | 38 | 36 | 35 | 43 |
| November | 47 | 45 | 46 | 47 | 48 | 49 | 47 | 44 | 43 | 42 | 40 | 40 | 42 | 40 | 40 | 40 | 42 | 38 | 38 | 36 | 35 | 37 | 38 | 39 | 38 | 36 | 35 | 34 | 33 | 32 | -- | 40 |
| Maximum | 35 | 35 | 35 | 35 | 40 | 39 | 37 | 36 | 36 | 34 | 33 | 33 | 37 | 34 | 33 | 33 | 33 | 33 | 32 | 33 | 32 | 33 | 33 | 32 | 34 | 32 | 32 | 33 | 32 | 34 | 34 | 34 |
| Minimum | 33 | 33 | 33 | 33 | 34 | 35 | 34 | 34 | 33 | 33 | 33 | 33 | 33 | 32 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 33 | 33 |
| December | 32 | 33 | 32 | 35 | 32 | 33 | 36 | 35 | 35 | 35 | 35 | 35 | 33 | 35 | 34 | 35 | 35 | 35 | 36 | 34 | 34 | 34 | 34 | 35 | 34 | 35 | 36 | 36 | 36 | 35 | 35 | 35 |
| 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 | 35 |
| Minimum | 35 | 34 | 34 | 34 | 34 | 34 | 34 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 34 | 34 | 34 | 34 | 34 | 35 | 34 | 34 | 34 | 34 | 34 | 34 | 35 | 36 | 36 | 35 | 34 | 34 |
| January | 35 | 34 | 34 | 34 | 34 | 34 | 34 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 34 | 34 | 34 | 34 | 34 | 35 | 34 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | -- | -- | 34 |
| Maximum | 44 | 34 | 33 | 33 | 34 | 34 | 34 | 34 | 35 | 35 | 35 | 35 | 34 | 34 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 32 | 32 | 33 | 33 | 33 | 33 | 33 | -- | -- | 34 |
| Minimum | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 35 | 35 | 35 | 35 | 35 | 36 | 36 | 36 | 36 | 36 | 37 | 37 | 36 | 38 | 41 | 40 | 42 | 38 | 36 |
| February | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 35 | 35 | 34 | 34 | 35 | 36 | 36 | 36 | 36 | 35 | 35 | 35 | 36 | 36 | 36 | 37 | 37 | 35 |
| Maximum | 37 | 39 | 38 | 41 | 43 | 42 | 42 | 41 | 48 | 48 | 50 | 50 | 49 | 47 | 46 | 46 | 48 | 47 | 49 | 52 | 55 | 60 | 60 | 56 | 61 | 65 | 70 | 71 | 69 | 64 | -- | 51 |
| Minimum | 37 | 37 | 36 | 35 | 37 | 37 | 39 | 38 | 44 | 44 | 44 | 46 | 43 | 42 | 43 | 44 | 43 | 43 | 45 | 45 | 46 | 50 | 54 | 48 | 49 | 54 | 58 | 63 | 64 | 53 | -- | 45 |
| March | 55 | 55 | 56 | 56 | 61 | 60 | 63 | 59 | 61 | 63 | 64 | 67 | 68 | 61 | 64 | 65 | 70 | 76 | 79 | 73 | 72 | 67 | 67 | 68 | 69 | 67 | 68 | 69 | 69 | 73 | 74 | 66 |
| Maximum | 54 | 53 | 52 | 54 | 52 | 56 | 54 | 53 | 50 | 52 | 55 | 55 | 57 | 57 | 60 | 61 | 66 | 71 | 65 | 61 | 59 | 59 | 63 | 63 | 60 | 58 | 59 | 61 | 66 | 58 | -- | 58 |
| Minimum | 74 | 71 | 70 | 70 | 68 | 66 | 68 | 70 | 68 | 70 | 74 | 72 | 69 | 71 | 71 | 69 | 70 | 69 | 70 | 69 | 71 | 69 | 70 | 71 | 75 | 71 | 73 | 71 | 71 | 70 | -- | 70 |
| Maximum | 67 | 64 | 59 | 59 | 63 | 60 | 58 | 58 | 57 | 59 | 62 | 63 | 60 | 59 | 60 | 62 | 62 | 67 | 64 | 63 | 62 | 63 | 64 | 67 | 66 | 65 | 63 | 63 | 66 | -- | 62 | -- |
| Minimum | 74 | 72 | 67 | 65 | 66 | 66 | 64 | 65 | 74 | 71 | 70 | 66 | 68 | 68 | 69 | 68 | 70 | 73 | 73 | 71 | 71 | 71 | 71 | 69 | 71 | 73 | 71 | 65 | 67 | 72 | 74 | 69 |
| Maximum | 68 | 63 | 62 | 61 | 61 | 59 | 61 | 53 | 65 | 65 | 64 | 66 | 66 | 66 | 65 | 65 | 65 | 65 | 66 | 65 | 68 | 67 | 65 | 64 | 63 | 67 | 63 | 62 | 65 | 65 | 67 | 64 |
| August | 75 | 73 | 70 | 70 | 70 | 69 | 70 | 71 | 68 | 63 | 59 | 65 | 66 | 66 | 70 | 69 | 68 | 67 | 65 | 70 | 71 | 68 | 66 | 66 | 67 | 68 | 70 | 73 | 72 | 72 | 69 | 63 |
| Maximum | 68 | 65 | 63 | 66 | 67 | 68 | 65 | 65 | 63 | 59 | 58 | 59 | 63 | 63 | 60 | 59 | 62 | 60 | 59 | 61 | 67 | 64 | 60 | 61 | 60 | 63 | 64 | 68 | 69 | 67 | -- | -- |
| Minimum | 73 | 73 | 67 | 66 | 65 | 63 | 61 | 57 | 58 | 63 | 64 | 63 | 63 | 63 | 60 | 59 | 56 | 53 | 52 | 50 | 49 | 50 | 52 | 52 | 56 | 60 | 60 | 57 | 56 | 57 | -- | 59 |
| September | 69 | 67 | 61 | 60 | 61 | 58 | 56 | 56 | 57 | 58 | 63 | 61 | 57 | 58 | 55 | 53 | 51 | 50 | 49 | 47 | 48 | 50 | 52 | 52 | 56 | 60 | 60 | 57 | 56 | 57 | -- | 56 |
| Maximum | 69 | 67 | 61 | 60 | 61 | 58 | 56 | 56 | 57 | 58 | 63 | 61 | 57 | 58 | 55 | 53 | 51 | 50 | 49 | 47 | 48 | 50 | 52 | 52 | 56 | 60 | 60 | 57 | 56 | 57 | -- | 56 |
| Minimum | 69 | 67 | 61 | 60 | 61 | 58 | 56 | 56 | 57 | 58 | 63 | 61 | 57 | 58 | 55 | 53 | 51 | 50 | 49 | 47 | 48 | 50 | 52 | 52 | 56 | 60 | 60 | 57 | 56 | 57 | -- | 56 |

Continuous water-stage recorder with thermograph

HUDSON RIVER BASIN--Continued

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

LOCATION.--Temperature recorder at gaging station, 500 feet downstream from Glowee Creek, 1 mile east of West Milton, Saratoga County, and 3.5 miles northwest of Ballston Spa.

DRAINAGE AREA.--90 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to June 1955.

Water temperatures: October 1952 to September 1962.

Water temperatures: October 1952 to September 1962.
Sediment records: February 1953 to June 1955.

segment records: February 1953 to June 1955.

EXTREMES, 1961-62.--Water temperatures: Maximum, 74°F Aug. 1, 6; minimum, freezing point on many days during winter months.

EXTREMES, 1952-62.--Water temperatures: Maximum, 83°F July 10, 1955; minimum, freezing point on many days during winter months.

maximum, 1932-62. --water temperatures: maximum, 83 F July 10, 1933; minimum, freezing point on many days during winter months.

[illegible]

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 Company, Mechanicville, Saratoga County.

DRAINAGE AREA.--4,500 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1954 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 78°F July 9, 24; minimum, freezing point on many days during winter months.

EXTREMES, 1954-62.--Water temperatures: Maximum, 82°F Aug. 5-7, 1955; minimum, freezing point on many days during winter months.

REMARKS.--Reported by West Virginia Pulp and Paper Company, taken from their recorder. No discharge records available.

| Temperature °F of water, water year October 1961 to September 1962 Twice-daily measurements at approximately 0700 and 1900 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---------|
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 64 | 67 | 65 | 62 | 60 | 60 | 60 | 61 | 62 | 61 | 61 | 61 | 62 | 62 | 60 | 58 | 56 | 54 | 55 | 56 | 55 | 55 | 53 | 52 | 51 | 52 | 51 | 51 | 52 | 52 | 58 | |
| p.m. | 66 | 65 | 64 | 62 | 60 | 60 | 61 | 62 | 62 | 61 | 61 | 62 | 62 | 61 | 59 | 57 | 56 | 56 | 55 | 55 | 55 | 53 | 52 | 51 | 52 | 51 | 51 | 53 | 52 | 52 | 58 | |
| November | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 51 | 50 | 50 | 51 | 51 | 52 | 51 | 49 | 48 | 46 | 45 | 45 | 46 | 45 | 45 | 44 | 45 | 44 | 43 | 41 | 41 | 40 | 40 | 40 | 40 | 38 | 36 | 36 | -- | 45 | | |
| p.m. | 50 | 50 | 51 | 51 | 52 | 52 | 51 | 49 | 48 | 46 | 45 | 46 | 46 | 45 | 45 | 44 | 45 | 44 | 43 | 42 | 41 | 40 | 40 | 40 | 40 | 38 | 36 | 36 | -- | 44 | | |
| December | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 35 | 35 | 35 | 36 | 35 | 35 | 35 | 35 | 35 | 35 | 36 | 35 | 34 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 33 | |
| p.m. | 36 | 35 | 35 | 35 | 36 | 35 | 35 | 35 | 35 | 35 | 35 | 34 | 34 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 33 | |
| January | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 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 | |
| p.m. | 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 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 | 34 | 32 | 32 | -- | -- | 32 | |
| p.m. | 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 | 32 | 32 | -- | -- | 32 | |
| March | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 35 | 37 | 37 | 37 | 39 | 42 | 34 | |
| p.m. | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 35 | 36 | 38 | 37 | 42 | 41 | 34 | | |
| April | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 40 | 36 | 35 | 35 | 35 | 37 | 37 | 38 | 39 | 39 | 39 | 40 | 39 | 39 | 38 | 38 | 38 | 38 | 40 | 42 | 44 | 46 | 46 | 46 | 46 | 46 | 47 | 48 | 51 | 52 | -- | 41 |
| p.m. | 39 | 34 | 35 | 35 | 38 | 38 | 38 | 38 | 39 | 39 | 39 | 40 | 39 | 39 | 40 | 38 | 38 | 40 | 42 | 44 | 42 | 44 | 47 | 48 | 46 | 49 | 50 | 54 | 51 | -- | 42 | |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 51 | 48 | 48 | 48 | 47 | 48 | 48 | 48 | 48 | 48 | 49 | 49 | 51 | 53 | 54 | 56 | 56 | 58 | 59 | 61 | 64 | 64 | 65 | 65 | 66 | 66 | 65 | 67 | 67 | 56 | 58 | |
| p.m. | 50 | 48 | 48 | 48 | 48 | 49 | 49 | 49 | 50 | 52 | 50 | 51 | 51 | 53 | 56 | 59 | 61 | 64 | 66 | 68 | 68 | 68 | 68 | 68 | 67 | 68 | 67 | 68 | 67 | 58 | | |
| June | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 68 | 66 | 68 | 72 | 72 | 68 | 69 | 70 | 68 | 69 | 73 | 72 | 69 | 70 | 75 | 70 | 72 | 72 | 73 | 72 | 72 | 72 | 72 | 72 | 75 | 74 | 75 | 74 | 74 | -- | 71 | |
| p.m. | 68 | 68 | 72 | 72 | 68 | 69 | 70 | 70 | 71 | 73 | 69 | 70 | 70 | 75 | 71 | 73 | 73 | 74 | 72 | 72 | 72 | 72 | 72 | 74 | 75 | 74 | 76 | 76 | 76 | -- | 72 | |
| July | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 74 | 76 | 77 | 72 | 72 | 72 | 73 | 75 | 78 | 73 | 74 | 74 | 74 | 74 | 73 | 75 | 74 | 74 | 73 | 73 | 74 | 74 | 76 | 73 | 73 | 73 | 71 | 70 | 70 | 73 | 73 | 74 |
| p.m. | 76 | 77 | 75 | 74 | 74 | 74 | 75 | 75 | 75 | 74 | 74 | 74 | 74 | 75 | 76 | 77 | 75 | 72 | 73 | 73 | 74 | 76 | 74 | 78 | 74 | 72 | 70 | 71 | 72 | 73 | 73 | 74 |
| August | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 73 | 74 | 72 | 75 | 74 | 76 | 74 | 72 | 75 | 73 | 70 | 68 | 69 | 69 | 68 | 70 | 72 | 72 | 73 | 74 | 76 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 71 | 71 | 72 | 73 |
| p.m. | 74 | 75 | 75 | 75 | 76 | 76 | 74 | 75 | 73 | 71 | 70 | 69 | 70 | 69 | 72 | 72 | 72 | 72 | 75 | 72 | 75 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 71 | 72 | 73 | 74 |
| September | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 75 | 74 | 73 | 73 | 74 | 69 | 68 | 67 | 67 | 70 | 70 | 68 | 67 | 68 | 67 | 66 | 68 | 65 | 64 | 62 | 60 | 60 | 60 | 60 | 62 | 60 | 58 | 58 | 58 | -- | 66 | |
| p.m. | 75 | 74 | 74 | 74 | 71 | 70 | 69 | 69 | 70 | 69 | 68 | 68 | 68 | 67 | 66 | 67 | 66 | 65 | 64 | 62 | 60 | 60 | 60 | 60 | 62 | 60 | 59 | 58 | 58 | -- | 66 | |

Temperature °F of water, water year October 1961 to September 1962

Twice-daily measurements at approximately 0700 and 1900

HUDSON RIVER BASIN--Continued
1-3360. MOHAWK RIVER BELOW DELTA DAM, NEAR ROME, N. Y.

LOCATION.--At Delta Dam, 1 mile upstream from gage and 5 miles north of Rome, Oneida County.
DRAINAGE AREA.--150 square miles.
RECORDS AVAILABLE.--Water temperatures: October 1960 to September 1962.
EXTREMES, 1961-62.--Water temperatures: Maximum, 75°F July 3-6.
EXTREMES, 1960-62.--Water temperatures: Maximum, 75°F on several days in September 1961 and July 1962.
REMARKS.--River frozen Dec. 10 to Apr. 15.

| Temperature °F of water, water year October 1961 to September 1962 /Once-daily measurement at approximately 0800/ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Aver- |
|----------------------------------------------------------------------------------------------------------------------|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|-------|
| Month | | | | | Day | | | | | | | | | | | | | | | | | | | | | | | | 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..... | 53 | 52 | 65 | 63 | 62 | 51 | 51 | 42 | 42 | 62 | 62 | 62 | 62 | 62 | 60 | 60 | 59 | 58 | 56 | 56 | 56 | 55 | 55 | 54 | 54 | 54 | 54 | 53 | 53 | 53 | -- | |
| November..... | 53 | 52 | 52 | 52 | 52 | 51 | 51 | 50 | 49 | 48 | 47 | 47 | 49 | 48 | 57 | 47 | 47 | -- | -- | 45 | 44 | 43 | 43 | 43 | 42 | 40 | 39 | 38 | -- | -- | -- | |
| December..... | 37 | -- | 37 | 37 | 37 | 37 | 36 | 35 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| January..... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| February..... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| March..... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| April..... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 38 | 39 | 40 | 41 | 41 | -- | -- | 43 | 43 | 43 | 44 | 46 | -- | -- | 48 | -- | -- | |
| May..... | 49 | 51 | 52 | 52 | -- | 54 | 51 | 52 | 52 | 52 | -- | 53 | 55 | 55 | 55 | 55 | -- | -- | 70 | 68 | 65 | 63 | 67 | -- | 55 | 64 | 65 | 66 | -- | -- | -- | |
| June..... | 68 | -- | -- | 66 | 66 | 66 | 66 | -- | -- | 68 | 70 | 69 | 69 | 69 | 70 | -- | 70 | 70 | 70 | 72 | 72 | -- | -- | 73 | 73 | 73 | 74 | -- | -- | -- | -- | |
| July..... | -- | 74 | 75 | 75 | 75 | -- | -- | -- | 74 | 73 | 73 | 73 | -- | -- | 73 | 73 | 73 | 73 | -- | -- | -- | 74 | 72 | 72 | 71 | 71 | -- | 70 | 70 | -- | -- | |
| August..... | 70 | 70 | -- | -- | -- | 71 | 71 | 71 | 71 | 72 | -- | 69 | 69 | 69 | 68 | -- | 68 | 69 | 70 | 70 | 70 | 70 | 70 | -- | 70 | 72 | 72 | 72 | 72 | 72 | -- | -- |
| September..... | -- | -- | 72 | 72 | 71 | 69 | -- | -- | 68 | 68 | 68 | 67 | 67 | -- | 68 | 65 | 65 | 64 | 63 | -- | 61 | 61 | 61 | 61 | 61 | 61 | -- | -- | -- | -- | -- | -- |

HUDSON RIVER BASIN--Continued

1-3400. MOHAWK RIVER AT UTICA, N. Y.

LOCATION.--At intake of Skenandoa Rayon Corp., Broad Street, Route 5S in Utica, Onondia County.
 RECORDS AVAILABLE.--Water temperatures: October 1960 to September 1962.
 EXTREMES, 1961-62.--Water temperatures: Maximum, 76°F June 29, Aug. 7, 8, Sept. 1; minimum, 33°F Feb. 6, Mar. 3.
 EXTREMES, 1960-62.--Water temperatures: Maximum, 77°F July 23-25, 1961; minimum, 33°F Feb. 2, 1961, Feb. 6, Mar. 3, 1962.
 REMARKS.--No discharge records available.

| Temperature °F of water, water year October 1961 to September 1962 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Aver- age | |
|--------------------------------------------------------------------|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------|----|
| 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 |
| October | 63 | 63 | 61 | 61 | 60 | 62 | 63 | 63 | 64 | 64 | 65 | 66 | 61 | 59 | 57 | 58 | 58 | 58 | 58 | 57 | 56 | 55 | 56 | 54 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 59 |
| November | 54 | 52 | 53 | 53 | 53 | 54 | 52 | 51 | 49 | 48 | 48 | 47 | 49 | 49 | 49 | 48 | 46 | 45 | 44 | 42 | 41 | 42 | 44 | 43 | 43 | 42 | 40 | 39 | 38 | 47 | 47 | 47 | |
| December | 39 | 38 | 39 | 40 | 40 | 40 | 39 | 39 | 37 | 38 | 38 | 38 | 38 | 36 | 36 | 35 | 35 | 35 | 35 | 37 | 36 | 35 | 35 | 35 | 35 | 35 | 35 | 36 | 35 | 35 | 35 | 35 | 37 |
| January | 35 | 35 | 34 | 35 | 36 | 36 | 36 | 35 | 32 | 34 | 35 | 35 | 35 | 35 | 34 | 35 | 34 | 34 | 34 | 35 | 36 | 35 | 34 | 36 | 36 | 36 | 35 | 34 | 34 | 35 | 34 | 35 | |
| February | 34 | 34 | 35 | 35 | 35 | 33 | 34 | 34 | 35 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 35 | 34 | 34 | 34 | 34 | |
| March | 34 | 34 | 33 | -- | 34 | 34 | 36 | 38 | 36 | 36 | 37 | 36 | 35 | 36 | 35 | 34 | 35 | 38 | 36 | 36 | 36 | 36 | 35 | 37 | 37 | 38 | 38 | 39 | 42 | 42 | 42 | 36 | |
| April | 40 | 38 | 39 | 40 | 42 | 42 | 43 | 43 | 43 | 44 | 45 | 44 | 43 | 43 | 42 | 41 | 42 | 44 | 45 | 48 | 50 | 46 | 48 | 53 | 57 | 58 | 60 | 58 | -- | 46 | 46 | 46 | |
| May | 56 | 55 | 54 | 53 | 52 | 53 | 54 | 54 | 52 | 54 | 54 | 55 | 59 | 62 | 66 | 69 | 70 | 70 | 71 | 70 | 68 | 68 | 67 | 67 | 67 | 67 | 69 | 69 | 62 | 67 | 67 | 69 | 62 |
| June | 71 | 69 | 68 | 67 | 67 | 67 | 69 | 70 | 68 | 71 | 71 | 70 | 69 | 70 | 72 | 73 | 72 | 73 | 72 | 72 | 73 | 74 | 74 | 74 | 74 | 74 | 74 | 76 | 75 | 71 | 71 | 71 | |
| July | 75 | 75 | 74 | 73 | 73 | 72 | 74 | 74 | 74 | 74 | 73 | 74 | 71 | 73 | 74 | 74 | 74 | 74 | 74 | 74 | 73 | 73 | 72 | 72 | 71 | 70 | 71 | 71 | 72 | 73 | 73 | 73 | |
| August | 74 | 74 | 75 | 75 | 74 | 75 | 76 | 75 | 71 | 69 | 68 | 67 | 70 | 72 | 72 | 70 | 70 | 72 | 73 | 73 | 73 | 73 | 73 | 73 | 74 | 74 | 74 | 75 | 74 | 73 | 74 | 73 | 73 |
| September | 76 | 75 | 74 | 73 | 71 | 69 | 69 | 65 | 67 | 68 | 68 | 67 | 68 | 67 | 66 | 65 | 65 | 62 | 61 | 60 | 59 | 60 | 61 | 61 | 61 | 60 | 60 | 60 | 60 | 66 | 66 | 66 | 66 |

HUDSON RIVER BASIN--Continued

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

LOCATION.--At bridge crossing headrace of Vischer Ferry Plant, 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 1962.

EXTREMES, 1951-62.--Water temperatures: Maximum, 79°F July 2-4; minimum, freezing point on many days during winter months.

EXTREMES, 1951-62.--Water temperatures: Maximum, 85°F Aug. 5, 1955; minimum, freezing point on many days during winter months.

REMARKS.--No discharge records available.

Temperature °F of water, water year October 1961 to September 1962
 Twice-daily measurements at approximately 0800 and 1600⁷

| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 71 | 70 | 69 | 68 | 68 | 66 | 65 | 65 | 65 | 66 | 66 | 65 | 65 | 65 | 63 | 61 | 60 | 59 | 58 | 58 | 58 | 57 | 56 | 55 | 55 | 55 | 55 | 54 | 54 | 62 | |
| p.m. | 71 | 70 | 69 | 69 | 68 | 66 | 65 | 65 | 65 | 66 | 66 | 65 | 65 | 65 | 63 | 61 | 60 | 60 | 58 | 58 | 58 | 57 | 57 | 55 | 55 | 55 | 54 | 55 | 54 | 62 | |
| November | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 53 | 52 | 52 | 52 | 52 | 52 | 51 | 50 | 49 | 48 | 48 | 48 | 47 | 46 | 46 | 45 | 44 | 43 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 41 | 40 | 39 | 38 | 46 | |
| p.m. | 53 | 52 | 52 | 52 | 52 | 52 | 51 | 51 | 49 | 48 | 48 | 48 | 47 | 46 | 46 | 45 | 44 | 43 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 40 | 39 | 37 | 47 | |
| December | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 37 | 36 | 35 | 36 | 36 | 35 | 34 | 35 | 34 | 34 | 34 | 34 | 34 | 33 | 32 | 32 | 32 | 32 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 33 | |
| p.m. | 37 | 35 | 35 | 36 | 36 | 35 | 35 | 35 | 34 | 34 | 34 | 34 | 34 | 32 | 32 | 32 | 32 | 32 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 33 | |
| January | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 42 | 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 | |
| p.m. | 42 | 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 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 | |
| p.m. | 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 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 | |
| p.m. | 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 38 | 36 | 35 | 36 | 37 | 39 | 39 | 41 | 40 | 40 | 40 | 40 | 40 | 40 | 41 | 40 | 40 | 40 | 42 | 43 | 43 | 46 | 47 | 48 | 49 | 52 | 55 | 55 | 42 | | |
| p.m. | 36 | 36 | 36 | 36 | 36 | 38 | 39 | 40 | 40 | 40 | 40 | 42 | 41 | 41 | 41 | 41 | 41 | 41 | 42 | 43 | 44 | 47 | 46 | 48 | 51 | 52 | 53 | 55 | 43 | | |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 53 | 52 | 51 | 50 | 52 | 52 | 53 | 53 | 54 | 53 | 55 | 56 | 56 | 58 | 59 | 60 | 65 | 65 | 68 | 64 | 67 | 68 | 69 | 69 | 68 | 70 | 69 | 70 | 60 | | |
| p.m. | 57 | 52 | 53 | 53 | 52 | 55 | 53 | 53 | 54 | 56 | 57 | 55 | 59 | 59 | 61 | 63 | 69 | 69 | 60 | 65 | 68 | 69 | 69 | 68 | 72 | 71 | 72 | 73 | 61 | | |
| June | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 70 | 70 | 68 | 70 | 71 | 70 | 72 | 72 | 74 | 72 | 73 | 74 | 73 | 73 | 72 | 73 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 75 | 75 | 75 | 75 | 75 | 73 | | |
| p.m. | 73 | 70 | 72 | 73 | 72 | 73 | 75 | 74 | 74 | 73 | 74 | 73 | 72 | 74 | 75 | 76 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 74 | | |
| July | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 76 | 77 | 77 | 77 | 77 | 77 | 76 | 77 | 76 | 76 | 76 | 77 | 76 | 77 | 76 | 76 | 75 | 75 | 76 | 76 | 75 | 76 | 75 | 75 | 74 | 73 | 72 | 73 | 73 | 76 | |
| p.m. | 76 | 79 | 79 | 79 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 78 | 77 | 76 | 78 | 77 | 78 | 77 | 78 | 76 | 76 | 75 | 73 | 72 | 75 | 75 | 77 | |
| August | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 74 | 76 | 76 | 76 | 75 | 75 | 75 | 73 | 73 | 74 | 72 | 71 | 72 | 73 | 73 | 73 | 73 | 73 | 73 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 73 | 74 | 74 | 73 | |
| p.m. | 76 | 76 | 76 | 75 | 78 | 76 | 76 | 75 | 73 | 73 | 72 | 73 | 72 | 74 | 75 | 73 | 74 | 75 | 73 | 72 | 72 | 72 | 72 | 72 | 72 | 74 | 75 | 75 | 74 | | |
| September | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| a.m. | 75 | 74 | 73 | 73 | 74 | 72 | 68 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 69 | 67 | 65 | 65 | 59 | 64 | 62 | 62 | 62 | 62 | 63 | 63 | 61 | 61 | 67 | | |
| p.m. | 75 | 74 | 73 | 72 | 71 | 70 | 71 | 72 | 70 | 71 | 70 | 71 | 70 | 69 | 68 | 69 | 65 | 65 | 59 | 64 | 62 | 62 | 63 | 63 | 63 | 62 | 62 | 61 | 68 | | |

HUDSON RIVER BASIN--Continued
1-3720.43. HUDSON RIVER AT POUGHKEEPSIE, N. Y.

LOCATION.--City pumping station on east bank at Poughkeepsie, Dutchess County, 0.3 mile west of North Road, and 1.4 miles north of Mid-Hudson Bridge.
RECORDS AVAILABLE.--Water temperatures: June 1959 to September 1962.
EXTREMES, 1961-62.--Water temperatures: Maximum, 75°F on several days in July; minimum, 33°F on several days in January, February, and March.
EXTREMES, 1959-62.--Water temperatures: Maximum, 80°F Aug. 29, 1959; minimum, 33°F on many days during winter months.
REMARKS.--No discharge records available.

Temperature, °F of water, water year October 1961 to September 1962
/Once-daily measurement at approximately 0830/

| 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 | -- | 69 | 62 | 68 | 67 | 67 | 66 | -- | 56 | 66 | 66 | 66 | 66 | 66 | -- | 64 | 63 | 62 | 62 | 62 | -- | 61 | 60 | 59 | 59 | 59 | 59 | -- | 58 | -- | 58 | 63 |
| November .. | 58 | 58 | 58 | 58 | 57 | 57 | 55 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | -- | 53 | 52 | 52 | 52 | 51 | 51 | 51 | 50 | 49 | 49 | -- | 49 | 49 | 48 | 48 | -- | 53 |
| December .. | 48 | 47 | -- | 45 | 45 | 45 | 45 | 44 | 44 | -- | 43 | 43 | 43 | 43 | 42 | 42 | -- | 42 | 41 | 40 | 39 | 39 | -- | 37 | 36 | 36 | 36 | 36 | 35 | -- | 41 | |
| January | 35 | 35 | 35 | 35 | 34 | 34 | -- | 33 | 33 | 33 | 33 | 33 | 33 | -- | 34 | 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 | -- | 34 | 34 | 34 | 34 | 34 | -- | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | -- | 36 | 36 | 36 | 36 | 34 |
| March | 33 | 33 | 33 | -- | 33 | 33 | 33 | 33 | 33 | 33 | -- | 34 | 34 | 34 | 34 | 34 | -- | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | -- | 36 | 36 | 36 | 36 | 34 |
| April | -- | 44 | 44 | 43 | 43 | 43 | 43 | -- | 43 | 43 | 44 | 45 | 45 | 45 | -- | 46 | 45 | 45 | 44 | 44 | -- | 45 | -- | 46 | 47 | 48 | 49 | -- | 52 | -- | 45 | |
| May | 53 | 54 | 55 | 55 | -- | 56 | 56 | 55 | 55 | 55 | -- | 55 | 56 | 56 | 57 | -- | 58 | 59 | 60 | 61 | -- | 61 | 62 | -- | 61 | 62 | -- | 64 | 57 | 60 | -- | 57 |
| June | 65 | 66 | -- | 67 | 67 | 67 | 67 | 68 | -- | 69 | 70 | 70 | 70 | 70 | 70 | 70 | -- | 71 | 71 | 72 | 72 | -- | 72 | 72 | 72 | 72 | 72 | 73 | 74 | 74 | -- | 70 |
| July | -- | 74 | 74 | -- | 74 | 74 | 74 | -- | 75 | 75 | 75 | 75 | 75 | 75 | -- | 75 | 75 | 75 | 75 | 75 | -- | 75 | 75 | 75 | 75 | 74 | 74 | -- | 74 | 74 | -- | -- |
| August | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 73 |
| September .. | 73 | -- | -- | 73 | 73 | 72 | 71 | 71 | -- | 71 | 71 | 71 | -- | 71 | 71 | -- | 71 | 70 | 69 | 68 | 71 | -- | 71 | 71 | 71 | 71 | 71 | 71 | 69 | -- | -- | -- |

HUDSON RIVER BASIN--Continued

1-3735. FISHKILL CREEK AT BEACON, N. Y.

LOCATION --At gaging station at upstream side of Bridge Street Bridge in Beacon, Dutchess County, and 2.5 miles upstream from mouth.

DRAINAGE AREA --166 square miles.

RECORDS AVAILABLE --Chemical analyses: October 1961 to September 1962 (discontinued).

Water temperatures: October 1961 to September 1962.

EXTREMES, 1961-62 --Dissolved solids: Maximum, 168 ppm Oct. 1-31; minimum, 100 ppm Mar. 17-31.

Hardness: Maximum, 133 ppm Sept. 1-30; minimum, 48 ppm Mar. 13-16.

Specific conductance: Maximum daily, 300 micromhos Nov. 5; minimum daily, 88 micromhos Mar. 13.

Water temperatures: Maximum, 78°F July 7; minimum, freezing point on several days during winter months.

REMARKS --Records of specific conductance and pH of daily samples available in district office at Albany, N. Y. Sample for Dec. 11-20 frozen.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color | Oxygen consumed | |
|---------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|-----------------|----------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | | Unfiltered | Filtered |
| Oct. 1-31, 1961 | 31.4 | 14 | 0.07 | 29 | 14 | 5.5 | 1.4 | 136 | 23 | 5.0 | 0.0 | 0.8 | 168 | 130 | 19 | 284 | 7.5 | 6 | 4 | 3 |
| Nov. 1-30, 1961 | 86.9 | 13 | .08 | 32 | 10 | 4.5 | 1.5 | 120 | 27 | 6.0 | .0 | 1.2 | 137 | 121 | 23 | 259 | 7.4 | 3 | 4 | 3 |
| Dec. 1-10, 21-31 | 118 | 11 | .11 | 25 | 9.6 | 3.9 | .9 | 94 | 24 | 5.0 | .3 | 1.7 | 134 | 102 | 25 | 225 | 7.3 | 1 | 3 | 2 |
| Jan. 1-6, 1962 | 109 | -- | .15 | -- | -- | 10 | -- | 63 | 26 | 6.1 | -- | 63 | -- | 116 | 65 | 257 | 7.3 | -- | -- | -- |
| Jan. 7-12, 1962 | 738 | -- | .25 | -- | -- | 2.8 | -- | 56 | 20 | 5.4 | -- | .4 | -- | 69 | 23 | 165 | 7.3 | -- | -- | -- |
| Jan. 13-31, 1962 | 280 | 11 | .11 | 24 | 7.3 | 3.9 | .8 | 79 | 25 | 5.0 | .0 | 2.5 | 130 | 90 | 26 | 203 | 7.8 | 3 | 4 | 3 |
| Feb. 1-28, 1962 | 144 | 10 | .10 | 27 | 9.3 | 4.3 | .7 | 101 | 24 | 5.5 | .0 | 2.7 | 141 | 106 | 23 | 235 | 7.7 | 3 | 4 | 2 |
| Mar. 1-12, 1962 | 285 | 8.7 | .11 | 25 | 8.4 | 3.8 | 1.0 | 88 | 24 | 6.0 | .0 | 2.9 | 132 | 97 | 25 | 223 | 7.2 | 4 | 3 | 2 |
| Mar. 13-16, 1962 | 1,703 | -- | .12 | 19 | -- | 3.3 | -- | 37 | 35 | 3.7 | -- | 3.2 | 100 | 48 | 18 | 118 | 6.6 | 4 | -- | -- |
| Mar. 17-31, 1962 | 483 | 9.8 | .06 | 22 | 5.9 | 3.9 | .6 | 70 | 30 | 4.2 | .0 | 3.0 | 116 | 87 | 23 | 183 | 7.4 | 7 | 6 | 2 |
| Apr. 1-30, 1962 | 488 | 11 | .06 | 22 | 7.8 | 3.9 | 1.0 | 88 | 20 | 4.4 | .0 | 2.0 | 116 | 87 | 23 | 183 | 6.6 | 7 | 6 | 2 |
| May 1-31, 1962 | 158 | 7.2 | .19 | 30 | 9.3 | 3.7 | 1.0 | 113 | 19 | 1.4 | .3 | 2.1 | 138 | 114 | 21 | 237 | 7.7 | 9 | 4 | 2 |
| June 1-30, 1962 | 59.7 | 9.6 | .07 | 32 | 9.9 | 4.4 | .9 | 123 | 21 | 4.6 | .1 | 1.9 | 149 | 121 | 20 | 254 | 7.2 | 4 | 4 | 2 |
| July 1-31, 1962 | 21.8 | 8.8 | .07 | 33 | 11 | 5.0 | 1.4 | 132 | 22 | 6.0 | .1 | 1.7 | 158 | 128 | 20 | 270 | 7.2 | 3 | 4 | 2 |
| Aug. 1-31, 1962 | 20.1 | 11 | .10 | 32 | 11 | 5.0 | 1.5 | 129 | 23 | 6.0 | .1 | 1.2 | 162 | 125 | 20 | 271 | 7.3 | 3 | 4 | 2 |
| Sept. 1-30, 1962 | 10.4 | 7.8 | .08 | 35 | 11 | 5.4 | 1.3 | 140 | 23 | 7.2 | .1 | 1.2 | 167 | 133 | 18 | 288 | 7.4 | 3 | 4 | 2 |
| Time-weighted average.... | 183 | 10 | 0.11 | 29 | 9.9 | 4.5 | 1.1 | 109 | 23 | 5.1 | 0.1 | 2.8 | 145 | 112 | 22 | 242 | -- | 4 | 4 | 2 |

HUDSON RIVER BASIN--Continued
 1-3735. FISHKILL CREEK AT BEACON, N. Y.--Continued
 Temperature °F of water, water year October 1961 to September 1962
 (Once-daily measurement at approximately 1100)

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

RARITAN RIVER BASIN--Continued

1-3968. SPRUCE RUN AT CLINTON, N. J.

LOCATION.--At gaging station, 0.5 mile north of Clinton, Hunterdon County, 0.6 mile upstream from confluence with South Branch Raritan River, and 1.9 miles southwest of High Bridge.
DRAINAGE AREA.--41.3 square miles.

REMARKS.--Periodic samples collected July 1960 to September 1962.

Particle-size analyses of suspended sediment, July 1960 to September 1962
(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 ling point (24 hour) | Water tem- per- ling point (° F) | Discharge (cfs) | Sediment concentra- tion (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 | |
| July 30, 1960..... | 1940 | -- | 177 | 132 | | 16 | 40 | 65 | 79 | 92 | 93 | 94 | 97 | 99 | SWBC | |
| Feb. 25, 1961..... | 1615 | 0 | 1,300 | 1,118 | | 13 | 27 | 42 | 61 | 79 | 89 | 91 | 95 | 98 | SWBC | |
| Feb. 25..... | 1705 | 0 | 1,350 | 413 | | 6 | 14 | 29 | 52 | 83 | 95 | 97 | 99 | 100 | SWBC | |
| Feb. 25..... | 1705 | 0 | 1,350 | 400 | | 20 | 36 | 56 | 74 | 91 | 95 | 96 | 99 | 100 | SWBC | |
| Mar. 14..... | 1010 | 1 | 860 | 666 | | 9 | 21 | 38 | 60 | 87 | 96 | 98 | 100 | -- | SWBC | |
| Mar. 14..... | 1010 | 1 | 860 | 610 | | 26 | 42 | 62 | 78 | 94 | 97 | 98 | 99 | 100 | SWBC | |
| Sept. 21..... | 1200 | -- | 82 | 920 | | 32 | 44 | 69 | 82 | 96 | 98 | 99 | 99 | 100 | SWBC | |
| May 2, 1962..... | 1345 | -- | 63 | 499 | | 43 | 54 | 65 | 73 | 83 | 90 | 93 | 96 | 99 | SWBC | |
| Sept. 18..... | 1545 | -- | 29 | 1,060 | | 64 | 80 | 93 | 97 | 99 | 100 | -- | -- | -- | SWBC | |

RARITAN RIVER BASIN--Continued

1-3970. SOUTH BRANCH RARITAN RIVER AT STANTON, N. J.

LOCATION.--At gaging station on highway bridge at Stanton railroad station, Readington Township, Hunterdon County, 0.4 mile upstream from Prescott Brook.

DRAINAGE AREA.--147 square miles.

RECORDS AVAILABLE.--Water temperatures: December 1959 to November 1961 (discontinued).

Sediment records: December 1959 to September 1962.

EXTREMES, 1961-62.--Sediment concentrations: Maximum daily, 459 ppm Mar. 12; minimum daily, 2 ppm Oct. 6.

Sediment loads: Maximum daily, 4,000 tons Mar. 12; minimum daily, less than 0.5 ton Oct. 6, 31, July 16, 17.

EXTREMES, 1959-62.--Water temperatures (December 1959 to November 1961): Maximum, 84°F July 2, 1961; minimum, freezing point on many days during winter months.

Sediment concentrations: Maximum daily, 459 ppm Mar. 12, 1962; minimum daily, 1 ppm on many days.

Sediment loads: Maximum daily, 4,000 tons Mar. 12, 1962; minimum daily, less than 0.5 ton on many days.

REMARKS.--Flow affected by ice Dec. 25, 26, 30, 31, Jan. 1-6, 10-14, and Feb. 1, 2, 12-14. Low concentration data were based on periodic samples from Dec. 1, 1961 to present. Water temperatures periodic from December to September.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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) | Hardness as CaCO ₃ | | Total acidity (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------|---------------|------------------------------------|-----|-------|
| | | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 5, 1961... | | 12 | | 0.00 | 0.00 | 20 | 8.5 | 6.2 | 1.5 | 88 | 13 | 5.8 | 0.0 | 3.2 | 118 | 85 | 13 | 186 | 7.5 |
| Nov. 7, 1961... | | 9.9 | | 0.00 | 0.00 | 21 | 8.0 | 6.7 | 2.2 | 92 | 14 | 5.5 | 0.1 | 3.1 | 120 | 86 | 10 | 196 | 7.8 |
| Dec. 20, 1961... | | 13 | | 0.04 | 0.00 | 11 | 6.7 | 5.0 | 2.8 | 36 | 25 | 7.2 | 0.3 | 5.0 | 100 | 55 | 26 | 146 | 7.1 |
| Feb. 8, 1962... | | 12 | | 0.00 | 0.00 | 17 | 6.7 | 7.2 | 1.8 | 62 | 20 | 9.2 | 0.1 | 5.2 | 115 | 70 | 19 | 178 | 7.6 |
| Apr. 4, 1962... | | 12 | | 0.02 | 0.01 | 13 | 5.7 | 4.7 | 1.2 | 42 | 20 | 5.6 | 0.3 | 3.6 | 92 | 56 | 22 | 137 | 7.8 |
| July 18, 1962... | | 4.6 | | 0.00 | 0.00 | 11 | 11 | 5.6 | 1.5 | 104 | 14 | 5.4 | 0.2 | 2.3 | 120 | 97 | 12 | 206 | 7.9 |
| Aug. 17, 1962... | | 8.5 | | 0.04 | 0.01 | 20 | 8.5 | 5.5 | 1.8 | 88 | 18 | 5.5 | 0.1 | 2.1 | 137 | 85 | 13 | 194 | 8.1 |

Temperature °F of water, water year October 1961 to September 1962

| 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 | 59 | 62 | 63 | 56 | 49 | 52 | 55 | 59 | 59 | 58 | 59 | 60 | 60 | 61 | 52 | 50 | 45 | 51 | 51 | 55 | 54 | 47 | 45 | 46 | 53 | 48 | 48 | 48 | 50 | 55 | 54 | |
| November | 52 | 44 | 52 | 58 | 61 | 60 | 56 | 48 | 43 | 40 | 38 | 45 | 43 | 40 | 38 | 45 | 49 | 38 | 43 | 39 | 39 | 36 | 38 | 45 | 42 | 42 | 39 | 35 | 34 | 33 | 45 | |
| December | -- | 35 | -- | -- | -- | -- | -- | -- | 37 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 39 | -- | -- | -- | -- | 32 | -- | -- | -- | -- | 32 | -- | |
| January | -- | -- | -- | -- | 32 | -- | -- | -- | -- | -- | -- | -- | -- | 32 | -- | -- | -- | -- | -- | 32 | -- | -- | -- | -- | -- | -- | -- | 32 | -- | -- | -- | |
| February | -- | -- | -- | 32 | -- | -- | -- | -- | -- | -- | 32 | -- | -- | -- | -- | -- | -- | 32 | -- | -- | -- | -- | -- | 35 | -- | 35 | 36 | 35 | -- | -- | -- | |
| March | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 39 | 40 | -- | -- | -- | -- | -- | -- | -- | 43 | 40 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| April | -- | -- | -- | 45 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 49 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| May | 55 | -- | -- | -- | -- | -- | -- | 51 | -- | -- | -- | -- | -- | 64 | -- | -- | -- | -- | -- | -- | -- | 65 | -- | -- | -- | -- | -- | 70 | -- | 66 | -- | |
| June | -- | -- | -- | -- | -- | 64 | -- | -- | -- | -- | -- | 65 | -- | -- | -- | -- | -- | -- | 74 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| July | -- | -- | -- | -- | 70 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| August | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| September | 83 | -- | -- | -- | 65 | -- | -- | -- | 70 | -- | -- | -- | -- | -- | 68 | -- | -- | -- | -- | -- | -- | 75 | -- | -- | 77 | -- | -- | -- | 73 | -- | -- | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

RARITAN RIVER BASIN--Continued

1-3970. SOUTH BRANCH RARITAN RIVER AT STANTON, N. J.--Continued

Suspended sediment, water year October 1961 to September 1962

| 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.. | 53 | C 6 | 1 | 56 | C 11 | 2 | 65 | 7 | 1 |
| 2.. | 55 | C 6 | 1 | 52 | C 11 | 2 | 63 | 10 | 2 |
| 3.. | 68 | C 6 | 1 | 50 | C 11 | 1 | 63 | 10 | 2 |
| 4.. | 74 | C 6 | 1 | 53 | C 11 | 2 | 62 | 10 | 2 |
| 5.. | 65 | C 6 | 1 | 53 | C 4 | 1 | 65 | 10 | 2 |
| 6.. | 60 | 2 | T | 53 | C 4 | 1 | 67 | 10 | 2 |
| 7.. | 55 | C 4 | 1 | 80 | 20 | 4 | 62 | 10 | 2 |
| 8.. | 56 | C 4 | 1 | 87 | 30 | 7 | 56 | 13 | 2 |
| 9.. | 56 | C 4 | 1 | 65 | 8 | 1 | 55 | 15 | 2 |
| 10.. | 53 | C 4 | 1 | 56 | 9 | 1 | 62 | 10 | 2 |
| 11.. | 50 | C 4 | 1 | 53 | 7 | 1 | 68 | 10 | 2 |
| 12.. | 50 | C 4 | 1 | 52 | 4 | 1 | 117 | 15 | 5 |
| 13.. | 50 | C 4 | 1 | 52 | 4 | 1 | 163 | 18 | 8 |
| 14.. | 56 | C 4 | 1 | 74 | 12 | 2 | 97 | 15 | 4 |
| 15.. | 97 | 10 | 3 | 108 | 39 | 11 | 85 | 10 | 2 |
| 16.. | 72 | 6 | 1 | 80 | 25 | 5 | 76 | 12 | 2 |
| 17.. | 56 | 4 | 1 | 139 | 45 | 17 | 95 | 10 | 3 |
| 18.. | 56 | 8 | 1 | 100 | 8 | 2 | 408 | 115 | 127 |
| 19.. | 55 | 12 | 2 | 74 | C 4 | 1 | 390 | 50 | 53 |
| 20.. | 53 | 7 | 1 | 74 | C 4 | 1 | 272 | 18 | 13 |
| 21.. | 55 | C 4 | 1 | 76 | 15 | 3 | 189 | 12 | 6 |
| 22.. | 58 | C 4 | 1 | 72 | 17 | 3 | 150 | 10 | 4 |
| 23.. | 55 | C 4 | 1 | 68 | 16 | 3 | 124 | 10 | 3 |
| 24.. | 50 | C 4 | 1 | 200 | 38 | S 28 | 134 | 8 | 3 |
| 25.. | 52 | C 4 | 1 | 222 | 33 | S 22 | 120 | 8 | 3 |
| 26.. | 53 | C 4 | 1 | 112 | C 7 | 2 | 115 | 7 | 2 |
| 27.. | 50 | C 4 | 1 | 87 | C 7 | 2 | 112 | 10 | 3 |
| 28.. | 50 | 14 | 2 | 78 | 6 | 1 | 115 | 10 | 3 |
| 29.. | 53 | 12 | 2 | 70 | C 5 | 1 | 115 | 10 | 3 |
| 30.. | 53 | 4 | 1 | 67 | C 5 | 1 | 105 | 11 | 3 |
| 31.. | 58 | 3 | T | -- | -- | -- | 100 | 12 | 3 |
| Total | 1777 | -- | 35 | 2463 | -- | 130 | 3770 | -- | 274 |
| | | | | | | | | | |
| 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.. | 100 | 11 | 3 | 115 | 8 | 2 | 720 | 30 | 58 |
| 2.. | 100 | 10 | 3 | 115 | 7 | 2 | 379 | 15 | 15 |
| 3.. | 95 | 10 | 3 | 120 | 6 | 2 | 290 | 10 | 8 |
| 4.. | 100 | 9 | 2 | 140 | 6 | 2 | 240 | 10 | 6 |
| 5.. | 100 | 8 | 2 | 155 | 6 | 3 | 240 | 10 | 6 |
| 6.. | 340 | -- | 46 | 170 | 6 | 3 | 250 | 10 | 7 |
| 7.. | 1560 | E | 650 | 130 | 6 | 2 | 225 | 10 | 6 |
| 8.. | 631 | 25 | 43 | 115 | 6 | 2 | 230 | 10 | 6 |
| 9.. | 388 | 18 | 19 | 110 | 5 | 1 | 250 | 10 | 7 |
| 10.. | 275 | 14 | 10 | 106 | 5 | 1 | 270 | 10 | 7 |
| 11.. | 225 | 10 | 6 | 100 | 6 | 2 | 380 | 15 | 15 |
| 12.. | 200 | 10 | 5 | 120 | 5 | 2 | 2380 | 459 | S 4000 |
| 13.. | 190 | 10 | 5 | 110 | 5 | 1 | 1360 | 150 | 551 |
| 14.. | 190 | 10 | 5 | 130 | 5 | 2 | 640 | 60 | 104 |
| 15.. | 230 | 18 | 11 | 140 | 5 | 2 | 475 | 20 | 26 |
| 16.. | 352 | 20 | 19 | 120 | 5 | 2 | 415 | 15 | 17 |
| 17.. | 221 | 14 | 8 | 115 | 5 | 2 | 358 | 13 | 13 |
| 18.. | 166 | 10 | 4 | 110 | 5 | 1 | 314 | 11 | 9 |
| 19.. | 169 | 10 | 5 | 115 | 5 | 2 | 305 | 8 | 7 |
| 20.. | 160 | 10 | 4 | 120 | 5 | 2 | 300 | 8 | 6 |
| 21.. | 152 | 9 | 4 | 115 | 5 | 2 | 436 | 54 | S 113 |
| 22.. | 139 | 8 | 3 | 115 | 5 | 2 | 650 | 55 | S 119 |
| 23.. | 157 | 9 | 4 | 120 | 5 | 2 | 392 | 8 | 8 |
| 24.. | 142 | 7 | 3 | 500 | -- | E 35 | 326 | 7 | 6 |
| 25.. | 134 | 6 | 2 | 390 | -- | E 20 | 290 | 5 | 4 |
| 26.. | 129 | 8 | 3 | 900 | 455 | 1100 | 276 | 5 | 4 |
| 27.. | 199 | 13 | 7 | 1260 | 184 | S 682 | 262 | 5 | 4 |
| 28.. | 152 | 10 | 4 | 1460 | 85 | 335 | 245 | 5 | 3 |
| 29.. | 145 | 9 | 4 | -- | -- | -- | 228 | 5 | 3 |
| 30.. | 127 | 8 | 3 | -- | -- | -- | 221 | 5 | 3 |
| 31.. | 122 | 12 | 4 | -- | -- | -- | 218 | 5 | 3 |
| Total | 7390 | -- | 894 | 7316 | -- | 2216 | 13565 | -- | 5144 |

F Estimated.

S Computed by subdividing day.

T Less than 0.50 ton.

C Composite period.

QUALITY OF SURFACE WATERS, 1962

RARITAN RIVER BASIN--Continued

1-3970. SOUTH BRANCH RARITAN RIVER AT STANTON, N. J.--Continued

Suspended sediment, water year October 1961 to September 1962--Continued

| Day | Mean discharge (cfs) | APRIL | | Mean discharge (cfs) | MAY | | Mean discharge (cfs) | JUNE | |
|-------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| | | Suspended sediment | | | Suspended sediment | | | Suspended sediment | |
| | | Mean concentration (ppm) | Tons per day | | Mean concentration (ppm) | Tons per day | | Mean concentration (ppm) | Tons per day |
| 1.. | 927 | 150 | A 380 | 241 | 20 | 13 | 93 | 10 | 3 |
| 2.. | 594 | 25 | 40 | 230 | 12 | 7 | 85 | 9 | 2 |
| 3.. | 384 | 12 | 12 | 380 | 26 | 27 | 74 | 9 | 2 |
| 4.. | 330 | 10 | 9 | 248 | 16 | 11 | 72 | 8 | 2 |
| 5.. | 306 | 9 | 7 | 202 | 12 | 7 | 81 | 10 | 2 |
| 6.. | 290 | 8 | 6 | 183 | 11 | 5 | 252 | 32 | S 28 |
| 7.. | 536 | 60 | A 85 | 166 | 10 | 4 | 110 | 10 | 3 |
| 8.. | 788 | 40 | A 85 | 160 | 14 | 6 | 104 | 9 | 3 |
| 9.. | 575 | 30 | A 46 | 169 | 33 | 15 | 76 | 8 | 2 |
| 10.. | 643 | 25 | A 44 | 147 | 12 | 5 | 70 | 8 | 2 |
| 11.. | 451 | 15 | 18 | 139 | 12 | 5 | 68 | 8 | 1 |
| 12.. | 433 | 12 | 14 | 137 | 10 | 4 | 89 | 22 | 5 |
| 13.. | 605 | 16 | 26 | 129 | 10 | 3 | 120 | 32 | 10 |
| 14.. | 465 | 13 | 16 | 124 | 10 | 3 | 106 | 15 | 4 |
| 15.. | 420 | 8 | 9 | 124 | 10 | 3 | 87 | 13 | 3 |
| 16.. | 420 | 12 | 14 | 120 | 10 | 3 | 83 | 11 | 2 |
| 17.. | 350 | 11 | 10 | 122 | 10 | 3 | 76 | 14 | 3 |
| 18.. | 322 | 10 | 9 | 115 | 9 | 3 | 67 | 14 | 3 |
| 19.. | 302 | 9 | 7 | 108 | 9 | 3 | 63 | 14 | 2 |
| 20.. | 283 | 8 | 6 | 100 | 9 | 2 | 63 | 15 | 3 |
| 21.. | 258 | 8 | 6 | 97 | 8 | 2 | 67 | 14 | 3 |
| 22.. | 238 | 8 | 5 | 91 | 8 | 2 | 63 | 12 | 2 |
| 23.. | 228 | 7 | 4 | 87 | 8 | 2 | 65 | 12 | 2 |
| 24.. | 205 | 7 | 4 | 128 | 17 | S 7 | 72 | 10 | 2 |
| 25.. | 199 | 7 | 4 | 202 | 30 | S 18 | 72 | 12 | 2 |
| 26.. | 195 | 7 | 4 | 110 | 12 | 4 | 63 | 12 | 2 |
| 27.. | 189 | 7 | 4 | 93 | 10 | 3 | 58 | 15 | 2 |
| 28.. | 183 | 7 | 3 | 87 | 10 | 2 | 53 | 12 | 2 |
| 29.. | 180 | 7 | 3 | 87 | 11 | 3 | 52 | 10 | 1 |
| 30.. | 208 | 14 | 8 | 85 | 12 | 3 | 52 | 10 | 1 |
| 31.. | -- | -- | -- | 87 | 11 | 3 | -- | -- | -- |
| Total | 11507 | -- | 888 | 4498 | -- | 181 | 2456 | -- | 104 |
| | | | | | | | | | |
| Day | Mean discharge (cfs) | JULY | | Mean discharge (cfs) | AUGUST | | Mean discharge (cfs) | SEPTEMBER | |
| | | Suspended sediment | | | Suspended sediment | | | Suspended sediment | |
| | | Mean concentration (ppm) | Tons per day | | Mean concentration (ppm) | Tons per day | | Mean concentration (ppm) | Tons per day |
| 1.. | 50 | 10 | 1 | 46 | 9 | 1 | 52 | 5 | 1 |
| 2.. | 44 | 8 | 1 | 40 | 8 | 1 | 67 | 10 | 2 |
| 3.. | 46 | 8 | 1 | 37 | 9 | 1 | 81 | 8 | 2 |
| 4.. | 42 | 8 | 1 | 40 | 15 | 2 | 62 | 5 | 1 |
| 5.. | 42 | 8 | 1 | 50 | 17 | 2 | 87 | 12 | 3 |
| 6.. | 44 | 8 | 1 | 109 | 35 | A 10 | 95 | 26 | 7 |
| 7.. | 46 | 8 | 1 | 390 | 70 | A 75 | 70 | 23 | 4 |
| 8.. | 44 | 7 | 1 | 390 | 45 | A 48 | 56 | 22 | 3 |
| 9.. | 42 | 7 | 1 | 132 | 25 | 9 | 52 | 20 | 3 |
| 10.. | 34 | 7 | 1 | 169 | 25 | 11 | 48 | 18 | 2 |
| 11.. | 31 | 6 | 1 | 169 | 30 | 14 | 58 | 20 | 3 |
| 12.. | 33 | 6 | 1 | 110 | 20 | 6 | 48 | 18 | 2 |
| 13.. | 36 | 6 | 1 | 81 | 12 | 3 | 44 | 16 | 2 |
| 14.. | 36 | 6 | 1 | 68 | 10 | 2 | 44 | 14 | 2 |
| 15.. | 40 | 5 | 1 | 60 | 10 | 2 | 46 | 13 | 2 |
| 16.. | 37 | 5 | T | 56 | 8 | 1 | 42 | 13 | 1 |
| 17.. | 34 | 5 | T | 60 | 10 | 2 | 56 | 20 | 3 |
| 18.. | 40 | 10 | 1 | 91 | 18 | 4 | 102 | 23 | 6 |
| 19.. | 65 | 12 | 2 | 62 | 15 | 3 | 68 | 17 | 3 |
| 20.. | 48 | 10 | 1 | 55 | 12 | 2 | 65 | 12 | 2 |
| 21.. | 37 | 10 | 1 | 72 | 15 | 3 | 58 | 10 | 2 |
| 22.. | 44 | 12 | 1 | 89 | 16 | 4 | 50 | 8 | 1 |
| 23.. | 91 | 30 | A 7 | 60 | 10 | 2 | 47 | 8 | 1 |
| 24.. | 246 | 45 | A 30 | 47 | 10 | 1 | 46 | 8 | 1 |
| 25.. | 78 | 15 | 3 | 47 | 10 | 1 | 44 | 6 | 1 |
| 26.. | 58 | 12 | 2 | 44 | 8 | 1 | 44 | 6 | 1 |
| 27.. | 47 | 10 | 1 | 44 | 8 | 1 | 72 | 10 | S 2 |
| 28.. | 41 | 10 | 1 | 235 | 120 | A 75 | 166 | 32 | 14 |
| 29.. | 40 | 10 | 1 | 117 | 38 | 12 | 132 | 13 | 5 |
| 30.. | 41 | 9 | 1 | 76 | 7 | 1 | 87 | 8 | 2 |
| 31.. | 44 | 9 | 1 | 56 | 6 | 1 | -- | -- | -- |
| Total | 1601 | -- | 69 | 3102 | -- | 301 | 1989 | -- | 84 |

Total discharge for year (cfs-days).....61434

Total load for year (tons).....10320

S Computed by subdividing day.

A Computed from partly estimated-concentration graph.

T Less than 0.50 ton.

RARITAN RIVER BASIN--Continued

1-3970, SOUTH BRANCH RARITAN RIVER AT STANTON, N. J.--Continued

Particle-size analyses of suspended sediment, water year October 1961 to September 1962

(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) | Sam- pling point | Water tem- per- ature (° F) | Discharge (cfs) | Sediment concentra- tion (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 | |
| Feb. 24, 1962..... | 1445 | | 35 | 1,220 | 297 | | 21 | 34 | 53 | 70 | 85 | 93 | 95 | 99 | 100 | SWBC |
| Feb. 26..... | 1800 | | 35 | 3,160 | 1,240 | | 3 | 10 | 21 | 32 | 54 | 89 | 90 | 97 | 100 | SEN |
| Feb. 26..... | 1800 | | 35 | 3,160 | 1,160 | | 12 | 24 | 39 | 55 | 72 | 89 | 94 | 97 | 99 | SWBC |
| Feb. 28..... | 1045 | | 35 | 1,740 | 1,160 | | 23 | 37 | 54 | 67 | 81 | 86 | 90 | 97 | 99 | SWBC |
| Mar. 12..... | 1735 | | 39 | 4,260 | 660 | | 9 | 21 | 40 | 61 | 82 | 89 | 91 | 97 | 99 | SEN |
| Mar. 12..... | 1735 | | 39 | 4,260 | 652 | | 25 | 40 | 60 | 74 | 84 | 86 | 92 | 97 | 99 | SWBC |
| Mar. 21..... | 2145 | | 41 | 950 | 280 | | 38 | 52 | 66 | 78 | 90 | 95 | 98 | 99 | 100 | SWBC |
| Aug. 28..... | 1735 | | 73 | 402 | 166 | | 14 | 31 | 42 | 52 | 62 | 67 | 72 | 81 | 88 | SWBC |

RARITAN RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962

| Day | OCTOBER | | | NOVEMBER | | | DECEMBER | | |
|-------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|
| | Suspended sediment | | Mean discharge (cfs) | Suspended sediment | | Mean discharge (cfs) | Suspended sediment | | Mean discharge (cfs) |
| | Mean concentration (ppm) | Tons per day | | Mean concentration (ppm) | Tons per day | | Mean concentration (ppm) | Tons per day | |
| 1.. | 5.2 C | 5 | 0.1 | 4.7 | 7 | 0.1 | 16 | C 2 | 0.1 |
| 2.. | 5.2 C | 5 | .1 | 4.5 | 3 | T | 17 | C 2 | .1 |
| 3.. | 14 C | 5 | .2 | 4.2 | 3 | T | 17 | C 2 | .1 |
| 4.. | 16 C | 5 | .2 | 4.5 | 3 | T | 16 | C 2 | .1 |
| 5.. | 10 C | 5 | .1 | 5.2 | 3 | T | 14 | 3 | .1 |
| 6.. | 7.5 C | 5 | .1 | 4.9 | C 3 | T | 12 | 10 | .3 |
| 7.. | 6.2 C | 4 | .1 | 6.2 C | 3 | | 10 | 9 | .2 |
| 8.. | 5.7 C | 4 | .1 | 7.5 C | 3 | | 9.6 | 7 | .2 |
| 9.. | 5.2 C | 4 | .1 | 6.9 C | 3 | | 8.6 | 5 | .1 |
| 10.. | 4.7 C | 2 T | | 5.7 C | 3 | T | 10 | 2 | |
| 11.. | 4.5 C | 2 T | | 4.9 C | 3 | T | 14 | 13 | .5 |
| 12.. | 4.2 C | 2 T | | 4.5 C | 3 | T | 76 | 73 S | 24 |
| 13.. | 4.0 C | 2 T | | 4.7 C | 3 | T | 80 | 45 S | 11.2 |
| 14.. | 5.9 | 5 | .1 | 6.4 | 5 | | 37 | 12 | 1.2 |
| 15.. | 18 | 13 | .6 | 10 | 4 | | 25 | 8 | .5 |
| 16.. | 11 | 4 | .1 | 11 | 5 | | 20 | 14 S | 1.0 |
| 17.. | 7.2 | 2 T | | 23 | 7 | | 26 | 7 | .5 |
| 18.. | 6.0 C | 2 T | | 16 | C 4 | | 360 | 68 S | 115 |
| 19.. | 5.4 C | 2 T | | 11 | C 4 | | 208 | 23 S | 14 |
| 20.. | 5.2 C | 2 T | | 14 | C 4 | | 140 | 44 | 17 |
| 21.. | 7.2 | 5 | .1 | 19 | C 4 | | 83 | 12 | 2.7 |
| 22.. | 12 | 12 | .4 | 15 | 4 | | 60 | 6 | 1.0 |
| 23.. | 10 | 5 | .1 | 13 | 4 | | 43 | 3 | .3 |
| 24.. | 8.2 C | 2 T | | 50 | 64 S | 14 | 43 | 3 | .3 |
| 25.. | 6.9 C | 2 T | | 53 | 33 S | 6.1 | 44 | C 3 | .4 |
| 26.. | 6.0 C | 2 T | | 28 | 4 | | 39 | C 3 | .3 |
| 27.. | 6.0 C | 2 T | | 23 | 4 | | 35 | C 3 | .3 |
| 28.. | 5.4 C | 2 T | | 20 | 3 | | 45 | C 3 | .4 |
| 29.. | 4.9 C | 2 T | | 17 | 3 | | 39 | C 3 | .3 |
| 30.. | 4.9 | 2 T | | 15 | 3 | | 32 | C 3 | .3 |
| 31.. | 4.9 | 2 T | | -- | -- | | 32 | C 3 | .3 |
| Total | 227.5 | -- | 3.0 | 412.8 | -- | 23.4 | 1611.2 | -- | 192.7 |
| | | | | | | | | | |
| Day | JANUARY | | | FEBRUARY | | | MARCH | | |
| | Suspended sediment | | Mean discharge (cfs) | Suspended sediment | | Mean discharge (cfs) | Suspended sediment | | Mean discharge (cfs) |
| | Mean concentration (ppm) | Tons per day | | Mean concentration (ppm) | Tons per day | | Mean concentration (ppm) | Tons per day | |
| 1.. | 32 | 2 | 0.2 | 18 | C 4 | 0.2 | 224 | 11 S | 6.7 |
| 2.. | 29 | 22 | .2 | 18 | C 4 | .2 | 102 | C 8 | 2.2 |
| 3.. | 24 | 1 | .1 | 17 | C 4 | .2 | 60 | C 8 | 1.3 |
| 4.. | 26 C | 1 | .1 | 17 | C 4 | .2 | 46 | C 8 | 1.0 |
| 5.. | 25 | 8 | .5 | 21 | C 4 | .2 | 49 | C 8 | 1.1 |
| 6.. | 478 | 222 S | 714 | 24 | C 6 | .4 | 65 | C 8 | 1.4 |
| 7.. | 1300 | 217 S | 1310 | 14 | C 6 | .2 | 65 | C 8 | 1.4 |
| 8.. | 205 | 20 | 11 | 16 | C 6 | .3 | 69 | C 8 | 1.5 |
| 9.. | 124 | 8 | 2.7 | 14 | C 6 | .2 | 81 | C 8 | 1.7 |
| 10.. | 85 | -- E | 2.0 | 16 | C 6 | .3 | 116 | 50 A | 16 |
| 11.. | 51 | -- E | 1.6 | 9.3 | C 6 | .2 | 186 | 67 S | 42 |
| 12.. | 34 | -- E | 1.0 | 10 | C 9 | .2 | 1610 | 761 S | 554.0 |
| 13.. | 29 | -- E | .6 | 9.3 | C 9 | .2 | 346 | 60 | 56 |
| 14.. | 23 | -- E | .3 | 10 | C 9 | .2 | 186 | C 12 | 6.0 |
| 15.. | 41 | 22 S | 5.8 | 19 | C 9 | .5 | 140 | C 12 | 4.5 |
| 16.. | 87 | 74 S | 20 | 16 | C 9 | .4 | 106 | C 12 | 3.4 |
| 17.. | 44 | 26 | 3.1 | 17 | 9 | .4 | 87 | C 8 | 1.9 |
| 18.. | 32 | 8 | .7 | 18 | 9 | .4 | 71 | C 8 | 1.5 |
| 19.. | 31 | 7 | .6 | 30 | 11 A | .9 | 62 | C 8 | 1.3 |
| 20.. | 28 | 5 | .4 | 50 | 17 A | 2.3 | 59 | C 8 | 1.3 |
| 21.. | 22 | 7 | .4 | 43 | 10 A | 1.1 | 146 | 47 S | 51 |
| 22.. | 27 | 5 | .4 | 42 | 4 A | .4 | 258 | 78 S | 75 |
| 23.. | 34 | 2 | .2 | 94 | 30 S | 8.8 | 104 | 11 | 3.1 |
| 24.. | 25 | C 4 | .3 | 800 | 228 S | 660 | 77 | C 7 | 1.5 |
| 25.. | 27 | C 4 | .3 | 234 | 34 S | 22 | 63 | C 7 | 1.2 |
| 26.. | 24 | C 4 | .3 | 832 | 277 S | 1200 | 55 | C 7 | 1.0 |
| 27.. | 30 | C 4 | .3 | 496 | 69 S | 91 | 50 | C 7 | .9 |
| 28.. | 25 | C 4 | .3 | 624 | 205 S | 304 | 45 | C 7 | .8 |
| 29.. | 27 | C 4 | .3 | -- | -- | -- | 45 | C 7 | .8 |
| 30.. | 20 | C 4 | .2 | -- | -- | -- | 37 | C 7 | .7 |
| 31.. | 10 | C 4 | .1 | -- | -- | -- | 39 | C 7 | .7 |
| Total | 2999 | -- | 2077.7 | 3528.6 | -- | 2295.4 | 4649 | -- | 5828.9 |

E Estimated.

S Computed by subdividing day.

T Less than 0.05 ton.

A Computed from partly estimated-concentration graph.

C Composite period.

QUALITY OF SURFACE WATERS, 1962

RARITAN RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962--Continued

| Day | Mean discharge (cfs) | APRIL | | | Mean discharge (cfs) | MAY | | | Mean discharge (cfs) | JUNE | | |
|-------|----------------------|--------------------------|----|--------------|----------------------|--------------------------|-----|--------------|----------------------|--------------------------|-----|--------------|
| | | Suspended sediment | | | | Suspended sediment | | | | Suspended sediment | | |
| | | Mean concentration (ppm) | | Tons per day | | Mean concentration (ppm) | | Tons per day | | Mean concentration (ppm) | | Tons per day |
| 1.. | 1020 | 294 | S | 1100 | 26 | 4 | | 0.3 | 4.9 | C | 5 | 0.1 |
| 2.. | 246 | 50 | | 33 | 29 | 11 | S | 1.3 | 4.2 | C | 5 | .1 |
| 3.. | 122 | 18 | | 5.9 | 162 | 46 | S | 22 | 3.4 | C | 5 | T |
| 4.. | 109 | C | 5 | 1.5 | 58 | 6 | | .9 | 3.6 | C | 5 | T |
| 5.. | 74 | C | 5 | 1.0 | 37 | C | 4 | .4 | 3.6 | C | 3 | T |
| 6.. | 65 | C | 5 | .9 | 30 | C | 4 | .3 | 3.8 | C | 3 | T |
| 7.. | 453 | 89 | S | 214 | 29 | C | 4 | .3 | 3.2 | C | 3 | T |
| 8.. | 439 | 64 | S | 106 | 23 | C | 4 | .2 | 3.4 | C | 3 | T |
| 9.. | 218 | 28 | S | 26 | 23 | C | 4 | .2 | 2.7 | C | 3 | T |
| 10.. | 202 | 38 | | 21 | 19 | C | 4 | .2 | 1.9 | C | 3 | T |
| 11.. | 142 | 16 | S | 6.5 | 17 | C | 4 | .2 | 1.8 | C | 3 | T |
| 12.. | 151 | 14 | S | 6.2 | 16 | C | 4 | .2 | 16 | | 9 | S |
| 13.. | 384 | 82 | S | 108 | 14 | C | 4 | .2 | 36 | | 16 | S |
| 14.. | 158 | 10 | | 4.3 | 13 | C | 4 | .1 | 24 | | 9 | |
| 15.. | 122 | 20 | | 6.6 | 12 | | 2 | .1 | 23 | | 12 | S |
| 16.. | 109 | 10 | | 2.9 | 11 | | 2 | .1 | 22 | | 12 | |
| 17.. | 81 | C | 8 | 1.7 | 10 | C | 1 | T | 10 | | 6 | |
| 18.. | 69 | C | 8 | 1.5 | 9.7 | C | 1 | T | 6.6 | | 5 | |
| 19.. | 58 | C | 8 | 1.3 | 8.6 | C | 1 | T | 5.4 | | 5 | |
| 20.. | 51 | C | 8 | 1.1 | 6.9 | C | 1 | T | 8.2 | | 6 | |
| 21.. | 46 | C | 3 | .4 | 6.2 | C | 1 | T | 8.6 | | 5 | |
| 22.. | 42 | C | 3 | .3 | 5.4 | | 1 | T | 6.2 | | 4 | |
| 23.. | 36 | C | 3 | .3 | 4.9 | | 1 | T | 9.8 | | 29 | S |
| 24.. | 32 | C | 3 | .3 | 43 | | 137 | S | 81 | | 81 | S |
| 25.. | 28 | C | 3 | .2 | 45 | | 39 | S | 59 | | 57 | S |
| 26.. | 27 | C | 3 | .2 | 14 | C | 7 | | 21 | | 46 | S |
| 27.. | 25 | C | 3 | .2 | 9.7 | C | 7 | | 17 | | 55 | A |
| 28.. | 23 | | 3 | .2 | 7.5 | C | 7 | | 9.7 | | 45 | A |
| 29.. | 20 | | 3 | .2 | 6.6 | C | 7 | | 8.6 | | 50 | A |
| 30.. | 31 | | 8 | .7 | 6.2 | C | 7 | | 6.6 | | 42 | A |
| 31.. | -- | -- | -- | -- | 5.7 | C | 7 | | -- | | -- | -- |
| Total | 4583 | -- | -- | 1652.4 | 708.4 | -- | -- | 73.6 | 415.0 | -- | -- | 80.5 |
| | | | | | | | | | | | | |
| Day | Mean discharge (cfs) | JULY | | | Mean discharge (cfs) | AUGUST | | | Mean discharge (cfs) | SEPTEMBER | | |
| | | Mean concentration (ppm) | | Tons per day | | Mean concentration (ppm) | | Tons per day | | Mean concentration (ppm) | | Tons per day |
| 1.. | 6.0 | 18 | A | 0.3 | 2.4 | 5 | T | | 8.2 | | 5 | 0.1 |
| 2.. | 3.8 | 8 | | .1 | 2.1 | C | 4 | T | 55 | | 67 | S |
| 3.. | 2.7 | 7 | | .1 | 1.8 | C | 4 | T | 40 | | 21 | S |
| 4.. | 2.6 | C | 6 | T | 1.9 | C | 4 | T | 23 | | 10 | |
| 5.. | 2.2 | C | 6 | T | 1.8 | C | 4 | T | 17 | C | 3 | |
| 6.. | 2.2 | C | 6 | T | 1.7 | C | 4 | T | 17 | C | 3 | |
| 7.. | 2.2 | C | 6 | T | 1.7 | | 4 | T | 12 | C | 3 | |
| 8.. | 1.9 | C | 6 | T | 1.7 | | 8 | T | 9.3 | C | 1 | T |
| 9.. | 1.9 | C | 6 | T | 18 | | 22 | S | 7.8 | C | 1 | T |
| 10.. | 1.8 | C | 6 | T | 51 | | 19 | S | 6.9 | C | 1 | T |
| 11.. | 1.7 | C | 6 | T | 140 | | 21 | S | 11 | | 6.0 | C |
| 12.. | 1.7 | C | 6 | T | 22 | | 11 | | .7 | | 5.7 | C |
| 13.. | 1.7 | C | 6 | T | 12 | | 9 | | .3 | | 4.7 | C |
| 14.. | 1.6 | C | 6 | T | 8.2 | | 7 | | .2 | | 3.6 | |
| 15.. | 1.7 | C | 6 | T | 6.0 | | 6 | | .1 | | 3.2 | |
| 16.. | 1.6 | C | 6 | T | 4.5 | | 6 | | .1 | | 3.0 | |
| 17.. | 1.6 | C | 6 | T | 4.5 | C | 6 | | .1 | | 4.4 | 5 |
| 18.. | 3.2 | 10 | | .1 | 4.0 | C | 6 | | .1 | | 5.4 | 6 |
| 19.. | 3.0 | 5 | T | | 3.2 | C | 6 | | .1 | | 5.2 | 5 |
| 20.. | 2.1 | 3 | T | | 2.7 | C | 6 | T | | | 4.7 | 5 |
| 21.. | 1.7 | 3 | T | | 5.6 | -- | E | | .6 | | 3.6 | C |
| 22.. | 1.8 | 3 | T | | 7.2 | -- | E | | 1.1 | | 3.0 | C |
| 23.. | 21 | 46 | S | 11 | 4.9 | C | 1 | T | | | 2.5 | C |
| 24.. | 58 | 87 | S | 20 | 3.8 | C | 1 | T | | | 2.5 | C |
| 25.. | 9.3 | 7 | | .2 | 2.7 | C | 1 | T | | | 2.2 | C |
| 26.. | 4.9 | C | 6 | .1 | 2.2 | | 1 | T | | | 2.2 | |
| 27.. | 3.4 | C | 6 | .1 | 2.1 | | 1 | T | | | 27 | |
| 28.. | 2.9 | 6 | T | | 191 | | 151 | S | | | 40 | |
| 29.. | 2.5 | 5 | T | | 46 | | 17 | S | | | 22 | |
| 30.. | 2.9 | 5 | T | | 16 | C | 6 | | .3 | | 12 | |
| 31.. | 2.7 | 5 | T | | 10 | C | 6 | | .2 | | -- | -- |
| Total | 158.1 | -- | -- | 32.7 | 582.7 | -- | -- | 125.1 | 359.1 | -- | -- | 27.8 |

Total discharge for year (cfs-days).....20234.4
 Total load for year (tons).....12413.2

E Estimated.
 S Computed by subdividing day.
 T Less than 0.05 ton.

A Computed from partly estimated concentration graph.
 C Composite period.

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

LOCATION --At center of toll bridge at Montague, 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 1962.

REMARKS --Records of specific conductance and temperatures for October 1956 to December 1957 available in district office at Philadelphia, Pa.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 | | Specific conductance (micro-mhos at 25°C) | Color |
|--------------------|----------------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-------|
| | | | | | | | | | | | | | | | | Calcium | Non-carbonate | | |
| Oct. 18, 1961. | 1,500 | 1.6 | | -- | -- | 5.7 | 1.9 | 1.6 | 1.2 | 16 | 8.8 | 2.6 | -- | 0.4 | 34 | 22 | 9 | 56 | 6.8 |
| Nov. 16, | 2,980 | 2.5 | | 0.00 | 0.00 | 8.2 | 1.1 | 2.0 | 1.0 | 20 | 9.2 | 3.2 | 0.0 | 1.0 | 38 | 25 | 9 | 68 | 6.5 |
| Dec. 13, | 2,770 | 2.7 | | 0.00 | 0.00 | 6.5 | 1.3 | 2.0 | 1.0 | 15 | 10 | 3.3 | 0.0 | 1.2 | 43 | 22 | 19 | 52 | 6.3 |
| Jan. 17, 1962. | 15,600 | 3.2 | | 0.00 | 0.00 | 6.5 | 1.2 | 2.0 | 1.0 | 10 | 11 | 4.6 | 0.0 | 1.6 | 42 | 21 | 13 | 66 | 5.7 |
| Mar. 14, | 15,600 | 3.2 | | 0.00 | 0.00 | 6.5 | 1.1 | 2.0 | 1.8 | 10 | 11 | 4.6 | 0.0 | 1.6 | 38 | 20 | 13 | 55 | 6.3 |
| Apr. 18, | 8,580 | 2.8 | | 0.00 | 0.00 | 4.9 | 1.9 | 1.6 | .8 | 9 | 11 | 2.8 | .1 | 1.5 | 38 | 20 | 13 | 55 | 6.3 |
| May 16, | 2,920 | 1.8 | | .02 | .00 | 5.7 | 2.2 | 2.0 | 1.0 | 14 | 11 | 2.8 | .1 | .4 | 37 | 23 | 12 | 62 | 6.0 |
| June 13, | 2,020 | 2.1 | | 0.00 | 0.00 | 7.2 | 1.7 | 2.1 | .5 | 19 | 10 | 2.8 | 0.0 | 1.4 | 39 | 25 | 10 | 68 | 6.4 |
| July 18, | 1,400 | 1.9 | | .01 | .01 | 6.4 | 1.2 | 1.3 | .8 | 17 | 8.4 | 3.0 | 0.0 | .1 | 44 | 21 | 7 | 62 | 6.7 |
| Aug. 17, | 1,650 | .9 | | .02 | .01 | 6.4 | 1.2 | 2.2 | 1.1 | 18 | 9.2 | 3.4 | 0.0 | .0 | 44 | 21 | 6 | 65 | 6.6 |
| Sept. 13, | 1,540 | .5 | | .02 | .01 | 7.2 | 1.0 | 1.8 | 1.2 | 15 | 10 | 2.6 | .0 | .6 | 37 | 22 | 10 | 65 | 6.3 |

DELAWARE RIVER BASIN--Continued

1-4547.2. LEHIGH RIVER AT EASTON, PA.

LOCATION--At Third Street Bridge, Easton, Northampton County, U.S. Highway 611.

DRAINAGE AREA--1,364 square miles; chemical analyses: October 1961 to September 1962.

RECORDS AVAILABLE--1,364 square miles; chemical analyses: October 1961 to September 1962.

Water temperatures: October 1961 to September 1962.

EXTREMES, 1961-62.--Specific conductance: Maximum daily, 402 micromhos Sept. 28; minimum daily, 84 micromhos Sept. 2.

Water temperatures: Maximum, 86°F Aug. 3; minimum, freezing point Dec. 30, Jan. 5.

REMARKS.--Records of specific conductance of daily samples available in district office at Philadelphia, Pa. No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 | | Total acidity as H ⁺ | Specific conductance (micro-mhos at 25°C) | pH | Color |
|--------------------------------|----------------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|--------------------|---------------|---------------------------------|-------------------------------------------|----|-------|
| | | | | | | | | | | | | | | | | Calcium, magnesium | Non-carbonate | | | | |
| Oct. 3-10, 1961 | | 7.8 | | 0.01 | 0.00 | 29 | 11 | 9.8 | 5.0 | 78 | 52 | 11 | 0.3 | 13 | 184 | 118 | 54 | 298 | 7.0 | 5 | |
| Oct. 11-20, 1961 | | 7.8 | | .01 | .00 | 34 | 10 | 9.8 | 6.0 | 76 | 55 | 12 | .6 | 15 | 192 | 126 | 64 | 316 | 7.0 | 3 | |
| Oct. 21-31, 1961 | | 7.8 | | .00 | .00 | 33 | 12 | 12 | 8.0 | 86 | 58 | 13 | .7 | 14 | 206 | 132 | 62 | 333 | 7.3 | 2 | |
| Nov. 1-10, 1961 | | 7.8 | | .00 | .00 | 26 | 12 | 9.3 | 6.5 | 70 | 57 | 11 | .7 | 14 | 186 | 115 | 57 | 298 | 7.2 | 3 | |
| Dec. 1-10, 1961 | | 6.4 | | .03 | .00 | 16 | 8.6 | 6.0 | 3.8 | 38 | 37 | 8.2 | .6 | 11 | 118 | 76 | 45 | 199 | 7.2 | 3 | |
| Jan. 1-10, 1962 | | 6.7 | | .01 | .03 | 17 | 6.2 | 5.6 | 3.5 | 38 | 33 | 7.7 | .2 | 9.4 | 119 | 68 | 37 | 180 | 7.1 | 2 | |
| Feb. 1-10, 1962 | | 5.7 | | .02 | .21 | 18 | 7.1 | 7.1 | 3.2 | 41 | 39 | 9.7 | .2 | 8.1 | 134 | 74 | 41 | 202 | 7.1 | 3 | |
| Mar. 1-10, 1962 | | 6.7 | | .03 | .03 | 17 | 5.7 | 5.4 | 2.4 | 36 | 33 | 5.7 | .6 | 11 | 120 | 66 | 37 | 175 | 7.2 | 3 | |
| Apr. 1-10, 1962 | | 7.3 | | .06 | .00 | 9.8 | 4.5 | 3.0 | 1.5 | 20 | 24 | 4.2 | .1 | 4.3 | 75 | 43 | 27 | 114 | 6.4 | 3 | |
| May 1-10, 1962 | | 7.8 | | .04 | .00 | 19 | 7.8 | 6.1 | 2.2 | 50 | 37 | 7.8 | .3 | 7.6 | 133 | 80 | 39 | 202 | 7.1 | 4 | |
| June 1-10, 1962 | | 6.2 | | .00 | .00 | 27 | 11 | 9.2 | 3.0 | 72 | 46 | 11 | .5 | 12 | 176 | 113 | 54 | 274 | 7.4 | 2 | |
| July 1-10, 1962 | | 9.9 | | .02 | .00 | 32 | 13 | 13 | 4.5 | 93 | 57 | 13 | .8 | 12 | 204 | 134 | 58 | 334 | 7.2 | 3 | |
| Aug. 1-10, 1962 | | 7.8 | | .00 | .03 | 30 | 13 | 10 | 4.1 | 88 | 54 | 18 | .3 | 9.9 | 184 | 129 | 57 | 326 | 7.2 | 3 | |
| Sept. 1-10, 1962 | | 6.9 | | .00 | .01 | 26 | 12 | 9.1 | 3.6 | 74 | 49 | 12 | .8 | 2.3 | 168 | 115 | 59 | 286 | 7.4 | 5 | |
| Time-weighted average, 1961-62 | | 7.3 | | 0.02 | 0.02 | 24 | 9.6 | 8.2 | 4.1 | 61 | 45 | 9.3 | 0.4 | 9.5 | 157 | 99 | 49 | 253 | -- | 3 | |

DELAWARE RIVER BASIN--Continued

1-4547.2. LEHIGH RIVER AT EASTON, PA.--Continued

Temperature °F of water, water year October 1961 to September 1962

| Month | | | Day | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Aver- | |
|----------------|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-------|----|
| 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 | age | | |
| October | 66 | 63 | 66 | 63 | 64 | 63 | 67 | 65 | 67 | 67 | 70 | 68 | 70 | 68 | 63 | 61 | 60 | 62 | 63 | 65 | 63 | 60 | 59 | 60 | 60 | 61 | 60 | 56 | 58 | 60 | 68 | 63 | |
| November | 60 | 60 | 61 | 61 | 60 | 64 | 65 | 59 | 55 | 52 | 50 | 50 | 50 | 51 | 51 | 52 | 52 | 58 | 62 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 63 | 53 | 53 | |
| December | 44 | 44 | 44 | 48 | 53 | 47 | 47 | 44 | 42 | 45 | 44 | 45 | 44 | 42 | 41 | 38 | 40 | 39 | 41 | 41 | 42 | 40 | 38 | 40 | 40 | 37 | 39 | 40 | 37 | 32 | 33 | 42 | |
| January | 34 | 35 | 35 | 40 | 32 | 38 | 36 | 40 | 38 | 35 | 36 | 34 | 34 | 36 | 40 | 38 | 38 | 35 | 35 | 37 | 38 | 40 | 40 | 40 | 41 | 42 | 44 | 41 | 40 | 38 | 37 | 38 | |
| February | 40 | 38 | 38 | -- | 41 | 40 | 40 | 40 | 39 | 40 | 36 | 37 | 41 | 42 | 42 | 40 | 40 | 40 | 40 | 40 | 40 | 44 | 44 | 42 | 46 | 38 | 40 | -- | -- | -- | 40 | 40 | |
| March | 42 | 40 | 41 | 40 | 42 | 40 | 40 | 44 | 42 | 42 | 40 | 40 | 41 | 42 | 42 | 42 | 44 | 45 | 46 | 47 | 46 | 47 | 44 | 44 | 48 | 48 | 50 | 52 | 55 | 54 | 44 | 44 | |
| April | 46 | 50 | 49 | 48 | 47 | 50 | 51 | 52 | 52 | 49 | 48 | 48 | 46 | 42 | 43 | 44 | 44 | 48 | 46 | 46 | 58 | 58 | 58 | 58 | 61 | -- | 66 | 68 | 61 | -- | 51 | 51 | |
| May | 61 | 68 | 58 | 60 | 64 | 65 | 66 | 62 | 60 | 65 | 64 | 60 | 65 | 63 | 66 | 68 | 66 | 73 | 72 | 80 | 78 | 77 | 73 | 76 | 73 | 75 | 72 | 72 | 74 | 70 | 72 | 68 | 68 |
| June | 72 | 75 | 75 | 76 | 73 | 75 | 75 | 78 | 77 | 72 | 76 | 76 | 72 | 70 | 71 | 70 | 73 | 83 | 84 | 78 | 76 | 79 | 78 | 76 | 78 | 77 | 76 | 78 | 80 | 78 | -- | 76 | 76 |
| July | 80 | -- | 80 | 78 | 76 | 75 | 80 | 77 | 80 | 78 | 80 | 79 | 76 | 75 | 77 | 76 | 77 | 74 | 78 | 78 | 79 | 80 | 78 | 75 | 76 | 76 | 74 | 75 | 76 | 76 | 77 | 77 | 77 |
| August | 80 | 83 | 86 | 78 | 75 | 78 | 78 | 77 | 75 | 70 | 70 | 72 | 70 | 72 | 70 | 72 | 75 | 73 | 75 | 74 | 78 | 78 | 76 | 75 | 78 | 78 | 78 | 78 | 79 | 78 | 76 | 76 | 76 |
| September .. | 78 | 74 | 74 | 74 | 70 | 68 | 71 | 67 | 67 | 70 | 72 | 72 | 74 | 72 | 74 | 72 | 71 | 71 | 68 | 65 | 64 | 65 | 63 | 62 | 64 | 64 | 63 | 61 | 62 | 62 | -- | 68 | 68 |

DELAWARE RIVER BASIN--Continued

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

LOCATION --At gaging station, 450 feet upstream from Calhoun Street Bridge at Trenton, Mercer County, and 0.5 mile upstream from Assunpink Creek.
DRAINAGE AREA --6,780 square miles.

RECORDS AVAILABLE --Chemical analyses: October 1944 to September 1962.

Water temperatures: October 1949 to September 1962.

Sediment records: September 1949 to September 1962.

EXTREMES, 1961-62.--Specific conductance: Maximum daily, 247 micromhos Oct. 31; minimum daily, 77 micromhos Apr. 3.

Water temperatures: Maximum, 80°F July 9, Sept. 2; minimum, 36°F Dec. 30, Feb. 9.

Sediment concentrations: Maximum daily, 523 ppm Mar. 13; minimum daily, 2 ppm Aug. 24-27, Sept. 22-26.

Sediment loads: Maximum daily, 69,700 tons Apr. 2; minimum daily, 10 tons Sept. 26.

EXTREMES, 1944-62.--Dissolved solids (1944-47, 1950-51, 1953-56, 1958-59): Maximum, 156 ppm Oct. 1-9, 1953; minimum, 44 ppm Mar. 21-31, 1945.

Hardness (1944-47, 1949-59): Maximum, 103 ppm Oct. 1-9, 1953; minimum, 25 ppm Apr. 1-10, 1950, Feb. 21-28, 1954.

Specific conductance: Maximum daily, 400 micromhos Jan. 24, 1959; minimum daily, 50 micromhos Mar. 19, 1945.

Water temperatures: Maximum, 93°F June 18, 1957; minimum, freezing point on many days during winter months.

Sediment concentrations: Maximum daily, 1,720 ppm Nov. 26, 1950; minimum daily, 0 ppm Oct. 24, 1952.

Sediment loads (1949-62): Maximum daily, 1,087,000 tons Aug. 20, 1950; minimum daily, 0 ton Oct. 21, 1952.

REMARKS --Records of specific conductance of daily samples available in district office at Philadelphia, Pa. Temperature recorder is located at the intake of the Trenton Water Company.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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) | Hardness as CaCO ₃ | | Total acidity as H ⁺ | Specific conductance (micro-mhos at 25°C) | pH | Color |
|-----------------------|----------------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------|---------------------------------|-------------------------------------------|----|-------|
| | | | | | | | | | | | | | | | Dissolved solids (residue at 180°C) | Calcium carbonate | | | | |
| Oct. 1-10, 1961 | 3,030 | 5.0 | 0.00 | 0.11 | 18 | 7.5 | 8.8 | 2.0 | 64 | 28 | 7.6 | 0.6 | 4.7 | 118 | 76 | 24 | 193 | 7.6 | 3 | |
| Oct. 11, 13-20 | 2,830 | 2.5 | .02 | .14 | 18 | 7.1 | 10 | 2.2 | 62 | 28 | 8.0 | .1 | 4.3 | 118 | 74 | 23 | 196 | 7.8 | 3 | |
| Oct. 21-30 | 2,890 | 2.5 | .00 | .10 | 18 | 7.1 | 8.8 | 2.2 | 62 | 28 | 7.8 | .2 | 4.5 | 115 | 74 | 23 | 192 | 7.7 | 3 | |
| Nov. 1-10 | 3,780 | 2.7 | .00 | .00 | 19 | 6.6 | 9.8 | 2.5 | 60 | 29 | 9.0 | .2 | 4.3 | 118 | 78 | 26 | 190 | 7.5 | 7 | |
| Dec. 1-10 | 5,170 | 5.1 | .00 | .00 | 12 | 6.2 | 7.5 | 2.0 | 40 | 24 | 8.5 | .2 | 4.0 | 92 | 56 | 23 | 149 | 7.3 | 7 | |
| Jan. 1-10, 1962 | 15,510 | 8.7 | .00 | .02 | 15 | 5.0 | 8.4 | 2.0 | 41 | 26 | 8.1 | .0 | 5.7 | 104 | 58 | 25 | 162 | 7.4 | 2 | |
| Feb. 2, 4-10 | 6,810 | 8.6 | .00 | .01 | 15 | 5.0 | 6.7 | 1.8 | 42 | 23 | 7.6 | .1 | 5.0 | 97 | 58 | 24 | 154 | 7.5 | 3 | |
| Mar. 1-8, 10 | 12,800 | 8.1 | .01 | .01 | 13 | 5.2 | 5.6 | 2.0 | 39 | 23 | 7.3 | .2 | 4.2 | 95 | 54 | 22 | 148 | 7.5 | 4 | |
| Apr. 1-10 | 36,690 | 4.1 | .03 | .00 | 8.2 | 3.0 | 5.0 | 1.2 | 20 | 18 | 4.4 | .1 | 2.8 | 65 | 33 | 17 | 100 | 6.5 | 5 | |
| Apr. 11 | 32,500 | 3.6 | .00 | .00 | 8.6 | 2.6 | 2.2 | 2.2 | 18 | 17 | 3.2 | .1 | 2.6 | 46 | 32 | 17 | 86 | 6.6 | -- | |
| May 1-10 | 8,740 | 2.1 | .00 | .00 | 14 | 4.5 | 3.8 | 1.5 | 40 | 21 | 5.4 | .1 | 3.3 | 84 | 54 | 21 | 134 | 7.1 | 3 | |
| May 17 | 5,580 | 3.1 | .20 | .00 | 14 | 4.4 | 3.4 | 1.8 | 38 | 21 | 5.0 | .1 | 2.6 | 65 | 53 | 22 | 127 | 6.9 | -- | |
| June 8-10 | 3,360 | 4.8 | .00 | .00 | 19 | 7.5 | 6.6 | 1.8 | 64 | 28 | 9.0 | .0 | 4.2 | 125 | 79 | 26 | 186 | 7.4 | 2 | |
| July 1-10 | 2,420 | 3.4 | .00 | .00 | 20 | 6.6 | 6.6 | 1.8 | 62 | 27 | 7.7 | .4 | 3.0 | 111 | 77 | 26 | 185 | 7.5 | 4 | |
| July 26 | 2,870 | 2.1 | .02 | .00 | 20 | 8.0 | 5.6 | 2.2 | 64 | 28 | 7.8 | .3 | 3.4 | 120 | 83 | 31 | 197 | 7.7 | 3 | |
| Aug. 1-10 | 2,950 | 3.7 | .00 | .00 | 20 | 7.5 | 8.4 | 2.0 | 66 | 28 | 8.7 | .2 | 3.8 | 116 | 81 | 27 | 198 | 7.6 | 8 | |
| Sept. 1-10 | 2,650 | 2.5 | .00 | .00 | 19 | 6.6 | 7.3 | 2.0 | 60 | 30 | 7.8 | .2 | 4.2 | 116 | 75 | 26 | 191 | 7.5 | 5 | |
| Time-weighted average | 8,004 | 4.4 | 0.01 | 0.03 | 16 | 6.0 | 7.3 | 1.9 | 51 | 26 | 7.5 | 0.2 | 4.1 | 104 | 65 | 24 | 168 | -- | 4 | |

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

| Temperature °F of water, water year October 1961 to September 1962 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Average |
|--------------------------------------------------------------------|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---------|
| 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 | |
| October | 65 | 67 | 67 | 62 | 58 | 60 | 62 | 65 | 64 | 64 | 65 | 67 | 68 | 68 | 61 | 59 | 60 | 59 | 60 | 62 | 62 | 59 | 57 | 57 | 56 | 58 | 57 | 55 | 55 | 57 | 59 | 61 |
| November .. | 58 | 56 | 58 | 60 | 62 | 62 | 61 | 59 | 56 | 57 | 50 | 49 | 52 | 53 | 38 | 37 | 50 | 50 | 49 | 40 | 43 | 42 | 43 | 39 | 39 | 36 | 38 | 37 | 40 | 38 | 36 | 41 |
| December .. | 44 | 43 | 44 | 44 | 48 | 43 | 42 | 42 | 42 | 43 | 42 | 43 | 43 | 41 | 38 | 37 | 40 | 39 | 40 | 41 | 40 | 43 | 42 | 43 | 39 | 39 | 36 | 38 | 37 | 40 | 38 | 37 |
| January | 37 | 37 | 37 | 37 | 39 | 40 | 40 | 37 | 39 | 38 | -- | 38 | 38 | 38 | 41 | 39 | 39 | 38 | -- | -- | -- | -- | -- | -- | 39 | 38 | 38 | -- | 39 | 38 | 39 | 37 |
| February.... | -- | 38 | -- | 37 | 40 | 40 | 40 | 38 | 36 | 37 | 38 | -- | 37 | 38 | 38 | 37 | 39 | 41 | 40 | 40 | 39 | 40 | 42 | 41 | 40 | 40 | 40 | 40 | -- | -- | 39 | 38 |
| March | 39 | 38 | 37 | 37 | 40 | 39 | 39 | 40 | -- | 42 | -- | -- | -- | 43 | -- | -- | -- | -- | -- | 45 | 40 | 45 | 44 | 50 | 45 | 45 | 45 | 47 | 47 | 49 | 55 | -- |
| April | 54 | 49 | 45 | 46 | 46 | 50 | 52 | 51 | 51 | 50 | 50 | 50 | 48 | 48 | 46 | 45 | 47 | 50 | 52 | 52 | 52 | -- | -- | -- | 59 | 62 | 65 | 67 | 61 | -- | 52 | -- |
| May | 62 | 64 | 58 | 60 | 60 | 62 | 63 | 62 | 59 | 60 | 62 | 59 | 61 | 61 | 65 | 66 | 64 | 68 | 71 | 74 | 76 | 77 | 71 | 77 | 74 | 74 | 72 | 71 | 69 | 71 | 73 | 67 |
| June | -- | -- | -- | -- | -- | -- | -- | 77 | -- | 75 | 77 | 77 | 77 | 69 | 72 | 72 | 75 | 77 | 79 | 79 | 75 | 74 | 75 | 76 | 75 | 77 | 75 | 78 | 76 | -- | -- | -- |
| July | 77 | 76 | 76 | 75 | 72 | 74 | 75 | 79 | 80 | 76 | 76 | 78 | 78 | 76 | 75 | 75 | 77 | 72 | 70 | 78 | 77 | 78 | 77 | 75 | 74 | 75 | 74 | 75 | 76 | 76 | 74 | 75 |
| August | 76 | 78 | 79 | 77 | 75 | 77 | 78 | 76 | 77 | 72 | 69 | 71 | 69 | 69 | 74 | 75 | 77 | 74 | 74 | 75 | 78 | 75 | 74 | 75 | 74 | 75 | 74 | 76 | 77 | 78 | 73 | 76 |
| September .. | 78 | 80 | 73 | 74 | 71 | 68 | 68 | 67 | 68 | 72 | 74 | -- | -- | 75 | 71 | 75 | 71 | 69 | 66 | 63 | 64 | 61 | 61 | 60 | 64 | 63 | 65 | 63 | 62 | 61 | -- | 68 |

DELAWARE RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962

| 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.. | 3170 | C 6 | 51 | 2630 | 4 | 28 | 6650 | C 7 | 126 |
| 2.. | 2960 | C 6 | 48 | 3200 | 10 | 86 | 5900 | C 7 | 112 |
| 3.. | 3080 | C 6 | 50 | 2690 | 5 | 36 | 5700 | C 8 | 123 |
| 4.. | 3080 | C 6 | 50 | 2690 | C 5 | 36 | 5140 | C 6 | 83 |
| 5.. | 3140 | C 6 | 51 | 3020 | C 5 | 41 | 4740 | C 4 | 51 |
| 6.. | 3170 | C 5 | 43 | 3290 | 7 | 62 | 4700 | C 4 | 51 |
| 7.. | 2990 | C 5 | 40 | 3590 | 13 | 126 | 4630 | C 4 | 50 |
| 8.. | 2930 | C 5 | 40 | 5900 | 46 | 733 | 4380 | C 3 | 35 |
| 9.. | 2900 | C 5 | 39 | 5780 | 34 | 531 | 4350 | C 3 | 35 |
| 10.. | 2870 | C 5 | 39 | 4980 | 14 | 188 | 4490 | C 3 | 36 |
| 11.. | 2840 | C 6 | 46 | 4630 | C 5 | 63 | 4420 | C 3 | 36 |
| 12.. | 2750 | C 6 | 45 | 4140 | C 5 | 56 | 4600 | C 3 | 37 |
| 13.. | 2750 | C 6 | 45 | 3320 | 5 | 45 | 5500 | C 4 | 59 |
| 14.. | 2900 | C 6 | 47 | 3200 | 6 | 52 | 5940 | C 4 | 64 |
| 15.. | 2840 | C 6 | 46 | 3720 | 7 | 70 | 5140 | C 4 | 56 |
| 16.. | 2870 | C 6 | 46 | 5140 | 14 | 194 | 4520 | C 4 | 49 |
| 17.. | 2990 | C 5 | 40 | 6100 | 17 | 280 | 3820 | C 4 | 41 |
| 18.. | 2720 | C 5 | 37 | 6550 | 17 | 301 | 5260 | C 8 | 140 |
| 19.. | 2810 | C 5 | 38 | 5940 | 11 | 176 | 8500 | 17 | 390 |
| 20.. | 2750 | C 5 | 37 | 5660 | 8 | 122 | 9320 | 23 | 579 |
| 21.. | 2990 | C 5 | 40 | 4980 | C 7 | 94 | 11100 | 34 | 1020 |
| 22.. | 3110 | C 4 | 34 | 4780 | C 7 | 90 | 11000 | 31 | 921 |
| 23.. | 2900 | C 4 | 31 | 4660 | C 7 | 88 | 10000 | 22 | 594 |
| 24.. | 2660 | C 4 | 29 | 4980 | C 7 | 94 | 8500 | 15 | 344 |
| 25.. | 2600 | C 4 | 28 | 8450 | 60 | 1370 | 8000 | 11 | 238 |
| 26.. | 3110 | C 4 | 34 | 9560 | 60 | 1550 | 7300 | 8 | 158 |
| 27.. | 3080 | C 4 | 33 | 11500 | 75 | 2330 | 6700 | C 5 | 90 |
| 28.. | 2900 | C 4 | 31 | 9500 | 38 | 975 | 6600 | C 5 | 89 |
| 29.. | 2960 | C 4 | 32 | 8400 | 14 | 318 | 7080 | C 5 | 96 |
| 30.. | 2630 | C 4 | 28 | 7300 | 11 | 217 | 6550 | C 5 | 88 |
| 31.. | 2540 | C 4 | 27 | -- | -- | -- | 5820 | C 5 | 79 |
| Total | 89990 | -- | 1225 | 160280 | -- | 10352 | 196350 | -- | 5870 |
| | | | | | | | | | |
| 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.. | 5220 | C 6 | 85 | 7000 | C 6 | 113 | 24100 | 100 | 6510 |
| 2.. | 4900 | C 6 | 79 | 6880 | C 6 | 111 | 16400 | 45 | 1990 |
| 3.. | 4560 | C 5 | 62 | 5980 | C 6 | 97 | 13900 | 20 | 751 |
| 4.. | 4560 | C 5 | 62 | 6140 | C 5 | 83 | 13200 | 20 | 713 |
| 5.. | 5620 | C 5 | 76 | 6700 | C 5 | 90 | 11100 | C 8 | 240 |
| 6.. | 5980 | 8 | 170 | 6800 | C 5 | 92 | 10000 | C 8 | 216 |
| 7.. | 22600 | 265 | 16600 | 7160 | C 5 | 97 | 9260 | C 8 | 200 |
| 8.. | 36200 | 362 | 36500 | 6840 | C 5 | 92 | 8550 | C 8 | 185 |
| 9.. | 39300 | 215 | 22800 | 7000 | C 5 | 94 | 8600 | C 8 | 186 |
| 10.. | 26200 | 70 | 4950 | 7000 | C 5 | 94 | 8700 | C 8 | 188 |
| 11.. | 19600 | 25 | 1320 | 6400 | C 5 | 86 | 9380 | 15 | 380 |
| 12.. | 14100 | 16 | 609 | 5020 | C 5 | 68 | 21800 | 201 | 16400 |
| 13.. | 11600 | 5 | 157 | 4740 | C 5 | 64 | 35400 | 523 | 52200 |
| 14.. | 10500 | 6 | 170 | 5060 | C 4 | 55 | 28500 | 97 | 7510 |
| 15.. | 9100 | 5 | 123 | 5420 | C 3 | 44 | 30100 | 170 | 5 14000 |
| 16.. | 12800 | 18 | 659 | 5140 | C 3 | 42 | 28400 | 40 | 3070 |
| 17.. | 29200 | 37 | 1920 | 4940 | C 3 | 40 | 21300 | 35 | 2010 |
| 18.. | 18600 | 30 | 1550 | 5060 | C 3 | 41 | 18800 | 26 | 1320 |
| 19.. | 13500 | 20 | 729 | 5100 | C 3 | 41 | 17300 | 16 | 747 |
| 20.. | 11200 | 10 | 302 | 4660 | C 3 | 38 | 16600 | 12 | 538 |
| 21.. | 9950 | 5 | 134 | 4560 | C 3 | 37 | 18000 | 16 | 778 |
| 22.. | 8700 | C 6 | 141 | 4740 | C 3 | 38 | 26100 | 48 | 4310 |
| 23.. | 9380 | C 6 | 152 | 4980 | 5 | 67 | 25300 | 36 | 2460 |
| 24.. | 10000 | C 6 | 162 | 11900 | 80 | 3440 | 26700 | 41 | 2960 |
| 25.. | 10800 | C 8 | 233 | 15000 | 303 | 12400 | 25400 | 47 | 3220 |
| 26.. | 10300 | C 8 | 222 | 14000 | 153 | 6610 | 22600 | 41 | 2500 |
| 27.. | 9320 | C 8 | 201 | 26300 | 242 | 18100 | 21400 | 27 | 1560 |
| 28.. | 10500 | C 8 | 227 | 27200 | 147 | 10100 | 21100 | C 20 | 1140 |
| 29.. | 9850 | C 8 | 213 | -- | -- | -- | 20700 | C 20 | 1120 |
| 30.. | 9620 | C 8 | 208 | -- | -- | -- | 19800 | C 20 | 1070 |
| 31.. | 8300 | C 8 | 179 | -- | -- | -- | 21200 | C 30 | 1720 |
| Total | 402060 | -- | 90995 | 227720 | -- | 52274 | 599690 | -- | 132192 |

S Computed by subdividing day.

C Composite period.

QUALITY OF SURFACE WATERS, 1962

DELAWARE RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962--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.. | 31400 | 80 | 6780 | 9000 | C 7 | 170 | 3320 | 13 | 117 |
| 2.. | 58600 | 415 | 65700 | 9900 | C 7 | 187 | 3410 | 13 | 120 |
| 3.. | 51000 | 205 | 28200 | 11000 | C 7 | 208 | 3720 | 13 | 131 |
| 4.. | 39900 | 75 | 8080 | 10300 | C 7 | 195 | 3470 | 13 | 122 |
| 5.. | 25900 | 32 | 2240 | 9500 | C 7 | 180 | 3290 | 13 | 115 |
| 6.. | 21200 | 20 | 1140 | 8650 | C 4 | 91 | 4040 | 18 | 196 |
| 7.. | 20200 | 19 | 1040 | 7700 | C 4 | 83 | 4420 | 18 | 215 |
| 8.. | 30100 | 50 | 4340 | 7040 | C 4 | 76 | 3620 | 8 | 78 |
| 9.. | 48100 | 140 | 18200 | 7160 | C 4 | 77 | 3260 | 7 | 62 |
| 10.. | 40500 | 63 | 6890 | 7400 | C 4 | 80 | 3200 | C 8 | 69 |
| 11.. | 32500 | 35 | 3070 | 7000 | C 5 | 94 | 3050 | C 8 | 66 |
| 12.. | 26700 | 18 | 1300 | 6800 | C 5 | 92 | 3230 | C 8 | 70 |
| 13.. | 25800 | C 13 | 906 | 6550 | C 5 | 88 | 3960 | C 9 | 96 |
| 14.. | 24300 | C 13 | 853 | 5820 | C 5 | 79 | 4420 | C 9 | 107 |
| 15.. | 23300 | C 13 | 818 | 5180 | C 5 | 70 | 4100 | C 9 | 100 |
| 16.. | 21300 | 13 | 748 | 5500 | C 7 | 104 | 3790 | 8 | 82 |
| 17.. | 19100 | 19 | 980 | 5580 | C 7 | 105 | 3500 | 7 | 66 |
| 18.. | 17400 | 19 | 893 | 5580 | C 7 | 105 | 3290 | C 6 | 53 |
| 19.. | 16000 | C 8 | 346 | 5700 | C 7 | 108 | 3110 | C 6 | 50 |
| 20.. | 15400 | C 8 | 333 | 5340 | C 7 | 101 | 3170 | C 6 | 51 |
| 21.. | 15000 | C 8 | 324 | 4700 | C 10 | 127 | 3200 | C 6 | 52 |
| 22.. | 13800 | C 8 | 298 | 4320 | C 10 | 117 | 3170 | C 6 | 51 |
| 23.. | 12800 | C 8 | 276 | 4180 | C 10 | 113 | 2630 | C 6 | 43 |
| 24.. | 12000 | C 6 | 194 | 4420 | C 10 | 119 | 2810 | 28 | 212 |
| 25.. | 11700 | C 6 | 190 | 4560 | C 10 | 123 | 3260 | 8 | 70 |
| 26.. | 11300 | C 6 | 183 | 4460 | C 10 | 120 | 3290 | C 6 | 53 |
| 27.. | 10200 | C 6 | 165 | 4040 | C 8 | 87 | 3200 | C 6 | 52 |
| 28.. | 9740 | C 5 | 131 | 3530 | C 8 | 76 | 3320 | C 6 | 54 |
| 29.. | 9200 | C 5 | 124 | 3380 | C 8 | 73 | 3110 | C 6 | 50 |
| 30.. | 8850 | C 5 | 119 | 3230 | C 8 | 70 | 2840 | C 6 | 46 |
| 31.. | -- | -- | -- | 3230 | C 8 | 70 | -- | -- | -- |
| Total | 703290 | -- | 154861 | 190550 | -- | 3388 | 102200 | -- | 2649 |
| | | | | | | | | | |
| 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.. | 2810 | C 5 | 38 | 2220 | C 5 | 30 | 2790 | 4 | 30 |
| 2.. | 2690 | C 5 | 36 | 2320 | C 5 | 31 | 3380 | 6 | 55 |
| 3.. | 2510 | C 6 | 41 | 2380 | C 5 | 32 | 3420 | 7 | 65 |
| 4.. | 2450 | C 6 | 40 | 2320 | C 5 | 31 | 2510 | C 4 | 27 |
| 5.. | 2320 | C 6 | 38 | 2320 | C 5 | 31 | 2260 | C 4 | 24 |
| 6.. | 2300 | C 6 | 37 | 2400 | C 5 | 32 | 2380 | C 4 | 26 |
| 7.. | 2320 | C 6 | 38 | 3050 | 8 | 66 | 2630 | C 4 | 28 |
| 8.. | 2280 | C 6 | 37 | 3960 | 15 | 160 | 2480 | 3 | 20 |
| 9.. | 2280 | C 6 | 37 | 4100 | 22 | 244 | 2380 | 3 | 19 |
| 10.. | 2200 | C 6 | 36 | 4460 | 24 | 289 | 2260 | C 3 | 18 |
| 11.. | 2150 | C 6 | 35 | 4780 | 30 | 387 | 2080 | C 3 | 17 |
| 12.. | 2510 | C 6 | 41 | 4100 | 14 | 155 | 2140 | C 3 | 17 |
| 13.. | 2280 | C 6 | 37 | 3380 | 8 | 73 | 2410 | C 3 | 20 |
| 14.. | 2320 | C 6 | 38 | 3230 | C 8 | 70 | 2290 | C 3 | 19 |
| 15.. | 2570 | 7 | 49 | 2780 | C 8 | 60 | 2230 | 3 | 18 |
| 16.. | 2480 | 20 | 134 | 2750 | 6 | 45 | 2290 | C 3 | 19 |
| 17.. | 2280 | 14 | 86 | 2720 | 6 | 44 | 2600 | C 3 | 21 |
| 18.. | 2250 | C 9 | 55 | 2690 | C 4 | 29 | 2260 | C 3 | 18 |
| 19.. | 2380 | C 9 | 58 | 2690 | C 4 | 29 | 2350 | C 3 | 19 |
| 20.. | 2600 | C 9 | 63 | 2570 | C 4 | 28 | 2920 | 4 | 32 |
| 21.. | 2570 | C 9 | 62 | 2480 | C 4 | 27 | 2510 | 3 | 20 |
| 22.. | 2450 | 9 | 60 | 2600 | C 4 | 28 | 2320 | C 2 | 13 |
| 23.. | 2570 | 14 | 97 | 3020 | 3 | 24 | 2290 | C 2 | 12 |
| 24.. | 3170 | 12 | 103 | 2720 | C 2 | 15 | 2200 | C 2 | 12 |
| 25.. | 3320 | 8 | 72 | 2480 | C 2 | 13 | 1960 | C 2 | 11 |
| 26.. | 2870 | C 5 | 39 | 2380 | C 2 | 13 | 1910 | C 2 | 10 |
| 27.. | 2630 | C 5 | 36 | 2350 | C 2 | 13 | 2480 | 3 | 20 |
| 28.. | 2570 | C 5 | 35 | 3440 | 7 | 66 | 2980 | 3 | 24 |
| 29.. | 2420 | C 5 | 33 | 3410 | 8 | 74 | 4800 | 21 | 311 |
| 30.. | 2320 | C 5 | 31 | 3930 | 12 | 127 | 5420 | 45 | 659 |
| 31.. | 2300 | C 5 | 31 | 3290 | 5 | 44 | -- | -- | -- |
| Total | 77170 | -- | 1573 | 93320 | -- | 2310 | 78930 | -- | 1604 |

Total discharge for year (cfs-days).....2921550

Total load for year (tons).....459293

S Computed by subdividing day.

C Composite period.

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.

DRAINAGE AREA.--7,163 square miles.

RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1962.

Water temperatures: March 1953 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 83°F Aug. 6, 8.

EXTREMES, 1954-62.--Water temperatures: Maximum, 84°F on several days in July, August, 1959 and July 1961; minimum, freezing point on many days during winter months.

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 are given for Delaware River at Trenton, N. J.

Chemical analyses, in parts per million, November 1961 to September 1962

| Date of collection | Mean discharge (cfs) | Silica (SiO ₂) | 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 | | Specific conductance (micro-mhos at 25°C) | pH | Color | Biological oxygen demand | Dissolved oxygen |
|--------------------|----------------------|----------------------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|--------------------------|------------------|
| | | | | | | | | | | | | | | | Calcium | Non-carbonate | | | | | |
| Nov. 2, 1961... | 3,200 | 1.8 | 0.01 | 0.10 | 19 | 7.5 | 12 | 3.0 | 56 | 36 | 12 | 0.2 | 7.0 | 132 | 79 | 33 | 221 | 6.8 | 5 | 1.0 | 1.6 |
| Dec. 4, 1961... | 5,140 | 5.8 | .89 | .00 | 13 | 4.0 | 7.5 | 2.2 | 30 | 26 | 7.2 | .3 | 6.0 | 90 | 49 | 25 | 142 | 6.9 | -- | -- | 7.1 |
| Jan. 2, 1962... | 4,900 | 5.7 | .12 | .05 | 13 | 6.2 | 6.9 | 2.5 | 34 | 30 | 8.8 | .6 | 7.2 | 113 | 58 | 30 | 167 | 7.2 | 20 | 2.1 | 9.1 |
| Feb. 5, 1962... | 6,700 | 7.0 | .14 | .03 | 14 | 4.3 | 6.9 | 2.2 | 32 | 26 | 8.4 | .1 | 6.2 | 100 | 53 | 27 | 153 | 7.2 | 35 | 3.6 | 12.8 |
| Mar. 19, 1962... | 17,300 | 5.1 | .10 | .05 | 11 | 3.3 | 3.8 | 1.9 | 26 | 20 | 5.4 | .4 | 4.0 | 75 | 41 | 20 | 113 | 7.1 | 5 | 2.0 | 11.8 |
| Apr. 10, 1962... | 40,500 | 3.9 | .02 | .00 | 9.0 | 1.8 | 2.2 | 1.0 | 16 | 16 | 3.7 | .1 | 3.7 | 55 | 30 | 17 | 80 | 6.5 | 3 | 1.6 | 10.7 |
| Apr. 30, 1962... | 8,850 | 2.7 | .03 | .02 | 13 | 5.0 | 5.6 | 1.8 | 31 | 26 | 6.6 | .2 | 3.7 | 98 | 53 | 28 | 135 | 6.2 | 3 | 2.7 | 8.2 |
| June 1, 1962... | 2,470 | 3.0 | .04 | .06 | 19 | 6.8 | 9.0 | 2.2 | 52 | 33 | 9.8 | .3 | 6.1 | 130 | 76 | 33 | 203 | 6.8 | 5 | 1.2 | 3.0 |
| July 2, 1962... | 2,690 | 3.2 | .06 | .01 | 19 | 6.8 | 9.4 | 2.2 | 54 | 34 | 9.0 | .4 | 5.7 | 133 | 76 | 31 | 206 | 7.0 | 8 | 3.1 | 5.6 |
| Aug. 2, 1962... | 2,320 | 3.9 | .02 | .03 | 20 | 7.3 | 10 | 3.8 | 58 | 36 | 11 | .3 | 7 | 148 | 80 | 33 | 223 | 6.9 | 5 | 1.9 | 6.7 |
| Sept. 4, 1962... | 2,510 | 3.4 | .11 | .03 | 18 | 6.2 | 9.5 | 4.0 | 49 | 34 | 9.4 | .4 | 7.3 | 130 | 71 | 31 | 196 | 7.3 | 4 | .3 | 3.4 |

^a Collected 3 feet below surface.

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

Temperature °F of water, water year October 1961 to September 1962
 Recorder with temperature attachment, continuous resistance bulb-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 | 75 | 74 | 73 | 72 | 70 | 69 | 69 | 69 | 68 | 68 | 68 | 69 | 70 | 69 | 68 | 67 | 66 | 66 | 66 | 66 | 65 | 63 | 62 | 61 | 61 | 61 | 60 | 60 | 60 | 60 | 60 | 66 |
| Minimum | 74 | 73 | 72 | 70 | 68 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 68 | 68 | 66 | 65 | 65 | 65 | 64 | 64 | 63 | 61 | 60 | 60 | 60 | 59 | 58 | 58 | 58 | 58 | 59 | 65 |
| November | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 60 | 59 | 60 | 61 | 62 | 62 | 62 | 62 | 62 | 59 | 57 | 56 | 57 | 55 | 55 | 54 | 54 | 54 | 53 | 53 | 51 | 49 | 49 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Minimum | 58 | 58 | 59 | 59 | 60 | 61 | 61 | 60 | 59 | 57 | 55 | 54 | 54 | 54 | 53 | 53 | 54 | 53 | 52 | 50 | 49 | 48 | 45 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| December | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Minimum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| January | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Minimum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| February | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Minimum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| March | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Minimum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| April | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Minimum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 64 | 62 | 63 | 65 | 64 | 66 | -- | -- | -- | -- | -- | -- | 79 | 78 | 78 | -- | -- | 76 | 76 | 76 | -- |
| Minimum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 61 | 61 | 62 | 63 | 63 | 64 | -- | -- | -- | -- | -- | -- | 74 | 75 | 76 | -- | -- | 75 | 75 | 75 | -- |
| June | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 76 | 75 | -- | -- | 77 | 78 | 79 | 79 | 81 | 79 | 79 | 78 | 77 | 76 | 75 | 75 | 76 | 77 | 78 | 80 | 81 | 81 | 81 | 80 | 81 | 81 | -- | -- | -- | 81 | -- | 78 |
| Minimum | 75 | 74 | -- | -- | 76 | 77 | 77 | 77 | 77 | 77 | 78 | 77 | 75 | 75 | 75 | 74 | 75 | 76 | 77 | 77 | 77 | 77 | 78 | 79 | 79 | 80 | -- | -- | -- | 80 | -- | 77 |
| July | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 81 | 81 | 81 | 82 | 81 | 80 | 82 | -- | -- | 81 | 81 | 81 | 81 | 81 | -- | -- | 80 | 79 | 80 | 80 | 80 | 81 | 81 | 80 | 79 | 80 | 79 | 78 | 78 | 78 | 78 | 80 |
| Minimum | 80 | 80 | 80 | 80 | 80 | 80 | 79 | 81 | -- | 80 | 80 | 80 | 81 | 80 | -- | -- | 79 | 78 | 78 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 78 | 77 | 78 | 78 | 78 | 79 |
| August | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 79 | 79 | 80 | 80 | 82 | 83 | 81 | 83 | -- | -- | 78 | 78 | 78 | 77 | 77 | 77 | 77 | 78 | 78 | 79 | 78 | 79 | 79 | 79 | 79 | 79 | 79 | 80 | -- | -- | -- | 79 |
| Minimum | 78 | 78 | 79 | 79 | 79 | 80 | 80 | 81 | -- | -- | 78 | 77 | 76 | 76 | 76 | 76 | 76 | 77 | 77 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | -- | -- | -- | 78 |
| September | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 81 | 80 | 79 | 79 | 78 | 77 | 76 | 76 | 76 | 75 | 75 | 75 | 76 | 76 | 77 | 77 | 76 | 74 | 73 | 72 | 71 | 72 | 71 | 70 | 70 | 69 | -- | -- | -- | -- | -- | 75 |
| Minimum | 80 | 79 | 79 | 78 | 77 | 76 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 74 | 73 | 72 | 71 | 70 | 70 | 68 | 68 | 68 | -- | -- | -- | -- | -- | 74 |

DELAWARE RIVER BASIN--Continued

1-4665. McDONALDS BRANCH IN LEBANON STATE FOREST, N. J.

LOCATION.--Temperature recorder at gaging station in Lebanon State Forest, Burlington County, 25 feet upstream from Butterworth Road Bridge, 3.4 miles upstream from confluence with Cooper Branch, and 7 miles southeast of Browns Mills. DRAINAGE AREA.--2.31 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1960 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 64°F on several days in August and September; minimum, 33°F Mar. 12, 13.

EXTREMES, 1960-62.--Water temperatures: Maximum, 66°F Aug. 24-29, 1961; minimum, 33°F Jan. 2, 3, 1961, Mar. 12, 13, 1962.

Temperature °F of water, water year October 1961 to September 1962

Recorder with temperature attachment, continuous resistance bulb-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 | 56 | 56 | 58 | 58 | 55 | 54 | 54 | 55 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 56 | 53 | 53 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 51 | 51 | 51 | 50 | 50 | 51 | 52 |
| Minimum | 55 | 56 | 56 | 55 | 54 | 54 | 54 | 54 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 53 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 51 | 51 | 50 | 50 | 50 | 51 | 53 |
| November | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 52 | 52 | 52 | 52 | 53 | 53 | 53 | 53 | 52 | 50 | 49 | 48 | 50 | 50 | 50 | 50 | 50 | 50 | 48 | 47 | 47 | 47 | 46 | 47 | 47 | 47 | 47 | 47 | 46 | 46 | 45 | -- |
| Minimum | 52 | 51 | 51 | 52 | 52 | 53 | 52 | 50 | 49 | 48 | 48 | 48 | 50 | 50 | 50 | 50 | 48 | 47 | 47 | 46 | 46 | 46 | 46 | 47 | 47 | 46 | 46 | 45 | 45 | -- | 49 | 49 |
| December | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 44 | 43 | 44 | 44 | 44 | 44 | 44 | 43 | 43 | 43 | 43 | 41 | 39 | 40 | 40 | 40 | 39 | 39 | 39 | 39 | 39 | 39 | 38 | 42 |
| Minimum | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 44 | 43 | 43 | 44 | 44 | 44 | 44 | 43 | 43 | 43 | 41 | 39 | 39 | 40 | 40 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 38 | 42 |
| January | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 38 | 39 | 39 | 39 | 39 | 39 | 37 | 36 | 36 | 35 | 35 | 35 | 36 | 36 | 37 | 36 | 35 | 35 | 36 | 36 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| Minimum | 38 | 38 | 39 | 39 | 39 | 39 | 35 | 35 | 35 | 34 | 35 | 35 | 35 | 36 | 36 | 35 | 35 | 35 | 35 | 36 | 36 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 36 | 36 |
| February | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 37 | 37 | 37 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 37 | 38 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 37 | 37 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| Minimum | 36 | 37 | 37 | 37 | 38 | 38 | 37 | 37 | 38 | 38 | 37 | 37 | 37 | 38 | 39 | 39 | 39 | 39 | 39 | 39 | 39 | 37 | 37 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| March | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 35 | 35 | 35 | 35 | 36 | 36 | 35 | 36 | 36 | 35 | 35 | 35 | 35 | 36 | 36 | 36 | 37 | 38 | 38 | 39 | 39 | 39 | 39 | 39 | 39 | 40 | 41 | 42 | 42 | 44 | 46 | 48 |
| Minimum | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 33 | 33 | 33 | 35 | 36 | 36 | 36 | 37 | 37 | 38 | 38 | 39 | 38 | 39 | 39 | 40 | 41 | 42 | 44 | 46 | 37 |
| April | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 50 | 49 | 47 | 45 | 44 | 45 | 47 | 48 | 48 | 48 | 48 | 47 | 47 | 45 | 45 | 45 | 44 | 44 | 45 | 46 | 46 | 48 | 50 | 49 | 50 | 52 | 53 | 54 | 56 | 56 | -- | 48 |
| Minimum | 48 | 47 | 45 | 44 | 44 | 44 | 45 | 47 | 46 | 47 | 47 | 47 | 45 | 45 | 45 | 44 | 44 | 44 | 45 | 46 | 45 | 48 | 49 | 50 | 52 | 52 | 54 | 54 | -- | 47 | 47 | 47 |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 54 | 52 | 53 | 53 | 53 | 54 | 54 | 54 | 52 | 52 | 50 | 52 | 52 | 54 | 54 | 54 | 54 | 54 | 56 | 56 | 58 | 57 | 57 | 58 | 59 | 60 | 59 | 58 | 58 | 59 | 55 | 55 |
| Minimum | 52 | 52 | 52 | 52 | 52 | 52 | 53 | 52 | 51 | 50 | 50 | 50 | 52 | 52 | 54 | 53 | 54 | 54 | 56 | 56 | 57 | 57 | 57 | 58 | 58 | 59 | 58 | 57 | 58 | 58 | 54 | 54 |
| June | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 60 | 60 | 60 | 60 | 59 | 60 | 59 | 59 | 58 | 59 | 58 | 59 | 59 | 59 | 59 | 58 | 59 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 61 | 62 | 62 | 61 | 60 | 60 | -- | 60 |
| Minimum | 59 | 60 | 60 | 59 | 59 | 59 | 58 | 58 | 58 | 58 | 58 | 58 | 59 | 59 | 59 | 58 | 58 | 59 | 60 | 60 | 60 | 60 | 60 | 60 | 61 | 62 | 61 | 60 | 60 | -- | 59 | 59 |
| July | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 59 | 59 | 58 | 59 | 60 | 60 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 60 | 60 | 60 | 60 |
| Minimum | 59 | 60 | 59 | 60 | 60 | 60 | 59 | 60 | 60 | 59 | 59 | 59 | 59 | 58 | 58 | 58 | 58 | 59 | 60 | 60 | 60 | 60 | 62 | 62 | 62 | 62 | 62 | 60 | 60 | 60 | 60 | 60 |
| August | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 61 | 61 | 61 | 60 | 60 | 61 | 62 | 62 | 63 | 63 | 63 | 63 | 62 | 61 | 62 | 62 | 61 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 61 | 60 | 60 | 64 | 64 | 64 | 62 | 62 |
| Minimum | 60 | 60 | 60 | 60 | 60 | 60 | 62 | 62 | 63 | 62 | 61 | 61 | 61 | 61 | 61 | 61 | 61 | 62 | 61 | 62 | 61 | 62 | 62 | 61 | 60 | 59 | 60 | 60 | 64 | 64 | 61 | 61 |
| September | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 64 | 64 | 64 | 63 | 62 | 61 | 60 | 58 | 57 | 58 | 59 | 59 | 59 | 59 | 59 | 58 | 58 | 58 | 58 | 58 | 57 | 55 | 55 | 55 | 54 | 54 | 56 | 56 | 56 | 56 | -- | 58 |
| Minimum | 64 | 64 | 63 | 62 | 61 | 60 | 58 | 57 | 57 | 58 | 59 | 59 | 59 | 58 | 58 | 58 | 58 | 58 | 58 | 57 | 55 | 55 | 55 | 54 | 54 | 56 | 56 | 56 | 56 | -- | 58 | 58 |

QUALITY OF SURFACE WATERS, 1962

DELAWARE RIVER BASIN--Continued

1-4670.3. 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 1962.

Dissolved oxygen: October 1961 to September 1962.

Water temperatures: October 1955 to September 1957, October 1960 to September 1962.

EXTREMES, 1961-62.--Specific conductance: Maximum daily, 354 micromhos Dec. 17; minimum daily, 90 micromhos Jan. 13.

Dissolved oxygen: Maximum daily, 13.5 ppm Jan. 31; minimum daily, 0 ppm June 21, 22, 28-30, July 1-3, 20, and Aug. 16, 19.

Water temperatures: Maximum, 81°F Aug. 8.

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 specific conductance and dissolved oxygen, in percent of saturation of daily samples, available in district office at Philadelphia, Pa. No discharge records available.

Chemical analyses, in parts per million, November 1961 to September 1962

| Date of collection | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | pH | Biochemical oxygen demand | Dissolved oxygen |
|--------------------|---------------|-------------------------------------------|-----|---------------------------|------------------|
| Nov. 2, 1961..... | 12 | 224 | 6.9 | 1.5 | 6.7 |
| Dec. 4..... | 8.0 | 156 | 7.0 | -- | 4.6 |
| Jan. 2, 1962..... | 10 | 166 | 7.0 | .1 | 6.0 |
| Feb. 5..... | 6.5 | 143 | 7.1 | 3.3 | 12.8 |
| Mar. 19..... | 6.0 | 112 | 7.2 | 1.1 | 11.4 |
| Apr. 10..... | 4.0 | 84 | 7.1 | 2.7 | 10.2 |
| Apr. 30..... | 9.0 | 134 | 6.9 | 2.0 | 7.7 |
| June 4..... | 10 | 194 | 7.4 | 1.6 | 2.6 |
| July 2..... | 10 | 198 | 7.0 | 1.3 | 4.9 |
| Aug. 2..... | 12 | 213 | 7.0 | 1.5 | 5.9 |
| Sept. 4..... | 10 | 179 | 6.9 | .9 | 2.6 |

DELAWARE RIVER BASIN--Continued
 1-4670.3. DELAWARE RIVER AT TORRESDALE INTAKE, PHILADELPHIA, PA.--Continued
 Dissolved oxygen, in parts per million, water year October 1961 to September 1962

| 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 | 6.5 | 3.7 | -- | -- | -- | -- | 12.9 | 12.1 | 13.3 | 12.5 | 13.1 | 12.3 | 10.4 | 9.3 | -- | -- | 4.6 | 2.4 | 4.6 | 0.0 | -- | -- | 3.5 | 1.6 |
| 2 | 5.9 | 3.8 | -- | -- | -- | -- | 12.8 | 12.2 | 13.3 | 12.4 | 13.0 | 12.3 | 10.1 | 9.7 | 7.9 | 6.9 | 3.9 | 1.9 | 4.8 | 0.0 | -- | -- | 3.7 | 2.0 |
| 3 | 6.0 | 4.1 | -- | -- | -- | -- | 10.4 | 8.1 | 13.4 | 12.1 | -- | 13.1 | 12.7 | 11.0 | 9.8 | 7.3 | 6.4 | 3.7 | 1.7 | 4.9 | 1.0 | -- | 3.7 | 2.3 |
| 4 | 6.6 | 4.1 | 7.2 | 6.1 | 10.8 | 9.9 | 13.1 | 12.6 | -- | -- | 12.9 | 11.6 | 10.8 | 10.8 | 7.0 | 5.7 | 3.9 | 1.6 | 6.1 | 1.6 | 4.9 | 0.8 | 3.6 | 2.1 |
| 5 | 6.9 | 4.5 | -- | -- | -- | -- | 12.8 | 11.7 | -- | -- | -- | -- | -- | -- | -- | -- | 3.4 | 1.3 | 8.0 | 1.9 | -- | -- | 3.5 | 2.2 |
| 6 | 6.3 | 3.9 | 6.7 | 5.6 | -- | -- | 12.3 | 11.2 | 13.0 | 12.4 | -- | -- | 11.7 | 11.1 | -- | -- | 3.0 | 1.0 | 8.4 | 1.6 | -- | -- | 4.3 | 2.1 |
| 7 | 6.4 | 4.5 | 6.7 | 5.6 | -- | -- | 12.3 | 11.8 | -- | -- | -- | -- | 11.5 | 10.2 | -- | -- | 2.9 | 1.1 | 8.0 | 3.2 | 6.2 | 1.7 | 3.8 | 2.1 |
| 8 | 6.3 | 4.6 | 6.8 | 5.3 | -- | -- | -- | -- | -- | -- | -- | 10.7 | 9.8 | 10.2 | 6.7 | 4.3 | -- | -- | 8.8 | 3.6 | 4.8 | 1.8 | 4.2 | 2.1 |
| 9 | 6.4 | 4.5 | 7.1 | 5.6 | 11.9 | 10.6 | -- | -- | -- | -- | 13.3 | 12.8 | 10.7 | 10.1 | 7.1 | 5.7 | 3.1 | 9.7 | 7.6 | 3.7 | 4.6 | 1.6 | 4.7 | 2.3 |
| 10 | 6.8 | 4.3 | 7.3 | 6.0 | 11.2 | 9.9 | -- | -- | -- | -- | 13.2 | 12.4 | 11.0 | 10.6 | 6.8 | 5.6 | 3.5 | 1.5 | 7.3 | 3.3 | 4.6 | 2.6 | 5.0 | 2.5 |
| 11 | 6.9 | 4.9 | 6.9 | 5.2 | 10.8 | 10.1 | -- | -- | -- | -- | 12.6 | 11.9 | 11.1 | 10.5 | 6.8 | 5.5 | 6.0 | 2.5 | 7.2 | 2.2 | -- | -- | 5.0 | 2.9 |
| 12 | 6.6 | 4.4 | 6.7 | 5.1 | 11.2 | 9.8 | -- | -- | -- | -- | 12.6 | 11.6 | 11.5 | 10.6 | 7.1 | 5.2 | 4.5 | 2.2 | 6.1 | 2.0 | -- | -- | 4.8 | 2.6 |
| 13 | 6.7 | 4.7 | 7.0 | 5.4 | 10.6 | 9.9 | -- | -- | -- | -- | 12.1 | 11.4 | 11.7 | 11.2 | 7.7 | 5.4 | 4.9 | 1.8 | 6.7 | 1.6 | -- | -- | 5.1 | 2.4 |
| 14 | 6.5 | 4.4 | 6.9 | 5.6 | 11.1 | 10.0 | -- | -- | 13.0 | 11.6 | 12.0 | 11.6 | 11.9 | 11.4 | 7.6 | 5.9 | 4.1 | 2.0 | 4.7 | 1.0 | -- | -- | 4.5 | 2.2 |
| 15 | 7.2 | 5.1 | 6.9 | 5.4 | -- | -- | -- | -- | 12.7 | 11.2 | 12.0 | 11.7 | 11.7 | 11.2 | 7.0 | 5.6 | 3.8 | 1.5 | 5.7 | 1.2 | 4.4 | 1.7 | 4.4 | 2.2 |
| 16 | 6.6 | 5.1 | 6.9 | 4.7 | 11.3 | 9.9 | -- | -- | 12.4 | 11.6 | 12.2 | 11.7 | 11.7 | 11.3 | 7.1 | 5.5 | 4.0 | 1.7 | 4.6 | 1.2 | 4.8 | 0 | 4.2 | 2.1 |
| 17 | 7.5 | 4.6 | 8.1 | 5.4 | 11.0 | 9.7 | -- | -- | 12.6 | 11.9 | 12.4 | 11.9 | 11.4 | 6.7 | 4.9 | 3.1 | 1.0 | 5.4 | 1.2 | 4.1 | 1.2 | 4.0 | 1.4 | |
| 18 | 7.5 | 4.7 | 7.8 | 6.1 | 12.2 | 9.9 | -- | -- | 12.7 | 11.9 | 12.2 | 11.7 | 11.8 | 10.9 | -- | -- | 3.5 | 1.4 | 5.1 | 1.2 | 3.9 | 1.1 | 4.7 | 1.7 |
| 19 | 7.1 | 3.9 | 7.8 | 6.5 | 11.8 | 10.6 | -- | -- | 12.6 | 11.7 | 12.1 | 11.6 | -- | -- | -- | -- | 4.0 | 1.8 | 5.1 | 1.1 | 3.9 | 0 | 4.7 | 2.5 |
| 20 | 6.8 | 4.1 | 8.2 | 6.5 | 12.0 | 10.6 | -- | -- | 12.4 | 11.8 | 11.9 | 11.5 | -- | -- | -- | -- | 3.3 | 1.0 | 5.7 | 1.0 | 4.5 | 1.3 | -- | -- |
| 21 | 6.4 | 3.2 | 8.6 | 6.7 | 11.9 | 10.6 | -- | -- | 12.3 | 11.7 | 12.0 | 11.5 | 11.0 | 10.3 | -- | -- | 3.3 | 0 | 6.2 | 1.4 | 4.5 | 2.9 | -- | -- |
| 22 | 7.0 | 3.6 | 8.5 | 6.3 | -- | -- | -- | -- | 12.2 | 11.3 | 11.9 | 11.5 | -- | -- | -- | -- | 3.4 | 0 | 5.3 | 2.5 | 5.3 | 2.7 | 4.6 | 2.7 |
| 23 | 6.9 | 4.1 | 8.5 | 6.5 | -- | -- | 13.3 | 12.9 | 12.2 | 11.2 | 11.7 | 11.1 | -- | -- | 6.0 | 3.3 | 3.4 | 2.2 | 5.7 | 2.5 | 5.2 | 2.5 | 5.3 | 2.7 |
| 24 | 6.8 | 4.5 | 8.8 | 7.3 | -- | -- | 13.4 | 12.3 | 12.1 | 11.6 | 11.8 | 11.3 | 10.2 | 9.7 | 7.2 | 4.5 | 3.4 | 2.2 | 5.5 | 2.3 | 5.0 | 2.2 | 5.2 | 2.7 |
| 25 | 6.6 | 4.9 | 9.3 | 8.2 | -- | -- | 13.3 | 12.7 | 12.5 | 11.7 | 11.7 | 11.1 | 9.8 | 9.0 | 6.4 | 4.3 | 3.5 | 1.6 | 5.2 | 1.8 | 4.8 | 1.7 | 5.7 | 3.0 |
| 26 | 6.8 | 3.9 | 9.2 | 8.2 | -- | -- | 13.3 | 12.2 | 12.6 | 11.7 | 11.7 | 11.2 | 9.3 | 8.6 | 5.9 | 4.1 | 3.6 | 1.2 | 4.5 | 1.5 | 4.4 | 2.4 | 5.4 | 3.7 |
| 27 | 7.1 | 5.4 | 9.6 | 8.4 | 12.6 | 12.1 | 13.1 | 12.5 | 13.1 | 11.8 | 11.6 | 10.9 | -- | -- | 5.6 | 3.7 | 4.2 | 2.2 | 4.6 | 1.5 | 4.0 | 2.2 | 5.7 | 3.8 |
| 28 | 6.8 | 4.9 | -- | -- | 12.5 | 11.8 | 13.0 | 12.6 | 13.9 | 12.2 | 11.6 | 11.0 | -- | -- | 4.6 | 3.5 | 4.3 | 0 | 5.1 | 1.8 | 4.0 | 2.5 | 6.1 | 3.3 |
| 29 | -- | -- | -- | -- | 12.7 | 11.9 | 13.3 | 12.3 | -- | -- | 11.4 | 10.7 | -- | -- | 5.6 | 3.1 | 4.8 | 0 | 4.8 | 1.3 | 4.2 | 2.8 | 5.9 | 4.0 |
| 30 | -- | -- | -- | -- | 12.7 | 12.0 | 13.3 | 12.8 | -- | -- | 11.1 | 10.3 | -- | -- | 4.8 | 2.8 | 4.5 | 0 | 4.7 | 1.8 | 4.0 | 2.6 | 5.5 | 4.3 |
| 31 | -- | -- | -- | -- | 13.0 | 13.1 | -- | -- | -- | -- | 10.9 | 10.1 | -- | -- | 5.1 | 2.6 | -- | -- | -- | -- | 3.3 | 2.0 | -- | -- |
| Average | 6.7 | 4.4 | 7.7 | 6.1 | -- | -- | -- | -- | -- | -- | 12.2 | 11.6 | -- | -- | -- | -- | 3.8 | 1.0 | 5.9 | 1.5 | -- | -- | 4.7 | 2.6 |

DELAWARE RIVER BASIN--Continued
1-4670.3. DELAWARE RIVER AT TORRESDALE INTAKE, PHILADELPHIA, PA.--Continued

Temperature °F of water, water year October 1961 to September 1962
/Recorder with temperature attachment, continuous resistance bulb-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 | 73 | 72 | 71 | 70 | 68 | 68 | 68 | 67 | 68 | 68 | 68 | 69 | 68 | 68 | 67 | 64 | 64 | 63 | 64 | 64 | 64 | 62 | 61 | 61 | 61 | 60 | 60 | 59 | --- | --- | --- | --- | 66 | |
| | 71 | 71 | 70 | 67 | 67 | 67 | 67 | 67 | 67 | 67 | 68 | 67 | 68 | 67 | 64 | 63 | 62 | 62 | 62 | 63 | 62 | 61 | 59 | 60 | 59 | 59 | 58 | 58 | --- | --- | --- | --- | 64 | |
| November | --- | --- | --- | 60 | 61 | 61 | 59 | 58 | 58 | 56 | 55 | 55 | 55 | 55 | 56 | 56 | 55 | 54 | 53 | 52 | 51 | 49 | 50 | 49 | 48 | 47 | --- | --- | --- | --- | --- | --- | 54 | |
| | --- | --- | --- | 58 | 60 | 61 | 59 | 57 | 55 | 56 | 54 | 53 | 55 | 55 | 55 | 55 | 54 | 52 | 51 | 49 | 49 | 48 | 49 | 49 | 48 | 47 | 47 | --- | --- | --- | --- | --- | 53 | |
| December | --- | 43 | 43 | 43 | --- | --- | --- | --- | 41 | 40 | 41 | 42 | 42 | --- | 39 | 39 | 39 | 39 | 39 | 39 | 39 | --- | --- | --- | --- | --- | --- | 37 | 37 | 37 | 35 | 35 | --- | |
| | --- | 41 | 42 | 41 | --- | --- | --- | --- | 39 | 39 | 39 | 40 | 41 | 40 | --- | 37 | 38 | 37 | 38 | 39 | 39 | --- | --- | --- | --- | --- | --- | 35 | 37 | 35 | 34 | 34 | --- | |
| January | 35 | 35 | 35 | 35 | 35 | 38 | 39 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35 | 35 | 35 | 34 | 36 | 37 | 37 | 38 | 38 | 39 | 38 | 37 | 36 | 36 | --- | --- | |
| | 34 | 34 | 34 | 34 | 34 | 34 | 37 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34 | 35 | 34 | 34 | 34 | 35 | 36 | 37 | 37 | 37 | 37 | 35 | 35 | 34 | --- | --- | |
| February | 35 | 34 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35 | 35 | 36 | 37 | 36 | 37 | 36 | 37 | 38 | 38 | 39 | 39 | 39 | --- | --- | --- | --- | --- | --- | |
| | 35 | 34 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 34 | 34 | 35 | 35 | 36 | 36 | 36 | 36 | 37 | 38 | 37 | 38 | 38 | 38 | --- | --- | --- | --- | --- | |
| March | 34 | 34 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| | 38 | 37 | 37 | 37 | --- | --- | --- | --- | 38 | 41 | 41 | 41 | 43 | 43 | 41 | 41 | 40 | 41 | 44 | 44 | 44 | 45 | 46 | 47 | 47 | 48 | 48 | 49 | 53 | 55 | 55 | 44 | | |
| April | 37 | 35 | 35 | 36 | --- | --- | --- | --- | 37 | 37 | 38 | 39 | 40 | 41 | 41 | 40 | 40 | 41 | 43 | 43 | 44 | 45 | 46 | 44 | 44 | 45 | 46 | 47 | 49 | 50 | 42 | --- | --- | |
| | 57 | 53 | 50 | 46 | 48 | 49 | 52 | 52 | 51 | 51 | 49 | 49 | 48 | 47 | 46 | 46 | 47 | 48 | --- | --- | 51 | --- | --- | 56 | 59 | 60 | --- | --- | --- | --- | --- | --- | --- | |
| May | 52 | 50 | 45 | 44 | 45 | 46 | 47 | 49 | 49 | 49 | 44 | 47 | 47 | 45 | 46 | 45 | 46 | 45 | --- | --- | 48 | --- | --- | 54 | 54 | 56 | --- | --- | --- | --- | --- | --- | --- | |
| | 62 | 62 | 63 | --- | --- | --- | --- | --- | 62 | 63 | 62 | 63 | 63 | 63 | 64 | 64 | --- | 68 | 70 | 72 | 72 | 73 | 74 | 74 | 75 | 77 | 74 | 74 | 75 | 76 | 68 | --- | | |
| June | --- | 61 | 61 | 62 | --- | --- | --- | --- | 61 | 60 | 61 | 60 | 61 | 61 | 63 | 64 | 64 | --- | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 73 | 73 | 72 | 74 | 66 | --- | --- | |
| | 77 | 77 | 77 | 76 | 77 | 77 | 77 | 77 | 79 | 78 | 77 | 77 | 75 | 74 | 74 | 75 | 75 | 77 | 79 | 77 | 77 | 78 | 78 | 77 | 78 | 79 | 79 | 79 | 78 | 79 | --- | 77 | | |
| July | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 75 | 76 | 76 | 75 | 75 | 72 | 72 | 72 | 73 | 74 | 75 | 76 | 76 | 76 | 76 | 76 | 75 | 76 | 76 | 77 | 77 | 77 | 78 | --- | 75 | | |
| | 79 | 80 | 80 | 80 | 79 | 78 | 79 | 80 | 79 | 80 | 79 | 79 | 79 | 79 | 79 | 79 | 78 | 77 | 77 | 80 | 78 | 79 | 80 | 78 | 77 | 77 | 77 | 77 | 76 | 76 | --- | 79 | | |
| August | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 78 | 78 | 76 | 77 | 78 | 78 | 77 | 78 | 77 | 76 | 74 | 76 | 77 | 77 | 77 | 77 | 77 | 76 | 75 | 75 | 75 | 75 | 75 | 75 | --- | 77 | |
| | --- | --- | --- | --- | --- | --- | --- | --- | 79 | 81 | 79 | 78 | --- | --- | --- | --- | --- | 77 | 77 | 77 | 78 | 77 | 78 | 77 | 77 | 78 | 77 | 77 | 77 | 77 | 78 | --- | --- | |
| September | --- | --- | --- | --- | --- | --- | --- | --- | 78 | 77 | 76 | --- | --- | --- | --- | --- | --- | 76 | 76 | 75 | 75 | 76 | 75 | 75 | 76 | 75 | 75 | 76 | 75 | 76 | 76 | 76 | --- | --- |
| | 79 | 78 | 77 | 75 | 75 | 74 | 74 | 75 | 74 | 74 | 75 | 75 | 75 | 75 | 75 | 75 | 74 | 73 | 72 | 71 | 70 | 69 | 69 | 68 | 68 | 68 | 67 | 67 | 66 | 66 | --- | 73 | | |
| Minimum | 77 | 76 | 76 | 75 | 75 | 73 | 72 | 72 | 73 | 74 | 74 | 73 | 74 | 74 | 73 | 73 | 73 | 73 | 71 | 69 | 68 | 68 | 67 | 66 | 67 | 66 | 67 | 66 | 65 | 65 | --- | 71 | | |

DELAWARE RIVER BASIN--Continued

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

LOCATION.--Between river end of pier 11 of Port Richmond Terminal, Lehigh Avenue, Philadelphia, and west bank of Petty Island, N. J.
 DRAINAGE AREA.--7,935 square miles.

RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1962.

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.

Chemical analyses, in parts per million, November 1961 to September 1962

| Date of collection | Mean discharge (cfs) | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | pH | Biochemical oxygen demand ^a | D'ssolved oxygen ^a |
|--------------------|----------------------|---------------|-------------------------------------------|-----|----------------------------------------|-------------------------------|
| Nov. 2, 1961..... | 3,200 | 21 | 296 | 6.6 | 1.4 | 1.9 |
| Dec. 4..... | 5,140 | 14 | 215 | 7.1 | 3.3 | 4.1 |
| Jan. 2, 1962..... | 4,900 | 14 | 209 | 6.5 | 3.9 | 7.0 |
| Feb. 5..... | 6,700 | 9.5 | 165 | 6.9 | 4.2 | 11.1 |
| Mar. 19..... | 17,300 | 6.0 | 113 | 7.2 | 3.2 | 11.5 |
| Apr. 10..... | 40,500 | 4.0 | 108 | 7.1 | 2.8 | 10.3 |
| Apr. 30..... | 8,850 | 9.0 | 151 | 6.6 | 2.7 | 5.5 |
| June 4..... | 3,470 | 12 | 211 | 7.2 | 1.0 | 2.2 |
| July 2..... | 2,690 | 12 | 218 | 6.9 | 1.9 | 3.0 |
| Aug. 2..... | 2,320 | 19 | 271 | 6.8 | 1.1 | 1.8 |
| Sept. 4..... | 2,510 | 12 | 205 | 6.8 | .6 | 2.2 |

^a Obtained from surface samples.

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

LOCATION.--Opposite pier 13 north, 100 feet south of Vine Street and Delaware Avenue, Philadelphia.
RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1962.

Dissolved oxygen: November 1960 to September 1962.

Water temperatures: November 1960 to September 1962.
EXTREMES, 1961-62.--Dissolved oxygen: Maximum daily, 11.8 ppm Jan. 8, Mar. 1, 2; minimum daily, 0 ppm on many days during year.

Water temperatures: Maximum, 80°F on several days in July.

EXTREMES, 1960-62.--Dissolved oxygen: Maximum daily, 13 ppm Feb. 28, Mar. 1, 1961; minimum daily, 0 ppm on many days each year.

Water temperatures: Maximum, 85°F on several days in September 1961; minimum, freezing point Feb. 2, 1961.
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 dissolved oxygen, in percent of saturation of daily samples, available in district office at Philadelphia, Pa. No discharge records available.

Chemical analyses, in parts per million, November 1961 to September 1962

| 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 carbonate | Specific conductance (micro-mhos at 25°C) | pH | Color | Biochemical oxygen demand | Dissolved oxygen |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-----------------------------------------------------------|-------------------------------------------|-----|-------|---------------------------|------------------|
| Nov. 2, 1961... | | 1.1 | 0.02 | 20 | 9.0 | 22 | 4.2 | 40 | 61 | 23 | 0.3 | 10 | 182 | 87 | 313 | 6.4 | | 1.0 | 1.6 |
| Dec. 4..... | | 5.0 | .07 | 18 | 7.2 | 14 | 3.2 | 50 | 37 | 15 | .3 | 3.8 | 130 | 75 | 34 | 6.8 | 10 | -- | -- |
| Jan. 2, 1962... | | 6.0 | .04 | 15 | 7.2 | 12 | 3.0 | 28 | 46 | 15 | .4 | 6.1 | 135 | 67 | 34 | 6.5 | 5 | 4.4 | 6.9 |
| Feb. 5..... | | 7.3 | .08 | 13 | 4.5 | 9.5 | 2.2 | 28 | 31 | 11 | .1 | 4.2 | 102 | 51 | 28 | 6.9 | 35 | 5.3 | 11.7 |
| Mar. 19..... | | 5.0 | .06 | 11 | 3.5 | 4.4 | 1.9 | 22 | 22 | 6.1 | .4 | 4.1 | 73 | 42 | 24 | 7.0 | 24 | 11.4 | 11.4 |
| Apr. 10..... | | 4.6 | .02 | 11 | 3.5 | 3.5 | 1.5 | 22 | 21 | 3.4 | .4 | 4.2 | 72 | 43 | 25 | 7.0 | 5 | 2.5 | 10.0 |
| Apr. 30..... | | 4.6 | .04 | 13 | 4.7 | 7.8 | 1.9 | 21 | 34 | 8.0 | .1 | 5.1 | 110 | 52 | 35 | 5.9 | 4 | 3.0 | 5.3 |
| June 4..... | | 2.5 | .06 | 17 | 6.4 | 14 | 2.4 | 38 | 40 | 14 | .4 | 8.4 | 136 | 69 | 38 | 6.7 | 6 | 3.3 | 1.9 |
| July 2..... | | 2.3 | .08 | 18 | 6.1 | 15 | 2.8 | 50 | 40 | 13 | .3 | 4.0 | 125 | 70 | 29 | 6.9 | 8 | -- | -- |
| Aug. 2..... | | .0 | .00 | 20 | 9.0 | 20 | 3.5 | 48 | 54 | 19 | .5 | 8.6 | 156 | 87 | 48 | 6.7 | 7 | 1.1 | 1.9 |
| Sept. 4..... | | .9 | .13 | 18 | 5.8 | 15 | 3.4 | 47 | 41 | 15 | .2 | 7.0 | 139 | 69 | 31 | 7.2 | 17 | .0 | 1.3 |

a Obtained from surface samples.

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

| 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 | -- | -- | 0.9 | 0.0 | 7.1 | 4.5 | 10.1 | 7.2 | 10.0 | 8.3 | 11.8 | 10.5 | -- | -- | 4.5 | 1.9 | 0.0 | 0.0 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 0.0 | 0.0 | 7.7 | 0.0 | 6.9 | 4.4 | -- | -- | 9.7 | 8.0 | 11.8 | 10.5 | -- | -- | 3.8 | 1.6 | 0.0 | 0.0 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3 | 0.0 | 0.0 | 6.5 | 0.0 | 6.5 | 4.1 | -- | -- | 9.3 | 7.3 | 11.4 | 10.0 | -- | -- | 3.9 | 1.5 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| 4 | 0.3 | 0.0 | 0.0 | 0.0 | 6.8 | 4.3 | 11.2 | 6.7 | 9.4 | 7.3 | 11.3 | 10.0 | 10.3 | 9.0 | 3.9 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5 | 0.9 | 0.0 | 0.0 | 0.0 | 6.8 | 3.9 | 11.1 | 7.0 | 9.0 | 7.3 | 11.1 | 9.3 | 10.3 | 9.1 | 3.2 | 1.1 | 2.0 | 0.0 | 0.0 | 0.0 | -- | -- | 0.0 | 0.0 |
| 6 | 9.0 | 0.0 | 0.5 | 0.0 | 7.0 | 4.5 | 9.4 | 6.5 | 9.6 | 7.3 | -- | -- | 10.1 | 9.0 | 3.1 | 0.9 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 7 | 4.0 | 0.0 | 0.7 | 0.0 | -- | -- | 11.0 | 6.3 | 10.1 | 7.5 | -- | -- | 9.9 | 8.4 | 2.7 | 0.6 | 1.1 | 0.0 | 1.0 | 0.1 | -- | -- | 0.0 | 0.0 |
| 8 | 5.0 | 0.0 | 0.6 | 0.0 | -- | -- | 11.8 | 9.7 | 10.0 | 7.2 | 10.9 | 9.4 | -- | -- | 2.5 | 0.5 | 1.0 | 0.0 | 1.4 | 0.1 | 1.1 | 1.1 | 0.2 | 0.0 |
| 9 | 5.0 | 0.0 | 1.7 | 0.0 | -- | -- | -- | -- | 10.5 | 6.7 | 11.5 | 9.2 | -- | -- | 2.1 | 0.0 | 0.0 | 0.0 | 1.1 | 0.1 | 1.1 | 0.2 | 0.0 | 0.5 |
| 10 | 0.0 | 0.0 | 2.2 | 0.0 | -- | -- | -- | -- | 9.6 | 7.1 | 11.3 | 9.1 | 9.5 | 8.9 | 2.4 | 0.4 | 0.7 | 0.0 | 1.4 | 0.0 | 0.2 | 0.0 | 0.7 | 0.1 |
| 11 | 0.0 | 0.0 | 1.8 | 0.0 | -- | -- | -- | -- | 10.0 | 7.5 | 11.2 | 9.1 | 9.4 | 8.6 | 2.2 | 0.0 | 0.6 | 0.0 | 0.9 | 0.0 | 1.1 | 0.1 | -- | -- |
| 12 | 0.0 | 0.0 | 1.7 | 0.0 | 6.0 | 3.6 | 10.3 | 9.2 | 10.1 | 7.1 | -- | -- | 9.7 | 8.3 | 1.6 | 0.0 | 0.4 | 0.0 | 1.5 | 0.0 | 1.2 | 0.1 | -- | -- |
| 13 | 0.0 | 0.0 | 1.7 | 0.0 | -- | -- | 10.3 | 9.4 | 9.7 | 6.8 | -- | -- | 9.5 | 8.4 | 1.5 | 0.0 | 0.3 | 0.0 | 1.0 | 0.0 | 1.0 | 0.1 | -- | -- |
| 14 | 0.0 | 0.0 | 1.3 | 0.0 | -- | -- | 10.2 | 9.2 | 9.5 | 6.4 | 11.4 | 10.6 | 9.8 | 9.0 | 1.8 | 0.0 | 0.1 | 0.0 | 0.5 | 0.0 | 0.5 | 0.1 | -- | -- |
| 15 | 0.0 | 0.0 | 1.0 | 0.0 | -- | -- | 10.2 | 8.7 | 9.1 | 5.9 | 11.2 | 10.4 | 9.8 | 8.9 | 1.4 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.2 | 0.1 | 0.3 | 0.2 |
| 16 | 1.3 | 0.0 | 3.0 | 0.0 | 7.8 | 4.4 | 10.3 | 8.9 | 8.5 | 5.7 | 11.2 | 10.1 | 9.9 | 9.1 | 0.9 | 0.0 | 1.0 | 0.0 | 0.1 | 0.0 | 0.2 | 0.0 | 1.2 | 0.3 |
| 17 | 1.0 | 0.0 | 1.0 | 0.0 | 6.8 | 4.3 | 11.1 | 9.2 | 8.4 | 5.2 | 11.4 | 10.2 | 9.6 | 8.7 | 0.4 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.8 | 0.2 |
| 18 | 0.0 | 0.0 | 2.4 | 0.0 | 6.8 | 3.9 | 11.5 | 10.1 | 9.4 | 5.9 | 11.2 | 10.1 | 9.5 | 8.2 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 0.4 |
| 19 | 0.0 | 0.0 | 2.9 | 0.0 | 6.8 | 3.1 | 11.4 | 10.1 | 9.3 | 5.8 | 11.0 | 9.8 | -- | -- | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 1.0 | 0.0 |
| 20 | 0.0 | 0.0 | 2.7 | 0.0 | 8.0 | 4.5 | -- | -- | 8.9 | 5.7 | 11.6 | 9.4 | 8.9 | 7.1 | 0.4 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.5 | 0.0 | 1.1 | 0.1 |
| 21 | 0.0 | 0.0 | 3.6 | 0.0 | 8.8 | 5.9 | -- | -- | 9.2 | 5.5 | 10.5 | 8.7 | 9.0 | 7.7 | 0.4 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.2 | 0.1 | 1.0 | 0.1 |
| 22 | 0.0 | 0.0 | 3.7 | 0.0 | 9.4 | 6.9 | -- | -- | 8.8 | 5.1 | 10.3 | 8.7 | 8.8 | 7.6 | 0.2 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 1.0 | 0.1 |
| 23 | 0.0 | 0.0 | -- | -- | 9.7 | 6.8 | -- | -- | 8.4 | 4.9 | 10.7 | 8.9 | 8.7 | 7.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | 1.2 | 0.1 |
| 24 | 0.0 | 0.0 | -- | -- | 9.8 | 7.4 | 11.0 | 8.9 | -- | -- | 10.6 | 9.5 | 8.9 | 7.4 | 0.0 | 0.0 | -- | -- | 0.8 | 0.0 | 0.1 | 0.0 | 1.3 | 0.3 |
| 25 | 0.0 | 0.0 | 4.4 | 1.8 | 10.0 | 8.4 | -- | -- | -- | -- | 10.7 | 9.7 | 8.0 | 6.7 | 0.2 | 0.0 | -- | -- | 0.2 | 0.1 | 0.2 | 0.0 | 1.3 | 0.2 |
| 26 | 1.1 | 0.0 | -- | -- | 10.0 | 8.3 | -- | -- | -- | -- | -- | -- | 7.3 | 5.5 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.3 | 0.0 | 1.2 | 0.2 |
| 27 | 1.4 | 0.0 | 6.9 | 2.6 | 10.2 | 7.9 | 9.8 | 8.1 | 11.2 | 8.9 | -- | -- | 6.5 | 4.5 | 0.4 | 0.0 | 0.2 | 0.0 | 0.3 | 0.1 | 0.1 | 0.0 | 1.0 | 0.1 |
| 28 | 1.1 | 0.0 | 6.9 | 4.7 | 9.6 | 7.7 | 10.2 | 8.3 | 11.1 | 9.7 | -- | -- | 6.0 | 3.7 | 0.0 | 0.0 | 0.1 | 0.0 | 0.6 | 0.0 | 0.7 | 0.1 | 0.7 | 0.0 |
| 29 | 1.1 | 0.0 | 6.8 | 5.2 | 9.6 | 7.2 | 9.9 | 7.9 | -- | -- | -- | -- | 5.8 | 3.3 | 0.0 | 0.0 | 0.1 | 0.0 | 0.2 | 0.0 | 0.3 | 0.1 | 1.7 | 0.0 |
| 30 | -- | -- | 7.9 | 5.2 | 9.6 | 7.1 | 8.9 | 8.1 | -- | -- | -- | -- | 5.3 | 2.3 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 |
| 31 | -- | -- | -- | -- | 9.7 | 7.1 | 10.5 | 8.3 | -- | -- | -- | -- | -- | -- | 0.2 | 0.0 | -- | -- | 0.0 | 0.0 | 0.2 | 0.0 | -- | -- |
| Aver- age | 0.4 | 0.0 | 2.4 | 0.7 | -- | -- | -- | -- | 9.5 | 6.8 | -- | -- | 8.8 | 7.4 | 1.4 | 0.3 | 0.1 | 0.0 | 0.4 | 0.0 | 0.3 | 0.0 | 0.7 | 0.1 |

DELAWARE RIVER BASIN--Continued

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

LOCATION.--Between pier 55 south, Wharton Street, Philadelphia, and Kaighn Point,

Camden, N. J.

DRAINAGE AREA.--7,998 square miles.

RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1962.

REMARKS.--Samples collected at center of river approximately 3 feet from bottom. Additional data published in WSP 1262, Chemical characteristics of Delaware River water, Trenton, N. J. to Marcus Hook, Pa.

Chemical analyses, in parts per million, November 1961 to September 1962

| Date of collection | Mean discharge (cfs) | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | pH | Biochemical oxygen demand ^a | Dissolved oxygen ^a |
|--------------------|----------------------|---------------|-------------------------------------------|-----|----------------------------------------|-------------------------------|
| Nov. 1, 1961..... | 2,630 | 32 | 370 | 6.3 | 2.4 | 1.5 |
| Dec. 5..... | 4,740 | 20 | 270 | 6.8 | 1.3 | 3.5 |
| Jan. 3, 1962..... | 4,560 | 18 | 244 | 6.5 | 3.8 | 6.1 |
| Feb. 6..... | 6,800 | 12 | 187 | 6.8 | 4.2 | 8.7 |
| Mar. 20..... | 16,600 | 8.0 | 138 | 6.8 | 3.6 | 10.2 |
| Apr. 9..... | 48,100 | 5.0 | 103 | 7.0 | 2.6 | 10.5 |
| May 1..... | 9,000 | 11 | 175 | 6.4 | 2.5 | 3.3 |
| June 5..... | 3,290 | 15 | 244 | 6.9 | 1.9 | .8 |
| July 3..... | 2,510 | 14 | 254 | 6.9 | .8 | 1.5 |
| Aug. 1..... | 2,220 | 20 | 285 | 6.7 | 1.3 | 1.4 |
| Sept. 5..... | 2,260 | 18 | 254 | 6.7 | 1.9 | 1.6 |

^a Obtained from surface samples.

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.

DRAINAGE AREA.--8,072 square miles.

RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1962.

REMARKS.--Samples collected at center of river approximately 3 feet from bottom. Additional data published in WSP 1262, Chemical characteristics of Delaware River water, Trenton, N.J. to Marcus Hook, Pa. No discharge records available.

Chemical analyses, in parts per million, November 1961 to September 1962

| Date of collection | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | pH | Biochemical oxygen demand ^a | Dissolved oxygen ^a |
|--------------------|---------------|-------------------------------------------|-----|----------------------------------------|-------------------------------|
| Nov. 1, 1961..... | 56 | 469 | 6.5 | 1.5 | 1.7 |
| Jan. 3, 1962..... | 18 | 260 | 6.7 | 2.5 | 6.6 |
| Feb. 6..... | 14 | 207 | 6.4 | 4.5 | 9.0 |
| Mar. 20..... | 7.0 | 132 | 6.8 | 5.6 | 10.8 |
| Apr. 9..... | 5.0 | 100 | 6.8 | 2.2 | 10.0 |
| May 1..... | 12 | 188 | 6.4 | 2.4 | 3.6 |
| June 5..... | 17 | 268 | 6.6 | 1.0 | 1.2 |
| July 3..... | 18 | 285 | 6.8 | 1.0 | 1.9 |
| Aug. 1..... | 25 | 322 | 6.6 | 1.1 | 1.2 |
| Sept. 5..... | 23 | 299 | 6.8 | 1.4 | 1.0 |

^a Obtained from surface samples.

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

LOCATION.--At highway bridge 50 feet downstream from gaging station 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.--Water temperatures: February 1948 to April 1953, December 1956 to September 1962.

Sediment records: October 1947 to September 1962: Maximum, 85°F June 19, July 9, Aug. 20; minimum, freezing point on several days in December to February.

EXTREMES, 1961-62.--Water temperatures: Maximum daily, 1 ppm on Oct. 1-31, Nov. 1-4, 9-16, 18-23, July 1-16, 27-31, and Sept. 23-26.

Sediment concentrations: Maximum daily, 300 ppm Mar. 12; minimum daily, less than 0.50 ton on Oct. 10-31, Nov. 1-4, 10-14, 23, July 1-16, 27-31, Aug. 2-4, 20, Sept. 2-4, 26.

Sediment loads: Maximum daily, 3,750 tons Mar. 12; minimum daily, 0 ppm on many days in 1952.

EXTREMES, 1947-62.--Water temperatures (1948-53, 1956-62): Maximum, 90°F June 17, June 29, 1959; minimum, freezing point on many days during winter months.

Sediment concentrations: Maximum daily, 8,030 ppm Nov. 4, 1947; minimum daily, 0 ppm on many days in 1952.

Sediment loads: Maximum daily, 90,180 tons Nov. 12, 1947; minimum daily, 0 tons on many days in 1952.

REMARKS.--Unpublished records of conductance and pH of sediment samples available in subdistrict office at Harrisburg, Pa. Flow affected by ice Dec. 15-18, 25, 28-31, Jan. 1-5, 10-15, 18, 19, 30, 31, Feb. 1, 3, 4, 6-8, 11-16, 28, and Mar. 1-4.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | Specific conductance (micro-mhos at 25°C) | pH or Col |
|--------------------|----------------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|------------------------------------|-------------------------------------------|-----------|
| | | | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-10, 1961 | 14 | 1.9 | 7.0 | 0.06 | 98 | 65 | 18 | 2.5 | 0 | 542 | 4.0 | 0.2 | 4.5 | 836 | 513 | 513 | 0.8 | 1,030 | 4.2 | 2 |
| Nov. 11-20, 1961 | 10 | 1.5 | 3.5 | .00 | 49 | 31 | 13 | 2.5 | 0 | 260 | 6.0 | .4 | 3.7 | 412 | 246 | 246 | .3 | 566 | 4.2 | 2 |
| Dec. 1-10, 1961 | 8.7 | 1.1 | 1.9 | .02 | 31 | 19 | 10 | 2.0 | 0 | 166 | 6.0 | .2 | 5.0 | 255 | 136 | 136 | -- | 363 | 4.3 | 4 |
| Jan. 1-10, 1962 | 9.4 | .5 | .02 | 1.3 | 26 | 11 | 7.2 | 2.0 | 2 | 118 | 5.5 | .2 | 2.2 | 194 | 110 | 109 | -- | 293 | 4.8 | 3 |
| June 1-10, 1962 | 8.5 | -- | 2.6 | .03 | 28 | 31 | 14 | 2.4 | 0 | 236 | 7.0 | .0 | 6.3 | 381 | 223 | 223 | .2 | 544 | 4.1 | 5 |
| July 1-10, 1962 | 9.4 | -- | 3.3 | .06 | 33 | 28 | 15 | 2.7 | 0 | 306 | 9.0 | .3 | 6.3 | 478 | 294 | 294 | .3 | 666 | 3.9 | 2 |
| Aug. 1-10, 1962 | 8.1 | .5 | 2.9 | .04 | 29 | 48 | 16 | 3.0 | 0 | 260 | 13 | .1 | 3.3 | 432 | 251 | 251 | .4 | 609 | 3.8 | 5 |
| Sept. 1-10, 1962 | 15 | 3.6 | 4.3 | .05 | 54 | -- | 12 | 3.0 | 0 | 470 | 7.0 | -- | 1.5 | 706 | 435 | 435 | .9 | 961 | 3.8 | 5 |

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

Temperature °F of water, water year October 1961 to September 1962

| | | Temperature 1st of Month, from 1850 to 1880, by Month | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Aver- age |
|---------------|----|-------------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------|
| | | Day | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Month | | 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 | 68 | 63 | 61 | 55 | 52 | 55 | 60 | 66 | 68 | 68 | 62 | 67 | 62 | 63 | 56 | 57 | 52 | -- | 57 | 54 | 51 | 56 | 59 | 57 | 50 | 57 | 50 | 42 | 50 | 58 | 60 | 58 | |
| November .. | 54 | 48 | 54 | -- | 64 | 60 | 56 | 53 | 45 | 42 | 44 | 50 | 47 | 50 | -- | 47 | 43 | 47 | 44 | 41 | 40 | 42 | 41 | 45 | 42 | 46 | 45 | 38 | 38 | 39 | -- | 47 | |
| December .. | 40 | 40 | 45 | 43 | 44 | 42 | 41 | 37 | 36 | 35 | 34 | 39 | 38 | 33 | 34 | 32 | 34 | 32 | 36 | 38 | 38 | 35 | 35 | 32 | 34 | 34 | 35 | 34 | 32 | 32 | 34 | 36 | |
| January | 32 | 34 | 33 | 36 | 32 | 35 | 39 | 40 | 34 | 32 | 32 | 32 | 32 | 35 | 37 | 37 | 35 | 33 | 32 | 32 | 33 | 36 | 37 | 34 | 34 | 35 | 35 | 35 | 33 | 34 | 32 | 34 | |
| February | 32 | 33 | 34 | 37 | 42 | 35 | 32 | 32 | 34 | 34 | 33 | 33 | 34 | 34 | 33 | 33 | 37 | 40 | 35 | 35 | 36 | 36 | 39 | 35 | 36 | 37 | 38 | 37 | -- | -- | -- | 35 | |
| March | 36 | 33 | 35 | 36 | 35 | 35 | 36 | 37 | 37 | 39 | 43 | 43 | 41 | 41 | 42 | 41 | 41 | 43 | 41 | 44 | 44 | 44 | 46 | 47 | 48 | 45 | 49 | 51 | 51 | 58 | 50 | 42 | |
| April | 48 | 49 | 48 | 48 | 51 | 50 | 51 | 51 | 49 | 48 | 46 | 46 | 45 | 45 | 44 | 43 | 42 | 42 | 45 | 50 | 52 | 61 | 60 | 59 | 56 | 66 | 69 | 69 | 70 | 65 | -- | 52 | |
| May | 58 | 54 | 54 | 59 | 64 | 64 | 65 | 63 | 55 | 57 | 55 | 56 | 62 | 63 | 67 | 67 | 65 | 70 | 83 | 83 | 79 | 78 | 69 | 73 | 71 | 74 | 77 | 71 | 72 | 71 | 78 | 67 | |
| June | 76 | 78 | 79 | 73 | 71 | 73 | 80 | 82 | 80 | 81 | 82 | 80 | 68 | 70 | 74 | 79 | 82 | 84 | 85 | 76 | 79 | 72 | 74 | 75 | 80 | 81 | 73 | 79 | 76 | 81 | -- | 77 | |
| July | 82 | 79 | 70 | 80 | 74 | 71 | 80 | 84 | 85 | 84 | 75 | 78 | 80 | 71 | 79 | 74 | 74 | 69 | 73 | 80 | 75 | 81 | 80 | 75 | 70 | 76 | 76 | 71 | 75 | 74 | 71 | 76 | |
| August | 79 | 78 | 79 | 71 | 76 | 81 | 79 | 77 | 74 | 69 | -- | -- | 76 | 78 | 76 | 69 | 74 | 80 | 80 | 85 | 76 | 76 | 80 | 77 | 69 | 76 | 75 | 78 | 83 | 75 | 76 | 76 | |
| September .. | 72 | 73 | 74 | 73 | 68 | 71 | 65 | 70 | 70 | 74 | 73 | 67 | 66 | 72 | 67 | 72 | 66 | 68 | 61 | 64 | 64 | 59 | 61 | 63 | 60 | 61 | 59 | 58 | 58 | 61 | -- | 66 | |

DELAWARE RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962

| 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.. | 221 | C 1 | 1 | 140 | C 1 | T | 318 | C 3 | 3 |
| 2.. | 216 | C 1 | 1 | 118 | C 1 | T | 312 | C 3 | 3 |
| 3.. | 226 | C 1 | 1 | 125 | C 1 | T | 293 | C 2 | 2 |
| 4.. | 260 | C 1 | 1 | 132 | C 1 | T | 269 | C 2 | 1 |
| 5.. | 237 | C 1 | 1 | 149 | 2 | 1 | 293 | C 2 | 2 |
| 6.. | 221 | C 1 | 1 | 280 | 12 | S 10 | 281 | C 2 | 2 |
| 7.. | 216 | C 1 | 1 | 450 | 17 | 21 | 275 | C 2 | 1 |
| 8.. | 211 | C 1 | 1 | 272 | 4 | 3 | 240 | C 2 | 1 |
| 9.. | 200 | C 1 | 1 | 190 | C 1 | T | 223 | C 2 | 1 |
| 10.. | 180 | C 1 | T | 162 | C 1 | T | 246 | C 3 | 2 |
| 11.. | 180 | C 1 | T | 154 | C 1 | T | 246 | C 3 | 2 |
| 12.. | 176 | C 1 | T | 149 | C 1 | T | 312 | C 3 | 3 |
| 13.. | 171 | C 1 | T | 145 | C 1 | T | 374 | C 3 | 3 |
| 14.. | 176 | C 1 | T | 168 | C 1 | T | 305 | C 3 | 2 |
| 15.. | 185 | C 1 | T | 288 | C 1 | 1 | 260 | C 3 | 2 |
| 16.. | 167 | C 1 | T | 216 | C 1 | 1 | 230 | C 5 | 3 |
| 17.. | 167 | C 1 | T | 332 | 4 | 4 | 250 | C 5 | 3 |
| 18.. | 162 | C 1 | T | 282 | C 1 | 1 | 520 | 62 S | 109 |
| 19.. | 158 | C 1 | T | 221 | C 1 | 1 | 885 | 21 | 50 |
| 20.. | 158 | C 1 | T | 211 | C 1 | 1 | 799 | C 9 | 19 |
| 21.. | 158 | C 1 | T | 206 | C 1 | 1 | 728 | C 9 | 18 |
| 22.. | 162 | C 1 | T | 190 | C 1 | 1 | 663 | C 9 | 16 |
| 23.. | 162 | C 1 | T | 185 | C 1 | T | 601 | C 9 | 15 |
| 24.. | 167 | C 1 | T | 744 | 118 S | 370 | 601 | C 9 | 15 |
| 25.. | 176 | C 1 | T | 823 | 22 S | 56 | 520 | C 9 | 13 |
| 26.. | 176 | C 1 | T | 559 | 5 | 8 | 498 | C 8 | 11 |
| 27.. | 171 | C 1 | T | 475 | 3 | 4 | 461 | C 8 | 10 |
| 28.. | 158 | C 1 | T | 427 | C 3 | 3 | 470 | C 8 | 10 |
| 29.. | 149 | C 1 | T | 374 | C 3 | 3 | 420 | C 8 | 9 |
| 30.. | 149 | C 1 | T | 342 | C 3 | 3 | 360 | C 8 | 8 |
| 31.. | 154 | C 1 | T | -- | -- | -- | 350 | C 8 | 8 |
| Total | 5670 | -- | 19 | 8509 | -- | 498 | 12603 | -- | 347 |
| | | | | | | | | | |
| 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.. | 350 | 7 | 7 | 380 | 6 | 6 | 2100 | 95 | 539 |
| 2.. | 340 | 13 | 12 | 434 | 9 | 11 | 1450 | 35 | 137 |
| 3.. | 330 | 13 | 12 | 390 | 11 | 12 | 1100 | 26 | 77 |
| 4.. | 310 | 10 | 8 | 390 | 12 | 13 | 950 | 16 | 41 |
| 5.. | 330 | 10 | 9 | 498 | 10 | 13 | 907 | 11 | 27 |
| 6.. | 540 | 35 S | 65 | 450 | 8 | 10 | 830 | 19 | 43 |
| 7.. | 3200 | 199 S | 1850 | 370 | 8 | 8 | 728 | 18 | 35 |
| 8.. | 2640 | 42 S | 299 | 350 | 9 | 9 | 682 | 11 | 20 |
| 9.. | 1900 | 20 S | 103 | 387 | 10 | 10 | 700 | 9 | 17 |
| 10.. | 1350 | 15 S | 55 | 374 | 8 | 8 | 680 | 27 S | 52 |
| 11.. | 1100 | 20 S | 59 | 310 | 11 | 9 | 810 | 15 | 33 |
| 12.. | 1000 | 23 S | 62 | 300 | 13 | 11 | 3470 | 300 S | 3750 |
| 13.. | 900 | 24 S | 58 | 310 | 11 | 9 | 2480 | 88 S | 641 |
| 14.. | 800 | 21 S | 45 | 330 | 7 | 6 | 1830 | 26 | 128 |
| 15.. | 770 | 64 S | 173 | 350 | 19 | 18 | 1590 | 12 | 52 |
| 16.. | 1370 | 38 S | 157 | 330 | 11 | 10 | 1420 | 8 | 31 |
| 17.. | 885 | 10 | 24 | 318 | 9 | 8 | 1240 | 11 | 37 |
| 18.. | 700 | C 10 | 19 | 318 | 7 | 6 | 1080 | 18 | 52 |
| 19.. | 680 | C 10 | 18 | 330 | 7 | 6 | 998 | 6 | 16 |
| 20.. | 663 | C 10 | 18 | 324 | C 7 | 6 | 929 | 6 | 15 |
| 21.. | 601 | C 10 | 16 | 312 | C 7 | 6 | 1200 | 13 S | 55 |
| 22.. | 585 | C 7 | 11 | 312 | C 7 | 6 | 1940 | 26 S | 139 |
| 23.. | 644 | C 7 | 12 | 330 | C 7 | 6 | 1590 | 10 | 43 |
| 24.. | 559 | C 6 | 9 | 1970 | 126 S | 779 | 1360 | 8 | 29 |
| 25.. | 513 | C 6 | 8 | 1070 | 31 S | 95 | 1190 | 7 | 22 |
| 26.. | 490 | C 6 | 8 | 1520 | 266 S | 1590 | 1060 | C 6 | 17 |
| 27.. | 725 | C 5 | 10 | 2340 | 88 S | 653 | 952 | C 6 | 15 |
| 28.. | 551 | C 5 | 7 | 3400 | 166 S | 1540 | 852 | C 6 | 14 |
| 29.. | 468 | C 5 | 6 | -- | -- | -- | 779 | C 4 | 8 |
| 30.. | 420 | C 5 | 6 | -- | -- | -- | 719 | C 4 | 8 |
| 31.. | 400 | C 5 | 5 | -- | -- | -- | 682 | C 4 | 7 |
| Total | 26114 | -- | 3151 | 18497 | -- | 4864 | 38298 | -- | 6100 |

S Computed by subdividing day.

T Less than 0.50 ton.

C Composite period.

DELAWARE RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962--Continued

| Day | APRIL | | | MAY | | | JUNE | | |
|-------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| | Suspended sediment | | | Suspended sediment | | | Suspended sediment | | |
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 964 | 6 | 16 | 461 | 3 | 4 | 223 | 2 | 1 |
| 2.. | 1030 | C 4 | 11 | 483 | C 3 | 4 | 206 | C 2 | 1 |
| 3.. | 885 | C 4 | 10 | 521 | C 3 | 4 | 184 | C 2 | 1 |
| 4.. | 820 | C 4 | 9 | 461 | C 3 | 4 | 174 | C 2 | 1 |
| 5.. | 779 | C 4 | 8 | 427 | C 3 | 3 | 191 | 4 | 2 |
| 6.. | 738 | C 4 | 8 | 406 | C 3 | 3 | 235 | 4 | 3 |
| 7.. | 1370 | 30 S | 136 | 400 | C 2 | 2 | 190 | C 3 | 2 |
| 8.. | 2260 | 32 | 195 | 380 | C 2 | 2 | 158 | C 3 | 1 |
| 9.. | 2110 | 14 | 80 | 413 | C 2 | 2 | 158 | C 3 | 1 |
| 10.. | 1830 | 14 | 69 | 374 | C 2 | 2 | 148 | C 3 | 1 |
| 11.. | 1530 | 9 | 37 | 368 | C 2 | 2 | 142 | C 3 | 1 |
| 12.. | 1390 | 6 | 23 | 361 | C 2 | 2 | 218 | 4 | 2 |
| 13.. | 1530 | 12 | 50 | 342 | C 2 | 2 | 565 | 17 S | 27 |
| 14.. | 1390 | 10 | 38 | 330 | C 2 | 2 | 330 | 5 | 4 |
| 15.. | 1240 | 7 | 23 | 330 | C 2 | 2 | 269 | C 3 | 2 |
| 16.. | 1150 | 7 | 22 | 312 | C 2 | 2 | 252 | C 3 | 2 |
| 17.. | 1010 | 7 | 19 | 312 | C 2 | 2 | 218 | C 3 | 2 |
| 18.. | 918 | 6 | 15 | 299 | C 2 | 2 | 190 | C 3 | 2 |
| 19.. | 841 | C 5 | 11 | 287 | C 3 | 2 | 174 | C 3 | 1 |
| 20.. | 769 | C 5 | 10 | 293 | C 3 | 2 | 163 | C 3 | 1 |
| 21.. | 691 | C 5 | 9 | 342 | C 3 | 3 | 158 | C 2 | 1 |
| 22.. | 635 | C 5 | 9 | 293 | C 3 | 2 | 148 | C 2 | 1 |
| 23.. | 601 | C 5 | 8 | 258 | C 3 | 2 | 214 | 6 | 3 |
| 24.. | 568 | C 5 | 8 | 315 | C 3 | 3 | 391 | 16 | 17 |
| 25.. | 528 | C 3 | 4 | 318 | C 2 | 2 | 275 | 6 | 4 |
| 26.. | 498 | C 3 | 4 | 269 | C 2 | 1 | 223 | C 2 | 1 |
| 27.. | 475 | C 3 | 4 | 258 | C 2 | 1 | 184 | C 2 | 1 |
| 28.. | 454 | C 3 | 4 | 246 | C 2 | 1 | 179 | C 2 | 1 |
| 29.. | 440 | C 3 | 4 | 235 | C 2 | 1 | 184 | C 2 | 1 |
| 30.. | 447 | C 3 | 4 | 229 | C 2 | 1 | 168 | C 2 | 1 |
| 31.. | -- | -- | -- | 223 | C 2 | 1 | -- | -- | -- |
| Total | 29891 | -- | 848 | 10546 | -- | 68 | 6512 | -- | 89 |
| | | | | | | | | | |
| Day | JULY | | | AUGUST | | | SEPTEMBER | | |
| | Suspended sediment | | | Suspended sediment | | | Suspended sediment | | |
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 163 | C 1 T | | 99 | C 2 | 1 | 142 | 4 | 2 |
| 2.. | 142 | C 1 T | | 81 | C 2 T | | 264 | 28 S | 22 |
| 3.. | 127 | C 1 T | | 76 | C 2 T | | 254 | 11 S | 8 |
| 4.. | 148 | C 1 T | | 72 | C 2 T | | 196 | 7 | 4 |
| 5.. | 122 | C 1 T | | 81 | 11 | 2 | 270 | 24 S | 19 |
| 6.. | 142 | C 1 T | | 86 | 15 | 3 | 305 | 28 | 23 |
| 7.. | 137 | C 1 T | | 168 | 116 | 53 | 223 | 24 | 14 |
| 8.. | 127 | C 1 T | | 127 | 43 | 15 | 190 | 5 | 3 |
| 9.. | 108 | C 1 T | | 184 | 124 S | 96 | 196 | 5 | 3 |
| 10.. | 112 | C 1 T | | 393 | 74 S | 81 | 301 | 16 S | 25 |
| 11.. | 117 | C 1 T | | 281 | 50 A | 38 | 453 | 28 S | 36 |
| 12.. | 117 | C 1 T | | 179 | 45 A | 22 | 264 | 12 | 9 |
| 13.. | 122 | C 1 T | | 132 | 35 | 12 | 223 | C 2 | 1 |
| 14.. | 108 | C 1 T | | 117 | 16 | 5 | 212 | C 2 | 1 |
| 15.. | 117 | C 1 T | | 117 | 13 | 4 | 201 | C 2 | 1 |
| 16.. | 94 | C 1 T | | 117 | 14 | 4 | 163 | C 2 | 1 |
| 17.. | 94 | C 2 | 1 | 117 | 15 | 5 | 174 | C 2 | 1 |
| 18.. | 106 | C 2 | 1 | 99 | 10 | 3 | 306 | C 2 | 2 |
| 19.. | 168 | C 2 | 1 | 99 | 5 | 1 | 212 | C 2 | 1 |
| 20.. | 117 | C 2 | 1 | 86 | 2 T | | 206 | C 2 | 1 |
| 21.. | 99 | C 2 | 1 | 112 | 8 | 2 | 179 | C 2 | 1 |
| 22.. | 127 | C 2 | 1 | 117 | 9 | 3 | 168 | C 2 | 1 |
| 23.. | 185 | 7 A | 3 | 99 | 8 | 2 | 158 | C 1 T | |
| 24.. | 276 | 7 A | 5 | 90 | 8 | 2 | 158 | C 1 T | |
| 25.. | 142 | C 3 | 1 | 90 | 13 | 3 | 153 | C 1 T | |
| 26.. | 112 | C 3 | 1 | 90 | 13 | 3 | 158 | C 1 T | |
| 27.. | 99 | C 1 T | | 81 | 6 | 1 | 204 | 6 | 3 |
| 28.. | 90 | C 1 T | | 514 | 84 S | 182 | 976 | 73 S | 206 |
| 29.. | 90 | C 1 T | | 258 | 25 S | 19 | 730 | 10 | 20 |
| 30.. | 81 | C 1 T | | 163 | 10 | 4 | 468 | 5 | 6 |
| 31.. | 108 | C 1 T | | 127 | 4 | 1 | -- | -- | -- |
| Total | 3897 | -- | 23 | 4452 | -- | 569 | 8107 | -- | 416 |

Total discharge for year (cfs-days).....173178

Total load for year (tons).....16992

S Computed by subdividing day.

A Computed from partly estimated-concentration graph.

T Less than 0.50 ton.

C Composite period.

QUALITY OF SURFACE WATERS, 1962

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 1962.

EXTREMES, 1961-62.--Sediment concentrations: Maximum daily, 1,050 ppm Jan. 7; minimum daily, 3 ppm Jan. 1-5.

Sediment loads: Maximum daily, 48,900 tons Jan. 7; minimum daily, 4 tons Aug. 4.

EXTREMES, 1947-62.--Sediment concentrations: Maximum daily, 4,910 ppm Dec. 30, 1948; minimum daily, 1 ppm on several days.

Sediment loads: Maximum daily, estimated 650,000 tons Aug. 19, 1955; minimum daily, 2 tons on several days.

REMARKS.--Records of temperature of sediment samples available in subdistrict office at Harrisburg, Pa. The streamflow records given are for the Schuylkill River at Philadelphia (Fairmount Dam). These records do not include water diverted by the City of Philadelphia for municipal water supply. Prior to the 1958 water year, published sediment records included diverted water.

Suspended sediment, water year October 1961 to September 1962

| Day | Mean discharge (cfs) | OCTOBER | | NOVEMBER | | | DECEMBER | | |
|-------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| | | 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.. | 300 | C 16 | 13 | 384 | C 11 | 11 | 716 | C 7 | 14 |
| 2.. | 382 | C 16 | 17 | 340 | C 11 | 10 | 683 | C 7 | 13 |
| 3.. | 574 | C 16 | 25 | 340 | C 11 | 10 | 620 | C 7 | 12 |
| 4.. | 542 | C 17 | 25 | 340 | C 10 | 9 | 590 | C 6 | 6 |
| 5.. | 882 | C 17 | 40 | 362 | C 10 | 10 | 590 | C 7 | 11 |
| 6.. | 651 | C 17 | 30 | 362 | C 10 | 10 | 533 | C 8 | 12 |
| 7.. | 455 | C 11 | 14 | 561 | C 12 | 18 | 561 | C 7 | 11 |
| 8.. | 455 | C 11 | 14 | 1070 | C 23 | 66 | 506 | C 6 | 8 |
| 9.. | 455 | C 11 | 14 | 823 | C 19 | 42 | 431 | C 5 | 6 |
| 10.. | 431 | C 10 | 12 | 533 | C 15 | 22 | 506 | C 5 | 7 |
| 11.. | 384 | C 10 | 10 | 431 | C 10 | 12 | 506 | C 5 | 7 |
| 12.. | 384 | C 10 | 10 | 407 | C 9 | 10 | 981 | C 5 | 13 |
| 13.. | 362 | C 12 | 12 | 384 | C 8 | 8 | 1470 | C 8 | 32 |
| 14.. | 407 | C 12 | 13 | 455 | C 8 | 10 | 1310 | C 8 | 28 |
| 15.. | 480 | C 15 | 19 | 561 | C 9 | 14 | 894 | C 8 | 19 |
| 16.. | 455 | C 14 | 17 | 620 | C 12 | 20 | 700 | C 13 | 25 |
| 17.. | 407 | C 14 | 15 | 716 | C 12 | 23 | 750 | C 13 | 26 |
| 18.. | 384 | C 12 | 12 | 750 | C 12 | 24 | 1500 | C 13 | 228 |
| 19.. | 362 | C 10 | 10 | 683 | C 12 | 22 | 4000 | -- | E 420 |
| 20.. | 362 | C 10 | 10 | 620 | C 8 | 13 | 3000 | -- | E 180 |
| 21.. | 506 | C 10 | 14 | 561 | C 8 | 12 | 2200 | C 12 | 71 |
| 22.. | 651 | C 14 | 25 | 533 | C 8 | 12 | 1800 | C 12 | 58 |
| 23.. | 590 | C 14 | 22 | 506 | C 8 | 11 | 1700 | C 12 | 55 |
| 24.. | 407 | C 14 | 15 | 1190 | C 13 | 46 | 1600 | C 12 | 52 |
| 25.. | 407 | C 14 | 15 | 2140 | C 33 | 191 | 1500 | C 9 | 36 |
| 26.. | 431 | C 12 | 14 | 1440 | C 18 | 70 | 1400 | C 9 | 34 |
| 27.. | 407 | C 12 | 13 | 1230 | C 15 | 50 | 1300 | C 9 | 32 |
| 28.. | 407 | C 12 | 13 | 1110 | C 14 | 42 | 1350 | C 9 | 33 |
| 29.. | 384 | C 9 | 9 | 966 | C 13 | 34 | 1250 | C 9 | 30 |
| 30.. | 384 | C 9 | 9 | 822 | C 8 | 18 | 1190 | C 9 | 29 |
| 31.. | 362 | C 9 | 9 | -- | -- | -- | 966 | C 9 | 23 |
| Total | 14050 | -- | 490 | 21240 | -- | 850 | 37103 | -- | 1531 |

E Estimated.

C Composite period.

NORTH ATLANTIC SLOPE BASINS
DELAWARE RIVER BASIN--Continued

95

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

Suspended sediment, water year October 1961 to September 1962--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.. | 966 | C 3 | 8 | 1110 | C 7 | 21 | 14700 | 130 | 5160 |
| 2.. | 966 | C 3 | 8 | 1150 | C 7 | 22 | 7550 | 56 | 1140 |
| 3.. | 930 | C 3 | 8 | 1190 | C 7 | 22 | 5170 | 26 | 363 |
| 4.. | 894 | C 3 | 7 | 1190 | C 7 | 22 | 4090 | 17 | 188 |
| 5.. | 822 | C 3 | 7 | 1270 | C 6 | 21 | 3550 | 14 | 134 |
| 6.. | 2100 | 40 S | 304 | 1510 | C 6 | 24 | 3440 | 13 | 121 |
| 7.. | 15200 | 1050 S | 48900 | 1510 | C 6 | 24 | 3280 | 11 | 97 |
| 8.. | 12300 | 460 | 15300 | 1150 | C 6 | 19 | 3020 | 11 | 90 |
| 9.. | 8160 | 175 | 3860 | 1110 | C 6 | 18 | 2970 | 13 | 104 |
| 10.. | 5580 | 52 | 783 | 1150 | C 6 | 19 | 3080 | 15 | 125 |
| 11.. | 3930 | 26 | 276 | 1040 | C 6 | 17 | 4320 | 24 | 280 |
| 12.. | 3130 | C 13 | 110 | 894 | C 6 | 14 | 17800 | 634 S | 43000 |
| 13.. | 2670 | C 13 | 94 | 966 | C 6 | 16 | 18500 | 684 S | 36500 |
| 14.. | 2370 | C 13 | 83 | 1040 | C 6 | 17 | 9350 | 175 S | 4560 |
| 15.. | 2420 | 20 | 131 | 1040 | C 6 | 17 | 6820 | 72 | 1330 |
| 16.. | 3490 | 40 | 377 | 1110 | C 7 | 18 | 5640 | 50 | 761 |
| 17.. | 3460 | 53 | 495 | 1040 | C 7 | 17 | 4880 | 44 | 580 |
| 18.. | 2420 | 32 | 209 | 1000 | C 7 | 16 | 4200 | 26 | 295 |
| 19.. | 2040 | C 9 | 50 | 1270 | C 7 | 21 | 3760 | 19 | 193 |
| 20.. | 1950 | C 9 | 47 | 1350 | C 9 | 33 | 3490 | 19 | 179 |
| 21.. | 1770 | C 9 | 43 | 1310 | C 9 | 32 | 4060 | 51 S | 650 |
| 22.. | 1690 | C 11 | 50 | 1310 | C 9 | 32 | 9200 | 212 S | 5340 |
| 23.. | 1820 | C 11 | 54 | 1590 | C 9 | 39 | 6360 | 75 | 1290 |
| 24.. | 1910 | C 11 | 57 | 8610 | 280 S | 9320 | 5050 | 30 | 409 |
| 25.. | 1690 | C 6 | 27 | 12600 | 494 S | 18300 | 4370 | 20 | 236 |
| 26.. | 1600 | C 6 | 26 | 11900 | 338 S | 17900 | 3820 | 18 | 186 |
| 27.. | 1640 | C 6 | 27 | 18200 | 740 S | 40200 | 3490 | 15 | 141 |
| 28.. | 2040 | C 6 | 33 | 17700 | 225 | 10800 | 3180 | C 12 | 103 |
| 29.. | 1730 | C 6 | 28 | -- | -- | -- | 2920 | C 12 | 95 |
| 30.. | 1510 | C 6 | 24 | -- | -- | -- | 2720 | C 12 | 88 |
| 31.. | 1270 | C 6 | 21 | -- | -- | -- | 2570 | 14 | 97 |
| Total | 94468 | -- | 71447 | 96310 | -- | 97021 | 177350 | -- | 103835 |
| | | | | | | | | | |
| 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.. | 7990 | 182 S | 5710 | 1820 | 12 | 59 | 1540 | 24 S | 116 |
| 2.. | 7350 | 138 S | 3100 | 2000 | 15 | 81 | 1230 | 17 S | 57 |
| 3.. | 4430 | 28 | 335 | 2140 | 18 | 104 | 858 | C 12 | 28 |
| 4.. | 3550 | 15 | 144 | 2140 | 16 | 92 | 750 | C 12 | 24 |
| 5.. | 3230 | C 12 | 105 | 1770 | 15 | 72 | 683 | C 12 | 22 |
| 6.. | 3020 | C 12 | 98 | 1600 | 14 | 60 | 907 | 14 S | 36 |
| 7.. | 3590 | 22 S | 238 | 1470 | C 13 | 52 | 1070 | 17 | 49 |
| 8.. | 7340 | 104 | 2060 | 1430 | C 13 | 50 | 786 | 12 | 25 |
| 9.. | 6690 | 68 | 1230 | 1390 | C 13 | 49 | 620 | 13 | 22 |
| 10.. | 7470 | 68 | 1370 | 1390 | C 12 | 45 | 561 | 16 | 24 |
| 11.. | 5700 | 25 | 385 | 1310 | C 12 | 42 | 561 | 15 | 23 |
| 12.. | 5580 | 20 | 301 | 1310 | C 12 | 42 | 1370 | 19 S | 70 |
| 13.. | 8600 | 72 S | 1720 | 1270 | C 9 | 31 | 2720 | 34 | 250 |
| 14.. | 6620 | 22 | 393 | 1190 | C 9 | 29 | 2520 | 32 | 218 |
| 15.. | 5400 | C 15 | 219 | 1150 | C 9 | 28 | 1600 | 31 S | 134 |
| 16.. | 5000 | C 15 | 202 | 1110 | C 16 | 48 | 1190 | 18 | 58 |
| 17.. | 4480 | C 15 | 181 | 1070 | C 16 | 46 | 966 | 16 | 42 |
| 18.. | 3980 | C 9 | 97 | 1040 | C 16 | 45 | 822 | 13 | 29 |
| 19.. | 3600 | C 9 | 87 | 1000 | C 16 | 43 | 716 | 14 | 27 |
| 20.. | 3340 | C 9 | 81 | 930 | C 9 | 23 | 683 | 16 | 30 |
| 21.. | 3130 | C 9 | 76 | 930 | C 9 | 23 | 683 | 16 | 30 |
| 22.. | 2820 | C 11 | 84 | 1000 | C 9 | 24 | 620 | 15 | 25 |
| 23.. | 2620 | C 11 | 78 | 858 | 9 | 21 | 561 | 16 | 24 |
| 24.. | 2470 | C 11 | 73 | 1280 | 13 | 45 | 792 | 18 | 38 |
| 25.. | 2280 | C 11 | 68 | 2260 | 28 A | 180 | 1460 | 25 | 99 |
| 26.. | 2090 | C 11 | 62 | 1420 | 18 | 69 | 930 | 14 | 35 |
| 27.. | 2000 | C 11 | 59 | 1000 | 17 | 46 | 786 | 24 | 51 |
| 28.. | 1910 | C 11 | 57 | 858 | C 16 | 37 | 651 | 18 | 32 |
| 29.. | 1770 | C 11 | 53 | 750 | C 16 | 32 | 533 | 14 | 20 |
| 30.. | 1770 | C 11 | 53 | 786 | C 16 | 34 | 480 | 17 | 22 |
| 31.. | -- | -- | -- | 750 | C 16 | 32 | -- | -- | -- |
| Total | 129820 | -- | 18719 | 40422 | -- | 1584 | 29649 | -- | 1660 |

S Computed by subdividing day.

A Computed from partly estimated-concentration graph.

C Composite period.

QUALITY OF SURFACE WATERS, 1962

DELAWARE RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962--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.. | 533 | 18 | 26 | 229 | 15 | 9 | 229 | 9 | 6 |
| 2.. | 480 | 15 | 19 | 229 | 15 | 9 | 642 | 19 S | 43 |
| 3.. | 455 | 14 | 17 | 184 | 12 | 6 | 894 | 16 | 39 |
| 4.. | 384 | 16 | 17 | 170 | 9 | 4 | 651 | 16 | 28 |
| 5.. | 384 | 13 | 13 | 170 | 40 | 18 | 480 | 15 | 19 |
| 6.. | 362 | 13 | 13 | 170 | 18 | 8 | 533 | 12 | 17 |
| 7.. | 384 | 12 | 12 | 229 | 16 | 10 | 561 | 12 | 18 |
| 8.. | 407 | 15 | 16 | 319 | 17 | 15 | 431 | 14 | 16 |
| 9.. | 407 | 18 | 20 | 910 | 22 S | 53 | 362 | 12 | 12 |
| 10.. | 319 | 16 | 14 | 2280 | 34 S | 232 | 280 | 12 | 9 |
| 11.. | 319 | 13 | 11 | 2600 | 72 | 505 | 299 | 15 | 12 |
| 12.. | 299 | 12 | 10 | 1330 | 54 | 194 | 513 | 18 S | 25 |
| 13.. | 319 | 12 | 10 | 750 | 37 | 75 | 431 | 10 | 12 |
| 14.. | 319 | C | 14 | 561 | 23 | 35 | 319 | 8 | 7 |
| 15.. | 362 | C | 14 | 455 | 13 | 16 | 299 | 10 | 8 |
| 16.. | 384 | C | 14 | 407 | 10 | 11 | 280 | 9 | 7 |
| 17.. | 362 | C | 14 | 480 | 13 | 17 | 319 | 11 | 9 |
| 18.. | 560 | 20 S | 32 | 319 | 11 | 9 | 319 | 11 | 9 |
| 19.. | 428 | 15 | 17 | 280 | 12 | 9 | 362 | 13 | 13 |
| 20.. | 319 | 14 | 12 | 299 | 13 | 10 | 431 | 12 | 14 |
| 21.. | 340 | 11 | 10 | 262 | 14 | 10 | 384 | 8 | 8 |
| 22.. | 319 | 13 | 11 | 245 | 12 | 8 | 340 | 10 | 9 |
| 23.. | 299 | 16 | 13 | 262 | 13 | 9 | 340 | 12 | 11 |
| 24.. | 340 | 20 | 18 | 229 | 13 | 8 | 319 | 10 | 9 |
| 25.. | 506 | 20 | 27 | 213 | 14 | 9 | 319 | 10 | 9 |
| 26.. | 431 | 16 | 19 | 213 | 16 | 9 | 362 | 8 | 8 |
| 27.. | 262 | 15 | 11 | 197 | 13 A | 7 | 582 | 11 | 17 |
| 28.. | 229 | 19 | 12 | 1090 | 25 S | 120 | 1390 | 19 S | 78 |
| 29.. | 245 | 17 | 11 | 431 | 9 | 10 | 2620 | 36 | 255 |
| 30.. | 245 | 16 | 11 | 651 | 14 | 25 | 2370 | 42 | 269 |
| 31.. | 245 | 14 | 9 | 319 | 9 | 8 | -- | -- | -- |
| Total | 11247 | -- | 466 | 16483 | -- | 1468 | 17661 | -- | 996 |
| Total discharge for year (cfs-days)..... | | | | | | | | | 685803 |
| Total load for year (tons)..... | | | | | | | | | 300067 |

S Computed by subdividing day.

A Computed from partly estimated-concentration graph.

C Composite period.

DELAWARE RIVER BASIN--Continued

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

Particle-size analyses of suspended sediment, water year October 1961 to September 1962
 (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) | Water tem- per- ature (° F) | Discharge (cfs) | Sediment con- cen- tration (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 | |
| Jan. 8, 1962..... | 0900 | 42 | 13,100 | 490 | | 10 | 23 | 40 | 50 | 70 | 90 | 96 | 98 | 99 | SWBC | |
| Mar. 12..... | 1545 | 40 | 26,200 | 1,000 | | 12 | 23 | 39 | 50 | 66 | 87 | 88 | 93 | 97 | SWBC | |

DELAWARE RIVER BASIN--Continued

1-4745. SCHUYLKILL RIVER AT PHILADELPHIA, PA.

LOCATION.--At Belmont Filter Plant, 1.6 miles upstream from gaging station, 40 feet upstream from Fairmount Dam, 1,000 feet upstream from Spring Garden Street Bridge, Philadelphia, Philadelphia County, and 8.2 miles upstream from mouth.

DRAINAGE AREA.--1,893 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1945 to September 1962.

EXTREMES, 1961-62.--Specific conductance: Maximum daily, 466 micromhos Aug. 27; minimum daily, 154 micromhos Apr. 14.

Water temperatures: Maximum, 80°F on many days during summer months; minimum, 34°F Jan. 13, 14.

EXTREMES, 1945-56.--Dissolved solids (1945-56, 1958-59): Maximum, 362 ppm Oct. 21-30, 1953; minimum, 123 ppm Feb. 21-29, 1948, Jan. 1-10, 1949.

Hardness (1946-59): Maximum, 231 ppm Oct. 4-9, 1951; minimum, 73 ppm Jan. 1-10, 1949.

Specific conductance: Maximum daily, 695 micromhos Sept. 22, 1962; minimum daily, 140 micromhos Feb. 27, 1962.

Water temperatures: Maximum, 86°F July 20, Aug. 7, 1950; 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.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 ⁺ | Specific conductance (micro-mhos at 25°C) | Color or pH |
|---------------------------|----------------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|-------------------------|---------------------------------|-------------------------------------------|-------------|
| | | | | | | | | | | | | | | | | Calcium | Non-carbonate magnesium | | | |
| Oct. 1-10, 1961 | 513 | 9.6 | | 0.02 | 0.00 | 44 | 17 | 21 | 3.5 | 94 | 102 | 25 | 0.3 | 8.6 | 285 | 180 | 103 | | 455 | 7.5 |
| Nov. 1-10, 1961 | 512 | 9.9 | | .02 | .00 | 59 | 25 | 25 | 4.2 | 94 | 167 | 25 | .3 | 9.5 | 385 | 250 | 173 | | 607 | 7.5 |
| Dec. 1-10, 1961 | 574 | 11 | | .00 | .00 | 33 | 15 | 17 | 3.2 | 70 | 88 | 20 | .2 | 9.4 | 234 | 144 | 87 | | 378 | 7.3 |
| Jan. 1-10, 1962 | 4,790 | 11 | | .00 | .00 | 29 | 9.0 | 12 | 2.8 | 60 | 59 | 15 | .2 | 9.2 | 185 | 110 | 61 | | 293 | 7.0 |
| Feb. 1-10, 1962 | 1,230 | 12 | | .00 | .10 | 34 | 13 | 15 | 2.8 | 64 | 79 | 18 | .2 | 11 | 222 | 139 | 86 | | 355 | 7.2 |
| Mar. 1-10, 1962 | 5,080 | 10 | | .02 | .00 | 22 | 7.5 | 8.4 | 2.5 | 42 | 46 | 10 | .1 | 9.3 | 153 | 86 | 52 | | 228 | 6.9 |
| Apr. 1-10, 1962 | 5,470 | 13 | | .03 | .0 | 23 | 8.0 | 8.4 | 2.0 | 44 | 50 | 9.6 | .1 | 8.0 | 155 | 91 | 55 | | 236 | 6.7 |
| May 1-10, 1962 | 1,710 | 8.8 | | .00 | .05 | 23 | 13 | 18 | 2.6 | 70 | 78 | 16 | .2 | 7.9 | 225 | 136 | 79 | | 335 | 7.4 |
| June 1-10, 1962 | 900 | 13 | | .00 | .00 | 46 | 17 | 18 | 3.4 | 86 | 113 | 20 | .1 | 8.6 | 310 | 185 | 115 | | 456 | 7.5 |
| July 1-10, 1962 | 412 | 8.7 | | .00 | .00 | 41 | 17 | 23 | 4.5 | 100 | 91 | 25 | .3 | 7.0 | 285 | 173 | 91 | | 442 | 7.6 |
| Aug. 1-10, 1962 | 489 | 4.2 | | .00 | .00 | 45 | 20 | 27 | 4.5 | 106 | 118 | 30 | .4 | 7.2 | 312 | 195 | 108 | | 535 | 7.7 |
| Sept. 1-10, 1962 | 506 | 5.3 | | .02 | .01 | 40 | 19 | 24 | 4.8 | 94 | 111 | 27 | .2 | 3.0 | 288 | 178 | 101 | | 462 | 7.3 |
| Time-weighted average.... | 1,879 | 9.7 | | 0.01 | 0.01 | 37 | 15 | 18 | 3.4 | 77 | 92 | 20 | 0.2 | 8.2 | 253 | 156 | 93 | | 398 | -- |

DELAWARE RIVER BASIN--Continued
1-4745. SCHUYLKILL RIVER AT PHILADELPHIA, PA.--Continued

Temperature °F of water, water year October 1961 to September 1962

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

QUALITY OF SURFACE WATERS, 1962

DELAWARE RIVER BASIN--Continued

1-4762, DELAWARE RIVER AT EDDYSTONE, PA.

LOCATION.--Between river end of piers of Sun Shipbuilding and Drydock Co., Eddystone, and a point 2,000 feet offshore of north river bank of Monds Island, N.J.

DRAINAGE AREA.--10,190 square miles.

RECORDS AVAILABLE.--Chemical analyses: August 1949 to September 1962.

REMARKS.--Samples collected at center of river 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. No discharge records available.

Chemical analyses, in parts per million, November 1961 to September 1962

| Date of collection | Sampling station | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | pH | Biochemical oxygen demand | Dissolved oxygen |
|--------------------|------------------|---------------|-------------------------------------------|-----|---------------------------|------------------|
| Nov. 1, 1961... | Top | -- | 1,120 | 6.5 | 3.7 | 3.2 |
| | Bottom | 245 | 1,160 | 6.4 | -- | -- |
| Dec. 5..... | Top | 68 | 513 | 6.9 | 2.4 | 3.7 |
| | Bottom | -- | -- | -- | -- | -- |
| Jan. 3, 1962... | Top | -- | 298 | 6.8 | 4.3 | 6.5 |
| | Bottom | 24 | 297 | 6.8 | -- | -- |
| Feb. 6..... | Top | -- | 220 | 6.6 | 4.8 | 7.5 |
| | Bottom | 14 | 220 | 6.7 | -- | -- |
| Mar. 20..... | Top | -- | 172 | 7.0 | 2.9 | 8.5 |
| | Bottom | 10 | 172 | 6.9 | -- | -- |
| Apr. 9..... | Top | -- | 136 | 6.8 | 3.5 | 8.1 |
| | Bottom | 7.0 | 136 | 6.7 | -- | -- |
| May 1..... | Top | -- | 190 | 6.3 | 2.0 | 4.8 |
| | Bottom | 12 | 191 | 6.3 | -- | -- |
| June 5..... | Top | 19 | 307 | 6.8 | 1.4 | 1.7 |
| | Bottom | 20 | 308 | 6.7 | -- | -- |
| July 3..... | Top | -- | 311 | 6.8 | 1.7 | 1.9 |
| | Bottom | 20 | 313 | 6.9 | -- | -- |
| Aug. 1..... | Top | -- | 589 | 6.6 | .5 | 1.2 |
| | Bottom | 86 | 580 | 6.6 | -- | -- |
| Sept. 5..... | Top | -- | 385 | 6.8 | 2.3 | 1.1 |
| | Bottom | 39 | 383 | 6.8 | -- | -- |

DELAWARE RIVER BASIN--Continued
1-4770.5. DELAWARE RIVER AT CHESTER, PA.

LOCATION.--At end of Reynolds Aluminum Company pier, 2,800 feet upstream from Chester Creek, Chester, Delaware County, 11,800 feet downstream from Eddystone, and 19,900 feet upstream from Marcus Hook station.

DRAINAGE AREA.--10,300 square miles.

RECORDS AVAILABLE.--Dissolved oxygen: December 1961 to September 1962.

Water temperatures: December 1961 to September 1962.

EXTREMES, December 1961 to September 1962.--Dissolved oxygen: Maximum, 9.8 ppm Mar. 6; minimum, 0 ppm May 4-10, 19-21, 26-28, June 15-18, 20, 23-25, 29, July 1-4, 6-18, Aug. 1-9, 18, 19, 21-23, 25-31, and Sept. 1-9, 11, 15-19.

Water temperatures: Maximum, 82°F June 30, July 8, 9, 11-14, Aug. 8; minimum, 38°F Feb. 12, 14-23.

REMARKS.--Records of specific conductance and dissolved oxygen, in percent of saturation of daily samples, available in district office at Philadelphia, Pa.

| 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 | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | |

DELAWARE RIVER BASIN--Continued

11-4770.5. DELAWARE RIVER AT CHESTER, PA.--Continued

Temperature °F of water, December 1961 to September 1962

Recorder with temperature attachment, continuous resistance bulb-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 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Minimum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| November | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Minimum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| December | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Minimum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| January | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Minimum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| February | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Minimum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| March | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Minimum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| April | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Minimum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Minimum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| June | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Minimum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| July | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Minimum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| August | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Minimum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| September | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Minimum | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

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

Chemical analyses, in parts per million, November 1961 to September 1962--Continued

| Date of collection | Mean discharge (cfs) | Silica (SiO ₂) | 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 | | Specific conductance (micro-mhos at 25°C) | pH | Color | Biochemical oxygen demand | Dissolved oxygen |
|--------------------|----------------------|----------------------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|---------------------------|------------------|
| | | | | | | | | | | | | | | | Calcium | Non-carbonate | | | | | |
| July 3, 1962. | 2,510 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 365 | 6.6 | -- | 1.0 | 1.5 |
| Bottom..... | -- | 0.0 | 0.13 | 0.28 | 26 | 8.0 | 30 | 3.8 | 36 | 84 | 34 | 0.6 | 5.7 | 225 | 98 | 69 | 376 | 6.6 | 8 | -- | -- |
| Aug. 1..... | 2,220 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 985 | 6.2 | -- | .4 | 1.7 |
| Top..... | -- | 1.8 | .01 | .02 | 27 | 27 | 156 | 10 | 11 | 153 | 252 | -- | 4.9 | 650 | 179 | 170 | 1,250 | 6.0 | 7 | -- | -- |
| Bottom..... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 595 | 6.6 | -- | 2.9 | 1.8 |
| Sept. 5..... | 2,260 | -- | -- | -- | -- | -- | 69 | 6.5 | 33 | 90 | 94 | .5 | 9.9 | 344 | 117 | 90 | 573 | 6.9 | 13 | -- | -- |
| Top..... | -- | .4 | .14 | .10 | 27 | 12 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 573 | 6.9 | 13 | -- | -- |
| Bottom..... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 573 | 6.9 | 13 | -- | -- |

DELAWARE RIVER BASIN--Continued
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 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 81°F Aug. 8; minimum, 33°F Dec. 16, Jan. 18, and Feb. 12-14.

EXTREMES, 1953-62.---Water temperatures: Maximum, 87°F July 17, Aug. 2, 6. 1955; minimum, freezing point on many days during winter months.

Temperature °F of water, water year October 1961 to September 1962

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

DELAWARE RIVER BASIN--Continued

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

LOCATION.--Center of the navigational 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 1962.

Water temperatures: October 1956 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 82°F Aug. 27; minimum, freezing point Feb. 4, 11, 12.

EXTREMES, 1956-62.--Water temperatures: Maximum, 84°F Aug. 17, 20-22, Sept. 10, 11, 1959, Sept. 4, 5, 11-13, 1961; minimum, freezing point on many days during winter months.

Chemical analyses, in parts per million, October 1961 to August 1962

| Date of collection | Mean discharge (cfs) | Silica (SiO ₂) | Alum- inum (Al) | Iron (Fe) | Man- ga- nese (Mn) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Total acid- ity as H ⁺ | Specific conduct- ance (micro- mhos at 25°C) | Col- or | pH |
|--------------------|----------------------|----------------------------|-----------------|-----------|--------------------|----------------|--------------------|-------------|-------------------|----------------------------|---------------|----------------|------------------------------|-------------------------------------|-------------------------------|------------------|-----------------------------------|----------------------------------------------|---------|----|
| | | | | | | | | | | | | | | | Cal- cium, magne- sium | Non- carbon- ate | | | | |
| Oct. 20, 1961. | 2,750 | 0.7 | | 0.05 | 0.67 | 64 | 106 | 850 | 38 | 12 | 302 | 1,490 | 0.8 | 2.9 | 3,100 | 596 | 586 | 5,040 | 6.2 | 3 |
| Nov. 21, | 4,980 | 2.5 | | .13 | .40 | 69 | 123 | 1,000 | 45 | 6 | 353 | 1,700 | .8 | 4.5 | 3,450 | 679 | 674 | 5,830 | 5.3 | 10 |
| Dec. 19, | 8,500 | 6.2 | | .04 | .07 | 39 | 54 | 410 | 20 | 24 | 210 | 1,660 | .7 | 4.1 | 1,420 | 320 | 300 | 2,920 | 6.4 | 10 |
| Jan. 18, 1962. | 18,600 | 7.8 | | .02 | .29 | 20 | 5.4 | 15 | 3.0 | 12 | 59 | 20 | .5 | 9.9 | 1,156 | 72 | 62 | 251 | 5.9 | 5 |
| Feb. 19, | 5,100 | 7.3 | | .03 | .47 | 34 | 41 | 310 | 15 | 12 | 154 | 530 | .5 | 2.7 | 1,200 | 254 | 244 | 2,110 | 6.0 | 7 |
| Mar. 15, | 30,100 | 6.5 | | .14 | .19 | 17 | 4.3 | 10 | 2.8 | 22 | 45 | 12 | .5 | 4.9 | 122 | 60 | 42 | 193 | 6.6 | 5 |
| Apr. 17, | 19,100 | 6.0 | | .10 | .11 | 17 | 2.6 | 7.6 | 2.0 | 12 | 38 | 10 | .2 | 7.1 | 102 | 53 | 43 | 161 | 6.0 | 8 |
| May 29, | 3,380 | 5.3 | | .09 | .53 | 32 | 39 | 210 | 12 | 0 | 142 | 392 | 1.0 | 4.8 | 954 | 241 | 241 | 1,560 | 4.5 | 8 |
| June 27, | 3,200 | 1.9 | | .04 | .67 | 33 | 21 | 160 | 9.0 | 4 | 139 | 268 | .8 | 4.0 | 714 | 169 | 166 | 1,220 | 5.4 | 5 |
| Aug. 13, | 3,380 | 1.2 | | .07 | .52 | 51 | 85 | 640 | 40 | 6 | 265 | 1,100 | 1.0 | 5.2 | 2,430 | 477 | 472 | 3,990 | 5.7 | 5 |

DELAWARE RIVER BASIN--Continued

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

Temperature °F of water, water year October 1961 to September 1962

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

NANTICOKE RIVER BASIN
1-4870. NANTICOKE RIVER NEAR BRIDGEVILLE, DEL.

LOCATION.--At gaging station, 800 feet downstream from Gum Branch, and 2.5 miles southeast of Bridgeville, Sussex County.
DRAINAGE AREA.--75.4 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1962.

| 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 ⁺ | Specific conductance (micro-mhos at 25° C) | pH | Col- or |
|--------------------|----------------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|--------------------------------------|-------------------------------|---------------|---------------------------------|--------------------------------------------|-----|---------|
| | | | | | | | | | | | | | | | | Calcium, magnesium | Non-carbonate | | | | |
| Oct. 5, 1961.. | 46 | 19 | | | -- | 4.1 | 1.9 | 8.9 | 7.0 | 43 | 1.9 | 8.0 | -- | 0.0 | 78 | 18 | 0 | | 111 | 6.2 | 20 |
| Nov. 10..... | 46 | 21 | | | -- | 2.9 | 1.2 | 6.3 | 2.2 | 13 | 3.2 | 6.3 | -- | 5.7 | 66 | 12 | 2 | | 65 | 6.1 | 28 |
| Dec. 21..... | 46 | 20 | | | -- | 3.3 | 0.7 | 6.2 | 2.8 | 14 | 6.3 | 7.3 | -- | 6.8 | 65 | 11 | 6 | | 66 | 6.1 | 3 |
| Jan. 5, 1962.. | 96 | 20 | | | -- | 3.3 | 1.5 | 5.9 | 1.9 | 10 | 6.3 | 6.6 | -- | 6.2 | 65 | 14 | 6 | | 67 | 5.9 | 3 |
| Feb. 9..... | 96 | 20 | | | -- | 3.3 | 1.5 | 5.9 | 1.9 | 10 | 6.3 | 6.6 | -- | 6.2 | 65 | 14 | 6 | | 68 | 6.1 | 3 |
| Mar. 2..... | 232 | 17 | | 0.08 | 0.00 | 4.5 | 1.7 | 5.0 | 1.5 | 8 | 9.2 | 6.2 | 0.0 | 5.9 | 85 | 14 | 8 | | 65 | 5.8 | 30 |
| Apr. 1..... | 198 | 13 | 0.4 | .15 | .00 | 2.4 | 1.5 | 6.4 | 3.0 | 2 | 8.8 | 9.5 | .5 | 8.6 | 74 | 12 | 11 | | 75 | 5.3 | 15 |
| Apr. 25..... | 102 | -- | | | -- | -- | -- | 12 | -- | 49 | 4.0 | 6.0 | -- | 2.8 | -- | -- | 0 | | 94 | 7.9 | 5 |
| May 1..... | 88 | 18 | | .25 | .00 | 3.4 | 1.3 | 6.2 | 2.5 | 14 | 4.6 | 6.6 | .1 | 5.5 | 63 | 14 | 3 | | 70 | 6.0 | 5 |
| May 25..... | 56 | 18 | | .04 | .00 | 3.5 | 1.7 | 6.6 | 3.2 | 15 | 4.6 | 7.0 | .2 | 5.4 | 64 | 16 | 3 | | 75 | 6.2 | 7 |
| Aug. 7..... | 63 | 15 | | .04 | .01 | 3.2 | 1.5 | 6.7 | 2.6 | 12 | 9.4 | 5.5 | .0 | 2.8 | 63 | 14 | 4 | | 75 | 6.2 | 5 |
| Sept. 14..... | 24 | 18 | | .31 | .01 | 5.2 | 1.2 | 19 | 14 | 44 | 7.4 | 22 | .0 | 2.4 | 118 | 18 | 0 | | 196 | 6.3 | 5 |

Chemical analyses, in parts per million, water year October 1961 to September 1962

SUSQUEHANNA RIVER BASIN

1-5090. TIOGHNEOGA 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 diverted into DeRuyter Reservoir in Oswego River basin).

RECORDS AVAILABLE.--Chemical analyses: October 1956 to September 1957.

Water temperatures: October 1956 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 68°F July 9; minimum, 33°F on several days in December, January, and February. EXTREMES, 1956-62.--Water temperatures: Maximum, 74°F July 22, 1957; minimum, freezing point on many days during winter months.

Temperature °F of water, water year October 1961 to September 1962

Once-daily measurement at approximately 0900/

| 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 | 53 | 55 | 54 | 52 | 51 | 53 | 53 | 56 | 54 | 53 | 56 | 56 | 56 | 55 | 50 | 49 | 48 | 50 | 51 | 52 | 52 | 51 | 50 | 48 | 49 | 51 | 50 | 47 | 51 | 54 | 52 | 52 |
| November .. | 50 | 47 | 52 | 51 | 52 | 51 | 51 | 48 | 46 | 47 | 49 | 52 | 49 | 45 | 47 | 45 | 44 | 45 | 44 | 45 | 45 | 45 | 46 | 46 | 44 | 44 | 44 | 37 | 36 | 38 | 47 | 47 |
| December .. | 42 | 41 | 44 | 42 | 44 | 39 | 40 | 33 | 33 | 33 | 40 | 34 | 38 | 37 | 33 | 33 | 33 | 40 | 40 | 38 | 39 | 38 | 39 | 38 | 37 | 38 | 38 | 36 | 35 | 35 | 37 | 38 |
| January | 37 | 35 | 36 | 35 | 36 | 37 | 36 | 35 | 36 | 34 | 36 | 33 | 37 | 37 | 40 | 36 | 34 | 34 | 33 | 36 | 37 | 41 | 38 | 33 | 36 | 38 | 38 | 38 | 36 | 38 | 34 | 36 |
| February | 37 | 35 | 39 | 41 | 42 | 35 | 35 | 37 | 38 | 33 | 33 | 36 | 35 | 37 | 39 | 38 | 38 | 37 | 34 | 36 | 38 | 38 | 40 | 39 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 37 |
| March | 36 | 34 | 34 | 34 | 39 | 39 | 40 | 40 | 41 | 41 | 42 | 39 | 34 | 36 | 38 | 38 | 39 | 39 | 41 | 39 | 40 | 39 | 37 | 38 | 38 | 38 | 38 | 42 | 42 | 46 | 46 | 39 |
| April | 40 | 36 | 38 | 38 | 42 | 44 | 41 | 42 | 42 | 42 | 44 | 44 | 42 | 41 | 40 | 40 | 40 | 42 | 42 | 42 | 43 | 45 | 45 | 48 | 50 | 55 | 56 | 57 | 57 | 57 | 57 | 44 |
| May | 57 | 54 | 55 | 54 | 55 | 55 | 51 | 49 | 48 | 49 | 51 | 52 | 54 | 54 | 58 | 64 | 65 | 62 | 64 | 63 | 62 | 57 | 57 | 58 | 59 | 57 | 56 | 59 | 57 | 60 | 64 | 57 |
| June | 65 | 62 | 57 | 59 | 61 | 59 | 59 | 59 | 58 | 62 | 63 | 60 | 58 | 54 | 60 | 64 | 61 | 62 | 65 | 60 | 58 | 62 | 63 | 65 | 64 | 63 | 61 | 61 | 62 | 62 | 61 | 61 |
| July | 63 | 63 | 62 | 63 | 63 | 61 | 62 | 64 | 68 | 64 | 63 | 63 | 63 | 63 | 64 | 64 | 64 | 64 | 63 | 64 | 64 | 64 | 63 | 61 | 59 | 64 | 55 | 60 | 60 | 62 | 63 | 63 |
| August | 62 | 62 | 63 | 63 | 62 | 61 | 57 | 64 | 52 | 64 | 52 | 60 | 52 | 52 | 60 | 59 | 58 | 54 | 58 | 54 | 53 | 45 | 48 | 52 | 51 | 51 | 51 | 52 | 53 | 57 | 64 | 62 |
| September .. | 66 | 63 | 60 | 61 | 59 | 55 | 54 | 54 | 52 | 52 | 60 | 60 | 58 | 52 | -- | 56 | 56 | 56 | 54 | 54 | 53 | 45 | 46 | 52 | 53 | 54 | 54 | 55 | 53 | 51 | -- | 56 |

SUSQUEHANNA RIVER BASIN--Continued

1-5135. SUSQUEHANNA RIVER AT VESTAL, N. Y.

LOCATION.--At the New York State Gas and Electric Corp., Goudey Station, Johnson City, N. Y., Broome County, and 4.8 miles upstream from the gaging station at Vestal.

DRAINAGE AREA.--3,916 square miles; 3,960 square miles, approximately at the gaging station.

RECORDS AVAILABLE.--Water temperatures: October 1955 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 77°F July 9, Aug. 7, Sept. 1; minimum, freezing point Mar. 3, 13-15, Dec. 15.

EXTREMES, 1955-62.--Water temperatures: Maximum, 81°F on several days during 1957 and 1959; minimum, freezing point on many days during winter months.

REMARKS.--Water is brought to plant underground through tube. Measurements are made at plant by employees.

| Temperature °F of water, water year October 1961 to September 1962 /Once-daily measurement at approximately 0800/ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Aver- age | |
|----------------------------------------------------------------------------------------------------------------------|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------|----|
| 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 | | |
| October | 60 | 62 | 61 | 57 | 52 | 54 | 58 | 61 | 61 | 62 | 63 | 64 | 64 | 64 | 55 | 52 | 48 | 51 | 54 | 55 | 56 | 54 | 52 | 50 | 50 | 53 | 50 | 48 | 49 | 53 | 54 | | |
| November .. | 51 | 47 | 49 | 54 | 54 | 54 | 53 | 49 | 45 | 42 | 40 | 40 | 43 | 48 | 48 | 45 | 46 | 43 | 41 | 40 | 40 | 39 | 40 | 41 | 41 | 40 | 40 | 37 | 34 | 34 | -- | | |
| December .. | 35 | 36 | 37 | 37 | 40 | 38 | 38 | 36 | 34 | 34 | 35 | 36 | 37 | 34 | 32 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | |
| January | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 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 | 33 | 33 | 33 | |
| March | 33 | 33 | 32 | 34 | 37 | 36 | 35 | 34 | 34 | 34 | 33 | 34 | 32 | 32 | 32 | 33 | 33 | 33 | 34 | 36 | 36 | 36 | 36 | 36 | 36 | 37 | 38 | 39 | 40 | 41 | 43 | 44 | 35 |
| April | 38 | 36 | 37 | 37 | 38 | 40 | 42 | 42 | 41 | 42 | 43 | 42 | 40 | 38 | 39 | 39 | 40 | 40 | 40 | 40 | 42 | 46 | 52 | 48 | 49 | 51 | 54 | 58 | 62 | 63 | -- | 44 | |
| May | 58 | 56 | 53 | 52 | 53 | 55 | 54 | 53 | 49 | 50 | 52 | 54 | 56 | 56 | 62 | 66 | 69 | 70 | 73 | 73 | 74 | 67 | 68 | 70 | 69 | 69 | 66 | 67 | 65 | 69 | 71 | 62 | |
| June | 71 | 72 | 68 | 70 | 71 | 67 | 69 | 68 | 70 | 72 | 73 | 74 | 70 | 67 | 67 | 70 | 72 | 75 | 76 | 74 | 69 | 70 | 71 | 75 | 73 | 74 | 73 | 74 | 75 | -- | 71 | | |
| July | 76 | 73 | 73 | 73 | 73 | 72 | 73 | 75 | 77 | 72 | 73 | 74 | 72 | 74 | 73 | 73 | 76 | 73 | 71 | 72 | 74 | 74 | 74 | 72 | 70 | 74 | 68 | 67 | 69 | 69 | 73 | 73 | |
| August | 75 | 74 | 74 | 74 | 72 | 74 | 77 | 74 | 74 | 69 | 66 | 67 | 70 | 70 | 67 | 69 | 68 | 71 | 74 | 73 | 72 | 72 | 72 | 72 | 72 | 75 | 74 | 74 | 72 | 74 | 72 | 74 | |
| September .. | 77 | 75 | 71 | 71 | 69 | 64 | 62 | 63 | 66 | 67 | 70 | 66 | 66 | 69 | 65 | 64 | 65 | 63 | 60 | 58 | 54 | 53 | 53 | 56 | 57 | 58 | 60 | 58 | 57 | 55 | -- | 63 | |

SUSQUEHANNA RIVER BASIN--Continued

1-5165. COREY CREEK NEAR MAINESBURG, PA.

LOCATION.--At township bridge 30 feet downstream from gaging station, 500 feet upstream from small tributary, 1.1 miles downstream from Mainesburg, Tioga County, 3.5 miles east of Mansfield, and 4.2 miles upstream from mouth.

DRAINAGE AREA.--12.2 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1958 to September 1962.

Sediment records: May 1954 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Minimum, freezing point on many days during winter months.

Sediment concentrations: Maximum daily, 1,000 ppm Mar. 31; minimum daily, 0 ppm on July 8-16, Aug. 2-6, 16-31, and Sept. 1-5, 8, 9, 14-20.

Sediment loads: Maximum daily, 1,170 tons Mar. 31; minimum daily, 0 tons on July 8-16, Aug. 2-6, 16-31, and Sept. 1-5, 8, 9, 14-20.

EXTREMES, 1954-62.--Water temperatures (1958-62): Maximum, 93°F on several days during August 1959; minimum, freezing point on many days during winter months.

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. Flow affected by ice Dec. 8, 9, 13-18, 21-31, Jan. 1-31, Feb. 1-28, and Mar. 1-12, 16-19, 24-28.

Temperature °F of water, water year October 1961 to September 1962

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

SUSQUEHANNA RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962

| 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.. | 0.6 | C 2 | T | 0.7 | C 1 | T | 3.6 | C 5 | T |
| 2.. | .6 | C 2 | T | .6 | C 1 | T | 3.6 | C 5 | T |
| 3.. | 1.0 | C 2 | T | .7 | C 1 | T | 3.4 | C 5 | T |
| 4.. | 3.0 | C 2 | T | 1.4 | A | T | 3.0 | C 5 | T |
| 5.. | 1.5 | C 2 | T | 2.6 | 5 | T | 3.6 | 9 | 0.1 |
| 6.. | 1.2 | C 1 | T | 1.6 | 2 | T | 3.4 | C 4 | T |
| 7.. | 1.1 | C 1 | T | 1.3 | 1 | T | 3.0 | C 4 | T |
| 8.. | 1.0 | C 1 | T | 1.1 | 1 | T | 2.5 | C 4 | T |
| 9.. | .9 | C 1 | T | 1.1 | C 1 | T | 2.3 | 3 | T |
| 10.. | .8 | C 1 | T | 1.1 | C 1 | T | 2.4 | 3 | T |
| 11.. | .7 | C 1 | T | 1.1 | C 1 | T | 2.4 | 3 | T |
| 12.. | .6 | C 1 | T | 1.1 | C 1 | T | 2.6 | 3 | T |
| 13.. | .6 | C 1 | T | 1.1 | C 1 | T | 2.2 | 3 | T |
| 14.. | .9 | C 1 | T | 1.6 | C 1 | T | 2.0 | 3 | T |
| 15.. | 1.1 | C 1 | T | 1.8 | C 1 | T | 1.9 | C 3 | T |
| 16.. | 1.1 | C 1 | T | 1.8 | 2 | T | 1.8 | C 3 | T |
| 17.. | .9 | C 1 | T | 3.4 | A | T | 3.2 | C 3 | T |
| 18.. | .9 | C 1 | T | 2.1 | 1 | T | 6.6 | 7 | S |
| 19.. | .7 | C 1 | T | 2.0 | C 1 | T | 7.3 | 4 | T |
| 20.. | .7 | C 1 | T | 1.7 | C 1 | T | 5.6 | C 3 | T |
| 21.. | .7 | C 1 | T | 1.7 | C 1 | T | 4.4 | C 3 | T |
| 22.. | .7 | C 1 | T | 1.6 | C 1 | T | 3.2 | C 3 | T |
| 23.. | .6 | C 1 | T | 1.4 | C 1 | T | 3.0 | C 3 | T |
| 24.. | .6 | C 1 | T | 13 | C 14 | S | 2.8 | C 2 | T |
| 25.. | .6 | C 1 | T | 7.9 | 2 | T | 2.7 | C 2 | T |
| 26.. | 1.0 | C 1 | T | 6.2 | C 1 | T | 3.0 | C 2 | T |
| 27.. | .8 | C 1 | T | 5.9 | C 1 | T | 2.9 | C 2 | T |
| 28.. | .7 | C 1 | T | 4.9 | C 2 | T | 3.3 | C 2 | T |
| 29.. | .6 | C 1 | T | 3.6 | C 2 | T | 3.0 | C 2 | T |
| 30.. | .7 | C 1 | T | 3.6 | C 2 | T | 2.8 | C 2 | T |
| 31.. | .8 | C 1 | T | -- | -- | -- | 2.9 | C 2 | T |
| Total | 27.7 | -- | 0.1 | 79.7 | -- | 1.0 | 100.4 | -- | 1.1 |
| | | | | | | | | | |
| 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.. | 2.9 | 2 | T | 2.6 | C 4 | T | 18 | 10 | 0.5 |
| 2.. | 2.7 | 2 | T | 2.4 | C 4 | T | 11 | 7 | .2 |
| 3.. | 2.5 | 2 | T | 2.5 | C 4 | T | 8.0 | 10 | .2 |
| 4.. | 2.6 | 2 | T | 5.0 | 7 | A | 5.8 | 12 | .2 |
| 5.. | 2.6 | 2 | T | 25 | 40 | 0.1 | 5.0 | 10 | .1 |
| 6.. | 3.0 | 3 | T | 13 | 16 | .6 | 4.3 | 4 | T |
| 7.. | 35 | -- | E | 6.0 | 12 | .2 | 3.9 | 4 | T |
| 8.. | 15 | 3 | .1 | 3.0 | 4 | T | 3.7 | 4 | T |
| 9.. | 7.6 | 7 | .1 | 2.0 | 4 | T | 3.5 | 4 | T |
| 10.. | 4.5 | 5 | .1 | 1.8 | 4 | T | 3.4 | 4 | T |
| 11.. | 4.0 | 4 | T | 1.6 | 4 | T | 4.5 | 4 | T |
| 12.. | 4.6 | C 4 | T | 1.5 | 4 | T | 80 | 79 | B 28 |
| 13.. | 4.5 | C 4 | T | 1.4 | 4 | T | 56 | 68 | S 12 |
| 14.. | 4.8 | C 4 | .1 | 1.3 | 4 | T | 28 | 54 | S 4.6 |
| 15.. | 54 | 211 | S 94 | 1.3 | 4 | T | 15 | 48 | S 2.0 |
| 16.. | 15 | 10 | .4 | 1.2 | 4 | T | 10 | 10 | .3 |
| 17.. | 6.0 | 8 | .1 | 1.2 | 4 | T | 11 | 14 | S .6 |
| 18.. | 4.0 | C 5 | .1 | 1.1 | 4 | T | 25 | 24 | S 2.7 |
| 19.. | 3.5 | C 5 | T | 1.1 | 4 | T | 41 | 39 | S 8.3 |
| 20.. | 4.0 | C 5 | .1 | 1.1 | C 3 | T | 22 | 33 | S 2.8 |
| 21.. | 3.8 | C 5 | .1 | 1.1 | C 3 | T | 110 | 368 | S 260 |
| 22.. | 12 | 45 | S 2.2 | 5.0 | -- | E .1 | 70 | 168 | S 51 |
| 23.. | 5.4 | 11 | .2 | 7.0 | -- | E .2 | 48 | 138 | S 35 |
| 24.. | 4.0 | 5 | .1 | 10 | -- | E .3 | 25 | 32 | A 3.0 |
| 25.. | 3.3 | 4 | T-.1 | 4.2 | -- | E .1 | 20 | 25 | A 1.7 |
| 26.. | 7.0 | 12 | A .9 | 15 | -- | E .8 | 18 | 22 | A 1.6 |
| 27.. | 21 | 52 | A 4.3 | 100 | 42 | S 11 | 18 | 22 | A 1.4 |
| 28.. | 9.0 | 24 | .6 | 130 | 55 | S 24 | 18 | 10 | A .6 |
| 29.. | 3.7 | 11 | .1 | -- | -- | -- | 31 | 27 | A 2.3 |
| 30.. | 3.2 | 5 | T | -- | -- | -- | 48 | 15 | A 1.9 |
| 31.. | 3.2 | 7 | .1 | -- | -- | -- | 241 | 1000 | S 1170 |
| Total | 258.4 | -- | 109.1 | 348.4 | -- | 40.4 | 1006.1 | -- | 1591.3 |

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 Composite period.

SUSQUEHANNA RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962--Continued

| Day | APRIL | | | MAY | | | JUNE | | |
|-------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 162 | 38 A | 17 | 25 | 4 | 0.3 | 1.1 C | 5 T | |
| 2.. | 61 | 10 A | 1.6 | 38 | 7 | .7 | .8 C | 5 T | |
| 3.. | 33 | 7 | .6 | 30 | C 2 | .2 | .7 C | 5 T | |
| 4.. | 24 | 6 | .4 | 20 | C 2 | .1 | .6 C | 5 T | |
| 5.. | 22 | 5 | .3 | 16 | C 2 | .1 | 1.0 C | 5 T | |
| 6.. | 22 | 5 | .3 | 15 | C 2 | .1 | 1.5 C | 6 T | |
| 7.. | 119 | — E | 75 | 13 | C 2 | .1 | .9 C | 6 T | |
| 8.. | 62 | 13 A | 2.2 | 12 | C 2 | .1 | .7 C | 6 T | |
| 9.. | 46 | 8 | 1.0 | 11 | C 3 | .1 | .6 C | 6 T | |
| 10.. | 32 | 6 | .5 | 8.8 | C 3 | .1 | .4 C | 6 T | |
| 11.. | 24 | 5 | .3 | 7.6 | C 3 | .1 | .6 C | 6 T | |
| 12.. | 31 | 18 | 1.5 | 6.7 | C 3 | .1 | .9 C | 6 T | |
| 13.. | 61 | 26 | 4.3 | 5.6 | C 3 T | | 1.5 C | 6 T | |
| 14.. | 47 | 17 | 2.2 | 4.6 | C 3 T | | 1.3 C | 6 T | |
| 15.. | 32 | 5 | .4 | 4.4 | C 3 T | | 1.0 C | 6 T | |
| 16.. | 26 | 5 | .4 | 3.6 | C 3 T | | .7 C | 5 T | |
| 17.. | 20 | 5 | .3 | 3.2 | C 3 T | | .6 C | 5 T | |
| 18.. | 22 | 5 | .3 | 2.6 | C 3 T | | .4 C | 5 T | |
| 19.. | 27 | 10 | .7 | 2.2 | C 3 T | | .4 C | 5 T | |
| 20.. | 25 | C 9 | .6 | 2.1 | C 3 T | | .4 C | 5 T | |
| 21.. | 22 | C 9 | .5 | 2.4 | C 3 T | | .6 C | 8 T | |
| 22.. | 21 | C 9 | .5 | 2.2 | C 3 T | | .5 C | 8 T | |
| 23.. | 25 | C 9 | .6 | 1.8 | C 3 T | | .4 C | 8 T | |
| 24.. | 20 | C 9 | .6 | 2.2 | C 3 T | | .4 C | 8 T | |
| 25.. | 16 | C 9 | .4 | 1.6 | C 3 T | | .9 C | 8 T | |
| 26.. | 14 | C 9 | .3 | 1.4 | C 3 T | | .5 C | 5 T | |
| 27.. | 12 | C 9 | .3 | 1.2 | C 9 T | | .5 C | 5 T | |
| 28.. | 11 | C 9 | .3 | 1.1 | C 9 T | | .3 C | 5 T | |
| 29.. | 15 | 10 | .4 | 1.0 | C 9 T | | .2 C | 5 T | |
| 30.. | 32 | 15 S | 1.6 | .9 | C 9 T | | .2 C | 5 T | |
| 31.. | — | — | — | 1.0 | C 9 T | | — | — | — |
| Total | 1086 | — | 115.3 | 248.2 | — | 2.5 | 20.6 | — | 0.3 |
| | | | | | | | | | |
| Day | JULY | | | AUGUST | | | SEPTEMBER | | |
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 0.5 | C 5 T | | 0.2 | 1 T | | 0 | 0 | 0 |
| 2.. | .3 | C 5 T | | .1 | 0 | 0 | 0 | 0 | 0 |
| 3.. | .2 | C 5 T | | .1 | 0 | 0 | 0 | 0 | 0 |
| 4.. | .1 | C 5 T | | .1 | 0 | 0 | 0 | 0 | 0 |
| 5.. | .1 | C 5 T | | .1 | 0 | 0 | .1 | 0 | 0 |
| 6.. | .1 | C 5 T | | .1 | 0 | 0 | .3 | 2 T | |
| 7.. | .1 | C 5 T | | .2 | 1 T | | .2 | 1 T | |
| 8.. | 0 | 0 | 0 | .2 | 1 T | | .1 | 0 | 0 |
| 9.. | 0 | 0 | 0 | .1 | 0 | 0 | .1 | 0 | 0 |
| 10.. | 0 | 0 | 0 | .5 | 4 T | | .5 | 7 T | |
| 11.. | 0 | 0 | 0 | .5 | 2 T | | .9 | 3 T | |
| 12.. | 0 | 0 | 0 | .2 | 1 T | | .4 | 1 T | |
| 13.. | 0 | 0 | 0 | .2 | 1 T | | .3 | 1 T | |
| 14.. | 0 | 0 | 0 | .3 | 1 T | | .2 | 0 | 0 |
| 15.. | 0 | 0 | 0 | .3 | 1 T | | .2 C | 0 | 0 |
| 16.. | 0 | 0 | 0 | .1 | 0 | 0 | .1 C | 0 | 0 |
| 17.. | .8 | 9 S | .1 | .1 | 0 | 0 | .1 C | 0 | 0 |
| 18.. | 4.9 | 26 S | .4 | .1 | 0 | 0 | .2 C | 0 | 0 |
| 19.. | 1.2 | 5 T | | .1 | 0 | 0 | .3 C | 0 | 0 |
| 20.. | .5 | 4 T | | .1 | 0 | 0 | .3 C | 0 | 0 |
| 21.. | .4 | 5 T | | .1 | 0 | 0 | .3 C | 1 T | |
| 22.. | .3 | 5 T | | .1 | 0 | 0 | .3 C | 1 T | |
| 23.. | .4 | 5 T | | .1 | 0 | 0 | .3 C | 1 T | |
| 24.. | .5 | 5 T | | 0 | 0 | 0 | .2 C | 1 T | |
| 25.. | .3 | 2 T | | 0 | 0 | 0 | .3 C | 1 T | |
| 26.. | .2 | 1 T | | 0 | 0 | 0 | .3 C | 1 T | |
| 27.. | .2 | 1 T | | 0 | 0 | 0 | .4 | 2 T | |
| 28.. | .2 | 1 T | | 0 | 0 | 0 | 5.3 | 35 S | 0.6 |
| 29.. | .2 | 1 T | | 0 | 0 | 0 | 2.4 | 7 T | |
| 30.. | .2 | 1 T | | 0 | 0 | 0 | 1.1 | 1 T | |
| 31.. | .2 | 1 T | | 0 | 0 | 0 | — | — | — |
| Total | 11.8 | — | 0.6 | 4.0 | — | T | 15.2 | — | 0.7 |

Total discharge for year (cfs-days).....3209.8

Total load for year (tons).....1862.4

E Estimated.

S Computed by subdividing day.

T Less than 0.05 ton.

A Computed from partly estimated-concentration graph.

C Composite period.

SUSQUEHANNA RIVER BASIN--Continued

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

Particle-size analyses of suspended sediment, water year October 1961 to September 1962
(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) | Sam- pling point | Water tem- per- ature (°F) | Discharge (cfs) | Sediment con- cen- tration (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 | |
| Mar. 21, 1962..... | 1430 | | 34 | 333 | 2,420 | | 20 | 33 | 45 | 56 | 72 | 90 | 96 | 99 | 100 | | SWBC |
| Mar. 22..... | 1505 | | 32 | 146 | 812 | | 16 | 28 | 43 | 52 | 69 | 85 | 92 | 97 | 99 | | SWBC |
| Mar. 30..... | 1530 | | 40 | 580 | 2,950 | | 10 | 21 | 34 | 43 | 61 | 83 | 96 | 99 | 100 | | SWBC |

SUSQUEHANNA RIVER BASIN--Continued

1-5170. ELK RUN NEAR MAINESBURG, PA.

LOCATION.--At highway bridge 250 feet upstream from gaging station, 0.5 mile upstream from small tributary, 2.7 miles northeast of Mainesburg, Tioga County, 5.5 miles upstream from mouth, and 3.8 miles east of Mansfield.

DRAINAGE AREA.--0.1 square miles.

RECORDS AVAILABLE.--Water temperatures: November 1956 to September 1962.

Sediment records: May 1954 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Minimum, freezing point Jan. 23, Feb. 10, 11.

Sediment concentrations: Maximum daily, 1,070 ppm Mar. 31; minimum daily, 0 ppm on June 28-30, July 3-17, 26-31, Aug. 1-31, and Sept. 1-25.

Sediment loads: Maximum daily, 856 tons Mar. 31; minimum daily, 0 tons on June 28-30, July 3-17, 26-31, Aug. 1-31, and Sept. 1-25.

EXTREMES, 1954-62.--Water temperatures (1956-62): Maximum daily, 84°F July 27, 1958; minimum daily, freezing point on many days during winter months.

Sediment concentrations: Maximum daily, 1,070 ppm Mar. 31, 1962; minimum daily, 0 tons on many days.

Sediment loads: Maximum daily, 856 tons Mar. 31, 1962; 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.

Flow affected by ice Nov. 28-30, Dec. 8, 9, 22-31, Jan. 1-31, Feb. 1-28, and Mar. 1-12, 16-19, 24-27.

Temperature °F of water, water year October 1961 to September 1962

| 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 | 55 | 58 | 54 | 49 | 47 | 51 | 54 | -- | 54 | 51 | 55 | 56 | 56 | 50 | 45 | 45 | 44 | 42 | 49 | 52 | 49 | 44 | 42 | 45 | 49 | 48 | 39 | 56 | 56 | 58 | 50 | |
| November .. | 50 | 42 | 55 | 57 | 57 | 54 | 50 | 45 | 40 | 41 | 37 | -- | 43 | 51 | 47 | 44 | 48 | -- | 46 | 36 | 40 | 41 | 41 | 46 | 39 | 43 | 36 | 35 | 35 | -- | 44 | |
| December .. | 40 | 39 | 40 | 40 | 43 | 35 | 39 | 35 | 36 | 35 | 37 | 40 | 39 | 35 | 34 | 35 | 36 | 37 | 40 | 34 | 35 | 35 | -- | 35 | 37 | 35 | 34 | 34 | 34 | 35 | 37 | |
| January | 35 | 34 | 35 | 35 | 35 | 35 | 36 | 34 | 34 | 35 | 35 | 33 | 33 | 34 | 35 | 35 | 34 | 34 | 33 | 35 | 35 | 32 | 34 | 33 | 35 | 35 | 34 | 35 | 35 | 33 | 34 | |
| February | 34 | 33 | 37 | 35 | 38 | 34 | 35 | 35 | 35 | 32 | 32 | 34 | 36 | 35 | 35 | 34 | 34 | 33 | 34 | 35 | 35 | 35 | 35 | 34 | 35 | 35 | 36 | -- | -- | 35 | 34 | |
| March | 34 | 33 | 33 | -- | 34 | 34 | 35 | 33 | 33 | 35 | -- | 35 | 36 | 35 | 34 | 34 | 35 | 35 | 36 | 37 | 37 | 38 | 39 | 35 | 39 | 38 | 40 | 49 | 44 | 38 | 37 | |
| April | 38 | 38 | 36 | 38 | 42 | 45 | 48 | 47 | 45 | 43 | 42 | 41 | 38 | 39 | -- | 38 | 40 | 43 | 44 | 43 | 44 | 59 | 50 | 44 | 50 | 50 | 56 | 60 | 65 | 58 | -- | 46 |
| May | 59 | 55 | 52 | 52 | 52 | 50 | 48 | 54 | 47 | 52 | 51 | 53 | 57 | 64 | 66 | 68 | 67 | 67 | 63 | 67 | 58 | 60 | 65 | 62 | -- | 54 | 57 | 58 | 70 | 65 | 58 | |
| June | 64 | 62 | 64 | 60 | 62 | 63 | 65 | 58 | 58 | 60 | 68 | 65 | 61 | 61 | 64 | 67 | 60 | 66 | 59 | 63 | -- | 61 | 66 | 74 | 64 | 66 | 60 | 66 | 66 | 65 | -- | 64 |
| July..... | 65 | 57 | -- | -- | -- | -- | 65 | 68 | 66 | -- | 60 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| August..... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| September.. | -- | -- | -- | -- | -- | -- | 54 | -- | 68 | 60 | 61 | 60 | 64 | 55 | 52 | 59 | 58 | 55 | 52 | 47 | 49 | 54 | 54 | 51 | 55 | 54 | 54 | 55 | 53 | -- | -- | -- |

QUALITY OF SURFACE WATERS, 1962

SUSQUEHANNA RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962

| Day | OCTOBER | | | NOVEMBER | | | DECEMBER | | |
|-------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 0.3 | C 1 | T | 0.5 | C 4 | T | 3.9 | C 1 | T |
| 2.. | .3 | C 1 | T | .4 | C 4 | T | 3.4 | C 1 | T |
| 3.. | 1.2 | 2 | T | .4 | C 4 | T | 3.2 | C 1 | T |
| 4.. | 2.7 | 4 | T | 1.1 | 6 | T | 2.9 | C 1 | T |
| 5.. | 1.0 | C 2 | T | 2.7 | 6 | T | 3.2 | C 1 | T |
| 6.. | .7 | C 2 | T | 1.7 | C 4 | T | 2.9 | C 1 | T |
| 7.. | .5 | C 2 | T | 1.4 | C 4 | T | 2.9 | C 1 | T |
| 8.. | .4 | 2 | T | 1.4 | C 4 | T | 2.7 | C 2 | T |
| 9.. | .4 | C 1 | T | 1.3 | C 3 | T | 2.4 | C 2 | T |
| 10.. | .4 | C 1 | T | 1.4 | C 3 | T | 2.5 | C 2 | T |
| 11.. | .4 | C 1 | T | 1.4 | C 3 | T | 2.3 | C 2 | T |
| 12.. | .4 | C 1 | T | 1.4 | C 3 | T | 2.5 | C 2 | T |
| 13.. | .4 | C 2 | T | 1.4 | C 3 | T | 2.2 | C 2 | T |
| 14.. | 1.0 | C 2 | T | 2.5 | C 3 | T | 2.0 | C 2 | T |
| 15.. | 1.1 | C 2 | T | 2.7 | C 3 | T | 1.6 | C 2 | T |
| 16.. | 1.3 | C 2 | T | 2.7 | C 2 | T | 1.7 | C 2 | T |
| 17.. | 1.0 | C 2 | T | 4.2 | C 2 | T | 3.0 | C 2 | T |
| 18.. | .9 | C 2 | T | 2.9 | C 2 | T | 6.0 | 4 | 0.1 |
| 19.. | .6 | C 2 | T | 2.3 | C 2 | T | 6.7 | C 2 | T |
| 20.. | .6 | C 2 | T | 2.5 | C 2 | T | 5.2 | C 2 | T |
| 21.. | .7 | C 2 | T | 2.7 | C 2 | T | 3.7 | C 2 | T |
| 22.. | .6 | C 2 | T | 2.5 | C 2 | T | 3.0 | C 2 | T |
| 23.. | .6 | C 1 | T | 2.1 | C 2 | T | 2.4 | C 2 | T |
| 24.. | .4 | C 1 | T | 14 | 48 | 5 | 2.1 | 4 | T |
| 25.. | .4 | C 1 | T | 8.0 | 3 | 2.9 | 2.0 | 2 | T |
| 26.. | 1.0 | C 1 | T | 6.3 | C 2 | T | 2.4 | C 6 | T |
| 27.. | .6 | C 1 | T | 6.3 | C 2 | T | 2.3 | C 6 | T |
| 28.. | .5 | C 1 | T | 5.0 | 3 | T | 2.7 | C 6 | T |
| 29.. | .4 | C 1 | T | 4.5 | 10 | .1 | 2.5 | C 6 | T |
| 30.. | .6 | C 1 | T | 4.2 | 3 | T | 2.3 | C 6 | T |
| 31.. | .9 | C 1 | T | -- | -- | -- | 2.5 | C 6 | T |
| Total | 22.3 | -- | 0.1 | 91.9 | -- | 3.6 | 91.3 | -- | 0.7 |
| | | | | | | | | | |
| Day | JANUARY | | | FEBRUARY | | | MARCH | | |
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 2.5 | C 2 | T | 1.9 | C 3 | T | 27 | 8 | 0.6 |
| 2.. | 2.4 | C 2 | T | 1.9 | C 3 | T | 10 | C 2 | .1 |
| 3.. | 2.1 | C 2 | T | 2.1 | C 3 | T | 7.0 | C 2 | T |
| 4.. | 2.2 | C 2 | T | 4.5 | C 3 | T | 4.7 | C 2 | T |
| 5.. | 2.1 | C 2 | T | 24 | 21 | 5 | 3.5 | C 2 | T |
| 6.. | 2.4 | 8 | 0.1 | 10 | 9 | .2 | 2.6 | C 2 | T |
| 7.. | 17 | 60 | 2.8 | 7.0 | 3 | .1 | 2.5 | C 2 | T |
| 8.. | 10 | 9 | .2 | 3.5 | C 1 | T | 2.4 | C 2 | T |
| 9.. | 7.0 | 25 | .5 | 1.7 | C 1 | T | 2.3 | C 2 | T |
| 10.. | 3.7 | 3 | T | 1.4 | C 1 | T | 2.2 | C 2 | T |
| 11.. | 3.2 | C 3 | T | 1.2 | C 1 | T | 2.9 | 4 | T |
| 12.. | 3.7 | C 3 | T | 1.1 | C 1 | T | 50 | 97 | 21 |
| 13.. | 3.7 | C 3 | T | 1.1 | C 1 | T | 47 | 65 | 8.4 |
| 14.. | 3.9 | C 3 | T | 1.0 | C 1 | T | 21 | 36 | 2.1 |
| 15.. | 44 | 202 | 5 | 1.0 | C 1 | T | 13 | 27 | 1.0 |
| 16.. | 12 | 15 | .5 | 1.0 | C 1 | T | 8.0 | 16 | .3 |
| 17.. | 5.0 | C 11 | .1 | .9 | C 1 | T | 8.6 | 42 | 1.5 |
| 18.. | 3.7 | C 11 | .1 | .9 | C 1 | T | 18 | 198 | 12 |
| 19.. | 3.2 | C 11 | .1 | .9 | C 1 | T | 23 | 292 | 36 |
| 20.. | 3.4 | C 11 | .1 | .9 | C 1 | T | 16 | 94 | 5.2 |
| 21.. | 3.2 | C 11 | .1 | .9 | C 1 | T | 57 | 408 | 143 |
| 22.. | 10 | 14 | .4 | 3.5 | 20 | S | 52 | 248 | 52 |
| 23.. | 4.5 | 12 | .1 | 5.0 | 15 | .2 | 44 | 265 | 50 |
| 24.. | 3.2 | C 11 | .1 | 8.0 | 8 | .2 | 25 | 89 | 8.3 |
| 25.. | 2.9 | C 11 | .1 | 3.5 | 15 | .1 | 19 | 52 | 4.1 |
| 26.. | 6.0 | 13 | S | 15 | -- | E 1.0 | 17 | 58 | 5.2 |
| 27.. | 15 | 22 | .9 | 90 | 44 | 12 | 17 | 47 | 3.6 |
| 28.. | 2.7 | C 12 | .1 | 110 | 60 | S 23 | 17 | 46 | 3.6 |
| 29.. | 2.3 | C 12 | .1 | -- | -- | -- | 36 | 177 | 26 |
| 30.. | 2.1 | C 12 | .1 | -- | -- | -- | 52 | 119 | 18 |
| 31.. | 2.1 | C 12 | .1 | -- | -- | -- | 174 | 1070 | 856 |
| Total | 191.2 | -- | 70.1 | 303.9 | -- | 39.3 | 781.7 | -- | 1258.2 |

E Estimated.

S Computed by subdividing day.

T Less than 0.05 ton.

C Composite period.

SUSQUEHANNA RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962--Continued

| Day | APRIL | | | MAY | | | JUNE | | |
|-------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| | Suspended sediment | | | Suspended sediment | | | Suspended sediment | | |
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 132 | 186 | S 76 | 17 | 5 | 0.2 | 1.0 | C 8 | T |
| 2.. | 58 | 40 | 6.3 | 26 | 12 | S 1.0 | .6 | C 8 | T |
| 3.. | 36 | 20 | 1.9 | 20 | 5 | .3 | .5 | C 8 | T |
| 4.. | 27 | C 11 | .8 | 14 | C 2 | .1 | .4 | C 8 | T |
| 5.. | 24 | C 11 | .7 | 11 | C 2 | .1 | .6 | C 8 | T |
| 6.. | 25 | C 11 | .7 | 11 | C 2 | .1 | 1.2 | C 7 | T |
| 7.. | 95 | 302 | S 111 | 10 | C 2 | .1 | .6 | C 7 | T |
| 8.. | 56 | 40 | 6.0 | 8.7 | C 2 | T | .4 | C 7 | T |
| 9.. | 43 | 30 | 3.5 | 8.7 | C 2 | T | .3 | C 7 | T |
| 10.. | 30 | C 9 | .7 | 6.2 | C 2 | T | .2 | C 7 | T |
| 11.. | 24 | C 9 | .6 | 5.5 | C 2 | T | .2 | C 7 | T |
| 12.. | 28 | 16 | S 1.4 | 4.8 | C 2 | T | .4 | C 10 | T |
| 13.. | 40 | 12 | S 1.4 | 3.9 | C 2 | T | .8 | C 10 | T |
| 14.. | 45 | 23 | S 3.3 | 3.2 | C 2 | T | .8 | C 10 | T |
| 15.. | 35 | 11 | 1.0 | 3.0 | C 2 | T | .8 | C 10 | T |
| 16.. | 27 | 5 | .4 | 2.6 | C 2 | T | .4 | C 5 | T |
| 17.. | 25 | 7 | .5 | 2.4 | C 2 | T | .3 | C 5 | T |
| 18.. | 28 | 10 | S .8 | 2.2 | C 2 | T | .2 | C 5 | T |
| 19.. | 35 | 8 | .8 | 1.7 | C 2 | T | .2 | C 5 | T |
| 20.. | 31 | 5 | .4 | 1.9 | 5 | T | .2 | C 6 | T |
| 21.. | 27 | C 4 | .3 | 2.6 | 16 | .1 | .2 | C 6 | T |
| 22.. | 25 | C 4 | .3 | 1.9 | 2 | T | .2 | C 6 | T |
| 23.. | 26 | C 4 | .3 | 1.6 | 2 | T | .2 | C 6 | T |
| 24.. | 19 | C 4 | .2 | 2.0 | 6 | T | .2 | C 6 | T |
| 25.. | 15 | C 4 | .2 | 1.4 | 6 | T | .2 | C 6 | T |
| 26.. | 13 | C 4 | .1 | 1.2 | 6 | T | .2 | 6 | T |
| 27.. | 11 | C 4 | .1 | 1.0 | C 7 | T | .1 | 2 | T |
| 28.. | 9.1 | C 4 | .1 | 1.0 | C 7 | T | 0 | 0 | 0 |
| 29.. | 16 | 11 | S .5 | .8 | C 7 | T | 0 | 0 | 0 |
| 30.. | 22 | 10 | S .5 | .8 | 7 | T | 0 | 0 | 0 |
| 31.. | -- | -- | -- | .8 | 7 | T | 0 | 0 | 0 |
| Total | 1027.1 | -- | 220.9 | 178.9 | -- | 2.5 | 11.4 | -- | 0.2 |
| | | | | | | | | | |
| Day | JULY | | | AUGUST | | | SEPTEMBER | | |
| | Suspended sediment | | | Suspended sediment | | | Suspended sediment | | |
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 0.3 | 5 | T | 0.1 | 0 | 0 | 0 | 0 | 0 |
| 2.. | .1 | 2 | T | 0 | 0 | 0 | 0 | 0 | 0 |
| 3.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 7.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10.. | 0 | 0 | 0 | .1 | 0 | 0 | 0 | 0 | 0 |
| 11.. | 0 | 0 | 0 | .1 | 0 | 0 | .1 | 0 | 0 |
| 12.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17.. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18.. | .3 | 6 | T | 0 | 0 | 0 | 0 | 0 | 0 |
| 19.. | .2 | 2 | T | 0 | 0 | 0 | 0 | 0 | 0 |
| 20.. | .1 | 2 | T | 0 | 0 | 0 | 0 | 0 | 0 |
| 21.. | .1 | 2 | T | 0 | 0 | 0 | 0 | 0 | 0 |
| 22.. | .1 | 2 | T | 0 | 0 | 0 | 0 | 0 | 0 |
| 23.. | .1 | 2 | T | 0 | 0 | 0 | 0 | 0 | 0 |
| 24.. | .2 | 2 | T | 0 | 0 | 0 | 0 | 0 | 0 |
| 25.. | .1 | 2 | T | 0 | 0 | 0 | 0 | 0 | 0 |
| 26.. | 0 | 0 | 0 | 0 | 0 | 0 | .1 | 1 | T |
| 27.. | 0 | 0 | 0 | 0 | 0 | 0 | .1 | 1 | T |
| 28.. | 0 | 0 | 0 | 0 | 0 | 0 | 4.9 | 12 | S |
| 29.. | 0 | 0 | 0 | 0 | 0 | 0 | 2.2 | 2 | T |
| 30.. | 0 | 0 | 0 | 0 | 0 | 0 | 1.0 | 1 | T |
| 31.. | 0 | 0 | 0 | 0 | 0 | 0 | -- | -- | -- |
| Total | 1.6 | -- | T | 0.3 | -- | 0 | 8.4 | -- | 0.2 |

Total discharge for year (cfs-days).....2710.0

Total load for year (tons).....1595.8

S Computed by subdividing day.

T Less than 0.05 ton.

C Composite period.

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

LOCATION.--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 1962.
Water temperatures: October 1945 to June 1953, October 1956 to September 1962.
EXTREMES, 1961-62.--Specific conductance: Maximum daily, 1,010 micromhos Sept. 18; minimum daily, 93 micromhos Apr. 2.
Water temperatures: Maximum, 84°F July 6, Aug. 8; minimum, freezing point Dec. 29, Jan. 10, 11, 16, 1959; minimum, 68 ppm May 21-31, 1946.
EXTRACTS, 1943-57.--Dissolved solids (1934-47, 1958-60): Maximum, 346 ppm July 31, Aug. 10, 11, 16, 1959; minimum, 23 ppm Nov. 10, 1957; maximum, 233 ppm Nov. 10, 1957; minimum, 87 micromhos Apr. 2, 1960.
Specific conductance: Maximum daily, 1,010 micromhos Sept. 18, 1962; minimum daily, 87 micromhos Apr. 2, 1960.
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.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 ⁺ | Specific conductance (micro-mhos at 25°C) | pH or Col. |
|---------------------------|----------------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|---------|---------------------------------|-------------------------------------------|------------|
| | | | | | | | | | | | | | | | | Calcium | Non-carbonate | Calcium | | | |
| Oct. 5-10, 1961 | 1,710 | -- | -- | 0.00 | -- | -- | -- | 15 | -- | 33 | 193 | 12 | -- | 2.2 | -- | 213 | 188 | -- | 506 | 6.8 | 5 |
| Nov. 1-10, | 1,610 | 3.9 | -- | -- | -- | 59 | 21 | 19 | 2.0 | 49 | 206 | 16 | 0.1 | 3.1 | 365 | 234 | 194 | -- | 544 | 7.3 | 2 |
| Dec. 1-4, 6, | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Jan. 6-8, 1962 | 5,430 | 6.2 | -- | 0.00 | 0.00 | -- | 8.2 | 9.6 | 2.0 | 47 | 77 | 9.2 | 0 | 3.6 | 173 | 109 | 70 | -- | 276 | 7.3 | 2 |
| Feb. 1-10, | 16,330 | -- | -- | 0.01 | 0.06 | 30 | 9.8 | 8.5 | 2.2 | 23 | 55 | 8.0 | -- | 4.5 | 135 | 82 | 54 | -- | 213 | 7.0 | 5 |
| Mar. 1-2, 4-10 | 7,020 | 5.5 | -- | 0.01 | 0.06 | 30 | 9.8 | 9.5 | 2.2 | 23 | 98 | 9.3 | 0 | 4.8 | 200 | 116 | 97 | -- | 297 | 6.7 | 2 |
| Apr. 1-10, | 14,760 | 4.8 | -- | 0.18 | 0.00 | 24 | 7.1 | 7.2 | 2.2 | 28 | 66 | 9.1 | 1 | 5.1 | 150 | 89 | 66 | -- | 234 | 6.8 | 7 |
| May 1-10, | 78,810 | 4.9 | -- | 0.12 | 0.00 | 11 | 3.5 | 3.0 | 1.5 | 21 | 24 | 4.7 | 1 | 3.2 | 81 | 42 | 25 | -- | 113 | 6.9 | 4 |
| June 1-10, | 18,710 | 6.4 | -- | 0.03 | 0.02 | 24 | 8.0 | 5.3 | 1.5 | 43 | 58 | 7.4 | 1 | 1.9 | 138 | 93 | 58 | -- | 219 | 7.0 | 2 |
| July 1-10, | 3,070 | 4.2 | -- | 0.00 | 0.00 | 57 | 21 | 12 | 2.0 | 44 | 195 | 12 | 1 | 1.1 | 358 | 229 | 193 | -- | 501 | 7.2 | 2 |
| Aug. 1-10, | 2,480 | -- | -- | -- | -- | -- | -- | 7.1 | -- | 47 | 160 | 11 | -- | 1.1 | -- | 206 | 168 | -- | 453 | 7.1 | 3 |
| Sept. 1-10, | 1,570 | 4.4 | -- | 0.01 | 0.01 | 72 | 34 | 19 | 2.5 | 8 | 330 | 12 | 1 | 2.8 | 514 | 320 | 313 | -- | 700 | 6.5 | 3 |
| Oct. 1-10, | 1,240 | 5.7 | -- | 0.05 | 6.2 | 85 | 48 | 25 | 3.0 | 0 | 432 | 16 | 2 | 2.0 | 677 | 410 | 410 | 0.6 | 879 | 4.2 | 4 |
| Nov. 1-10, | 1,090 | 4.2 | -- | 0.01 | 1.2 | 59 | 49 | 18 | 2.7 | 4 | 368 | 14 | 2 | 2.6 | 609 | 349 | 345 | -- | 753 | 5.6 | 4 |
| Dec. 1-10, | 1,260 | 7.1 | -- | 0.01 | 5.2 | 68 | 40 | 18 | 2.3 | 0 | 374 | 10 | 2 | 4 | 561 | 334 | 334 | 1.5 | 799 | 4.3 | 5 |
| Time-weighted average.... | 10,240 | 5.2 | -- | 0.04 | 1.10 | 47 | 23 | 13 | 2.2 | 25 | 194 | 11 | 0.1 | 2.6 | 344 | 209 | 189 | -- | 480 | -- | 3 |

a Five point cross-section composited.

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

Temperature °F of water, water year October 1961 to September 1962

| 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 | | |
| 66 | 68 | 64 | 59 | 60 | 63 | 65 | 65 | 67 | 67 | 67 | 68 | 69 | 61 | 55 | 56 | 56 | 60 | 62 | 63 | 58 | 59 | 59 | 58 | 57 | 56 | 51 | 51 | -- | 55 | 58 | 61 | |
| 53 | 53 | 59 | 60 | 59 | 57 | 53 | 48 | 44 | 45 | 45 | 46 | 58 | 50 | 47 | 48 | 45 | 43 | 43 | 42 | -- | 45 | 45 | 44 | 44 | 42 | 39 | 38 | 39 | -- | 48 | 48 | |
| 40 | 40 | 42 | 41 | -- | 40 | -- | 36 | 35 | 37 | 39 | 39 | 37 | 35 | 34 | 41 | 35 | 36 | 37 | 38 | 36 | 36 | 33 | 33 | 34 | 34 | -- | 35 | 32 | 33 | 34 | 37 | |
| 33 | -- | 34 | 34 | 33 | 35 | 35 | 35 | 33 | 32 | 32 | 33 | 34 | 35 | 36 | 35 | 33 | 33 | 34 | 33 | 34 | 35 | 34 | 35 | 35 | 35 | 33 | 34 | 33 | 33 | 34 | 33 | |
| 34 | 35 | 35 | 37 | 38 | 34 | 33 | 35 | 34 | 35 | 35 | 34 | 35 | 34 | 35 | 34 | 37 | 34 | 35 | 36 | 35 | 37 | 38 | 34 | 35 | 36 | 37 | 37 | -- | -- | 35 | 35 | |
| 35 | 36 | 34 | 35 | 35 | 34 | 37 | 39 | 37 | 35 | 40 | 39 | 38 | 38 | 37 | 36 | 37 | 41 | 40 | 40 | 41 | 41 | 42 | 42 | 43 | 43 | 45 | 47 | 48 | 47 | 39 | 40 | |
| 45 | 42 | 40 | 41 | 42 | 49 | 47 | 46 | 47 | 45 | 45 | 45 | 47 | 44 | 48 | 43 | 44 | 45 | 46 | 48 | 50 | 55 | 52 | 54 | 57 | 60 | 62 | 65 | 65 | 67 | -- | 50 | |
| 63 | 60 | 63 | 62 | 63 | 61 | 62 | 57 | 58 | 59 | 60 | 61 | 59 | 63 | 67 | 72 | 73 | 78 | 77 | 78 | 77 | 74 | 75 | 76 | 73 | 74 | 74 | 70 | 72 | 72 | 76 | 68 | |
| 77 | 75 | 74 | 73 | 72 | 74 | 76 | 77 | 77 | 78 | 78 | 78 | 71 | 71 | 72 | 76 | 78 | 81 | -- | -- | -- | -- | 77 | 75 | 78 | 77 | 80 | -- | 79 | 81 | -- | 78 | |
| 78 | 79 | 76 | 79 | 78 | 84 | 83 | 83 | 78 | 79 | 78 | 77 | 77 | 74 | 78 | 79 | 77 | 74 | 78 | 80 | 81 | 81 | 77 | 77 | 77 | 77 | 72 | 69 | 75 | 77 | 81 | 83 | 78 |
| 80 | 80 | 76 | 73 | 82 | 79 | 84 | 76 | 70 | 72 | 77 | 73 | 73 | 73 | 76 | 77 | 77 | 78 | 77 | 80 | 78 | 75 | -- | 77 | 77 | 78 | 78 | 74 | 78 | 80 | 77 | 77 | |
| 74 | 76 | 77 | 68 | 68 | 70 | 71 | 70 | 74 | 73 | 72 | 75 | 74 | 72 | 73 | 70 | 65 | 62 | 59 | 62 | 60 | 63 | 62 | 62 | 62 | 62 | 61 | 59 | 59 | 62 | -- | 68 | |

SUSQUEHANNA RIVER BASIN--Continued

1-5405. SUSQUEHANNA RIVER AT DANVILLE, PA.

Periodic determinations of suspended-sediment discharge,
water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|------------------------------------------|-----------------------------|
| | | | | Mean con- cen- tration (ppm) | Discharge (tons per day) |
| Mar. 13, 1962..... | | | 28,000 | 265 | \$ 20,300 |
| Mar. 14..... | | | 45,400 | 335 | \$ 41,100 |
| Mar. 15..... | | | 53,300 | 356 | \$ 51,200 |
| Mar. 16..... | | | 43,000 | 208 | \$ 24,300 |
| Mar. 17..... | | | 32,000 | 50 | 4,320 |
| Apr. 2..... | | | 132,000 | 500 | 178,000 |
| Apr. 3..... | | | 114,000 | 270 | 83,100 |
| Apr. 4..... | | | 83,300 | 150 | 33,700 |

s Computed by subdividing day.

Particle-size analyses of suspended sediment, April 1961 to April 1962

(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) | Samp- ling point | Water tem- per- ature (°F) | Discharge (cfs) | Sediment concen- tration (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 | |
| Apr. 27, 1961..... | 0830 | | | 142,000 | 673 | | 22 | 38 | 60 | 78 | 91 | 96 | 97 | 99 | 99 | SWBC | |
| Apr. 2, 1962..... | 1400 | 41 | | 136,000 | 600 | | 25 | 38 | 50 | 64 | 81 | 90 | 93 | 97 | 99 | SWBC | |

SUSQUEHANNA RIVER BASIN--Continued

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

LOCATION.--At center of Lockport Bridge, 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 1962.

Water temperatures: October 1945 to September 1951, October 1958 to September 1962.

EXTREMES, 1961-62.--Specific conductance: Maximum daily, 907 micromhos Sept. 11; minimum daily, 95 micromhos Mar. 31.

Water temperatures: Maximum, 82°F July 9; minimum, freezing point on many days during winter months.

EXTREMES, 1945-51, 1958-62.--Dissolved solids (1945-47): Maximum, 262 ppm Sept. 21-30, 1946; 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, 881, 907 micromhos Sept. 11, 1962; minimum daily, 73 micromhos Apr. 6, 1947.

Water temperatures: Maximum, 82°F June 29, 1958; 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 are based on records for West Branch Susquehanna River at Renovo, Pa.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| Date of collection | Mean discharge (cfs) | Silica (SiO ₂) | Alum-inum (Al) | Iron (Fe) | Man-ga-nese (Mn) | Cal-cium (Ca) | Mag-ne-sium (Mg) | Sodium (Na) | Pot-tas-sium (K) | Bicar-bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo-ride (F) | Ni-trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Total acidity H ⁺ | Specific conductance (micro-mhos at 25°C) | pH or Col- or |
|-----------------------------|----------------------|----------------------------|----------------|-----------|------------------|---------------|------------------|-------------|------------------|----------------------------------|----------------------------|---------------|---------------|-----------------------------|-------------------------------------|-------------------------------|----------------|------------------------------|-------------------------------------------|---------------|
| | | | | | | | | | | | | | | | | Cal-cium | Non-carbon-ate | | | |
| Oct. 1-10, 1961 | 564 | 9.9 | 3.8 | 0.27 | 3.3 | 45 | 23 | 11 | 2.2 | 0 | 242 | 5.5 | 0.2 | 0.9 | 361 | 207 | 207 | 1.2 | 586 | 3.6 |
| Nov. 2-10, | 784 | 9.4 | 5.5 | .48 | 3.1 | 46 | 21 | 16 | 3.0 | 0 | 265 | 8.0 | .2 | .8 | 385 | 202 | 202 | 1.2 | 634 | 3.6 |
| Dec. 1-10, | 2,070 | 6.9 | 1.8 | .01 | .96 | 20 | 8.5 | 3.8 | 1.1 | 0 | 99 | 4.0 | .2 | 1.2 | 160 | 85 | 85 | .3 | 251 | 4.2 |
| Jan. 1-10, 1962 | 3,150 | 7.2 | 1.6 | .02 | .85 | 18 | 8.9 | 4.3 | 1.0 | 0 | 93 | 4.4 | .1 | .4 | 148 | 81 | 81 | .3 | 240 | 4.3 |
| Feb. 1-8, 8-10 | 4,550 | 5.2 | 1.6 | .00 | .98 | 15 | 7.2 | 2.5 | 2.3 | 0 | 74 | 5.0 | .1 | .1 | 140 | 70 | 70 | .4 | 202 | 4.3 |
| Mar. 7-10, | 4,590 | 7.1 | 1.6 | .00 | .98 | 16 | 7.2 | 2.5 | 2.3 | 0 | 76 | 5.0 | .1 | .2 | 140 | 70 | 70 | .4 | 216 | 4.2 |
| Apr. 1-10, | 27,390 | 5.7 | .8 | .02 | .45 | 8.6 | 4.5 | 1.4 | 1.4 | 0 | 46 | 3.5 | .2 | .3 | 74 | 40 | 40 | .2 | 132 | 4.2 |
| May 1-10, | 5,820 | 6.4 | 1.5 | .02 | .88 | 16 | 6.0 | 2.4 | 1.2 | 0 | 80 | 3.0 | .0 | .2 | 128 | 65 | 65 | .2 | 214 | 4.2 |
| June 1-4, | 1,550 | 6.5 | 1.8 | .00 | .86 | 24 | 9.0 | 4.2 | 1.5 | 0 | 114 | 4.0 | .0 | .4 | 182 | 97 | 97 | .3 | 282 | 4.4 |
| July 1-10, | 466 | 9.4 | 3.8 | .17 | .95 | 40 | 17 | 10 | 2.4 | 0 | 206 | 4.6 | .1 | .4 | 310 | 170 | 170 | .9 | 511 | 3.8 |
| Aug. 1-10, | 430 | 9.9 | 4.6 | .17 | 1.0 | 49 | 18 | 14 | 2.6 | 0 | 246 | 8.4 | .2 | .6 | 370 | 197 | 197 | 1.0 | 602 | 3.8 |
| Sept. 1-2, 5-10 | 513 | 11 | 5.6 | .42 | 3.4 | 52 | 23 | 13 | 2.5 | 0 | 279 | 11 | .0 | .4 | 420 | 224 | 224 | 1.3 | 710 | 3.6 |
| Time-weighted average, | 3,911 | 8.1 | 2.9 | 0.14 | 1.50 | 30 | 13 | 7.5 | 1.9 | 0 | 157 | 5.4 | 0.1 | 0.5 | 239 | 129 | 129 | 0.7 | 393 | -- |

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

| Temperature °F of water, water year October 1961 to September 1962 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------------------------------------|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------|----|----|
| 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 | 65 | 64 | 62 | 63 | 56 | 64 | 61 | 61 | 64 | 64 | 65 | 66 | 66 | -- | -- | 63 | 55 | 54 | 56 | 56 | 59 | 58 | 57 | 56 | 54 | 54 | 54 | 53 | -- | 52 | 53 | 55 | 59 |
| November .. | -- | 52 | 54 | 56 | 58 | 57 | 53 | 51 | 46 | 43 | 42 | 42 | 44 | 47 | 47 | 48 | 58 | 47 | 45 | 42 | 43 | 43 | -- | -- | 44 | 44 | 43 | 45 | 37 | -- | 47 | -- | 47 |
| December .. | 38 | 38 | 41 | 48 | 41 | 40 | 39 | 35 | 32 | 34 | 35 | 39 | 35 | 32 | 32 | 32 | 32 | 38 | 36 | -- | 36 | 34 | 33 | 33 | 33 | 33 | 33 | 35 | 35 | 32 | 32 | 36 | 36 |
| January | 33 | 33 | 34 | 33 | 32 | 34 | 34 | -- | -- | -- | -- | -- | -- | -- | -- | 33 | 33 | 32 | -- | 32 | 33 | 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 | 32 | 32 | -- | -- |
| March | -- | -- | -- | -- | -- | -- | 32 | 32 | 32 | 33 | 33 | 40 | 41 | 41 | 41 | 39 | 40 | 42 | 39 | 42 | 40 | 40 | 41 | 43 | 44 | 45 | 45 | 45 | 47 | 45 | 45 | 40 | 40 |
| April | 42 | 42 | 43 | 43 | 47 | 47 | 47 | 42 | 48 | 45 | -- | -- | 44 | 43 | 44 | 43 | 45 | 45 | 45 | 45 | 46 | 46 | 45 | 47 | 47 | 48 | 48 | -- | -- | -- | -- | 45 | 45 |
| May | -- | -- | 60 | 61 | 63 | 60 | 62 | 60 | 59 | 60 | 62 | 62 | 60 | 63 | 69 | 71 | 75 | 76 | 76 | 74 | 73 | 71 | 72 | 71 | 70 | 71 | 66 | 67 | 68 | 72 | 67 | 67 | 67 |
| June | 72 | 76 | 73 | 71 | 69 | 72 | 73 | 74 | 75 | 76 | 74 | 76 | 70 | 67 | 71 | 77 | 78 | 81 | 80 | 78 | 76 | 76 | 76 | 76 | 76 | 82 | 81 | 81 | 81 | 80 | 79 | -- | 76 |
| July..... | 80 | 79 | 76 | 78 | 78 | 79 | 79 | 82 | 80 | 80 | 78 | 75 | 77 | 74 | 76 | 76 | 76 | 76 | 77 | 77 | 78 | 77 | 76 | 78 | 75 | 76 | 71 | 71 | 72 | 74 | 78 | 77 | 77 |
| August..... | 79 | 80 | 78 | 76 | 76 | 77 | 79 | 79 | 76 | 72 | 73 | 74 | 73 | 72 | 73 | 75 | 75 | 74 | 73 | 76 | 76 | 78 | 74 | 74 | 75 | 76 | 75 | 75 | 76 | 77 | 78 | 76 | 76 |
| September .. | 78 | 77 | -- | -- | 70 | 69 | 66 | 67 | 63 | 70 | 72 | 71 | 72 | 71 | 70 | 68 | 68 | 63 | 61 | 60 | 57 | 57 | 60 | 59 | 60 | 59 | 60 | 59 | 58 | -- | 58 | -- | 66 |

SUSQUEHANNA RIVER BASIN--Continued
1-5475. NORTH BALD EAGLE CREEK AT BLANCHARD, PA.

LOCATION.--At gaging station 0.7 mile upstream from Marsh Creek, and 0.9 mile south of Blanchard, Centre County.

DRAINAGE AREA.--339 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1958 to September 1962.

Sediment per cent: December 1955 to March 1956.

Sediment per cent: December 1955 to March 1956.

REMARKS.--Records of specific conductance and pH of periodic sediment samples available in subdistrict office at Harrisburg, Pa.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 ⁺ | Specific conductance (micro-mhos at 25°C) | pH | Col- or |
|--------------------|----------------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|---------------------------------|-------------------------------------------|-----|---------|
| | | | | | | | | | | | | | | | | Calcium, magnesium | Non-carbonate | | | | |
| Oct. 5, 1961.. | 170 | 5.4 | | 0.00 | 0.00 | 43 | 16 | 5.0 | 2.2 | 172 | 19 | 8.0 | 0.0 | 8.0 | 201 | 174 | 33 | | 345 | 7.3 | 4 |
| Oct. 13..... | 140 | 5.8 | | .00 | .01 | 46 | 17 | 7.4 | 2.0 | 188 | 20 | 9.5 | -- | 6.9 | 219 | 185 | 31 | | 366 | 7.6 | 4 |
| Nov. 13..... | 128 | 6.4 | | .00 | .00 | 42 | 18 | 7.0 | 2.0 | 182 | 20 | 10 | .1 | 13 | 210 | 179 | 30 | | 357 | 7.4 | 5 |
| Dec. 19..... | 315 | 9.4 | | .00 | .00 | 31 | 9.8 | 5.2 | 1.6 | 112 | 24 | 7.0 | .0 | 5.7 | 138 | 118 | 26 | | 238 | 7.8 | 2 |
| Jan. 29, 1962. | 411 | 6.7 | | .00 | .10 | 25 | 7.8 | 3.7 | 1.5 | 85 | 21 | 5.0 | -- | 5.2 | 133 | 95 | 23 | | 203 | 7.3 | 3 |
| Mar. 19..... | 1,160 | 7.4 | | .00 | .00 | 24 | 6.6 | 2.7 | 1.8 | 78 | 21 | 4.0 | -- | 4.6 | 123 | 87 | 23 | | 185 | 7.4 | 6 |
| Apr. 24..... | 524 | 3.7 | | .02 | .00 | 33 | 11 | 3.4 | 1.5 | 126 | 21 | 6.0 | .0 | 4.8 | 160 | 128 | 24 | | 256 | 7.5 | 4 |
| June 1..... | 204 | 7.3 | | .01 | .03 | 40 | 16 | 5.7 | 1.0 | 172 | 22 | 8.0 | -- | 1.0 | 215 | 169 | 28 | | 325 | 7.9 | -- |
| June 25..... | 176 | 35 | | .01 | .03 | 40 | 16 | 11 | 1.3 | 187 | 22 | 8.0 | -- | 1.0 | 248 | 166 | 13 | | 360 | 7.2 | -- |
| Aug. 1..... | 125 | 1.9 | | .00 | .00 | 47 | 17 | 5.2 | 1.8 | a192 | 18 | 7.9 | .1 | 5.9 | 200 | 188 | 34 | | 353 | 8.3 | 4 |
| Aug. 7..... | 128 | 9.2 | | .03 | .01 | 41 | 18 | 5.6 | 2.1 | 190 | 19 | 8.5 | -- | 1.1 | 209 | 177 | 21 | | 377 | 7.8 | 3 |
| Sept. 14..... | 122 | 4.4 | | .01 | .02 | 43 | 18 | 5.6 | 2.1 | 186 | 20 | 9.0 | -- | 2.3 | 189 | 182 | 29 | | 362 | 7.6 | 5 |
| Sept. 18..... | 122 | 7.4 | | .01 | .01 | 41 | 18 | 6.0 | 1.9 | 187 | 19 | 7.5 | -- | 2.8 | 204 | 177 | 24 | | 376 | 7.8 | 5 |

a Includes equivalent of 4 parts per million of carbonate (CO₃).

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

LOCATION.--At gaging station on State Highway 34 bridge at Newport, Perry County, 1,000 feet upstream from Little Buffalo Creek. DRAINAGE AREA.--3,354 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1944 to June 1953, February 1956 to September 1961.

Water temperatures: October 1944 to June 1953, June 1958 to September 1962.

Sediment records: January 1951 to September 1962.

EXTREMES, 1961-62.--Specific conductance: Maximum daily, 109 micromhos Mar. 2.

Water temperatures: Minimum, freezing point on many days during winter months.

Sediment concentrations: Maximum daily, 446 micromhos Oct. 28; minimum daily, 109 micromhos Mar. 2.

EXTREMES, 1944-62.--Dissolved solids (1944-47, 1958-59): Maximum, 282 ppm Oct. 1-10, 1944; minimum, 78 ppm Mar. 1-10, 1945, and May 21-31, 1946.

Sediment loads: Maximum daily, estimated 60,000 tons Feb. 25; minimum daily, 1 ton Oct. 27-31.

Hardness, 1944-47, 1949-53, 1957-58): Maximum, 170 ppm Nov. 1-10, 1952; minimum, 46 ppm Mar. 21-31, 1950, and Apr. 1-10, 1958.

Specific conductance: Maximum daily, 499 micromhos Dec. 17, 1946; minimum daily, 69 micromhos Aug. 19, 1950.

Water temperatures: Maximum daily, 87° F., 1945-46; minimum daily, 32° F., 1949-50, and 1951-52.

Sediment concentrations (1951-62): Maximum daily, 1,130 ppm Mar. 2, 1954; minimum daily, 109 ppm Mar. 2, 1954.

Sediment loads (1951-62): Maximum daily, 128,000 tons Mar. 2, 1954; minimum daily, 109 tons Mar. 2, 1954.

REMARKS.--Records of specific conductance and pH of daily samples available in district office at Philadelphia, Pa. Flow affected by ice Dec. 15-17, 24-31, Jan. 1-7, 9-26, 31, and Feb. 1-24.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 ⁺ | Specific conductance (micro-mhos at 25°C) | pH or Col. |
|--------------------------|----------------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|---------------------------------|-------------------------------------------|------------|
| | | | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-10, 1961..... | 1.3 | | | 0.00 | 0.03 | 40 | 13 | 23 | 2.4 | 132 | 60 | 24 | 0.1 | 0.6 | 232 | 154 | 45 | | 398 | 8.3 |
| Nov. 1-10, 1961..... | 2.9 | | | .00 | .00 | 42 | 12 | 20 | 2.4 | 130 | 58 | 20 | 0.2 | 2.1 | 238 | 155 | 48 | | 390 | 8.0 |
| Dec. 1-10, 1961..... | 2.7 | | | .04 | -- | 39 | 10 | 16 | 2.5 | 114 | 56 | 16 | -- | 3.1 | 210 | 139 | 45 | | 348 | 7.6 |
| Mar. 1-10, 1962..... | 6.7 | | | .01 | .03 | 16 | 4.4 | 3.2 | -- | 43 | 24 | 3.0 | -- | 1.4 | 100 | 58 | 25 | | 144 | 6.6 |
| Apr. 8-16, 1962..... | -- | | | .02 | .01 | 16 | 3.6 | 2.4 | 1.6 | 40 | 19 | 11 | 7.5 | -- | 92 | 55 | 22 | | 130 | 7.1 |
| June 1-3-5-10, 1962..... | 3.5 | | | .03 | .02 | 32 | 9.5 | 12 | 1.8 | 104 | 41 | 11 | -- | 0.9 | 181 | 119 | 34 | | 288 | 7.0 |
| July 1-10, 1962..... | 1.9 | | | .01 | .01 | 33 | 11 | 20 | 1.4 | 107 | 59 | 17 | -- | -- | 215 | 128 | 40 | | 346 | 7.4 |
| Aug. 1-10, 1962..... | 1.3 | | | .02 | .01 | 36 | 12 | 30 | 2.0 | 111 | 73 | 21 | 0 | .3 | 262 | 140 | 49 | | 415 | 7.4 |
| Sept. 1-10, 1962..... | 2.1 | | | .01 | .01 | 38 | 12 | 21 | 2.4 | 123 | 53 | 26 | -- | .1 | 240 | 145 | 44 | | 410 | 7.6 |

a Includes equivalent of 1 part per million of carbonate (CO₃).

SUSQUEHANNA RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962
(Where no concentrations are reported, loads are estimated)

| Day | OCTOBER | | | NOVEMBER | | | DECEMBER | | |
|-------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| | Suspended sediment | | | Suspended sediment | | | Suspended sediment | | |
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 608 | 17 | 28 | 352 | C 2 | 2 | 790 | C 3 | 6 |
| 2.. | 571 | 10 | 15 | 499 | C 2 | 3 | 913 | C 3 | 7 |
| 3.. | 535 | 16 | 25 | 475 | C 2 | 3 | 896 | C 3 | 7 |
| 4.. | 608 | 20 | 33 | 547 | C 2 | 3 | 790 | C 3 | 6 |
| 5.. | 775 | C 4 | 8 | 649 | C 2 | 4 | 745 | C 3 | 6 |
| 6.. | 730 | C 4 | 8 | 730 | C 2 | 4 | 760 | C 3 | 6 |
| 7.. | 745 | C 4 | 8 | 571 | C 2 | 3 | 760 | C 3 | 6 |
| 8.. | 745 | C 4 | 8 | 444 | C 3 | 4 | 583 | C 3 | 5 |
| 9.. | 583 | C 4 | 6 | 716 | C 3 | 6 | 716 | C 3 | 21 |
| 10.. | 444 | C 4 | 5 | 703 | C 3 | 6 | 896 | 5 | 12 |
| 11.. | 402 | C 4 | 4 | 690 | C 3 | 6 | 790 | 4 | 9 |
| 12.. | 464 | C 4 | 5 | 523 | C 3 | 4 | 790 | 4 | 9 |
| 13.. | 535 | C 4 | 4 | 464 | C 3 | 4 | 1060 | -- | 22 |
| 14.. | 487 | C 4 | 5 | 422 | C 5 | 6 | 979 | -- | 18 |
| 15.. | 487 | C 4 | 5 | 475 | C 5 | 6 | 1200 | -- | 28 |
| 16.. | 535 | C 4 | 6 | 523 | C 5 | 7 | 880 | -- | 15 |
| 17.. | 412 | C 4 | 4 | 745 | 4 | 8 | 940 | -- | 17 |
| 18.. | 361 | C 4 | 4 | 1210 | 8 A | 34 | 1270 | -- | 30 |
| 19.. | 547 | C 2 | 3 | 1460 | 11 A | 44 | 1920 | -- | 65 |
| 20.. | 547 | C 2 | 3 | 865 | 4 | 9 | 2970 | -- | 150 |
| 21.. | 475 | C 2 | 3 | 703 | 4 | 8 | 3870 | -- | 240 |
| 22.. | 499 | C 2 | 3 | 571 | 4 | 6 | 3740 | -- | 220 |
| 23.. | 391 | C 2 | 2 | 511 | 4 | 6 | 3140 | -- | 160 |
| 24.. | 325 | C 2 | 2 | 775 | 6 | 13 | 2800 | -- | 130 |
| 25.. | 298 | C 2 | 2 | 1180 | 10 | 32 | 1900 | -- | 65 |
| 26.. | 412 | C 2 | 2 | 3200 | 47 S | 429 | 2000 | -- | 70 |
| 27.. | 464 | C 1 | 1 | 2640 | 30 S | 215 | 1800 | -- | 60 |
| 28.. | 454 | C 1 | 1 | 1400 | C 4 | 15 | 1800 | -- | 60 |
| 29.. | 422 | C 1 | 1 | 1030 | C 4 | 11 | 1400 | -- | 36 |
| 30.. | 454 | C 1 | 1 | 880 | C 4 | 10 | 980 | -- | 19 |
| 31.. | 412 | C 1 | 1 | -- | -- | -- | 1200 | -- | 28 |
| Total | 15727 | -- | 206 | 25973 | -- | 911 | 45278 | -- | 1533 |
| Day | JANUARY | | | FEBRUARY | | | MARCH | | |
| | | | | | | | | | |
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 1400 | -- | 36 | 3800 | -- | 220 | 35200 | 322 S | 31000 |
| 2.. | 1600 | -- | 46 | 3700 | -- | 220 | 22400 | 135 | 8160 |
| 3.. | 1400 | -- | 38 | 3300 | -- | 180 | 13400 | 113 | 4090 |
| 4.. | 1800 | -- | 60 | 3100 | -- | 160 | 9470 | 48 | 1230 |
| 5.. | 1700 | -- | 50 | 4000 | -- | 260 | 7470 | 30 | 605 |
| 6.. | 1500 | -- | 40 | 4300 | -- | 300 | 6580 | 22 | 391 |
| 7.. | 2900 | 33 S | 337 | 4000 | -- | 260 | 5300 | 25 | 358 |
| 8.. | 6180 | 124 S | 2190 | 2900 | -- | 140 | 5160 | 22 | 307 |
| 9.. | 5600 | 78 S | 1280 | 3000 | -- | 150 | 4750 | C 16 | 205 |
| 10.. | 4000 | -- | 380 | 3300 | -- | 180 | 4210 | C 16 | 182 |
| 11.. | 2800 | -- | 130 | 2900 | -- | 140 | 4080 | 16 | 176 |
| 12.. | 1900 | -- | 65 | 2500 | -- | 110 | 8190 | 83 S | 2510 |
| 13.. | 1100 | -- | 24 | 2700 | -- | 120 | 13700 | 188 | 6950 |
| 14.. | 1300 | -- | 32 | 2500 | -- | 110 | 15700 | 133 | 5640 |
| 15.. | 1300 | -- | 32 | 2600 | -- | 110 | 15000 | 69 | 2790 |
| 16.. | 2300 | -- | 90 | 2400 | -- | 100 | 14000 | 54 | 2040 |
| 17.. | 3300 | -- | 180 | 2300 | -- | 90 | 12400 | 64 | 2140 |
| 18.. | 2400 | -- | 100 | 2200 | -- | 85 | 11400 | 62 | 1910 |
| 19.. | 1900 | -- | 70 | 2100 | -- | 75 | 11400 | 44 | 1350 |
| 20.. | 1700 | -- | 50 | 2200 | -- | 85 | 11700 | 38 | 1200 |
| 21.. | 1600 | -- | 46 | 2200 | -- | 85 | 13600 | 42 S | 1580 |
| 22.. | 1600 | -- | 46 | 2000 | -- | 70 | 26600 | 159 S | 12200 |
| 23.. | 3300 | -- | 180 | 2200 | -- | 85 | 33500 | 192 | 17400 |
| 24.. | 4500 | -- | 320 | 4000 | -- | 260 | 25400 | 106 S | 7310 |
| 25.. | 2900 | -- | 140 | 21900 | -- | 60000 | 19200 | 60 | 3110 |
| 26.. | 3100 | -- | 160 | 16800 | 830 S | 38800 | 15400 | 50 | 2080 |
| 27.. | 8300 | -- | 1000 | 16800 | 189 S | 9280 | 13000 | 33 | 1160 |
| 28.. | 6340 | -- | 600 | 30800 | 268 S | 23300 | 11100 | 30 | 899 |
| 29.. | 7510 | -- | 800 | -- | -- | -- | 9790 | 26 | 687 |
| 30.. | 5440 | -- | 440 | -- | -- | -- | 8850 | 23 | 550 |
| 31.. | 4500 | -- | 300 | -- | -- | -- | 8540 | 22 | 507 |
| Total | 97170 | -- | 9262 | 156500 | -- | 134975 | 416490 | -- | 120777 |

S Computed by subdividing day.

A Computed from partly estimated-concentration graph.

C Composite period.

SUSQUEHANNA RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962--Continued
(Where no concentrations are reported, loads are estimated)

| Day | Mean discharge (cfs) | APRIL | | | MAY | | | JUNE | | |
|-------|----------------------|--------------------------|---|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| | | Suspended sediment | | | Suspended sediment | | | Suspended sediment | | |
| | | Mean concentration (ppm) | | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 11700 | 52 | A | 1600 | 3180 | 5 | 43 | 1340 | C 4 | 14 |
| 2.. | 16000 | 84 | A | 3600 | 3950 | 5 | 53 | 1530 | C 4 | 17 |
| 3.. | 13400 | 41 | A | 1500 | 4340 | 6 | 70 | 1170 | C 4 | 13 |
| 4.. | 10800 | 27 | A | 800 | 4340 | 6 | 70 | 1220 | | 13 |
| 5.. | 8850 | 22 | A | 550 | 3300 | 5 | 45 | 1650 | 13 A | 65 |
| 6.. | 7620 | 18 | A | 380 | 2980 | 4 | 32 | 1790 | 14 | 68 |
| 7.. | 10500 | 27 | S | 910 | 3180 | 5 | 43 | 1270 | 5 | 17 |
| 8.. | 21400 | 118 | S | 6920 | 3430 | 6 | 56 | 994 | C 2 | 5 |
| 9.. | 20600 | 92 | | 5120 | 3560 | 6 | 58 | 842 | C 2 | 5 |
| 10.. | 17100 | 54 | | 2490 | 2980 | 5 | 40 | 765 | C 2 | 4 |
| 11.. | 13000 | 19 | | 667 | 2670 | 4 | 29 | 740 | C 4 | 8 |
| 12.. | 11600 | 17 | | 532 | 2880 | 4 | 31 | 690 | C 4 | 7 |
| 13.. | 20600 | 57 | | 3170 | 2380 | 4 | 26 | 1170 | 11 S | 38 |
| 14.. | 26200 | 45 | | 3180 | 2380 | 4 | 26 | 1440 | 12 | 47 |
| 15.. | 22000 | 29 | | 1720 | 2340 | 4 | 25 | 1580 | 18 | 77 |
| 16.. | 16700 | 23 | | 1040 | 2130 | 4 | 23 | 1790 | 17 | 82 |
| 17.. | 13400 | 20 | | 724 | 2240 | 4 | 24 | 1660 | 15 | 67 |
| 18.. | 10800 | 17 | A | 500 | 1830 | 4 | 20 | 1140 | 7 | 22 |
| 19.. | 9160 | 14 | A | 340 | 2200 | 4 | 24 | 1200 | | 28 |
| 20.. | 8230 | 13 | | 289 | 2260 | 4 | 24 | 1340 | 7 A | 25 |
| 21.. | 7170 | 11 | | 213 | 2090 | 4 | 23 | 856 | 5 | 12 |
| 22.. | 6300 | 10 | | 170 | 2170 | 4 | 23 | 765 | C 4 | 8 |
| 23.. | 5720 | 9 | | 139 | 1680 | 4 | 18 | 752 | C 4 | 8 |
| 24.. | 5020 | 8 | | 108 | 1960 | 4 | 21 | 936 | C 4 | 10 |
| 25.. | 4880 | 7 | | 92 | 1420 | 4 | 15 | 936 | C 6 | 15 |
| 26.. | 4480 | 7 | | 85 | 1510 | 4 | 16 | 1080 | C 6 | 17 |
| 27.. | 4210 | 6 | | 68 | 1320 | 4 | 14 | 1220 | C 6 | 20 |
| 28.. | 3560 | 5 | | 48 | 1390 | 4 | 15 | 923 | C 3 | 7 |
| 29.. | 3820 | 5 | | 52 | 1310 | 4 | 14 | 802 | C 3 | 6 |
| 30.. | 3300 | 5 | | 45 | 1230 | 4 | 13 | 728 | C 3 | 6 |
| 31.. | -- | -- | | -- | 1320 | 4 | 14 | -- | -- | -- |
| Total | 338120 | -- | | 37052 | 75950 | -- | 948 | 34319 | -- | 731 |
| Day | Mean discharge (cfs) | JULY | | | AUGUST | | | SEPTEMBER | | |
| | | Suspended sediment | | | Suspended sediment | | | Suspended sediment | | |
| | | Mean concentration (ppm) | | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 702 | C 4 | | 8 | 404 | C 4 | 4 | 422 | C 6 | 7 |
| 2.. | 690 | C 4 | | 7 | 654 | C 4 | 7 | 451 | C 6 | 7 |
| 3.. | 544 | C 4 | | 6 | 598 | C 4 | 6 | 480 | C 6 | 8 |
| 4.. | 618 | C 5 | | 8 | 502 | C 4 | 5 | 502 | C 6 | 8 |
| 5.. | 828 | C 5 | | 11 | 502 | C 4 | 5 | 690 | C 6 | 11 |
| 6.. | 644 | C 5 | | 9 | 460 | C 5 | 6 | 1110 | C 6 | 18 |
| 7.. | 544 | C 6 | | 9 | 413 | C 5 | 6 | 1070 | C 6 | 17 |
| 8.. | 690 | C 6 | | 11 | 358 | C 5 | 5 | 1080 | C 6 | 17 |
| 9.. | 715 | C 6 | | 12 | 656 | C 5 | 9 | 896 | C 6 | 15 |
| 10.. | 460 | C 4 | | 5 | 610 | C 5 | 8 | 728 | C 3 | 6 |
| 11.. | 422 | C 4 | | 5 | 740 | C 7 | 14 | 610 | C 3 | 5 |
| 12.. | 610 | C 4 | | 7 | 765 | C 7 | 14 | 502 | C 3 | 4 |
| 13.. | 554 | C 4 | | 6 | 815 | C 7 | 15 | 740 | C 3 | 6 |
| 14.. | 610 | C 4 | | 7 | 564 | C 7 | 11 | 610 | C 3 | 5 |
| 15.. | 644 | C 5 | | 9 | 815 | C 4 | 9 | 512 | C 5 | 7 |
| 16.. | 564 | C 4 | | 6 | 667 | C 4 | 7 | 512 | C 5 | 7 |
| 17.. | 621 | C 4 | | 7 | 740 | C 4 | 8 | 554 | C 5 | 7 |
| 18.. | 752 | C 5 | | 10 | 644 | C 4 | 7 | 432 | C 5 | 6 |
| 19.. | 752 | C 5 | | 10 | 460 | C 4 | 5 | 413 | C 5 | 6 |
| 20.. | 533 | C 4 | | 6 | 610 | C 4 | 7 | 610 | C 3 | 5 |
| 21.. | 564 | C 4 | | 6 | 502 | C 4 | 5 | 512 | C 3 | 4 |
| 22.. | 522 | C 4 | | 4 | 621 | C 4 | 7 | 533 | C 3 | 4 |
| 23.. | 728 | C 6 | | 12 | 586 | C 4 | 6 | 533 | C 3 | 4 |
| 24.. | 632 | C 5 | | 9 | 740 | C 4 | 8 | 460 | C 3 | 4 |
| 25.. | 678 | C 5 | | 9 | 512 | C 4 | 6 | 375 | C 3 | 3 |
| 26.. | 598 | C 5 | | 8 | 394 | C 4 | 4 | 366 | C 3 | 3 |
| 27.. | 678 | C 5 | | 9 | 668 | 83 S | 581 | 575 | -- | 20 |
| 28.. | 644 | C 5 | | 9 | 1260 | 339 S | 1930 | 1420 | -- | 38 |
| 29.. | 564 | C 5 | | 8 | 451 | 30 | 37 | 1400 | -- | 36 |
| 30.. | 470 | C 5 | | 6 | 480 | 10 | 13 | 2600 | -- | 100 |
| 31.. | 422 | C 5 | | 6 | 470 | 6 | 8 | -- | -- | -- |
| Total | 18997 | -- | | 245 | 18661 | -- | 2763 | 21698 | -- | 388 |

Total discharge for year (cfs-days).....1264883

Total load for year (tons).....308791

S Computed by subdividing day.

A Computed from partly estimated-concentration graph.

C Composite period.

SUSQUEHANNA RIVER BASIN--Continued

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

Particle-size analyses of suspended sediment, water year October 1961 to September 1962
 (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) | Samp- ling point | Water tem- per- ature (° F) | Discharge (cfs) | Sediment concen- tration (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 | |
| Feb. 26, 1962..... | 1640 | | 35 | 15,600 | 200 | | 43 | 61 | 79 | 86 | 92 | 94 | 95 | 97 | 99 | SWBC | |
| Mar. 1..... | 1210 | | 32 | 36,100 | 365 | | 33 | 49 | 63 | 75 | 85 | 88 | 92 | 96 | 99 | SWBC | |

SUSQUEHANNA RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962

| 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.. | 3.6 | C 8 | 0.1 | 3.0 | 7 | 0.1 | 3.1 | C 5 | T |
| 2.. | 3.6 | C 8 | .1 | 3.0 | C 7 | .1 | 3.1 | C 5 | T |
| 3.. | 3.8 | C 9 | .1 | 3.0 | C 7 | .1 | 3.0 | C 5 | T |
| 4.. | 4.0 | 12 | .1 | 3.6 | C 7 | .1 | 2.8 | C 5 | T |
| 5.. | 3.3 | 12 | .1 | 3.8 | C 7 | .1 | 2.8 | C 5 | T |
| 6.. | 3.3 | 11 | .1 | 3.8 | 9 | .1 | 2.8 | 4 | T |
| 7.. | 3.3 | C 10 | .1 | 3.6 | 10 | .1 | 3.0 | 3 | T |
| 8.. | 3.4 | C 10 | .1 | 3.3 | 6 | .1 | 2.9 | C 7 | 0.1 |
| 9.. | 3.4 | C 10 | .1 | 3.3 | C 2 | T | 2.7 | C 7 | .1 |
| 10.. | 3.3 | C 10 | .1 | 3.1 | C 2 | T | 3.0 | C 7 | .1 |
| 11.. | 3.3 | C 10 | .1 | 3.0 | 3 | T | 3.3 | 4 | T |
| 12.. | 3.3 | C 10 | .1 | 3.0 | C 3 | T | 3.4 | C 6 | .1 |
| 13.. | 3.3 | C 10 | .1 | 3.0 | C 3 | T | 4.5 | C 6 | .1 |
| 14.. | 4.0 | 13 | .1 | 4.2 | 8 | .1 | 3.6 | C 6 | .1 |
| 15.. | 3.4 | 6 | .1 | 3.6 | 7 | .1 | 3.0 | C 6 | T |
| 16.. | 3.4 | 5 | T | 5.0 | 11 | S | 2.8 | C 6 | T |
| 17.. | 3.4 | C 7 | .1 | 5.8 | 20 | .3 | 3.4 | C 6 | .1 |
| 18.. | 3.3 | C 7 | .1 | 3.6 | 4 | T | 22 | 74 | S 6.9 |
| 19.. | 3.3 | C 7 | .1 | 3.3 | C 3 | T | 13 | 18 | .6 |
| 20.. | 3.3 | 7 | .1 | 3.4 | C 3 | T | 9.2 | 5 | .1 |
| 21.. | 3.3 | 8 | .1 | 3.6 | 3 | T | 6.7 | 4 | .1 |
| 22.. | 3.4 | 7 | .1 | 3.4 | 3 | T | 5.5 | C 5 | .1 |
| 23.. | 3.3 | C 9 | .1 | 3.3 | 2 | T | 4.7 | C 5 | .1 |
| 24.. | 3.3 | C 9 | .1 | 11 | 37 | S | 4.9 | C 5 | .1 |
| 25.. | 3.1 | C 9 | .1 | 4.7 | 8 | .1 | 4.5 | C 5 | .1 |
| 26.. | 3.1 | 8 | .1 | 3.8 | 5 | .1 | 4.4 | 3 | T |
| 27.. | 3.1 | C 8 | .1 | 3.6 | C 4 | T | 4.4 | C 7 | .1 |
| 28.. | 3.0 | C 8 | .1 | 3.3 | C 4 | T | 4.9 | C 7 | .1 |
| 29.. | 3.0 | C 8 | .1 | 3.1 | C 4 | T | 4.3 | C 7 | .1 |
| 30.. | 3.1 | C 8 | .1 | 3.1 | C 4 | T | 4.0 | C 7 | .1 |
| 31.. | 3.1 | C 8 | .1 | -- | -- | -- | 3.8 | C 7 | .1 |
| Total | 103.8 | -- | 3.0 | 114.3 | -- | 3.6 | 151.5 | -- | 9.7 |
| 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.. | 3.6 | 5 | T | 4.7 | C 5 | 0.1 | 61 | 24 | S 4.2 |
| 2.. | 3.7 | C 3 | T | 4.7 | C 5 | .1 | 30 | 8 | S .7 |
| 3.. | 4.0 | C 3 | T | 4.7 | C 5 | .1 | 21 | 13 | S .8 |
| 4.. | 4.0 | C 3 | T | 6.4 | C 5 | .1 | 18 | 7 | S .3 |
| 5.. | 5.3 | C 3 | T | 7.2 | C 5 | .1 | 16 | C 6 | .3 |
| 6.. | 12 | 15 | S | 6.6 | C 7 | .1 | 14 | C 6 | .2 |
| 7.. | 38 | 70 | S | 5.0 | C 7 | .1 | 13 | C 6 | .2 |
| 8.. | 17 | 10 | .5 | 4.7 | C 7 | .1 | 12 | C 6 | .2 |
| 9.. | 10 | 14 | .4 | 4.7 | C 7 | .1 | 12 | C 6 | .2 |
| 10.. | 6.5 | C 7 | .1 | 4.2 | C 7 | .1 | 11 | C 6 | .2 |
| 11.. | 5.6 | C 7 | .1 | 4.0 | C 7 | .1 | 11 | C 6 | .2 |
| 12.. | 5.2 | C 7 | .1 | 4.1 | C 3 | T | 110 | 138 | S 52 |
| 13.. | 5.1 | C 7 | .1 | 4.0 | C 3 | T | 117 | 60 | S 22 |
| 14.. | 4.9 | C 7 | .1 | 4.2 | C 3 | T | 88 | 36 | S 9 |
| 15.. | 15 | 48 | S | 4.4 | C 3 | T | 132 | 134 | S 82 |
| 16.. | 10 | 10 | .3 | 4.5 | C 3 | T | 69 | 33 | S 6.1 |
| 17.. | 6.0 | C 4 | .1 | 4.5 | C 3 | T | 55 | 24 | S 4.0 |
| 18.. | 4.9 | C 4 | .1 | 4.5 | C 3 | T | 44 | 24 | S 2.9 |
| 19.. | 4.5 | C 4 | T | 4.9 | C 3 | T | 41 | 24 | S 2.7 |
| 20.. | 4.4 | C 4 | T | 4.5 | C 3 | T | 44 | 70 | S 8.3 |
| 21.. | 4.7 | C 4 | .1 | 4.7 | C 3 | T | 105 | 104 | S 21 |
| 22.. | 6.6 | C 7 | S | 4.9 | C 3 | T | 96 | 41 | S 11 |
| 23.. | 7.5 | 10 | S | 7.3 | 16 | S | 65 | 18 | S 3.2 |
| 24.. | 5.7 | C 3 | T | 294 | 316 | S | 47 | 12 | S 1.5 |
| 25.. | 5.5 | C 3 | T | 42 | 45 | S | 36 | 8 | S .8 |
| 26.. | 6.5 | C 3 | .1 | 71 | 122 | S | 30 | 10 | S .8 |
| 27.. | 9.5 | 13 | A | 136 | 138 | S | 26 | 14 | S 1.0 |
| 28.. | 6.5 | C 3 | .1 | 299 | 249 | S | 22 | C 7 | .4 |
| 29.. | 5.7 | C 3 | T | -- | -- | -- | 20 | C 7 | .4 |
| 30.. | 6.1 | C 3 | T | -- | -- | -- | 19 | C 7 | .4 |
| 31.. | 4.3 | C 3 | T | -- | -- | -- | 28 | 34 | S 3.7 |
| Total | 238.3 | -- | 16.7 | 955.4 | -- | 709.5 | 1413 | -- | 240.7 |

S Computed by subdividing day.
T Less than 0.05 ton.A Computed from partly estimated-concentration graph.
C Composite period.

SUSQUEHANNA RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962--Continued

| Day | APRIL | | | MAY | | | JUNE | | |
|-------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| | Suspended sediment | | | Suspended sediment | | | Suspended sediment | | |
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 70 | 36 | 6.8 | 16 | 16 | S | 6.3 | C | 12 |
| 2.. | 46 | 13 | 1.6 | 38 | 46 | S | 6.0 | C | 12 |
| 3.. | 34 | 7 | .6 | 30 | 18 | S | 5.5 | C | 12 |
| 4.. | 28 | 7 | .5 | 22 | 9 | | 5.3 | C | 12 |
| 5.. | 25 | 6 | .4 | 20 | 7 | | 6.5 | C | 13 |
| 6.. | 24 | 12 | .8 | 19 | 4 | | 6.3 | C | 10 |
| 7.. | 130 | 118 | S | 17 | 4 | | 5.1 | C | 14 |
| 8.. | 93 | 28 | 7.0 | 17 | 6 | | 4.7 | C | 14 |
| 9.. | 71 | 20 | 3.8 | 15 | 7 | | 4.7 | C | 14 |
| 10.. | 49 | 10 | 1.3 | 14 | 5 | | 4.6 | C | 14 |
| 11.. | 43 | 12 | 1.4 | 14 | 10 | | 4.5 | C | 17 |
| 12.. | 112 | 59 | S | 26 | 3 | | 5.3 | C | 9 |
| 13.. | 142 | 29 | S | 11 | 2 | | 6.7 | C | 12 |
| 14.. | 91 | 14 | 3.4 | 11 | 3 | | 7.5 | C | 23 |
| 15.. | 69 | 12 | 2.2 | 10 | 5 | | 10 | C | S |
| 16.. | 51 | 10 | 1.4 | 9.8 | 6 | | 6.0 | C | 38 |
| 17.. | 41 | 8 | .9 | 9.5 | 5 | | 5.3 | C | 16 |
| 18.. | 35 | 12 | 1.1 | 8.6 | 4 | | 4.9 | C | 20 |
| 19.. | 40 | 29 | S | 8.6 | 10 | | 4.9 | C | 30 |
| 20.. | 37 | 12 | 1.2 | 8.6 | 12 | | 4.7 | C | 18 |
| 21.. | 28 | C | 6 | 7.7 | 10 | | 4.5 | C | 25 |
| 22.. | 25 | C | 6 | 7.5 | 9 | | 4.4 | C | 12 |
| 23.. | 24 | C | 8 | 7.2 | 11 | | 4.7 | C | 13 |
| 24.. | 21 | C | 8 | 9.2 | 17 | | 4.9 | C | 27 |
| 25.. | 19 | C | 8 | 7.2 | 10 | | 4.5 | C | 16 |
| 26.. | 18 | C | 8 | 6.7 | 9 | | 4.4 | C | 13 |
| 27.. | 17 | C | 8 | 6.5 | C | 11 | 4.2 | C | 9 |
| 28.. | 17 | C | 8 | 6.5 | C | 11 | 4.0 | C | 9 |
| 29.. | 16 | C | 8 | 6.5 | C | 11 | 4.0 | C | 16 |
| 30.. | 15 | C | 8 | 6.3 | C | 11 | 4.0 | C | 13 |
| 31.. | -- | -- | -- | 6.3 | C | 11 | -- | -- | -- |
| Total | 1431 | -- | 133.3 | 389.7 | -- | 14.6 | 158.4 | -- | 9.7 |
| Day | JULY | | | AUGUST | | | SEPTEMBER | | |
| | Suspended sediment | | | Suspended sediment | | | Suspended sediment | | |
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 4.0 | 20 | 0.2 | 3.0 | C | 9 | 2.6 | C | 20 |
| 2.. | 4.0 | 16 | .2 | 2.8 | C | 9 | 5.2 | C | 48 |
| 3.. | 4.2 | 28 | .3 | 2.8 | C | 9 | 3.3 | C | 22 |
| 4.. | 4.2 | 25 | .3 | 3.0 | C | 9 | 3.6 | C | 22 |
| 5.. | 3.8 | C | 12 | 3.1 | C | 11 | 4.7 | C | 29 |
| 6.. | 3.8 | C | 12 | 3.0 | C | 11 | 3.3 | C | 25 |
| 7.. | 3.6 | C | 12 | 3.0 | C | 11 | 2.8 | C | 12 |
| 8.. | 3.6 | C | 12 | 2.8 | C | 11 | 2.7 | C | 10 |
| 9.. | 3.4 | 15 | .1 | 3.4 | C | 9 | 2.7 | C | 10 |
| 10.. | 3.4 | 12 | .1 | 3.1 | C | 9 | 2.7 | C | 10 |
| 11.. | 3.3 | 11 | .1 | 3.1 | C | 9 | 2.6 | C | 10 |
| 12.. | 3.4 | 14 | .1 | 2.8 | C | 9 | 2.5 | C | 20 |
| 13.. | 3.4 | 16 | .1 | 3.0 | C | 7 | 2.5 | C | 17 |
| 14.. | 3.6 | 17 | .2 | 3.0 | C | 7 | 2.6 | C | 16 |
| 15.. | 3.6 | 19 | .2 | 2.8 | C | 7 | 2.5 | C | 15 |
| 16.. | 3.4 | 14 | .1 | 2.8 | C | 7 | 2.3 | C | 11 |
| 17.. | 3.6 | C | 17 | 2.7 | C | 7 | 2.7 | C | 18 |
| 18.. | 3.8 | C | 17 | 2.6 | C | 8 | 2.6 | C | 8 |
| 19.. | 3.6 | C | 17 | 2.6 | C | 8 | 2.6 | C | 7 |
| 20.. | 3.4 | C | 17 | 2.5 | C | 8 | 2.7 | C | 7 |
| 21.. | 3.4 | 13 | .1 | 4.8 | 54 | S | 2.6 | C | 6 |
| 22.. | 3.6 | C | 11 | 2.8 | 28 | | 2.6 | C | 6 |
| 23.. | 3.6 | C | 11 | 2.7 | 10 | | 2.6 | C | 6 |
| 24.. | 3.8 | C | 11 | 2.6 | 7 | T | 2.6 | C | 6 |
| 25.. | 3.4 | 10 | .1 | 2.6 | 7 | T | 2.8 | C | 6 |
| 26.. | 3.4 | 11 | .1 | 2.6 | 7 | T | 2.8 | C | 9 |
| 27.. | 3.4 | 9 | .1 | 9.5 | 286 | S | 12 | C | 47 |
| 28.. | 3.3 | 9 | .1 | 5.9 | 314 | S | 18 | C | 53 |
| 29.. | 3.1 | 11 | .1 | 2.8 | 45 | | 5.5 | C | 13 |
| 30.. | 3.0 | 14 | .1 | 2.7 | 10 | | 4.0 | C | 6 |
| 31.. | 3.1 | 10 | .1 | 2.6 | 10 | | -- | -- | -- |
| Total | 110.2 | -- | 4.3 | 99.5 | -- | 51.4 | 114.7 | -- | 11.1 |

Total discharge for year (cfs-days).....5279.8
 Total load for year (tons).....1207.6

S Computed by subdividing day.

T Less than 0.05 ton.

C Composite period.

SUSQUEHANNA RIVER BASIN--Continued
 1-5675. BIXLER RUN NEAR LOYSVILLE, PA.--Continued
 Particle-size analyses of suspended sediment, water year October 1961 to September 1962
 (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) | Water tem- per- ature point | 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 | |
| Feb. 26, 1962..... | 1410 | 36 | 178 | 298 | 31 | 46 | 62 | 86 | 94 | 97 | 99 | 100 | 100 | 100 | SWBC | |
| Mar. 12..... | 1715 | 39 | 214 | 281 | 31 | 46 | 61 | 75 | 89 | 95 | 97 | 99 | 100 | 100 | SWBC | |
| Mar. 21..... | 1700 | 41 | 198 | 265 | 40 | 55 | 70 | 81 | 92 | 96 | 97 | 98 | 99 | 99 | SWBC | |

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 of daily samples collected from east channel station 1180: October 1944 to September 1946.
Cross-section samples: One to three times monthly, October 1944 to September 1949.
Monthly cross-section samples: November 1950 to January 1953, March to July 1956, October 1956 to September 1962.
Water temperatures: October 1944 to September 1946.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| Date of collection | Station | Mean discharge (cfs) | 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 H ⁺ | Specific conductance (micro-mhos at 25°C) | pH | Color |
|--------------------|--------------|----------------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|-------------------------|------------------------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | | Calcium | Non-carbonate magnesium | | | | |
| Oct. 16, 1961. | East Channel | 3,480 | | | | | | | | | | | | | | | | | | |
| | 120 | | | | | | 18 | | 11 | 272 | 13 | | 3.6 | | 275 | 266 | | 614 | 6.2 | 3 |
| | 600 | | | | | | 17 | | 24 | 222 | 12 | | 2.8 | | 232 | 213 | | 541 | 6.6 | 3 |
| | 1,180 | | | | | | 17 | | 38 | 153 | 12 | | 1.6 | | 172 | 141 | | 413 | 7.8 | 3 |
| | West Channel | | | | | | | | | | | | | | | | | | | |
| | 600 | | | | | | 18 | | 72 | 107 | 16 | | 1.4 | | 154 | 95 | | 378 | 7.4 | 2 |
| | 1,100 | | | | | | 18 | | 125 | 48 | 19 | | 1.3 | | 142 | 40 | | 350 | 7.6 | 2 |
| | 1,320 | | | | | | 14 | | 170 | 22 | 18 | | 4.8 | | 161 | 22 | | 361 | 7.8 | 4 |
| | | | | | | | | | | | | | | | | | | | | |
| | East Channel | 8,950 | | | | | | | | | | | | | | | | | | |
| Nov. 22..... | 120 | | | | | | 17 | | 28 | 191 | 13 | | 5.4 | | 208 | 185 | | 491 | 6.6 | 5 |
| | 600 | | | | | | 14 | | 32 | 118 | 11 | | 4.0 | | 138 | 112 | | 347 | 6.9 | 3 |
| | 1,180 | | | | | | 8.0 | | 12 | 83 | 6.5 | | 2.5 | | 90 | 80 | | 237 | 6.3 | 3 |
| | West Channel | | | | | | | | | | | | | | | | | | | |
| | 600 | | | | | | 6.9 | | 22 | 81 | 6.0 | | 2.5 | | 98 | 80 | | 245 | 7.0 | 3 |
| | 1,100 | | | | | | 13 | | al04 | 52 | 18 | | 1.5 | | 138 | 48 | | 337 | 8.4 | 3 |
| | 1,320 | | | | | | 12 | | 202 | 21 | 17 | | 7.6 | | 192 | 27 | | 399 | 8.2 | 3 |
| | | | | | | | | | | | | | | | | | | | | |
| | East Channel | 21,800 | | | | | | | | | | | | | | | | | | |
| | 120 | | | | | | 19 | | 38 | 113 | 8.0 | | 7.3 | | 124 | 93 | | 311 | 6.4 | 3 |
| Dec. 22..... | 600 | | | | | | 6.9 | | 30 | 84 | 4.0 | | 4.0 | | 112 | 88 | | 269 | 7.8 | 3 |
| | 1,180 | | | | | | 5.1 | | 8 | 73 | 5.5 | | 2.9 | | 82 | 76 | | 207 | 6.3 | 3 |
| | West Channel | | | | | | | | | | | | | | | | | | | |
| | 600 | | | | | | -- | | 36 | 50 | -- | | 5.2 | | 84 | 55 | | 205 | 7.6 | 3 |
| | 1,100 | | | | | | 7.6 | | 78 | 37 | 10 | | 11 | | 104 | 40 | | 241 | 7.1 | 3 |
| | 1,320 | | | | | | 6.7 | | 80 | 25 | 10 | | | | 100 | 35 | | 233 | 8.2 | 3 |

[illegible]

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

SUSQUEHANNA RIVER BASIN--Continued
 1-5705. SUSQUEHANNA RIVER AT HARRISBURG, PA.--Continued
 Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Station | Mean discharge (cfs) | 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 ⁺ at 25°C | Specific conductance (micro-mhos at 25°C) | pH | Col or |
|--------------------|--------------|----------------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-----------------------------------------|-------------------------------------------|-----|--------|
| | | | | | | | | | | | | | | | Calcium, magnesium | Non-carbonate | | | | |
| Aug. 14, 1962. | East Channel | 4,150 | | | | | | | | | | | | | | | | | | |
| | 120 | | | | | | 20 | | 4 | 386 | 11 | | 2.8 | | 380 | 377 | | 773 | 6.1 | 2 |
| | 600 | | | | | | 39 | | 9 | 351 | 14 | | 3.4 | | 310 | 303 | | 670 | 6.3 | 7 |
| | 1,180 | | | | | | 19 | | 31 | 211 | 14 | | 2.1 | | 225 | 200 | | 522 | 7.1 | 2 |
| | West Channel | | | | | | | | | | | | | | | | | | | |
| | 600 | | | | | | 23 | | 77 | 134 | 17 | | 1.0 | | 178 | 115 | | 456 | 7.9 | 2 |
| Sept. 18..... | 1,100 | | | | | | 21 | | 120 | 55 | 17 | | 2.0 | | 136 | 126 | | 359 | 7.8 | 2 |
| | 1,320 | | | | | | 9.9 | | 127 | 26 | 10 | | 3.4 | | 126 | 22 | | 285 | 7.6 | 2 |
| | East Channel | 3,200 | | | | | | | | | | | | | | | | | | |
| | 120 | | | | | | 29 | | 4 | 368 | 11 | | 3.6 | | 342 | 339 | | 755 | 5.1 | 3 |
| | 600 | | | | | | 24 | | 5 | 324 | 11 | | 3.1 | | 308 | 304 | | 684 | 6.0 | 4 |
| | 1,180 | | | | | | 20 | | 24 | 218 | 11 | | 2.0 | | 220 | 201 | | 520 | 7.1 | 3 |
| | West Channel | | | | | | | | | | | | | | | | | | | |
| | 600 | | | | | | 18 | | 83 | 100 | 17 | | .4 | | 158 | 90 | | 406 | 7.6 | 2 |
| | 1,100 | | | | | | 17 | | 127 | 37 | 23 | | 2.0 | | 140 | 36 | | 362 | 7.7 | 3 |
| | 1,320 | | | | | | 15 | | 117 | 25 | 22 | | 2.5 | | 122 | 26 | | 320 | 7.6 | 3 |

SUSQUEHANNA RIVER BASIN--Continued

1-5705. SUSQUEHANNA RIVER AT HARRISBURG, PA.

Periodic determinations of suspended-sediment discharge,
water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|-------------------------------------|-----------------------------|
| | | | | Mean concen- tration (ppm) | Discharge (tons per day) |
| Mar. 13, 1962..... | | | 74,300 | 290 | 58,200 |
| Mar. 14..... | | | 89,300 | 120 | 29,700 |
| Mar. 15..... | | | 104,000 | 210 | 59,000 |
| Mar. 16..... | | | 103,000 | 240 | 66,700 |
| Mar. 17..... | | | 81,200 | 140 | 30,700 |
| Mar. 18..... | | | 61,800 | 90 | 15,000 |
| Mar. 19..... | | | 33,000 | 100 | 14,300 |
| Apr. 2..... | | | 234,000 | 378 | 282,000 |
| Apr. 3..... | | | 242,000 | 295 | 204,000 |
| Apr. 4..... | | | 184,000 | 145 | 74,100 |

s Computed by subdividing day.

Particle-size analyses of suspended sediment, April 1958 to April 1962
(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) | Sam- pling point | Water tem- per- ature (°F) | Discharge (cfs) | Sediment concentra- tion (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 | |
| Apr. 8, 1958..... | 1500 | | 43 | 273,000 | 224 | | -- | 18 | 30 | 44 | 56 | 68 | 78 | 85 | 94 | SWBC |
| Apr. 2, 1960..... | 0730 | | 40 | 382,000 | 359 | | 13 | 22 | 40 | 56 | 71 | 80 | 84 | 89 | 95 | SWBC |
| Apr. 2, 1962..... | 1150 | | 43 | 262,000 | 403 | | 12 | 20 | 31 | 42 | 59 | 77 | 81 | 88 | 96 | SWBC |

SUSQUEHANNA RIVER BASIN--Continued

1-5765. CONESTOGA CREEK AT LANCASTER, PA.

LOCATION.--At raw water intake, Lancaster, Lancaster County, 500 feet upstream from gaging station at Pennsylvania Railroad bridge and 0.8 mile east of Lancaster. DRAINAGE AREA.--324 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1947 to September 1950, October 1958 to September 1962.

EXTREMES (1947-62).--Temperature: Maximum, 83°F on Sept. 2, 1949; minimum, 32°F on Sept. 3, 1952; minimum daily, 167 micromhos Mar. 13.

Water temperatures: Maximum, 78°F July 9 Sept. 2; minimum, 33°F on several days during winter months.

Hardness (1947-50).--Dissolved solids (1947-49): Maximum, 276 ppm July 11-20, 1948; minimum, 156 ppm Apr. 11-20, 1948.

Specific conductance: Maximum, 193 micromhos July 4, 1948; minimum, 109 ppm May 21-31, 1950.

Water temperatures: Maximum daily, 464 micromhos July 4, 1948; minimum daily, 142 micromhos Jan. 6, 1949.

REMARKS.--Records of specific conductance of daily samples available in district office at Philadelphia, Pa.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 | | Specific conductance (micro-mhos at 25°C) | Col- or pH |
|----------------------------|----------------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|------------|
| | | | | | | | | | | | | | | | | Calcium, magnesium, sodium | Non-carbonate | | |
| Oct. 1-10, 1961 | 112 | 8.1 | | 0.00 | 0.00 | 60 | 15 | 7.5 | 2.5 | 202 | 27 | 11 | 0.1 | 21 | 254 | 211 | 46 | 425 | 7.9 |
| Nov. 1-10, 1961 | 129 | 7.8 | | .00 | .00 | 57 | 13 | 7.5 | 3.2 | 186 | 31 | 11 | .1 | 16 | 240 | 196 | 43 | 398 | 7.9 |
| Dec. 1-10, 1961 | 163 | 11 | | .00 | .00 | 51 | 14 | 8.0 | 3.0 | 174 | 32 | 11 | .1 | 14 | 238 | 185 | 42 | 397 | 7.9 |
| Jan. 1-6, 1962 | 161 | 9.7 | | .00 | .00 | 55 | 12 | 8.2 | 2.5 | 167 | 34 | 12 | .2 | 16 | 260 | 187 | 50 | 394 | 7.8 |
| Feb. 1-10, 1962 | 203 | 9.3 | | .02 | .01 | 52 | 13 | 6.7 | 2.2 | 165 | 29 | 10 | .0 | 26 | 236 | 183 | 48 | 385 | 7.7 |
| Mar. 1-10, 1962 | 748 | 10 | | .02 | .00 | 42 | 12 | 5.6 | 2.5 | 130 | 28 | 10 | .1 | 20 | 210 | 155 | 48 | 325 | 7.6 |
| Apr. 1-10, 1962 | 784 | 11 | | .03 | .02 | 38 | 11 | 5.1 | 2.2 | 114 | 27 | 8.0 | .3 | 17 | 178 | 140 | 47 | 294 | 7.4 |
| May 1-10, 1962 | 328 | 6.2 | | .03 | .02 | 47 | 13 | 5.1 | 2.0 | 154 | 27 | 8.6 | .1 | 17 | 220 | 171 | 45 | 350 | 7.6 |
| June 1-10, 1962 | 204 | 13 | | .02 | .00 | 47 | 13 | 5.7 | 3.2 | 158 | 26 | 8.6 | .0 | 22 | 223 | 171 | 42 | 355 | 8.0 |
| July 1-10, 1962 | 97 | 6.2 | | .02 | .00 | 54 | 16 | 6.8 | 3.0 | 196 | 28 | 10 | .0 | 20 | 242 | 201 | 40 | 409 | 8.1 |
| Aug. 1-8, 1962 | 130 | 9.9 | | .01 | .04 | 52 | 16 | 8.8 | 3.0 | 197 | 30 | 12 | .1 | 13 | 265 | 196 | 34 | 429 | 7.9 |
| Sept. 1-10, 1962 | 80 | 8.5 | | .01 | .03 | 54 | 16 | 9.0 | 3.9 | 197 | 32 | 13 | .1 | 13 | 276 | 201 | 39 | 441 | 7.8 |
| Time-weighted average..... | 308 | 9.2 | | 0.02 | 0.01 | 51 | 14 | 6.9 | 2.8 | 170 | 29 | 10 | 0.1 | 18 | 236 | 183 | 44 | 383 | -- |

SUSQUEHANNA RIVER BASIN--Continued
1-5765. CONESTOGA CREEK AT LANCASTER, PA.--Continued

Temperature °F of water, water year October 1961 to September 1962

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

SUSQUEHANNA RIVER BASIN--Continued

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

Periodic determinations of suspended-sediment discharge,
water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|-------------------------------------|-----------------------------|
| | | | | Mean concen- tration (ppm) | Discharge (tons per day) |
| Jan. 26, 1962..... | | | 251 | 15 | 10 |
| Feb. 8..... | | | 193 | 4 | 2 |
| Feb. 24..... | | | 2,460 | 566 | 5,200 |
| Feb. 25..... | | | 1,680 | 408 | 2,500 |
| Mar. 8..... | | | 564 | 17 | 26 |
| Mar. 11..... | | | 863 | 39 | 96 |
| Mar. 12..... | | | 3,290 | 584 | 7,050 |
| Mar. 13..... | | | 2,570 | 257 | 2,280 |
| Mar. 14..... | | | 1,300 | 80 | 290 |
| Mar. 15..... | | | 990 | 35 | 94 |
| Mar. 30..... | | | 457 | 21 | 26 |
| Apr. 1..... | | | 1,200 | 95 | 405 |
| Apr. 12..... | | | 744 | 30 | 58 |
| Apr. 13..... | | | 1,220 | 86 | 280 |
| Apr. 14..... | | | 945 | 53 | 136 |
| May 1..... | | | 367 | 14 | 14 |
| May 11..... | | | 251 | 13 | 9 |
| May 16..... | | | 193 | 14 | 7 |
| May 24..... | | | 232 | 34 | 21 |
| June 26..... | | | 140 | 29 | 11 |
| July 3..... | | | 96 | 66 | 17 |
| July 11..... | | | 93 | 41 | 10 |
| July 14..... | | | 72 | 32 | 6 |
| July 18..... | | | 82 | 54 | 12 |
| July 30..... | | | 62 | 28 | 5 |
| Aug. 8..... | | | 147 | 32 | 14 |
| Aug. 9..... | | | 306 | 86 | 110 |
| Aug. 10..... | | | 569 | 239 | 358 |
| Aug. 11..... | | | 272 | 180 | 136 |
| Aug. 12..... | | | 158 | 95 | 41 |
| Aug. 13..... | | | 123 | 66 | 22 |
| Aug. 21..... | | | 89 | 21 | 5 |
| Aug. 24..... | | | 65 | 10 | 2 |
| Aug. 28..... | | | 67 | 8 | 1 |
| Aug. 31..... | | | 67 | 8 | 1 |
| Sept. 5..... | | | 101 | 32 | 9 |
| Sept. 6..... | | | 97 | 28 | 7 |
| Sept. 12..... | | | 58 | 34 | 5 |
| Sept. 15..... | | | 56 | 15 | 2 |
| Sept. 18..... | | | 86 | 24 | 6 |
| Sept. 25..... | | | 65 | 16 | 3 |
| Sept. 28..... | | | 158 | 32 | 14 |

s Computed by subdividing day.

POTOMAC RIVER BASIN

1-5955. NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD.

LOCATION.--At highway bridge on State Highway 38 in Kitzmiller, Garrett County, 0.6 mile upstream from stream gage, and 1.5 miles downstream from Wolfden Run.

DRAINAGE AREA.--240 square miles.

RECORDS AVAILABLE.--Temperature: August 1961 to September 1962.

EXTREMES AVAILABLE 1961 to September 1962.--Water temperatures: Maximum, 79°F Aug. 6; minimum, freezing point on many days during January, February, and March.

REMARKS.--Temperature records fair, probably because of friction in recorder. No record of temperature July 25-30. Sediment discharge measurements usually made during periods of high water discharge.

Temperature °F of water, water year October 1961 to September 1962
/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 | 64 | 65 | 62 | 56 | 56 | 60 | 61 | 62 | 62 | 62 | 64 | 64 | 62 | 55 | 53 | 54 | 56 | 57 | 56 | 55 | 55 | 53 | 54 | 55 | 55 | 50 | 50 | 52 | 54 | 58 | | | |
| Minimum | 57 | 60 | 56 | 52 | 50 | 52 | 53 | 54 | 56 | 56 | 56 | 58 | 55 | 51 | 50 | 49 | 50 | 52 | 54 | 54 | 53 | 48 | 48 | 50 | 50 | 47 | 44 | 46 | 50 | 54 | | | |
| November | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 56 | 55 | 60 | 60 | 61 | 61 | 58 | 52 | 46 | 44 | 45 | 47 | 50 | 52 | 54 | 54 | 48 | 43 | 42 | 40 | 41 | 44 | 44 | 44 | 44 | 44 | 44 | 39 | 38 | -- | | | |
| Minimum | 53 | 50 | 55 | 58 | 60 | 58 | 52 | 46 | 43 | 42 | 40 | 45 | 45 | 50 | 52 | 54 | 48 | 43 | 42 | 40 | 38 | 40 | 41 | 42 | 42 | 44 | 39 | 38 | 35 | -- | | | |
| December | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 39 | 40 | 44 | 44 | 45 | 43 | 39 | 31 | 38 | 38 | 40 | 43 | 43 | 39 | 38 | 38 | 38 | 43 | 44 | 42 | 41 | 40 | 38 | 38 | 38 | 39 | 39 | 38 | 38 | 38 | 40 | | |
| Minimum | 36 | 38 | 40 | 42 | 43 | 39 | 38 | 38 | 38 | 38 | 38 | 40 | 39 | 38 | 38 | 38 | 38 | 38 | 43 | 42 | 41 | 40 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 39 | | |
| January | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 38 | 38 | 38 | 32 | 32 | 35 | 36 | 36 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 35 | 36 | 37 | 36 | 33 | 34 | 32 | | | |
| Minimum | 38 | 38 | 32 | 32 | 32 | 32 | 32 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 33 | 35 | 36 | 33 | 32 | 32 | 33 | | | |
| February | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 32 | 32 | 32 | 35 | 36 | 36 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 36 | 36 | 36 | 35 | 38 | 39 | 40 | -- | -- | 34 | | |
| Minimum | 32 | 32 | 32 | 32 | 34 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 36 | 35 | 34 | 35 | 38 | 39 | -- | -- | -- | 33 | | |
| March | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 40 | 35 | 34 | 36 | 36 | 32 | 32 | 34 | 32 | 34 | 34 | 38 | 36 | 36 | 36 | 36 | 38 | 37 | 40 | 38 | 37 | 38 | 40 | 40 | 40 | 40 | 42 | 43 | 45 | 45 | 37 | | |
| Minimum | 35 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 34 | 34 | 36 | 35 | 34 | 35 | 34 | 34 | 36 | 36 | 36 | 36 | 37 | 38 | 38 | 38 | 38 | 37 | 38 | 42 | 45 | 35 | | |
| April | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 45 | 40 | 40 | 41 | 44 | 44 | 45 | 45 | 46 | 46 | 42 | 42 | 39 | 39 | 39 | 40 | 41 | 44 | 42 | 46 | 49 | 50 | 50 | 52 | 55 | 56 | 56 | 56 | 62 | -- | 46 | | |
| Minimum | 40 | 38 | 37 | 36 | 39 | 43 | 43 | 44 | 42 | 42 | 42 | 39 | 36 | 38 | 36 | 36 | 39 | 39 | 40 | 38 | 43 | 49 | 44 | 45 | 48 | 50 | 50 | 54 | 54 | -- | 42 | | |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 64 | 63 | 58 | 60 | 62 | 62 | 64 | 59 | 59 | 56 | 57 | 56 | 56 | 65 | 68 | 66 | 68 | 68 | 67 | 68 | 68 | 68 | 66 | 65 | 68 | 66 | 61 | 60 | 66 | 66 | 63 | | |
| Minimum | 60 | 58 | 54 | 54 | 54 | 56 | 58 | 56 | 53 | 52 | 54 | 55 | 54 | 60 | 62 | 61 | 62 | 62 | 60 | 64 | 62 | 62 | 62 | 60 | 62 | 61 | 58 | 58 | 60 | 62 | 58 | | |
| June | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 68 | 69 | 65 | 64 | 64 | 63 | 63 | 62 | 66 | 68 | 65 | 63 | 63 | 63 | 63 | 66 | 69 | 67 | 65 | 63 | 65 | 69 | 67 | 69 | 66 | 68 | 68 | 66 | -- | -- | 65 | | |
| Minimum | 62 | 62 | 63 | 61 | 61 | 60 | 58 | 58 | 58 | 60 | 62 | 61 | 59 | 57 | 57 | 56 | 58 | 60 | 63 | 61 | 59 | 59 | 61 | 64 | 63 | 62 | 62 | 62 | 60 | 58 | -- | 60 | |

POTOMAC RIVER BASIN--Continued

1-5955. NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD.--Continued

Temperature °F of water, water year October 1961 to September 1962--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 | |
| July | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 68 | 68 | 66 | 69 | 67 | 69 | 71 | 74 | 72 | 71 | 73 | 70 | 73 | 67 | 67 | 64 | 65 | 64 | 67 | 69 | 67 | 69 | 70 | 65 | -- | -- | -- | -- | -- | -- | 74 | -- |
| Minimum | 62 | 60 | 59 | 59 | 57 | 60 | 63 | 65 | 65 | 63 | 61 | 65 | 65 | 66 | 63 | 61 | 61 | 61 | 62 | 61 | 63 | 63 | 65 | 63 | -- | -- | -- | -- | -- | -- | 66 | -- |
| August | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 76 | 76 | 72 | 73 | 76 | 79 | 78 | 76 | 74 | 72 | 72 | 75 | 73 | 72 | 74 | 74 | 72 | 72 | 74 | 77 | 78 | 76 | 74 | 73 | 72 | 70 | 72 | 69 | 72 | 74 | 74 | 74 |
| Minimum | 68 | 66 | 66 | 68 | 69 | 70 | 72 | 70 | 70 | 67 | 66 | 65 | 68 | 68 | 64 | 68 | 67 | 64 | 64 | 68 | 72 | 68 | 66 | 65 | 64 | 65 | 65 | 64 | 61 | 64 | 66 | 67 |
| September | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 72 | 70 | 68 | 68 | 70 | 68 | 66 | 68 | 66 | 70 | 70 | 74 | 78 | 74 | 76 | 71 | 68 | 65 | 65 | 64 | 65 | 62 | 60 | 62 | 60 | 62 | 60 | 58 | 57 | 58 | -- | 66 |
| Minimum | 68 | 68 | 67 | 68 | 68 | 62 | 60 | 60 | 64 | 66 | 65 | 60 | 56 | 62 | 58 | 60 | 62 | 56 | 54 | 52 | 48 | 46 | 56 | 54 | 57 | 58 | 59 | 56 | 54 | 52 | -- | 59 |

POTOMAC RIVER BASIN--Continued
 1-5955. NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD.--Continued
 Periodic determinations of suspended-sediment discharge, October 1961 to March 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|-------------------------------------|-----------------------------|
| | | | | Mean concen- tration (ppm) | Discharge (tons per day) |
| Dec. 18, 1961..... | 1845 | 40 | 2,110 | 70 | 399 |
| Jan. 7, 1962..... | 0300 | 38 | 3,030 | 135 | 1,100 |
| Jan. 7..... | 1145 | 38 | 2,650 | 64 | 458 |
| Jan. 8..... | 1200 | 36 | 1,270 | 11 | 38 |
| Jan. 9..... | 1145 | 33 | 777 | 6 | 13 |
| Feb. 24..... | 2105 | 36 | 1,740 | 25 | 118 |
| Feb. 25..... | 1125 | 36 | 1,200 | 10 | 32 |
| Feb. 26..... | 1920 | 43 | 2,470 | 75 | 501 |
| Feb. 27..... | 0900 | 40 | 2,030 | 46 | 252 |
| Feb. 27..... | 2015 | 40 | 2,530 | 65 | 444 |
| Feb. 28..... | 1145 | 43 | 2,900 | 90 | 703 |
| Mar. 1..... | 1130 | 36 | 1,730 | 17 | 79 |
| Mar. 21..... | 1825 | 39 | 4,130 | 169 | 1,890 |
| Mar. 22..... | 2050 | 39 | 2,860 | 42 | 1,325 |
| Mar. 23..... | 1505 | 41 | 2,110 | 19 | 108 |

Particle-size analysis of suspended sediment, January 1962
 (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) | Samp- ling ature point (°F) | Discharge (cfs) | Sediment concen- tration (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 |
| Jan. 7, 1962..... | 0300 | 38 | 3.030 | 135 | | 21 | 29 | 39 | 44 | 55 | 62 | 66 | 78 | 92 | 100 | BSWC |

POTOMAC RIVER BASIN--Continued

1-5970. CRABTREE CREEK NEAR SWANTON, MD.

LOCATION.--Temperature recorder at gaging station, 0.9 mile upstream from Middle Fork, 1 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 1962 (discontinued).

RECORDS AVAILABLE. --Water temperatures: February 2000 to December 2000; July 2000 to September 2002 (unavailable); February 2003 to December 2003; January 2004 to September 2004 (unavailable). --Air temperatures: February 2000 to December 2000; July 2000 to September 2002 (unavailable); February 2003 to December 2003; January 2004 to September 2004 (unavailable). --Water temperatures: Maximum, 74°F Aug. 6; minimum, freezing point on many days in November to February. EXTREMES, 1961-62. --Water temperatures: Maximum, 74°F Aug. 6; minimum, freezing point on many days in November to February.

EXTREMES, 1952-62.--Water temperatures: Maximum recorded, 82°F Aug. 2, 3, 1955; minimum, freezing point on many days during

winter months,

Temperature °F of water, water year October 1961 to September 1962

Continuous ethyl alcohol-actuated thermograph]

POTOMAC RIVER BASIN--Continued

1-5985. NORTH BRANCH POTOMAC RIVER AT LUKE, MD.

LOCATION.--Temperature recorder at gaging station, 0.2 mile downstream from Savage River, and 0.5 mile northwest of Luke, Allegany County.
 DRAINAGE AREA.--404 square miles.
 RECORDS AVAILABLE.--Water temperatures: December 1961 to September 1962.
 RECORDS AVAILABLE.--Water temperatures: December 1961 to September 1962.
 REMARKS.--Records fair, probably because of friction in recorder.

| Temperature °F of water, December 1961 to September 1962 Continuous ethyl alcohol-actuated thermometer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Aver- age |
|-----------------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------|
| 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 | | |
| December | --- | --- | --- | --- | --- | 38 | 36 | 36 | 37 | 37 | 34 | 38 | 38 | 36 | 34 | 34 | 34 | 38 | 40 | 40 | 40 | 38 | 36 | 35 | 35 | 34 | 33 | 33 | 33 | 33 | 36 | |
| | --- | --- | --- | --- | --- | 36 | 36 | 34 | 34 | 34 | 34 | 34 | 36 | 34 | 34 | 34 | 34 | 38 | 40 | 38 | 36 | 35 | 35 | 34 | 33 | 33 | 33 | 33 | 33 | 35 | | |
| January | 33 | 33 | 33 | 33 | 33 | 36 | 37 | 37 | 35 | 33 | 32 | 32 | 32 | 32 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 35 | 36 | 36 | 38 | 38 | 36 | 34 | 34 | | |
| | 33 | 33 | 33 | 33 | 33 | 33 | 36 | 35 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 35 | 36 | 36 | 34 | 33 | 33 | | | |
| February | 33 | 34 | 34 | 36 | 38 | 38 | 34 | 34 | 34 | 34 | 34 | 33 | 33 | 33 | 33 | 33 | 34 | 35 | 35 | 34 | 34 | 38 | 38 | 38 | 38 | 40 | 40 | 40 | 40 | 35 | | |
| | 33 | 33 | 34 | 34 | 36 | 34 | 34 | 34 | 34 | 34 | 33 | 33 | 33 | 33 | 33 | 33 | 34 | 34 | 34 | 34 | 34 | 36 | 36 | 36 | 37 | 40 | 40 | 40 | 40 | 35 | | |
| March | 40 | 36 | 34 | 36 | 34 | 35 | 36 | 35 | 34 | 34 | 38 | 38 | 38 | 38 | 38 | 38 | 39 | 39 | 41 | 41 | 38 | 39 | 41 | 41 | 46 | 46 | 46 | 46 | 38 | | | |
| | 36 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 36 | | | |
| April | --- | --- | 39 | 40 | 42 | 42 | 43 | 43 | 43 | 44 | 41 | 42 | 40 | 40 | 40 | 40 | 43 | 43 | 46 | 45 | 47 | 52 | 54 | 53 | 54 | 58 | 58 | 60 | 60 | 47 | | |
| | --- | --- | 36 | 36 | 38 | 41 | 41 | 43 | 40 | 40 | 41 | 40 | 40 | 37 | 40 | 38 | 38 | 42 | 42 | 43 | 42 | 45 | 52 | 48 | 48 | 51 | 54 | 54 | 56 | 44 | | |
| May | 63 | 63 | 60 | 58 | 60 | 62 | 62 | 58 | 58 | 56 | 56 | 55 | 65 | 72 | 72 | 74 | 72 | 72 | 71 | 71 | 71 | 71 | 71 | 66 | 68 | 69 | 65 | 65 | 67 | 65 | | |
| | 60 | 60 | 54 | 54 | 54 | 56 | 57 | 56 | 54 | 52 | 54 | 55 | 55 | 65 | 68 | 69 | 66 | 68 | 64 | 68 | 67 | 66 | 66 | 62 | 64 | 64 | 56 | 56 | 63 | 60 | | |
| June | 69 | 72 | 70 | 66 | 66 | 65 | 67 | 68 | 70 | 73 | 71 | 68 | 67 | 62 | 62 | 66 | 68 | 71 | 70 | 69 | 65 | 66 | 72 | 72 | 75 | 74 | 74 | 72 | 72 | 69 | | |
| | 64 | 65 | 66 | 64 | 65 | 63 | 61 | 63 | 64 | 67 | 68 | 65 | 62 | 60 | 60 | 60 | 62 | 64 | 66 | 64 | 62 | 62 | 65 | 68 | 68 | 68 | 66 | 66 | 66 | 64 | | |
| July | 74 | 72 | 71 | 66 | 69 | 73 | 77 | 79 | 79 | 77 | 79 | 75 | 79 | 77 | 71 | 69 | 67 | 71 | 71 | 73 | 73 | 73 | 74 | 69 | 68 | 69 | 68 | 72 | 70 | 74 | 73 | |
| | 69 | 67 | 66 | 63 | 62 | 66 | 69 | 71 | 65 | 69 | 71 | 71 | 71 | 69 | 68 | 65 | 67 | 65 | 67 | 68 | 68 | 69 | 67 | 66 | 66 | 64 | 63 | 67 | 67 | 67 | | |
| August | 79 | 81 | 77 | 81 | 82 | 86 | 84 | 83 | 80 | 76 | 80 | 80 | 80 | 80 | 80 | 74 | 77 | 78 | 82 | 82 | 80 | 80 | 80 | 80 | 79 | 79 | 76 | 77 | 78 | 80 | | |
| | 71 | 70 | 72 | 75 | 76 | 77 | 80 | 77 | 76 | 72 | 69 | 69 | 69 | 69 | 69 | 67 | 67 | 72 | 71 | 70 | 71 | 70 | 69 | 71 | 71 | 71 | 68 | 69 | 72 | 72 | | |
| September | 76 | 73 | 71 | 70 | 70 | 70 | 68 | 70 | 68 | 72 | 72 | 70 | 68 | 67 | 66 | 64 | 62 | 60 | 58 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 66 | |
| | 72 | 70 | 68 | 69 | 68 | 64 | 62 | 62 | 66 | 68 | 66 | 64 | 62 | 64 | 62 | 62 | 58 | 56 | 56 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 52 | 60 | |

Temperature °F of water, December 1961 to September 1962
 Continuous ethyl alcohol-actuated thermograph

QUALITY OF SURFACE WATERS, 1962

POTOMAC RIVER BASIN--Continued

1-5990. GEORGES CREEK AT FRANKLIN, MD.

LOCATION --At bridge, 1,000 feet downstream from gaging station, and 1.2 miles upstream from mouth at Westernport, Allegany County.

DRAINAGE AREA.--72.4 square miles.

REMARKS.--Sediment discharge measurements usually made during periods of high water discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|-------------------------------------|-----------------------------|
| | | | | Mean concen- tration (ppm) | Discharge (tons per day) |
| Dec. 18, 1961..... | 1630 | 37 | 141 | 370 | 141 |
| Jan. 7, 1962..... | 0130 | 37 | 136 | 165 | 61 |
| Jan. 7..... | 1240 | 38 | 159 | 189 | 81 |
| Jan. 8..... | 1300 | 37 | 75 | 30 | 6.1 |
| Jan. 9..... | 1245 | 33 | 36 | 31 | 3.0 |
| Feb. 24..... | 2200 | 35 | 466 | 148 | 186 |
| Feb. 25..... | 1950 | 38 | 255 | 50 | 34 |
| Feb. 26..... | 1720 | 42 | 753 | 538 | 1,100 |
| Feb. 27..... | 0420 | 42 | 645 | 153 | 267 |
| Feb. 27..... | 1815 | 41 | 863 | 372 | 867 |
| Feb. 28..... | 1250 | 43 | 852 | 307 | 706 |
| Mar. 1..... | 1225 | 38 | 502 | 193 | 262 |
| Mar. 21..... | 1600 | 40 | 1,640 | 984 | 4,370 |
| Mar. 21..... | 2050 | 41 | 1,430 | 551 | 2,130 |
| Mar. 22..... | 2240 | 40 | 907 | 239 | 585 |
| Mar. 23..... | 1625 | 45 | 731 | 748 | 1,480 |

POTOMAC RIVER BASIN--Continued

1-6010. WILLS CREEK BELOW HYNDMAN, PA.

LOCATION.--At county highway bridge, 150 feet downstream from gaging station, 0.4 mile downstream from Little Wills Creek, and 0.5 mile south of Hyndman, Bedford County.

DRAINAGE AREA.--146 square miles.

REMARKS.--Sediment discharge measurements usually made during periods of high water discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|-------------------------------------|-----------------------------|
| | | | | Mean concen- tration (ppm) | Discharge (tons per day) |
| Dec. 18, 1961..... | 1430 | 38 | 111 | 9 | 2.7 |
| Jan. 6, 1962..... | 2345 | 34 | 142 | 11 | 4.2 |
| Jan. 7..... | 1625 | 36 | 307 | 30 | 25 |
| Jan. 8..... | 1640 | 36 | 239 | 3 | 1.9 |
| Feb. 24..... | 1445 | 37 | 1,690 | 217 | 990 |
| Feb. 25..... | 0130 | 36 | 1,250 | 46 | 156 |
| Feb. 25..... | 2130 | 38 | 777 | 14 | 29 |
| Feb. 26..... | 1550 | 42 | 1,020 | 29 | 80 |
| Feb. 27..... | 0255 | 42 | 1,320 | 40 | 143 |
| Feb. 27..... | 1640 | 41 | 2,590 | 212 | 1,480 |
| Feb. 28..... | 1635 | 43 | 2,680 | 81 | 587 |
| Mar. 1..... | 1605 | 41 | 1,160 | 18 | 56 |
| Mar. 21..... | 1425 | 40 | 4,190 | 621 | 7,040 |
| Mar. 21..... | 2210 | 41 | 4,400 | 266 | 3,160 |
| Mar. 23..... | 2210 | 41 | 2,320 | 50 | 314 |
| Mar. 23..... | 1740 | 46 | 1,640 | 25 | 111 |

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, Va.

DRAINAGE AREA.---642 square miles.

RECORDS AVAILABLE.---Water temperatures: January 1947 to September 1953, November 1954 to September 1962.

EXTREMES, 1961-62.---Water temperatures: Maximum, 79°F Aug. 7, 8, 22; minimum, freezing point Dec. 30, 31, Jan. 11-13, Feb. 7.

EXTREMES, 1947-53, 1954-62.---Water temperatures: Maximum, 84°F June 27, July 23, 1952, Aug. 3, 1955; minimum, freezing point on many days during winter months.

| Temperature (°F) of water, water year October 1961 to September 1962 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Aver- age |
|----------------------------------------------------------------------|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------|
| 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 | | |
| October | 68 | 66 | 64 | 62 | 62 | 63 | 63 | 64 | 65 | 65 | 64 | 62 | 60 | 58 | 55 | 57 | 58 | 59 | 59 | 56 | 54 | 55 | 55 | 53 | 54 | 53 | 52 | 49 | 50 | 50 | 52 | 58 |
| November .. | 55 | 55 | 58 | 60 | 62 | 61 | 59 | 53 | 45 | 45 | 44 | 46 | 49 | 44 | 45 | 45 | 54 | 49 | 46 | 44 | 43 | 42 | 43 | 45 | 44 | 44 | 42 | 41 | 38 | 36 | -- | 48 |
| December .. | 37 | 39 | 42 | 42 | 40 | 38 | 36 | 35 | 34 | 34 | 37 | 40 | 42 | 36 | 38 | 35 | 37 | 41 | 43 | 44 | 40 | 39 | 37 | 37 | 35 | 34 | 35 | 35 | 34 | 32 | 32 | 37 |
| January | 33 | 34 | 36 | 38 | 40 | 40 | 41 | 40 | 36 | 33 | 32 | 32 | 32 | 33 | 34 | 35 | 35 | 34 | 35 | 35 | 36 | 39 | 40 | 39 | 41 | 43 | 45 | 40 | 35 | 39 | 34 | 37 |
| February | 34 | 34 | 37 | 40 | 44 | 38 | 32 | 33 | 34 | 35 | 34 | 33 | 34 | 36 | 36 | 35 | 36 | 35 | 38 | 40 | 39 | 42 | 44 | 43 | 41 | 41 | 46 | 45 | -- | -- | 38 | |
| March | 42 | 38 | 36 | 39 | 40 | 34 | 35 | 38 | 38 | 39 | 40 | 42 | 42 | 41 | 41 | 42 | 41 | 42 | 43 | 44 | 44 | 44 | 44 | 45 | 45 | 45 | 46 | 48 | 49 | 52 | 54 | 42 |
| April | 51 | 46 | 44 | 48 | 49 | 50 | 54 | 51 | 50 | 46 | 44 | 45 | 46 | 45 | 46 | 45 | 44 | 45 | 48 | 48 | 47 | 52 | 56 | 55 | 57 | 60 | 61 | 63 | 63 | 65 | -- | 51 |
| May | 65 | 64 | 60 | 61 | 60 | 61 | 62 | 60 | 58 | 59 | 59 | 57 | 60 | 65 | 70 | 70 | 71 | 71 | 71 | 72 | 70 | 70 | 70 | 72 | 73 | 74 | 72 | 74 | 74 | 70 | -- | 65 |
| June | 69 | 69 | 68 | 65 | 65 | 65 | 68 | 71 | 72 | 70 | 69 | 65 | 66 | 65 | 67 | 70 | 74 | 70 | 70 | 70 | 70 | 70 | 72 | 73 | 74 | 72 | 74 | 74 | 70 | -- | 70 | |
| July | 72 | 70 | 69 | 65 | 67 | 70 | 74 | 75 | 76 | 75 | 73 | 74 | 74 | 72 | 70 | 68 | 70 | 72 | 74 | 75 | 75 | 74 | 75 | 76 | 75 | 74 | 74 | 75 | 76 | 76 | 73 | 73 |
| August | 78 | 75 | 76 | 78 | 79 | 78 | 79 | 79 | 78 | 76 | 75 | 75 | 75 | 75 | 76 | 75 | 76 | 75 | 75 | 77 | 79 | 76 | 75 | 75 | 75 | 75 | 75 | 76 | 77 | 76 | -- | 76 |
| September .. | 75 | 74 | 72 | 72 | 71 | 71 | 70 | 70 | 71 | 71 | 72 | 72 | 72 | 72 | 71 | 71 | 70 | 70 | 69 | 68 | 65 | 63 | 63 | 62 | 62 | 61 | 60 | 59 | 59 | 58 | -- | 68 |

QUALITY OF SURFACE WATERS, 1962

POTOMAC RIVER BASIN--Continued

1-6100. POTOMAC RIVER AT PAW PAW, W. VA.

LOCATION.--At bridge on Maryland State Highway 51 at Paw Paw, Morgan County, 250 feet downstream from gaging station, and 3.3 miles downstream from Little Cacapon River.

DRAINAGE AREA.--3,109 square miles.

REMARKS.--Sediment discharge measurements usually made during periods of high water discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (° F) | Discharge (cfs) | Suspended sediment | |
|-------------------|-----------------|-----------------------------------------|--------------------|-------------------------------------|-----------------------------|
| | | | | Mean concen- tration (ppm) | Discharge (tons per day) |
| Jan. 7, 1962..... | 1445 | 40 | 7,570 | 157 | 3,210 |
| Jan. 8..... | 1515 | 40 | 10,400 | 114 | 3,200 |
| Jan. 8..... | 1905 | 39 | 9,480 | 85 | 2,170 |
| Jan. 9..... | 1430 | 33 | 6,930 | 32 | 598 |
| Feb. 25..... | 0455 | 39 | 19,400 | 344 | 18,000 |
| Feb. 25..... | 0740 | 39 | 19,000 | 339 | 17,400 |
| Feb. 25..... | 1655 | 40 | 15,500 | 163 | 6,820 |
| Feb. 26..... | 0140 | 39 | 12,800 | 84 | 2,900 |
| Feb. 27..... | 0110 | 42 | 17,600 | 111 | 5,280 |
| Feb. 27..... | 1505 | 44 | 26,700 | 361 | 26,100 |
| Feb. 28..... | 1500 | 45 | 35,000 | 256 | 24,200 |
| Mar. 1..... | 1440 | 43 | 21,200 | 96 | 5,500 |
| Mar. 22..... | 0325 | 42 | 49,500 | 750 | 100,000 |
| Mar. 22..... | 1620 | 44 | 57,200 | 541 | 83,600 |
| Mar. 23..... | 1215 | 43 | 38,700 | 150 | 15,700 |
| Mar. 23..... | 1900 | 44 | 31,500 | 125 | 10,600 |

POTOMAC RIVER BASIN--Continued

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

LOCATION.--At the Potomac Edison hydroelectric plant, 4 miles downstream from gaging station, 2.5 miles upstream from mouth, and 1 mile south of Great Cacapon, Morgan County.

DRAINAGE AREA--861 square miles above power plant.

RECORD AVAILABLE.--Water temperatures: October 1946 to September 1954, October 1958 to September 1962.

EXTREMES, 1946-62.--Water temperatures: Maximum, 77°F Aug. 23, 24; minimum, freezing point on many days during January and February.

EXTREMES, 1946-54, 1958-62.--Water temperatures: Maximum, 96°F July 23, 1952; minimum, freezing point on many days during winter months.

REMARKS.--Records of discharge are given for Cacapon River near Great Cacapon.

Temperature (°F) of water, water year October 1961 to September 1962

| 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 | -- | 70 | 68 | 68 | 64 | 60 | 58 | -- | 58 | 58 | 58 | 58 | 58 | 58 | -- | 57 | 57 | 57 | 57 | 57 | 57 | -- | 56 | 56 | 56 | 55 | 55 | 54 | -- | 54 | 54 | 58 |
| November .. | 54 | 54 | 55 | 57 | -- | 60 | 60 | 58 | 55 | 52 | -- | -- | 45 | 45 | 46 | 46 | 46 | 46 | -- | 44 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 40 | 40 | -- | 48 |
| December .. | 40 | 40 | -- | 40 | 40 | 40 | 40 | -- | 40 | 38 | 38 | 38 | 38 | 38 | 36 | 36 | -- | 36 | 38 | 38 | 38 | 38 | -- | -- | 36 | 35 | 35 | 35 | 34 | -- | 38 | |
| January | 34 | 34 | 34 | 36 | 36 | 36 | -- | 36 | 34 | 34 | 32 | 32 | -- | 32 | 32 | 32 | 32 | 32 | 32 | 32 | -- | 32 | 32 | 32 | 32 | 32 | 32 | -- | 32 | 33 | 33 | |
| February | 32 | 32 | -- | 32 | 32 | 32 | 32 | 32 | 32 | 32 | -- | 32 | 32 | 32 | 32 | 32 | -- | 32 | 33 | 33 | 33 | 33 | 33 | 34 | 34 | -- | 36 | 38 | 38 | -- | 33 | |
| March | 38 | 38 | -- | 38 | 38 | 36 | 34 | 34 | -- | 34 | 34 | 34 | 36 | 36 | -- | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 38 | 40 | 40 | 40 | 42 | 44 | 44 | 44 | 38 |
| April | -- | 45 | 45 | 46 | 46 | 48 | -- | 48 | 48 | 48 | 48 | 48 | 48 | 48 | -- | 48 | 48 | 46 | 46 | 48 | -- | 48 | 50 | 50 | 52 | 54 | 56 | 57 | -- | 60 | -- | 49 |
| May | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 58 | 58 | 58 | 58 | 58 | 58 | 60 | 63 | 64 | 66 | -- | 67 | 69 | 70 | 70 | 70 | 70 | 71 | -- | 72 | 72 | 72 | 72 | 72 |
| June | 72 | 72 | -- | 72 | 72 | 72 | 73 | -- | 73 | 73 | 73 | 73 | 73 | 73 | 72 | 70 | 69 | -- | 72 | 73 | 73 | 74 | -- | 74 | 74 | 74 | 74 | 74 | 74 | -- | 73 | |
| July | -- | 74 | 74 | 74 | 74 | 74 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 74 | 74 | 74 | 74 | 74 | -- | 74 | 74 | 74 | 74 | 74 | 73 | -- | 72 | 72 | -- |
| August | 72 | 72 | 73 | 74 | -- | 76 | 76 | 76 | 76 | 76 | 76 | -- | 75 | 75 | 75 | 74 | 74 | 74 | -- | 76 | 76 | 76 | -- | 77 | 77 | 76 | -- | 74 | 74 | 74 | 74 | 75 |
| September .. | 73 | -- | -- | 72 | 72 | 72 | 70 | 70 | -- | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 68 | 67 | 67 | 66 | -- | 66 | 64 | 64 | 64 | 60 | -- | 60 | -- | 68 | |

NORTH ATLANTIC SLOPE BASINS
POTOMAC RIVER BASIN--Continued

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1-6195. ANTIETAM CREEK NEAR SHARPSBURG, MD.

LOCATION.--At Burnside Bridge, 400 feet upstream from gaging station, and 1 mile southeast of Sharpsburg, Washington County.

DRAINAGE AREA.--281 square miles.

REMARKS.--Sediment discharge measurements usually made during periods of high water discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|-------------------|-----------------|----------------------------------------|--------------------|------------------------------------------|-----------------------------|
| | | | | Mean con- cen- tration (ppm) | Discharge (tons per day) |
| Jan. 7, 1962..... | 0545 | 40 | 485 | 346 | 466 |
| Jan. 7..... | 1125 | 43 | 515 | 226 | 315 |
| Feb. 26..... | 1850 | 42 | 685 | 275 | 508 |
| Feb. 27..... | 1325 | 43 | 930 | 462 | 1,160 |
| Feb. 28..... | 0940 | 43 | 991 | 292 | 782 |
| Feb. 28..... | 1815 | 44 | 950 | 271 | 696 |
| Mar. 1..... | 1315 | 42 | 910 | 274 | 674 |
| Mar. 2..... | 1710 | 40 | 670 | 75 | 136 |
| Mar. 22..... | 0935 | 47 | 1,260 | 821 | 2,790 |

1-6310. SOUTH FORK SHENANDOAH RIVER AT FRONT ROYAL, VA.

LOCATION.--At gaging station at downstream side of bridge on State Highway 619, 1 mile west of Front Royal, Warren County, and 3.5 miles upstream from confluence with North Fork.

DRAINAGE AREA.--1,638 square miles.

REMARKS.--Sediment discharge measurements January 1960 to April 1962, usually made during periods of high water discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|------------------------------------------|-----------------------------|
| | | | | Mean con- cen- tration (ppm) | Discharge (tons per day) |
| Oct. 21, 1961..... | 1110 | 60 | 388 | 2 | 2.1 |
| Oct. 21..... | 2115 | 59 | 458 | 9 | 11 |
| Oct. 22..... | 0540 | 57 | 8,860 | 400 | 9,590 |
| Oct. 22..... | 0730 | 57 | 9,960 | 330 | 8,890 |
| Oct. 22..... | 0835 | 57 | 10,600 | 348 | 9,960 |
| Oct. 23..... | 1145 | 56 | 5,100 | 560 | 7,710 |
| Dec. 18..... | 1920 | 39 | 2,870 | 24 | 186 |
| Dec. 19..... | 1120 | 42 | 6,220 | 157 | 2,640 |
| Jan. 7, 1962..... | 0200 | 39 | 2,040 | 14 | 77 |
| Jan. 7..... | 1605 | 40 | 5,490 | 54 | 801 |
| Jan. 8..... | 1300 | 42 | 8,220 | 245 | 5,450 |
| Feb. 27..... | 0700 | 44 | 2,620 | 25 | 180 |
| Feb. 28..... | 1355 | 46 | 6,120 | 95 | 1,570 |
| Feb. 28..... | 2315 | 46 | 6,210 | 132 | 2,220 |
| Mar. 1..... | 1515 | 45 | 5,670 | 84 | 1,290 |
| Mar. 2..... | 1535 | 42 | 4,500 | 48 | 584 |

1-6340. NORTH FORK SHENANDOAH RIVER NEAR STRASBURG, VA.

LOCATION.--At gaging station at bridge on State Highway 55, 1.5 miles southeast of Strasburg, Shenandoah County, 2.2 miles upstream from Cedar Creek, and 10 miles upstream from confluence with South Fork.

DRAINAGE AREA.--772 square miles.

REMARKS.--Sediment discharge measurements January 1960 to March 1962 usually made during periods of high water discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|------------------------------------------|-----------------------------|
| | | | | Mean con- cen- tration (ppm) | Discharge (tons per day) |
| Dec. 18, 1961..... | 2050 | -- | 995 | 35 | 94 |
| Dec. 19..... | 1220 | 41 | 3,440 | 210 | 1,950 |
| Jan. 7, 1962..... | 0045 | 37 | 736 | 29 | 58 |
| Jan. 7..... | 1510 | 38 | 2,290 | 96 | 594 |
| Jan. 8..... | 1400 | 39 | 2,460 | 131 | 871 |
| Feb. 27..... | 0810 | 43 | 2,590 | 204 | 1,430 |
| Feb. 28..... | 1305 | 45 | 3,360 | 100 | 910 |
| Feb. 28..... | 2105 | 46 | 3,020 | 79 | 645 |
| Mar. 1..... | 1555 | 45 | 2,300 | 43 | 267 |

QUALITY OF SURFACE WATERS, 1962

POTOMAC RIVER BASIN--Continued

1-6355. PASSAGE CREEK AT BUCKTON, VA.

LOCATION.--At bridge on State Highway 55, 350 feet downstream from gaging station, 1.4 miles upstream from mouth, 4.2 miles west of Riverton, and 1.2 miles south of Buckton, Warren County.

DRAINAGE AREA.--87 square miles, approximately.

REMARKS.--Sediment discharge measurements usually made during periods of high water discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|-------------------------------------|-----------------------------|
| | | | | Mean concen- tration (ppm) | Discharge (tons per day) |
| Dec. 18, 1961..... | 2010 | 39 | 279 | 148 | 112 |
| Dec. 19..... | 1155 | 43 | 120 | 50 | 16 |
| Jan. 7, 1962..... | 0120 | 37 | 396 | 133 | 142 |
| Jan. 7..... | 1530 | 41 | 356 | 71 | 68 |
| Jan. 8..... | 1345 | 39 | 149 | 14 | 5.6 |
| Feb. 27..... | 0745 | 42 | 352 | 77 | 73 |
| Feb. 28..... | 1320 | 46 | 312 | 26 | 22 |
| Feb. 28..... | 2135 | 46 | 258 | 22 | 15 |

1-6375. CATOCTIN CREEK NEAR MIDDLETOWN, MD.

LOCATION.--At bridge on State Highway 17, 300 feet upstream from gaging station, 1.3 miles south of Middletown, Frederick County, and 2.2 miles downstream from Little Catoctin Creek.

DRAINAGE AREA.--66.9 square miles.

REMARKS.--Sediment discharge measurements usually made during periods of high water discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|-------------------|-----------------|----------------------------------------|--------------------|-------------------------------------|-----------------------------|
| | | | | Mean concen- tration (ppm) | Discharge (tons per day) |
| Jan. 6, 1962..... | 1905 | 34 | 440 | 1,020 | 1,210 |
| Jan. 7..... | 1035 | 39 | 420 | 232 | 264 |
| Feb. 24..... | 1720 | 41 | 505 | 240 | 328 |
| Feb. 26..... | 1615 | 38 | 1,090 | 1,550 | 4,560 |
| Feb. 26..... | 1750 | 38 | 950 | 949 | 2,440 |
| Feb. 27..... | 1340 | 41 | 1,200 | 1,160 | 3,760 |
| Feb. 27..... | 1755 | 40 | 850 | 377 | 866 |
| Feb. 28..... | 1600 | 46 | 470 | 88 | 112 |
| Mar. 12..... | 1335 | 42 | 815 | 691 | 1,520 |
| Mar. 21..... | 1040 | 44 | 341 | 128 | 118 |
| Mar. 22..... | 1015 | 43 | 417 | 61 | 69 |

POTOMAC RIVER BASIN--Continued

1-6385. POTOMAC RIVER AT POINT OF ROCKS, MD.

LOCATION --At gaging station at bridge on U.S. Highway 15 at Point of Rocks, Frederick County, 0.3 mile downstream from Catoctin Creek (Virginia), and 6 miles upstream from Monocacy River.

DRAINAGE AREA --9,651 square miles.

RECORDS AVAILABLE --Water temperatures: October 1960 to September 1962.

Sediment records: October 1960 to September 1962.

EXTREMES, 1961-62 --Water temperatures: Maximum, 80°F July, 8, 9; minimum, freezing point on many days during December, January, and February.

Sediment concentrations: Maximum daily, 603 ppm Mar. 23; minimum daily, 1 ppm Oct. 6-15, Aug. 27-31, and Sept. 1-5.

Sediment loads: Maximum daily, 183,000 tons Mar. 23; minimum daily, 3 tons Sept. 1-4.

EXTREMES, 1960-62 --Water temperatures: Maximum, 85°F Sept. 5, 1960; minimum, freezing point on many days during winter months.

Sediment concentrations: Maximum daily, 1,180 ppm Feb. 20, 1961; minimum daily, 1 ppm on many days during October 1961, August and September 1962.

Sediment loads: Maximum daily, 276,000 tons Feb. 20, 1961; minimum daily, 3 tons Sept. 1-4, 1962.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| Date of collection | 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 | | | Specific conductance (micro-mhos at 25°C) | pH | Color |
|--------------------|-----------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|------------------------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | | | Calcium | Non-carbonate | Total acidity H ⁺ | | | |
| Mar. 2, 1962.. | 48,600 | 6.1 | | 0.00 | 0.00 | 19 | 3.3 | 2.6 | 1.4 | 46 | 21 | 4.2 | 0.0 | 4.2 | 93 | 60 | 23 | | 141 | 6.6 | 10 |
| Mar. 23..... | 116,000 | 8.1 | | .04 | .01 | 18 | 2.7 | 2.1 | 1.8 | 45 | 19 | 2.4 | .0 | 4.2 | 96 | 56 | 19 | | 129 | 7.1 | 3 |

Temperature °F of water, water year October 1961 to September 1962

/Once-daily measurement at approximately 09007

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

POTOMAC RIVER BASIN--Continued

1-6385. POTOMAC RIVER AT POINT OF ROCKS, MD.--Continued

Suspended sediment, water year October 1961 to September 1962

| 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.. | 1350 | C 2 | 7 | 2080 | C 5 | 28 | 3090 | C 4 | 33 |
| 2.. | 1290 | C 2 | 7 | 1990 | C 5 | 27 | 2820 | C 4 | 30 |
| 3.. | 1310 | C 2 | 7 | 1990 | C 5 | 27 | 2540 | C 4 | 27 |
| 4.. | 1410 | C 2 | 8 | 1870 | C 5 | 25 | 2480 | C 4 | 27 |
| 5.. | 1450 | C 2 | 8 | 1850 | C 5 | 25 | 2360 | C 8 | 51 |
| 6.. | 1390 | C 1 | 4 | 2170 | C 9 | 53 | 2270 | C 4 | 25 |
| 7.. | 1390 | C 1 | 4 | 2510 | C 9 | 61 | 2060 | C 2 | 11 |
| 8.. | 1390 | C 1 | 4 | 2660 | C 9 | 65 | 2030 | C 2 | 11 |
| 9.. | 1350 | C 1 | 4 | 2410 | C 9 | 59 | 2060 | C 2 | 11 |
| 10.. | 1410 | C 1 | 4 | 2950 | C 9 | 72 | 2030 | C 2 | 11 |
| 11.. | 1530 | C 1 | 4 | 3760 | C 6 | 61 | 2010 | C 2 | 11 |
| 12.. | 1490 | C 1 | 4 | 3260 | C 6 | 53 | 2240 | C 2 | 12 |
| 13.. | 1410 | C 1 | 4 | 2920 | C 6 | 47 | 2790 | C 2 | 15 |
| 14.. | 1410 | C 1 | 4 | 2660 | C 6 | 43 | 6160 | 24 S | 551 |
| 15.. | 1350 | C 1 | 4 | 2540 | C 6 | 41 | 13500 | 68 S | 2480 |
| 16.. | 1290 | C 2 | 7 | 2410 | C 3 | 20 | 9650 | 20 | 521 |
| 17.. | 1310 | C 2 | 7 | 2340 | C 3 | 19 | 7360 | 25 | 497 |
| 18.. | 1290 | C 2 | 7 | 2290 | C 3 | 19 | 6670 | 34 | 612 |
| 19.. | 1250 | C 2 | 7 | 2270 | C 3 | 18 | 9080 | 56 A | 1400 |
| 20.. | 1230 | 2 A | 7 | 2190 | C 3 | 18 | 20100 | 107 J | 6000 |
| 21.. | 1290 | 2 A | 7 | 2120 | C 3 | 17 | 20800 | 77 | 4320 |
| 22.. | 1430 | 2 A | 8 | 2190 | C 3 | 18 | 15600 | 60 | 2530 |
| 23.. | 10800 | 96 S | 3190 | 2190 | C 3 | 18 | 12200 | 37 | 1220 |
| 24.. | 7680 | 141 S | 2960 | 2190 | 13 | 77 | 10100 | 23 | 627 |
| 25.. | 6630 | 137 | 2450 | 2240 | C 4 | 24 | 8560 | 19 | 439 |
| 26.. | 4770 | 74 | 953 | 2310 | C 4 | 25 | 7280 | 18 A | 360 |
| 27.. | 3820 | 46 | 474 | 2760 | C 4 | 30 | 6440 | 15 A | 260 |
| 28.. | 3200 | 27 | 233 | 3820 | 9 | 93 | 5860 | 14 A | 220 |
| 29.. | 2820 | 17 | 129 | 3980 | 7 | 75 | 5580 | 12 A | 180 |
| 30.. | 2340 | 12 | 76 | 3440 | 4 | 37 | 5440 | 10 A | 150 |
| 31.. | 2080 | 7 | 39 | -- | -- | -- | 5350 | 9 A | 130 |
| Total | 74160 | -- | 10631 | 76360 | -- | 1195 | 206510 | -- | 22789 |
| | | | | | | | | | |
| 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.. | 4980 | 8 A | 110 | 5440 | C 4 | 59 | 70300 | 517 J | 99000 |
| 2.. | 4700 | 7 A | 89 | 5470 | C 4 | 59 | 49900 | 209 S | 29000 |
| 3.. | 4460 | C 7 | 84 | 5120 | C 4 | 55 | 33600 | 92 | 8350 |
| 4.. | 4460 | C 7 | 84 | 4770 | C 4 | 52 | 26100 | 48 | 3120 |
| 5.. | 4420 | C 7 | 84 | 4740 | C 4 | 51 | 19000 | 26 | 1330 |
| 6.. | 5050 | C 7 | 96 | 4560 | C 4 A | 49 | 17200 | C 10 | 464 |
| 7.. | 8720 | C 7 | 165 | 5330 | C 4 A | 58 | 5700 | C 10 | 424 |
| 8.. | 19400 | 53 | 2780 | 6190 | C 4 A | 67 | 13900 | C 10 | 375 |
| 9.. | 29600 | 123 B | 9800 | 6190 | C 4 A | 67 | 12900 | C 10 | 348 |
| 10.. | 21200 | 35 A | 2000 | 5440 | C 4 A | 59 | 12300 | C 10 | 332 |
| 11.. | 14700 | 14 A | 550 | 4940 | C 4 A | 53 | 11600 | C 10 | 313 |
| 12.. | 10300 | 10 A | 280 | 4560 | C 4 A | 49 | 16200 | C 10 | 437 |
| 13.. | 8280 | 9 A | 200 | 4350 | C 4 A | 47 | 37800 | 118 S | 13500 |
| 14.. | 7200 | 9 A | 180 | 3820 | C 4 A | 41 | 74000 | 269 S | 53500 |
| 15.. | 6900 | C 8 | 149 | 3920 | C 4 | 42 | 67400 | 190 | 34600 |
| 16.. | 7440 | C 8 | 161 | 4460 | C 4 | 48 | 52400 | 102 | 14400 |
| 17.. | 7720 | C 8 | 167 | 5050 | C 4 | 55 | 44800 | 67 S | 8080 |
| 18.. | 8280 | 7 A | 160 | 5050 | C 4 | 55 | 38300 | 51 | 5270 |
| 19.. | 8000 | 6 A | 130 | 5190 | C 4 | 56 | 35400 | 37 | 3540 |
| 20.. | 6780 | C 5 | 92 | 5330 | C 4 | 58 | 34000 | 30 | 2750 |
| 21.. | 5970 | C 5 | 81 | 5680 | C 4 | 61 | 35900 | 31 S | 3000 |
| 22.. | 5650 | C 5 | 76 | 6900 | C 4 | 75 | 77000 | 202 S | 49300 |
| 23.. | 5680 | C 5 | 77 | 7720 | 9 | 188 | 112000 | 603 S | 183000 |
| 24.. | 5790 | C 5 | 78 | 10100 | 15 | 409 | 79300 | 255 S | 57400 |
| 25.. | 6370 | C 8 | 138 | 27000 | 149 S | 12000 | 50800 | 96 S | 13300 |
| 26.. | 8040 | C 8 | 174 | 33800 | 262 A | 24000 | 40400 | 62 | 6760 |
| 27.. | 7440 | C 8 | 161 | 37700 | 130 S | 12900 | 32600 | 44 | 3870 |
| 28.. | 6710 | C 8 | 145 | 58500 | 408 S | 67500 | 27100 | 32 | 2340 |
| 29.. | 6520 | C 8 | 141 | -- | -- | -- | 23300 | 22 | 1380 |
| 30.. | 6450 | C 8 | 139 | -- | -- | -- | 20100 | 21 | 1140 |
| 31.. | 5850 | 6 A | 95 | -- | -- | -- | 18100 | 20 | 977 |
| Total | 263060 | -- | 18666 | 287320 | -- | 118213 | 1197400 | -- | 601676 |

S Computed by subdividing day.

C Composite period.

A Computed from partly estimated-concentration graph.

J Computed from partly estimated-

B Computed from estimated-concentration graph.

concentration graph and subdividing day.

POTOMAC RIVER BASIN--Continued

1-6385. POTOMAC RIVER AT POINT OF ROCKS, MD.--Continued

Suspended sediment, water year October 1961 to September 1962--Continued

| Day | Suspended sediment, water year October 1901 to September 1902--Continued | | | | | | | | | |
|-------|--------------------------------------------------------------------------|--------------------|--------------------------|----------------------|--------------------|--------------------------|----------------------|--------------------|--------|--|
| | 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.. | 17600 | 20 | 950 | 8160 | 10 | A 220 | 6710 | C 14 | 254 | |
| 2.. | 19200 | C 24 | 1240 | 9000 | 19 | A 462 | 6260 | C 14 | 237 | |
| 3.. | 20600 | C 24 | 1330 | 15500 | 30 | A 1300 | 6190 | C 14 | 234 | |
| 4.. | 18400 | C 24 | 1190 | 19900 | 46 | A 2470 | 5440 | C 14 | 206 | |
| 5.. | 16200 | C 24 | 1050 | 16200 | 43 | A 1900 | 5680 | C 14 | 215 | |
| 6.. | 14700 | C 24 | 953 | 12700 | 38 | A 1300 | 6440 | C 29 | 504 | |
| 7.. | 14200 | C 24 | 920 | 10800 | 25 | 729 | 6120 | C 29 | 479 | |
| 8.. | 22400 | 36 | 2450 | 9690 | 21 | 549 | 7090 | C 29 | 555 | |
| 9.. | 32100 | 113 | 9790 | 8840 | 17 | A 400 | 6900 | C 29 | 540 | |
| 10.. | 28600 | 58 | 4480 | 8200 | C 9 | 199 | 5470 | C 10 | 148 | |
| 11.. | 24700 | 33 | 2200 | 8040 | C 9 | 195 | 4660 | C 10 | 126 | |
| 12.. | 22000 | 21 | 1250 | 7680 | C 9 | 187 | 4290 | C 10 | 116 | |
| 13.. | 29200 | 34 | 2820 | 7130 | C 9 | 173 | 4250 | C 10 | 115 | |
| 14.. | 43500 | 89 | 10400 | 6860 | C 9 | 167 | 6280 | 18 | S 326 | |
| 15.. | 38600 | 62 | 6460 | 6820 | C 2 | 37 | 13000 | 40 | S 1420 | |
| 16.. | 30100 | 33 | 2680 | 7090 | C 2 | 38 | 10800 | 27 | 787 | |
| 17.. | 24600 | C 14 | 930 | 7320 | C 2 | 40 | 8560 | 27 | 624 | |
| 18.. | 20900 | 12 | 677 | 6900 | C 2 | 37 | 6740 | C 17 | 309 | |
| 19.. | 18600 | C 20 | 1000 | 7280 | C 2 | 39 | 5540 | C 17 | 254 | |
| 20.. | 16900 | C 20 | 913 | 7200 | C 10 | 194 | 5190 | C 17 | 238 | |
| 21.. | 16000 | C 20 | 864 | 6410 | C 10 | 173 | 4940 | C 17 | 227 | |
| 22.. | 15100 | C 20 | 815 | 6480 | C 10 | 175 | 5330 | C 17 | 245 | |
| 23.. | 13900 | C 20 | 751 | 6560 | C 10 | 177 | 5120 | C 9 | 124 | |
| 24.. | 12700 | C 20 | 686 | 6590 | C 10 | 178 | 5400 | C 9 | 131 | |
| 25.. | 11900 | C 20 | 643 | 6150 | C 14 | 232 | 4560 | C 9 | 111 | |
| 26.. | 11100 | C 20 | 599 | 7640 | C 14 | 289 | 4180 | C 9 | 102 | |
| 27.. | 10300 | C 18 | 501 | 8720 | C 14 | 330 | 4180 | C 9 | 102 | |
| 28.. | 9570 | C 18 | 465 | 7800 | C 14 | 295 | 3380 | C 6 | 55 | |
| 29.. | 8960 | C 18 | 435 | 7200 | C 14 | 272 | 3060 | C 6 | 50 | |
| 30.. | 8480 | C 18 | 412 | 6900 | C 14 | 261 | 3120 | C 6 | 51 | |
| 31.. | -- | -- | -- | 7130 | C 14 | 270 | -- | -- | -- | |
| Total | 591110 | -- | 59854 | 268890 | -- | 13288 | 174880 | -- | 8885 | |
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S Computed by subdividing day.

A Computed from partly estimated-concentration graph.

C Composite period.

POTOMAC RIVER BASIN--Continued

1-6385. POTOMAC RIVER AT POINT OF ROCKS, MD.--Continued

Particle-size analyses of suspended sediment, water year October 1961 to September 1962
 (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) | Water temp- er- ature (°F) | Discharge (cfs) | Sediment concen- tration (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 | |
| Feb. 28, 1962..... | 1735 | | 65,000 | 588 | | 18 | 29 | 45 | 55 | 76 | 95 | 97 | 99 | 99 | | BSWC |
| Mar. 14..... | 1605 | 42 | 78,800 | 286 | | 25 | 38 | 52 | 66 | 80 | 90 | 92 | 96 | 99 | | BSWC |
| Mar. 23..... | 0845 | 44 | 116,000 | 661 | | 24 | 37 | 53 | 66 | 82 | 91 | 95 | 98 | 100 | | BSWC |
| Mar. 23..... | 0845 | 44 | 116,000 | 661 | | 7 | 16 | 30 | 45 | 74 | 93 | 94 | 98 | 99 | | BSN |

POTOMAC RIVER BASIN--Continued

1-6430. MONOCACY RIVER AT JUG BRIDGE, NEAR FREDERICK, MD.

LOCATION.--At Blech's Ford Bridge, 1 mile downstream from U.S. Highway 40, 1.2 miles downstream from gaging station, and 2 miles southeast of Frederick, Frederick County.

DRAINAGE AREA.--817 square miles.

RECORDS AVAILABLE.--October 1960 to September 1962.

Sediment records: October 1960 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 84°F July 8; minimum, freezing point on many days during winter months.

Sediment concentrations: Maximum daily, 950 ppm Jan. 7; minimum daily, 1 ppm Oct. 31, Nov. 1-4, Dec. 1-11, and Jan. 1-5.

Sediment loads: Maximum daily, 18,200 tons Feb. 27; minimum daily, less than 0.50 ton Oct. 31, Nov. 1-4, Dec. 1-11, Aug. 17-22, and Sept. 3.

EXTREMES, 1960-62.--Water temperatures: Maximum, 84°F July 2, 1961, July 8, 1962; minimum, freezing point on many days during winter months.

Sediment concentrations: Maximum daily, 950 ppm Jan. 7, 1962; minimum daily, 1 ppm on many days in 1960-62.

Sediment loads: Maximum daily, 18,200 tons Feb. 27, 1962; minimum daily, less than 0.50 ton on many days in 1960-62.

REMARKS.--Flow affected by ice Dec. 30, 31, Jan. 6, 10-19, and Feb. 11-17. No appreciable inflow between sampling point and gaging station except during periods of heavy local runoff.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| Date of collection | 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) | Hardness as CaCO ₃ | | | Specific conductance (micro-mhos at 25°C) | pH or Col- or |
|--------------------|-----------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------|---------------|------------------------------|-------------------------------------------|---------------|
| | | | | | | | | | | | | | | | Calcium | Non-carbonate | Total acid-as H ⁺ | | |
| Jan. 7, 1962.. | 6,750 | 6.4 | | 0.08 | 0.00 | 16 | 3.8 | 6.4 | 44 | 25 | 21 | 7.0 | 0.1 | 0.1 | 55 | 19 | | 140 | 6.3 |
| Mar. 13..... | 11,600 | 6.4 | | .04 | | 11 | 3.0 | 2.8 | 25 | | 16 | 5.6 | .3 | 5.5 | 70 | 40 | 20 | 107 | 6.3 |

Temperature °F of water, water year October 1961 to September 1962

Once-daily measurement at approximately 1800^h

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

QUALITY OF SURFACE WATERS, 1962

POTOMAC RIVER BASIN--Continued

1-6430. MONOCACY RIVER AT JUG BRIDGE, NEAR FREDERICK, MD.--Continued

| Suspended sediment, water year October 1961 to September 1962 | | | | | | | | | | | |
|---------------------------------------------------------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|--|--|
| 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.. | 95 | C 6 | 2 | 134 | C 1 | T | 171 | C 1 | T | | |
| 2.. | 92 | C 6 | 1 | 126 | C 1 | T | 162 | C 1 | T | | |
| 3.. | 110 | C 6 | 2 | 126 | C 1 | T | 156 | C 1 | T | | |
| 4.. | 126 | C 6 | 2 | 131 | C 1 | T | 154 | C 1 | T | | |
| 5.. | 126 | C 6 | 2 | 154 | C 3 | S 2 | 154 | C 1 | T | | |
| 6.. | 123 | C 6 | 2 | 585 | 45 | J 90 | 151 | C 1 | T | | |
| 7.. | 110 | C 2 | 1 | 510 | 54 | S 76 | 142 | C 1 | T | | |
| 8.. | 108 | C 2 | 1 | 465 | 32 | S 40 | 134 | C 1 | T | | |
| 9.. | 108 | C 2 | 1 | 286 | 8 | 6 | 128 | C 1 | T | | |
| 10.. | 108 | C 2 | 1 | 209 | 5 | 3 | 134 | C 1 | T | | |
| 11.. | 102 | C 2 | 1 | 171 | C 3 | 1 | 145 | C 1 | T | | |
| 12.. | 102 | C 3 | 1 | 154 | C 2 | 1 | 475 | 46 | J 80 | | |
| 13.. | 102 | C 3 | 1 | 145 | C 2 | 1 | 879 | 41 | S 100 | | |
| 14.. | 123 | C 3 | 1 | 156 | C 2 | 1 | 560 | 12 | 18 | | |
| 15.. | 139 | C 3 | 1 | 174 | C 2 | 1 | 328 | 5 | 4 | | |
| 16.. | 137 | C 3 | 1 | 216 | C 2 | 1 | 219 | 3 | 2 | | |
| 17.. | 128 | C 2 | 1 | 233 | C 2 | 1 | 247 | 3 | 2 | | |
| 18.. | 112 | C 2 | 1 | 255 | C 3 | 2 | 859 | 125 | S 394 | | |
| 19.. | 115 | C 2 | 1 | 247 | C 3 | 2 | 2160 | 241 | A 1400 | | |
| 20.. | 112 | C 2 | 1 | 216 | C 3 | 2 | 1390 | 68 | 255 | | |
| 21.. | 128 | C 2 | 1 | 199 | C 3 | 2 | 1020 | 14 | 39 | | |
| 22.. | 168 | C 2 | 1 | 196 | C 3 | 2 | 675 | 10 | 18 | | |
| 23.. | 159 | C 2 | 1 | 183 | C 3 | 1 | 505 | C 3 | 4 | | |
| 24.. | 145 | C 2 | 1 | 613 | 59 | J 130 | 410 | C 3 | 3 | | |
| 25.. | 126 | C 2 | 1 | 852 | 62 | S 143 | 396 | C 3 | 3 | | |
| 26.. | 123 | C 2 | 1 | 485 | 16 | 21 | 382 | C 3 | 3 | | |
| 27.. | 120 | C 2 | 1 | 320 | 8 | 7 | 351 | C 3 | 3 | | |
| 28.. | 115 | C 6 | 2 | 259 | C 3 | 2 | 430 | C 3 | 3 | | |
| 29.. | 115 | C 6 | 2 | 216 | C 3 | 2 | 324 | C 3 | 3 | | |
| 30.. | 115 | C 6 | 2 | 186 | C 3 | 2 | 295 | C 3 | 3 | | |
| 31.. | 126 | 1 | T | -- | -- | -- | 300 | C 3 | 3 | | |
| Total | 3718 | -- | 38 | 8202 | -- | 543 | 13836 | -- | 2344 | | |
| | | | | | | | | | | | |
| JANUARY | | | FEBRUARY | | | MARCH | | | | | |
| 1.. | 307 | C 1 | 1 | 324 | C 2 | 2 | 4630 | 105 | S 1420 | | |
| 2.. | 266 | C 1 | 1 | 315 | C 2 | 2 | 2290 | 40 | 247 | | |
| 3.. | 259 | C 1 | 1 | 282 | C 2 | 2 | 1620 | 30 | 131 | | |
| 4.. | 247 | C 1 | 1 | 303 | C 2 | 2 | 1360 | 20 | 73 | | |
| 5.. | 278 | C 1 | 1 | 351 | C 2 | 2 | 1210 | C 14 | 46 | | |
| 6.. | 1070 | 297 | S 1370 | 485 | C 2 | 3 | 1160 | C 14 | 44 | | |
| 7.. | 6810 | 950 | S 17800 | 346 | C 2 | 2 | 1130 | C 14 | 43 | | |
| 8.. | 5800 | 293 | S 5430 | 278 | C 2 | 2 | 1160 | C 14 | 44 | | |
| 9.. | 2310 | 59 | S 381 | 294 | C 2 | 2 | 1100 | C 14 | 42 | | |
| 10.. | 1160 | 18 | A 60 | 251 | C 2 | 1 | 1010 | C 14 | 38 | | |
| 11.. | 640 | 5 | B 9 | 225 | C 2 | 1 | 1080 | 15 | 44 | | |
| 12.. | 590 | 3 | B 5 | 220 | C 2 | 1 | 5020 | 458 | S 8210 | | |
| 13.. | 580 | 3 | B 5 | 200 | C 2 | 1 | 10100 | 434 | S 13100 | | |
| 14.. | 575 | 3 | B 5 | 220 | C 2 | 1 | 6070 | 177 | S 2980 | | |
| 15.. | 650 | 8 | K 16 | 260 | C 2 | 1 | 4840 | 118 | S 1600 | | |
| 16.. | 1510 | 85 | A 340 | 285 | C 2 | 2 | 4450 | 180 | S 2280 | | |
| 17.. | 1070 | 75 | A 220 | 310 | C 2 | 2 | 2810 | 54 | 410 | | |
| 18.. | 630 | 36 | 61 | 420 | 8 | 9 | 2530 | 21 | 143 | | |
| 19.. | 515 | 13 | 18 | 732 | 87 | S 194 | 2050 | 24 | 133 | | |
| 20.. | 470 | 7 | 9 | 1210 | 78 | S 262 | 2010 | 15 | 81 | | |
| 21.. | 405 | 3 | 3 | 1270 | 70 | S 238 | 3000 | 105 | S 1210 | | |
| 22.. | 405 | 3 | 3 | 991 | 33 | 38 | 6930 | 287 | S 5710 | | |
| 23.. | 516 | 8 | 11 | 1620 | 66 | 289 | 3440 | 61 | S 586 | | |
| 24.. | 566 | 13 | 20 | 7080 | 657 | S 13700 | 2490 | 34 | 229 | | |
| 25.. | 480 | 9 | 12 | 5840 | 246 | S 4550 | 2010 | 20 | 109 | | |
| 26.. | 495 | C 6 | 8 | 4860 | 773 | S 13200 | 1690 | C 8 | 37 | | |
| 27.. | 480 | C 6 | 8 | 9400 | 688 | S 18200 | 1440 | C 8 | 31 | | |
| 28.. | 505 | C 6 | 8 | 7950 | 400 | S 9340 | 1260 | C 8 | 27 | | |
| 29.. | 415 | C 6 | 7 | -- | -- | -- | 1140 | C 8 | 25 | | |
| 30.. | 378 | C 6 | 6 | -- | -- | -- | 1040 | C 8 | 22 | | |
| 31.. | 282 | C 6 | 5 | -- | -- | -- | 977 | C 8 | 21 | | |
| Total | 30664 | -- | 25825 | 46322 | -- | 60099 | 83047 | -- | 39116 | | |

S Computed by subdividing day.

T Less than 0.50 ton.

A Computed from partly estimated-concentration graph. K Computed from estimated-concentration graph

B Computed from estimated-concentration graph.

C Composite period.

J Computed from partly estimated-concentration

graph and subdividing day.

graph and subdividing day.

NORTH ATLANTIC SLOPE BASINS

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POTOMAC RIVER BASIN--Continued

1-6430. MONOCACY RIVER AT JUG BRIDGE, NEAR FREDERICK, MD.--Continued

Suspended sediment, water year October 1961 to September 1962--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.. | 1470 | 52 | 206 | 576 | 8 | 12 | 286 | 11 | 8 |
| 2.. | 1550 | 60 | 251 | 780 | 31 | A 65 | 282 | 10 | 8 |
| 3.. | 1070 | C 8 | 23 | 914 | 73 | A 180 | 303 | 10 | 8 |
| 4.. | 907 | C 8 | 20 | 729 | 40 | 79 | 282 | 15 | 11 |
| 5.. | 846 | C 8 | 18 | 593 | 30 | A 48 | 290 | 11 | 9 |
| 6.. | 806 | C 8 | 17 | 522 | 30 | 42 | 777 | 90 | J 220 |
| 7.. | 1530 | 60 | 414 | 490 | C 12 | 16 | 414 | 244 | J 280 |
| 8.. | 5080 | 400 | 5720 | 465 | C 12 | 15 | 270 | 105 | 77 |
| 9.. | 2300 | 84 | 544 | 470 | C 12 | 15 | 229 | 50 | 31 |
| 10.. | 2010 | 40 | 217 | 445 | 20 | A 24 | 205 | 36 | A 20 |
| 11.. | 1630 | 18 | 79 | 420 | C 6 | 7 | 196 | 33 | 17 |
| 12.. | 2340 | 54 | 386 | 415 | C 6 | 7 | 222 | 26 | 16 |
| 13.. | 6830 | 259 | 5060 | 410 | C 6 | 7 | 311 | 56 | 47 |
| 14.. | 3530 | 49 | 467 | 392 | C 6 | 6 | 255 | 27 | 19 |
| 15.. | 2300 | C 11 | 68 | 374 | C 6 | 6 | 286 | 23 | 18 |
| 16.. | 1890 | C 11 | 56 | 346 | 11 | A 10 | 320 | 38 | 33 |
| 17.. | 1590 | C 11 | 47 | 324 | 14 | A 12 | 229 | 26 | A 16 |
| 18.. | 1400 | C 11 | 42 | 315 | 28 | A 24 | 202 | 20 | 11 |
| 19.. | 1280 | 10 | 35 | 294 | 20 | A 16 | 183 | C 22 | 11 |
| 20.. | 1200 | 20 | 65 | 278 | 14 | A 11 | 226 | C 22 | 13 |
| 21.. | 1200 | 46 | 149 | 274 | 46 | A 34 | 286 | C 22 | 17 |
| 22.. | 1030 | 30 | 83 | 263 | 26 | A 18 | 244 | 12 | 8 |
| 23.. | 914 | 30 | 74 | 266 | 27 | A 19 | 209 | 11 | 6 |
| 24.. | 813 | C 16 | 35 | 486 | 232 | J 300 | 710 | 200 | S 678 |
| 25.. | 742 | C 16 | 32 | 510 | 117 | A 160 | 601 | 463 | S 837 |
| 26.. | 711 | C 16 | 31 | 392 | 34 | A 36 | 294 | 90 | 71 |
| 27.. | 663 | C 4 | 7 | 420 | 130 | A 150 | 233 | 74 | A 48 |
| 28.. | 621 | C 4 | 7 | 338 | 29 | 26 | 177 | 48 | 23 |
| 29.. | 593 | C 4 | 6 | 315 | 12 | 10 | 151 | 30 | 12 |
| 30.. | 593 | C 4 | 6 | 307 | 10 | 8 | 137 | 25 | 9 |
| 31.. | -- | -- | -- | 294 | 10 | 8 | -- | -- | -- |
| Total | 49439 | -- | 14165 | 13417 | -- | 1371 | 8810 | -- | 2582 |
| | | | | | | | | | |
| 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.. | 131 | 22 | 8 | 123 | C 6 | 2 | 78 | 7 | 1 |
| 2.. | 120 | C 16 | 5 | 120 | C 6 | 2 | 78 | 5 | 1 |
| 3.. | 139 | C 16 | 6 | 120 | 9 | 3 | 83 | 2 | T |
| 4.. | 159 | C 16 | 7 | 123 | 8 | 3 | 92 | 11 | 3 |
| 5.. | 151 | C 12 | 5 | 120 | C 7 | 2 | 162 | 20 | 9 |
| 6.. | 139 | C 12 | 5 | 120 | C 7 | 2 | 148 | 10 | 4 |
| 7.. | 131 | C 12 | 4 | 123 | 6 | 2 | 134 | C 3 | 1 |
| 8.. | 128 | C 12 | 4 | 115 | C 4 | 1 | 115 | C 3 | 1 |
| 9.. | 131 | C 12 | 4 | 108 | C 4 | 1 | 100 | C 3 | 1 |
| 10.. | 120 | C 9 | 3 | 195 | C 4 | 2 | 90 | C 3 | 1 |
| 11.. | 112 | C 9 | 3 | 278 | 17 | 13 | 85 | C 3 | 1 |
| 12.. | 112 | C 9 | 3 | 190 | 10 | 5 | 76 | C 3 | 1 |
| 13.. | 110 | C 9 | 3 | 131 | 10 | 4 | 72 | 14 | A 3 |
| 14.. | 108 | C 9 | 3 | 110 | 11 | 3 | 67 | 15 | A 3 |
| 15.. | 112 | C 7 | 2 | 98 | C 5 | 1 | 67 | 11 | A 2 |
| 16.. | 112 | C 7 | 2 | 90 | C 5 | 1 | 65 | C 3 | 1 |
| 17.. | 120 | 7 | A 2 | 85 | C 2 | T | 83 | C 3 | 1 |
| 18.. | 194 | 12 | A 6 | 83 | C 2 | T | 78 | C 3 | 1 |
| 19.. | 294 | 130 | A 100 | 76 | C 2 | T | 74 | C 3 | 1 |
| 20.. | 240 | 33 | 21 | 74 | C 2 | T | 81 | C 3 | 1 |
| 21.. | 165 | 19 | 8 | 72 | C 2 | T | 74 | C 4 | 1 |
| 22.. | 134 | 23 | 8 | 74 | C 2 | T | 69 | C 4 | 1 |
| 23.. | 177 | 20 | 10 | 67 | C 3 | 1 | 69 | C 4 | 1 |
| 24.. | 156 | 12 | 5 | 67 | C 3 | 1 | 72 | C 4 | 1 |
| 25.. | 236 | 29 | 18 | 65 | C 3 | 1 | 69 | C 4 | 1 |
| 26.. | 216 | 15 | 9 | 65 | C 3 | 1 | 78 | C 5 | 1 |
| 27.. | 151 | 14 | 6 | 65 | C 3 | 1 | 85 | C 5 | 1 |
| 28.. | 126 | 15 | 5 | 67 | C 3 | 1 | 123 | C 5 | 2 |
| 29.. | 118 | 18 | A 6 | 83 | 3 | 1 | 148 | 20 | 8 |
| 30.. | 118 | C 4 | 1 | 120 | 3 | 1 | 190 | 24 | 12 |
| 31.. | 118 | C 4 | 1 | 92 | 3 | 1 | -- | -- | -- |
| Total | 4578 | -- | 273 | 3319 | -- | 58 | 2805 | -- | 66 |
| | | | | | | | | | |
| Total discharge for year (cfs-days).....268157 | | | | | | | | | |
| Total load for year (tons).....146480 | | | | | | | | | |

S Computed by subdividing day.

C Composite period.

T Less than 0.50 ton.

A Computed from partly estimated-concentration graph.

J Computed from partly estimated-concentration graph and subdividing day.

POTOMAC RIVER BASIN--Continued

1-6430. MONOCACY RIVER AT JUG BRIDGE, NEAR FREDERICK, MD.--Continued

Particle-size analyses of suspended sediment, water year October 1961 to September 1962

(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 per- hour (24 hour) | Water temp- ing point (° F) | Discharge (cfs) | Sediment concen- tration (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. 19, 1961..... | 2230 | 36 | 1,810 | 148 | | 29 | 46 | 72 | 88 | 96 | 97 | 97 | 99 | 99 | BSWC | |
| Jan. 7, 1962..... | 0905 | 34 | 6,750 | 1,010 | | 16 | 30 | 51 | 68 | 84 | 96 | 97 | 99 | 100 | BSWC | |
| Feb. 27..... | 1025 | 36 | 10,200 | 470 | | 27 | 44 | 64 | 81 | 93 | 97 | 98 | 99 | 100 | BSWC | |
| Mar. 13..... | 0600 | 35 | 11,600 | 625 | | 19 | 26 | 51 | 67 | 86 | 92 | 95 | 97 | 99 | BSWC | |
| Mar. 13..... | 0600 | 35 | 11,600 | 625 | | 4 | 8 | 29 | 47 | 80 | 93 | 94 | 97 | 99 | BSN | |
| Mar. 22..... | 1010 | 44 | 8,500 | 362 | | 27 | 43 | 60 | 75 | 90 | 96 | 97 | 99 | 99 | BSWC | |
| Apr. 8..... | 1320 | 56 | 5,620 | 657 | | 27 | 46 | 70 | 86 | 96 | 98 | 99 | 99 | 100 | BSWC | |

QUALITY OF SURFACE WATERS, 1962

POTOMAC RIVER BASIN--Continued

1-6452. WATTS BRANCH AT ROCKVILLE, MD.--Continued

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|------------------------------------------|-----------------------------|
| | | | | Mean con- cen- tration (ppm) | Discharge (tons per day) |
| Oct. 14, 1961..... | 1650 | 58 | 4.6 | 300 | 3.9 |
| Oct. 21..... | 1055 | 55 | 5.7 | 189 | 2.9 |
| Oct. 21..... | 1500 | 55 | 26 | 549 | 42 |
| Dec. 18..... | 1045 | 38 | 20 | 146 | 7.9 |
| Jan. 6, 1962..... | 1735 | 41 | 23 | 238 | 15 |
| Jan. 7..... | 1325 | 47 | 5.4 | 29 | .4 |
| Feb. 24..... | 0815 | 39 | 41 | 2,650 | 294 |
| Feb. 24..... | 1125 | 42 | 13 | 287 | 10 |
| Feb. 26..... | 0800 | 38 | 12 | 675 | 22 |
| Feb. 27..... | 0825 | 42 | 12 | 249 | 8.1 |
| Feb. 28..... | 0910 | 42 | 15 | 92 | 3.7 |
| Mar. 12..... | 0525 | 36 | 102 | 1,580 | 436 |
| Mar. 12..... | 0625 | 36 | 132 | 2,050 | 731 |
| Mar. 12..... | 0725 | 35 | 169 | 2,200 | 1,000 |
| Mar. 12..... | 0750 | 34 | 189 | 2,560 | 1,310 |
| Mar. 12..... | 0910 | 35 | 122 | 1,400 | 461 |
| Mar. 12..... | 1235 | 41 | 78 | 524 | 110 |

1-6460. DIFFICULT RUN NEAR GREAT FALLS, VA.

LOCATION.--At gaging station at bridge on State Highway 193, and 1.5 miles southeast of Great Falls, Fairfax County.

DRAINAGE AREA.--58 square miles, approximately.

REMARKS.--Sediment discharge measurements usually made during periods of high water discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|------------------------------------------|-----------------------------|
| | | | | Mean con- cen- tration (ppm) | Discharge (tons per day) |
| Oct. 21, 1961..... | 1520 | 56 | 85 | 600 | 138 |
| Feb. 26, 1962..... | 1440 | | 140 | 1,940 | 734 |

1-6470. LITTLE FALLS BRANCH NEAR BETHESDA, MD.

LOCATION.--At gaging station at bridge on Massachusetts Avenue, northwest of Westmoreland Circle, and 2 miles southwest of Bethesda, Montgomery County.

DRAINAGE AREA.--4.1 square miles, approximately.

REMARKS.--Sediment discharge measurements usually made during periods of high water discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|------------------------------------------|-----------------------------|
| | | | | Mean con- cen- tration (ppm) | Discharge (tons per day) |
| Dec. 18, 1961..... | 1125 | 39 | 11 | 95 | 2.8 |
| Jan. 7, 1962..... | 0020 | 44 | 12 | 86 | 2.8 |

1-6480. ROCK CREEK AT SHERRILL DRIVE, WASHINGTON, D. C.

LOCATION.--At gaging station at bridge on Sherrill Drive in Rock Creek Park, Washington, and 7.5 miles upstream from mouth.

DRAINAGE AREA.--62.2 square miles.

REMARKS.--Sediment discharge measurements usually made during periods of high water discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|------------------------------------------|-----------------------------|
| | | | | Mean con- cen- tration (ppm) | Discharge (tons per day) |
| Dec. 18, 1961..... | 1155 | 37 | 436 | 2,770 | 3,260 |
| Dec. 18..... | 1145 | 39 | 160 | 788 | 341 |

POTOMAC RIVER BASIN--Continued

1-6495. NORTHEAST BRANCH ANACOSTIA RIVER AT RIVERDALE, MD.

LOCATION.--At gaging station at bridge on State Highway 412, in Riverdale, Prince Georges County, 1.8 miles downstream from Indian Creek, and 1.8 miles upstream from confluence with Northwest Branch.

DRAINAGE AREA.--72.8 square miles.

REMARKS.--Sediment discharge measurements usually made during periods of high water discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|------------------------------------------|-----------------------------|
| | | | | Mean con- cen- tration (ppm) | Discharge (tons per day) |
| Dec. 18, 1961..... | 1410 | 39 | 401 | 1,130 | 1,220 |
| Dec. 19..... | 0110 | 40 | 224 | 235 | 142 |
| Jan. 6, 1962..... | 1920 | 40 | 340 | 1,130 | 1,040 |
| Jan. 7..... | 0750 | 41 | 326 | 382 | 337 |
| Jan. 7..... | 1505 | 44 | 241 | 169 | 110 |
| Feb. 26..... | 1705 | 40 | 872 | 2,850 | 6,720 |
| Feb. 26..... | 2325 | 40 | 544 | 614 | 903 |
| Feb. 27..... | 1030 | 41 | 557 | 396 | 596 |
| Feb. 28..... | 1640 | 47 | 267 | 166 | 120 |

1-6505. NORTHWEST BRANCH ANACOSTIA RIVER NEAR COLESVILLE, MD.

LOCATION.--At gaging station at bridge on State Highway 183, 1.5 miles southwest of Colesville, Montgomery County, 3 miles upstream from Burnt Mills, and 10 miles upstream from Sligo Branch.

DRAINAGE AREA.--21.3 square miles.

REMARKS.--Sediment discharge measurements usually made during periods of high water discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|----------------------------------------|--------------------|------------------------------------------|-----------------------------|
| | | | | Mean con- cen- tration (ppm) | Discharge (tons per day) |
| Dec. 18, 1961..... | 1230 | 38 | 154 | 749 | 311 |
| Dec. 19..... | 0015 | -- | 31 | 56 | 4.7 |
| Jan. 6, 1962..... | 1830 | -- | 161 | 740 | 322 |
| Jan. 7..... | 0705 | 40 | 94 | 72 | 18 |
| Feb. 24..... | 0745 | 39 | 31 | 49 | 4.1 |
| Feb. 26..... | 1510 | 38 | 606 | 2,480 | 4,060 |
| Feb. 26..... | 1755 | 39 | 247 | 1,480 | 987 |
| Feb. 27..... | 0920 | 40 | 58 | 175 | 27 |
| Feb. 27..... | 1845 | 42 | 154 | 266 | 111 |
| Feb. 28..... | 1600 | 45 | 54 | 42 | 6.1 |
| Mar. 12..... | 0845 | 35 | 740 | 2,090 | 4,180 |
| Mar. 12..... | 1145 | 40 | 788 | 1,080 | 2,300 |
| Mar. 13..... | 1655 | -- | 55 | 72 | 11 |
| Apr. 1..... | 0330 | 56 | 158 | 1,120 | 478 |
| Apr. 1..... | 0555 | 54 | 306 | 1,090 | 901 |
| Apr. 1..... | 0820 | 54 | 229 | 679 | 420 |
| Apr. 1..... | 1105 | 53 | 165 | 299 | 133 |
| May 23..... | 2235 | 65 | 262 | 3,700 | 2,620 |
| May 23..... | 2305 | 65 | 368 | 6,520 | 6,480 |
| May 24..... | 0105 | 65 | 395 | 2,430 | 2,590 |
| May 24..... | 0215 | 65 | 188 | 1,670 | 848 |
| May 24..... | 0625 | 63 | 115 | 372 | 116 |
| May 24..... | 1500 | 68 | 32 | 146 | 13 |
| June 20..... | 2005 | -- | 148 | 1,080 | 432 |
| June 20..... | 2130 | 69 | 411 | 3,180 | 3,530 |
| June 20..... | 2235 | 68 | 438 | 1,640 | 1,940 |
| June 20..... | 2325 | 68 | 498 | 1,930 | 2,600 |
| June 21..... | 0110 | 67 | 376 | 860 | 873 |
| June 21..... | 0240 | 67 | 165 | 813 | 362 |
| June 21..... | 0700 | -- | 76 | 159 | 33 |
| Aug. 8..... | 2340 | -- | 4.1 | 14 | .2 |
| Aug. 9..... | 1530 | 72 | 4.8 | 25 | .3 |
| Aug. 27..... | 1815 | 72 | 2.4 | 7 | .0 |
| Sept. 16..... | 0805 | 63 | 3.4 | 13 | .1 |
| Sept. 17..... | 1940 | 64 | 6.0 | 18 | .3 |
| Sept. 27..... | 0635 | 58 | 6.3 | 22 | .4 |
| Sept. 27..... | 1400 | 58 | 12 | 46 | 1.5 |
| Sept. 27..... | 1800 | 59 | 6.6 | 100 | 1.8 |

POTOMAC RIVER BASIN--Continued

1-6505. NORTHWEST BRANCH ANACOSTIA RIVER NEAR COLESVILLE, MD.--Continued

Particle-size analyses of suspended sediment, water year October 1961 to September 1962
(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) | Samp- ling point | Water temp- er- ature (° F) | Discharge (cfs) | Sediment concen- tration (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 | |
| Feb. 26, 1962..... | 1755 | | 39 | 247 | 1,480 | | 14 | 21 | 31 | 38 | 52 | 62 | 74 | 88 | 99 | BSWC |
| Mar. 12..... | 1145 | | 40 | 788 | 1,080 | | 13 | 19 | 28 | 41 | 52 | 70 | 77 | 89 | 98 | BSWC |

1-6510. NORTHWEST BRANCH ANACOSTIA RIVER NEAR HYATTSVILLE, MD.

LOCATION.--At gaging station at bridge on Queens Chapel Road (State Highway 500),
0.8 mile downstream from Sligo Branch, and 1 mile west of Hyattsville, Prince Georges
County.

DRAINAGE AREA.--49.4 square miles.

REMARKS.--Sediment discharge measurements usually made during periods of high water
discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (° F) | Discharge (cfs) | Suspended sediment | |
|--------------------|-----------------|-----------------------------------------|--------------------|-------------------------------------|-----------------------------|
| | | | | Mean concen- tration (ppm) | Discharge (tons per day) |
| Dec. 18, 1961..... | 1345 | 38 | 339 | 4,150 | 3,800 |
| Dec. 19..... | 0130 | 39 | 88 | 550 | 131 |
| Jan. 6, 1962..... | 1950 | 41 | 469 | 2,880 | 3,650 |
| Jan. 7..... | 0805 | 41 | 178 | 1,140 | 549 |
| Jan. 7..... | 1525 | 45 | 88 | 389 | 93 |
| Feb. 26..... | 1645 | 40 | 776 | 8,270 | 17,300 |
| Feb. 26..... | 2340 | 40 | 230 | 2,690 | 1,670 |
| Feb. 27..... | 1040 | 42 | 440 | 3,310 | 3,940 |
| Feb. 28..... | 1700 | 46 | 113 | 322 | 98 |

POTOMAC RIVER BASIN--Continued

1-6580. MATTAWMAN CREEK NEAR POMONKEY, MD.

LOCATION.--At bridge on State Highway 227, 50 feet upstream from gaging station, 80 feet downstream from Oldwomans Run, and 1.2 miles southeast of Pomonkey, Charles County.
DRAINAGE AREA.--57.7 square miles.

REMARKS.--Sediment discharge measurements usually made during periods of high water discharge.

Periodic determinations of suspended sediment, water year October 1961 to September 1962

| Date | Time (24 hr) | Water tem- per- ature (°F) | Discharge (cfs) | Suspended sediment | |
|-------------------|-----------------|----------------------------------------|--------------------|------------------------------------------|-----------------------------|
| | | | | Mean con- cen- tration (ppm) | Discharge (tons per day) |
| Jan. 7, 1962..... | 1000 | 43 | 133 | 29 | 10 |
| Jan. 7..... | 1100 | 43 | 140 | 14 | 18 |
| Jan. 8..... | 1325 | 43 | 164 | 17 | 67.5 |
| Feb. 27..... | 0130 | 41 | 345 | 72 | 575 |
| Feb. 27..... | 1310 | 43 | 505 | 421 | 525 |
| Feb. 28..... | 1840 | 46 | 596 | 18 | 29 |

Particle-size analyses of suspended sediment, water year October 1961 to September 1962
(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) | Water temp- er- ature (°F) | Discharge (cfs) | Sediment con- cen- tration (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 |
| Feb. 27, 1962..... | 0130 | 41 | 345 | 72 | | 39 | 52 | 59 | 67 | 82 | 87 | 89 | 96 | 100 | BSWC |

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, and 2.5 miles downstream from Hazel River.

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 1962.

EXTREMES, 1961-62.--Sediment concentrations: Maximum daily, 1,000 ppm June 23; minimum daily, 2 ppm May 24-26, July 13-15.

Sediment loads: Maximum daily, 11,800 tons Mar. 12; minimum daily, 1 ton Oct. 1-4, 6-8, 28-30.

Nov. 4, 21, July 13-15, Sept. 16, 21-22.

EXTREMES, 1951-62.--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.--Flow affected by ice Dec. 29 to Jan. 4, Jan. 11-15, 17-19, Feb. 1-2, 9-10, 12-14, Mar. 8.

Suspended sediment, water year October 1961 to September 1962

| Day | Mean discharge (cfs) | OCTOBER | | Mean discharge (cfs) | NOVEMBER | | Mean discharge (cfs) | DECEMBER | |
|-------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| | | Suspended sediment | | | Suspended sediment | | | Suspended sediment | |
| | | Mean concentration (ppm) | Tons per day | | Mean concentration (ppm) | Tons per day | | Mean concentration (ppm) | Tons per day |
| 1.. | 92 | 5 B | 1 | 103 | 9 B | 3 | 219 | 11 B | 7 |
| 2.. | 100 | 5 B | 1 | 100 | 9 B | 2 | 210 | 11 B | 6 |
| 3.. | 113 | 4 B | 1 | 100 | 6 B | 2 | 202 | 11 B | 6 |
| 4.. | 136 | 4 B | 1 | 103 | 3 | 1 | 194 | 10 B | 5 |
| 5.. | 143 | 4 B | 2 | 126 | 15 | 5 | 190 | 10 B | 5 |
| 6.. | 119 | 4 B | 1 | 147 | 15 B | 6 | 181 | 10 B | 5 |
| 7.. | 110 | 4 | 1 | 240 | 11 | 7 | 169 | 10 B | 5 |
| 8.. | 100 | 5 B | 1 | 454 | 20 B | 25 | 162 | 8 | 3 |
| 9.. | 100 | 6 B | 2 | 255 | 10 B | 7 | 154 | 7 B | 3 |
| 10.. | 97 | 6 B | 2 | 177 | 5 | 2 | 177 | 18 | 9 |
| 11.. | 95 | 7 B | 2 | 150 | 5 B | 2 | 228 | 10 | 6 |
| 12.. | 92 | 7 B | 2 | 136 | 5 B | 2 | 704 | 97 | 184 |
| 13.. | 95 | 7 | 2 | 119 | 6 | 2 | 862 | 85 | 198 |
| 14.. | 106 | 21 | 6 | 139 | 5 | 2 | 487 | 28 B | 37 |
| 15.. | 226 | 123 B | 75 | 169 | 9 | 4 | 360 | 15 B | 15 |
| 16.. | 185 | 38 | 19 | 177 | 9 B | 4 | 285 | 13 B | 10 |
| 17.. | 126 | 10 | 3 | 198 | 9 B | 5 | 487 | 35 B | 46 |
| 18.. | 113 | 6 | 2 | 190 | 7 B | 4 | 1790 | 253 K | 1460 |
| 19.. | 110 | 13 | 4 | 177 | 5 | 2 | 1740 | 214 S | 1090 |
| 20.. | 122 | 13 | 4 | 162 | 9 | 4 | 960 | 112 B | 290 |
| 21.. | 236 | 59 | 38 | 177 | 3 | 1 | 694 | 48 B | 90 |
| 22.. | 634 | 59 | 101 | 173 | 4 B | 2 | 550 | 17 B | 25 |
| 23.. | 382 | 18 | 19 | 162 | 5 B | 2 | 465 | 10 B | 13 |
| 24.. | 202 | 12 B | 7 | 621 | 105 B | 176 | 443 | 7 B | 8 |
| 25.. | 140 | 6 | 2 | 720 | 60 | 117 | 399 | 5 B | 5 |
| 26.. | 120 | 6 B | 2 | 460 | 26 B | 32 | 340 | 6 B | 6 |
| 27.. | 110 | 6 | 2 | 372 | 15 B | 15 | 345 | 7 | 6 |
| 28.. | 98 | 5 B | 1 | 320 | 13 B | 11 | 443 | 62 B | 74 |
| 29.. | 96 | 5 | 1 | 270 | 12 B | 9 | 410 | 105 B | 116 |
| 30.. | 97 | 5 | 1 | 237 | 11 B | 7 | 360 | 57 | 55 |
| 31.. | 103 | 7 | 2 | -- | -- | -- | 335 | 34 | 31 |
| Total | 4598 | -- | 308 | 6934 | -- | 463 | 14525 | -- | 3819 |

S Computed by subdividing day.

B Computed from estimated-concentration graph.

K Computed from estimated-concentration graph and subdividing day.

NORTH ATLANTIC SLOPE BASINS

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RAPPAHANNOCK RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962--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.. | 325 | 22 | 19 | 355 | 10 B | 10 | 1810 | 88 B | 430 |
| 2.. | 320 | 11 | 10 | 370 | 10 | 10 | 1340 | 42 B | 152 |
| 3.. | 315 | 7 | 6 | 350 | 6 | 6 | 1120 | 33 B | 100 |
| 4.. | 310 | 6 B | 5 | 366 | 8 B | 8 | 995 | 30 B | 81 |
| 5.. | 310 | 5 B | 4 | 384 | 9 B | 9 | 930 | 28 B | 70 |
| 6.. | 912 | 276 K | 1190 | 384 | 10 B | 10 | 865 | 29 B | 68 |
| 7.. | 3120 | 426 S | 3640 | 340 | 10 B | 9 | 1120 | 61 B | 184 |
| 8.. | 1810 | 172 B | 841 | 315 | 10 | 9 | 1010 | 81 B | 221 |
| 9.. | 1230 | 130 B | 432 | 340 | 36 B | 33 | 970 | 68 B | 178 |
| 10.. | 962 | 128 B | 332 | 360 | 70 | 68 | 995 | 51 B | 137 |
| 11.. | 670 | 130 | 235 | 320 | 67 B | 58 | 1160 | 63 B | 197 |
| 12.. | 630 | 20 | 34 | 345 | 65 | 61 | 6400 | 598 K | 11800 |
| 13.. | 610 | 5 B | 8 | 380 | 86 | 88 | 9000 | 377 K | 9540 |
| 14.. | 600 | 7 | 11 | 450 | 65 | 79 | 4920 | 176 K | 2380 |
| 15.. | 590 | 19 B | 30 | 592 | 50 B | 80 | 3830 | 112 B | 1160 |
| 16.. | 1060 | 74 | 212 | 534 | 48 B | 69 | 3120 | 59 B | 497 |
| 17.. | 700 | 64 | 121 | 516 | 42 B | 59 | 2520 | 30 B | 204 |
| 18.. | 610 | 38 | 63 | 572 | 39 B | 60 | 2150 | 20 B | 116 |
| 19.. | 560 | 25 B | 38 | 914 | 181 S | 479 | 1850 | 19 B | 95 |
| 20.. | 534 | 20 B | 29 | 1090 | 82 B | 241 | 1700 | 12 B | 55 |
| 21.. | 516 | 17 B | 24 | 865 | 30 B | 70 | 2520 | 192 K | 1710 |
| 22.. | 510 | 15 B | 21 | 787 | 30 B | 64 | 3510 | 196 S | 1910 |
| 23.. | 553 | 15 B | 22 | 728 | 28 B | 55 | 2600 | 112 B | 786 |
| 24.. | 516 | 13 B | 18 | 800 | 20 B | 43 | 2080 | 74 B | 416 |
| 25.. | 474 | 10 B | 13 | 800 | 19 B | 41 | 1810 | 50 | 244 |
| 26.. | 450 | 9 | 11 | 1570 | 211 K | 1290 | 1590 | 45 | 193 |
| 27.. | 444 | 9 B | 11 | 2980 | 438 S | 3510 | 1440 | 41 B | 159 |
| 28.. | 420 | 9 B | 10 | 2680 | 225 S | 1690 | 1300 | 33 B | 116 |
| 29.. | 390 | 8 B | 8 | -- | -- | -- | 1200 | 28 B | 91 |
| 30.. | 384 | 7 B | 7 | -- | -- | -- | 1090 | 22 | 65 |
| 31.. | 340 | 10 B | 9 | -- | -- | -- | 1060 | 19 B | 54 |
| Total | 21175 | -- | 7414 | 20487 | -- | 8209 | 68005 | -- | 33409 |
| | | | | | | | | | |
| 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.. | 1850 | 270 K | 1400 | 800 | 20 | 43 | 748 | 174 | 351 |
| 2.. | 1700 | 146 B | 670 | 3510 | 541 S | 5490 | 735 | 68 | 135 |
| 3.. | 1300 | 57 B | 200 | 1920 | 108 | 560 | 676 | 453 | 827 |
| 4.. | 1160 | 25 B | 78 | 1340 | 58 B | 210 | 420 | 100 | 113 |
| 5.. | 1060 | 19 | 54 | 1090 | 35 B | 103 | 480 | 40 | 52 |
| 6.. | 995 | 18 | 48 | 962 | 23 B | 60 | 657 | 110 | 195 |
| 7.. | 1580 | 185 K | 1130 | 865 | 18 | 42 | 510 | 160 | 220 |
| 8.. | 2520 | 200 S | 1460 | 800 | 17 B | 37 | 360 | 36 | 35 |
| 9.. | 2000 | 60 | 324 | 794 | 13 B | 28 | 310 | 20 | 17 |
| 10.. | 1700 | 45 B | 207 | 735 | 13 | 26 | 285 | 20 | 15 |
| 11.. | 1510 | 35 B | 143 | 676 | 13 B | 24 | 260 | 20 | 14 |
| 12.. | 1700 | 76 K | 373 | 650 | 15 | 26 | 335 | 21 | 19 |
| 13.. | 2980 | 233 K | 1870 | 664 | 25 B | 45 | 1320 | 445 | 1590 |
| 14.. | 2300 | 98 B | 609 | 657 | 40 B | 71 | 930 | 153 | 384 |
| 15.. | 1810 | 60 B | 293 | 586 | 30 | 47 | 728 | 68 | 134 |
| 16.. | 1590 | 40 B | 172 | 534 | 17 B | 25 | 832 | 125 | 281 |
| 17.. | 1370 | 39 | 144 | 504 | 10 | 14 | 540 | 52 | 76 |
| 18.. | 1260 | 37 B | 126 | 504 | 10 | 14 | 456 | 51 | 63 |
| 19.. | 1160 | 22 B | 69 | 450 | 10 | 12 | 408 | 21 | 23 |
| 20.. | 1060 | 19 B | 54 | 426 | 14 | 16 | 1120 | 810 | 2450 |
| 21.. | 1060 | 13 | 37 | 408 | 41 | 45 | 4210 | 915 | 10400 |
| 22.. | 962 | 10 B | 26 | 384 | 8 | 8 | 1660 | 500 | 2240 |
| 23.. | 930 | 12 B | 30 | 366 | 5 | 5 | 1120 | 1000 | 3020 |
| 24.. | 865 | 10 B | 23 | 366 | 2 | 2 | 1400 | 435 | 1640 |
| 25.. | 800 | 10 | 22 | 372 | 2 | 2 | 800 | 55 | 119 |
| 26.. | 768 | 10 B | 21 | 390 | 2 | 2 | 644 | 30 | 52 |
| 27.. | 728 | 8 B | 16 | 774 | 175 | 366 | 572 | 20 | 31 |
| 28.. | 696 | 8 B | 15 | 592 | 90 | 144 | 832 | 15 | 34 |
| 29.. | 683 | 8 B | 15 | 540 | 42 | 61 | 420 | 10 | 11 |
| 30.. | 762 | 13 | 26 | 534 | 28 | 40 | 384 | 10 | 10 |
| 31.. | -- | -- | -- | 540 | 95 | 139 | -- | -- | -- |
| Total | 40839 | -- | 9655 | 23733 | -- | 7707 | 24152 | -- | 24551 |

S Computed by subdividing day.

B Computed from estimated-concentration graph.

K Computed from estimated-concentration graph and subdividing day.

RAPPAHANNOCK RIVER BASIN--Continued

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

Suspended sediment, water year October 1961 to September 1962--Continued

| JULY | | | | AUGUST | | | SEPTEMBER | | |
|------------------------------------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| Day | 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.. | 384 | 10 | 10 | 226 | 3 | 2 | 66 | 36 | 6 |
| 2.. | 350 | 10 | 9 | 194 | 4 | 2 | 69 | 20 | 4 |
| 3.. | 1240 | 65 | 218 | 175 | 5 | 2 | 137 | 37 | 16 |
| 4.. | 1620 | 205 | 897 | 183 | 5 | 2 | 164 | 22 | 10 |
| 5.. | 898 | 60 | 145 | 195 | 4 | 2 | 158 | 17 | 7 |
| 6.. | 566 | 27 | 41 | 195 | 3 | 2 | 183 | 20 | 10 |
| 7.. | 420 | 12 | 14 | 413 | 137 | 213 | 154 | 15 | 6 |
| 8.. | 396 | 5 | 5 | 270 | 36 | 26 | 113 | 9 | 3 |
| 9.. | 396 | 8 | 9 | 246 | 13 | 9 | 100 | 15 | 4 |
| 10.. | 335 | 5 | 5 | 246 | 15 | 10 | 94 | 16 | 4 |
| 11.. | 270 | 4 | 3 | 207 | 16 | 9 | 92 | 15 | 4 |
| 12.. | 242 | 3 | 2 | 172 | 15 | 7 | 84 | 28 | 6 |
| 13.. | 242 | 2 | 1 | 161 | 12 | 5 | 77 | 30 | 6 |
| 14.. | 242 | 2 | 1 | 168 | 10 | 4 | 73 | 11 | 2 |
| 15.. | 242 | 2 | 1 | 158 | 9 | 4 | 69 | 10 | 2 |
| 16.. | 315 | 3 | 3 | 134 | 9 | 3 | 64 | 7 | 1 |
| 17.. | 396 | 8 | 9 | 158 | 17 | 7 | 77 | 25 | 5 |
| 18.. | 448 | 70 | 159 | 16 | 19 | 8 | 100 | 14 | 4 |
| 19.. | 735 | 133 | 293 | 122 | 32 | 11 | 92 | 11 | 3 |
| 20.. | 390 | 28 | 29 | 105 | 20 | 6 | 77 | 10 | 2 |
| 21.. | 320 | 10 | 9 | 160 | 52 | 49 | 69 | 8 | 1 |
| 22.. | 785 | 254 | 594 | 352 | 136 | 146 | 64 | 7 | 1 |
| 23.. | 468 | 77 | 91 | 199 | 30 | 15 | 82 | 12 | 3 |
| 24.. | 657 | 121 | 230 | 131 | 33 | 12 | 131 | 14 | 5 |
| 25.. | 402 | 26 | 28 | 110 | 19 | 6 | 125 | 10 | 3 |
| 26.. | 360 | 16 | 16 | 105 | 24 | 7 | 97 | 10 | 3 |
| 27.. | 310 | 8 | 7 | 97 | 18 | 5 | 105 | 12 | 3 |
| 28.. | 251 | 7 | 5 | 92 | 15 | 4 | 119 | 20 | 6 |
| 29.. | 228 | 5 | 3 | 84 | 23 | 5 | 116 | 33 | 10 |
| 30.. | 238 | 5 | 3 | 80 | 16 | 3 | 100 | 17 | 5 |
| 31.. | 238 | 3 | 2 | 71 | 26 | 5 | -- | -- | -- |
| Total | 14384 | -- | 2842 | 5355 | -- | 592 | 3071 | -- | 145 |
| Total discharge for year (cfs-days)..... | | | | | | | | | 247258 |
| Total load for year (tons)..... | | | | | | | | | 99114 |

S Computed by subdividing day.

B Computed from estimated-concentration graph.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH ATLANTIC SLOPE BASINS

Chemical analyses, in parts per million, water year October 1961 to September 1962

| Date of collection | Discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|---------------------------------------------|--------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-----------------------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------------------|----------------------------------|------------------------|-------------------------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non- carbon- ate | | | |
| THAMES RIVER BASIN | | | | | | | | | | | | | | | | | | |
| 1-1240. QUINEBAUG RIVER AT QUINEBAUG, CONN. | | | | | | | | | | | | | | | | | | |
| Jan. 17, 1962..... | 676 | 7.1 | 0.18 | 5.1 | 1.4 | 4.4 | 1.4 | 10 | 12 | 7.2 | 0.1 | 1.5 | 52 | 19 | 11 | 76 | 5.9 | 9 |
| Apr. 3..... | 1,000 | 5.1 | .13 | 3.8 | 1.2 | 3.8 | 1.0 | 6 | 11 | 6.4 | .1 | 1.3 | 44 | 15 | 10 | 60 | 5.7 | 17 |
| May 28..... | 107 | 1.4 | .58 | 5.0 | 1.7 | 5.0 | 1.1 | 12 | 9.7 | 8.1 | .1 | 2.5 | 49 | 20 | 10 | 75 | 6.1 | 22 |
| July 3..... | 39 | -- | 1.2 | 6.0 | 1.7 | 6.8 | 1.3 | 16 | 11 | 10 | -- | 3.8 | 58 | 22 | 9 | 95 | 6.1 | -- |
| July 31..... | 33 | 4.1 | .98 | 9.6 | 1.9 | 14 | 2.2 | 18 | 22 | 16 | -- | 5.9 | 92 | 32 | 17 | 158 | 6.0 | -- |
| Aug. 28..... | 29 | 4.8 | .98 | 8.3 | 2.1 | 14 | 2.2 | 22 | 19 | 15 | -- | 3.7 | 86 | 29 | 11 | 148 | 6.2 | -- |
| QUINEBAUG RIVER NEAR GROSVENORDALE, CONN. | | | | | | | | | | | | | | | | | | |
| Apr. 3, 1962..... | 1,170 | 5.3 | 0.16 | 4.0 | 1.2 | 3.8 | 1.0 | 6 | 10 | 6.0 | 0.1 | 1.0 | 43 | 15 | 10 | 60 | 5.9 | 22 |
| May 28..... | 120 | .8 | .85 | 4.9 | 1.6 | 3.0 | 1.1 | 11 | 12 | 7.6 | .1 | 2.0 | 50 | 19 | 10 | 75 | 6.2 | 21 |
| July 3..... | 21 | 3.6 | .87 | 6.0 | 1.7 | 6.8 | 1.3 | 15 | 10 | 10 | -- | 3.6 | 58 | 22 | 10 | 94 | 6.1 | -- |
| July 31..... | 21 | 3.6 | .82 | 8.2 | 1.3 | 9.9 | 2.2 | 18 | 15 | 14 | -- | 3.4 | 69 | 26 | 11 | 124 | 6.1 | -- |
| Aug. 28..... | 27 | 4.4 | .54 | 8.2 | 2.1 | 12 | 2.0 | 26 | 14 | 15 | -- | 2.9 | 77 | 29 | 8 | 132 | 6.5 | -- |
| FRENCH RIVER AT WILSONVILLE, CONN. | | | | | | | | | | | | | | | | | | |
| July 3, 1962..... | | | 0.79 | 7.2 | 1.0 | 42 | 2.8 | 86 | 19 | 12 | | 8.6 | 148 | 22 | 0 | 249 | 6.5 | |
| July 31..... | | 5.6 | .47 | 7.2 | 1.7 | 61 | 3.6 | 127 | 23 | 16 | | 15 | 214 | 25 | 0 | 349 | 7.3 | 24 |
| FRENCH RIVER AT MECHANICSVILLE, CONN. | | | | | | | | | | | | | | | | | | |
| Apr. 3, 1962..... | 727 | 4.3 | 0.15 | 3.8 | 1.2 | 7.0 | 1.4 | 13 | 9.7 | 6.1 | 0.1 | 2.4 | 48 | 15 | 4 | 72 | 6.3 | 18 |
| May 28..... | 135 | 3.0 | .50 | 5.5 | 1.2 | 28 | 2.2 | 57 | 16 | 11 | .2 | 2.2 | 109 | 19 | 0 | 179 | 6.4 | 27 |
| July 3..... | 10 | -- | .70 | 6.9 | 1.7 | 41 | 2.3 | 86 | 18 | 12 | -- | 7.5 | 142 | 20 | 0 | 233 | 6.7 | -- |
| July 31..... | 15 | 5.3 | .36 | 7.2 | 1.5 | 60 | 3.3 | 126 | 28 | 16 | -- | 7.3 | 204 | 24 | 0 | 336 | 6.1 | -- |
| Aug. 28..... | 21 | 5.5 | .38 | 6.6 | 1.1 | 55 | 3.4 | 116 | 25 | 14 | -- | 7.5 | 185 | 21 | 0 | 297 | 6.8 | 21 |
| LITTLE RIVER AT PUTNAM, CONN. | | | | | | | | | | | | | | | | | | |
| Apr. 3, 1962..... | 336 | 5.3 | 0.07 | 5.6 | 1.0 | 2.6 | 1.5 | 13 | 9.7 | 3.3 | 0.1 | 1.6 | 44 | 18 | 8 | 60 | 6.2 | 25 |
| May 15..... | 49 | 4.8 | .19 | 6.2 | 2.6 | 3.5 | 1.5 | 16 | 13 | 4.2 | -- | 1.1 | 50 | 26 | 13 | 71 | 6.5 | 14 |
| May 28..... | 17 | 5.0 | .17 | 6.6 | 1.3 | 3.8 | 1.5 | 18 | 10 | 4.5 | .1 | 1.6 | 50 | 22 | 7 | 75 | 6.7 | 22 |
| July 3..... | 7.6 | -- | .17 | 7.3 | 1.5 | 4.1 | 1.5 | 23 | 8.7 | 5.4 | -- | 1.6 | 53 | 24 | 5 | 80 | 6.9 | -- |
| July 31..... | 3.3 | 3.9 | .08 | 8.6 | 1.3 | 4.4 | 1.8 | 27 | 10 | 5.8 | -- | 1.4 | 52 | 27 | 5 | 89 | 6.8 | -- |
| Aug. 28..... | 4.1 | 5.0 | .11 | 8.1 | 1.5 | 4.4 | 1.8 | 26 | 10 | 5.8 | -- | 1.5 | 57 | 26 | 5 | 90 | 6.8 | -- |

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

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color | |
|------------------------------------------|--------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------------------|----------------------------------|------------------------|-------------------------------------------------------------|-----|-------|----|
| | | | | | | | | | | | | | Calcium | Non- carbon- ate | | | | |
| THAMES RIVER BASIN--Continued | | | | | | | | | | | | | | | | | | |
| 1-1255. QUINEBAUG RIVER AT PUTNAM, CONN. | | | | | | | | | | | | | | | | | | |
| Apr. 3, 1962..... | 2,350 | 5.0 | 0.09 | 4.0 | 1.4 | 3.7 | 1.2 | 9 | 11 | 4.5 | 0.1 | 1.4 | 44 | 16 | 9 | 60 | 5.9 | 26 |
| May 28..... | 282 | 2.6 | .34 | 5.8 | 1.4 | 12 | 1.5 | 27 | 12 | 8.6 | .1 | 3.0 | 68 | 21 | 0 | 111 | 6.5 | 26 |
| July 3..... | 76 | -- | .62 | 6.3 | 1.3 | 14 | 1.7 | 32 | 12 | 10 | -- | 3.3 | 75 | 21 | 0 | 119 | 6.5 | -- |
| July 31..... | 54 | 4.5 | .55 | 7.4 | 1.3 | 36 | 2.7 | 69 | 20 | 16 | -- | 6.7 | 136 | 24 | 0 | 228 | 6.5 | -- |
| Aug. 28..... | 34 | 4.8 | .31 | 7.6 | 1.7 | 31 | 2.5 | 63 | 21 | 14 | -- | 5.2 | 129 | 26 | 0 | 208 | 6.6 | 19 |
| QUINEBAUG RIVER AT ROGERS, CONN. | | | | | | | | | | | | | | | | | | |
| Apr. 3, 1962..... | 2,680 | 5.0 | 0.10 | 4.0 | 1.3 | 4.4 | 1.2 | 8 | 10 | 5.8 | 0.1 | 1.6 | 45 | 16 | 9 | 63 | 6.0 | 22 |
| May 15..... | 577 | 3.2 | .44 | 5.7 | 1.5 | 9.6 | 1.5 | 20 | 13 | 7.9 | -- | 2.8 | 66 | 20 | 4 | 95 | 6.6 | 18 |
| May 28..... | 310 | 1.1 | .65 | 5.9 | 1.4 | 13 | 1.5 | 28 | 13 | 8.9 | .2 | 3.3 | 65 | 21 | 0 | 113 | 6.3 | 24 |
| July 3..... | 75 | 5.0 | .88 | 6.2 | 1.7 | 33 | 2.6 | 14 | 10 | 10 | -- | 6.6 | 123 | 22 | 0 | 202 | 6.6 | -- |
| July 31..... | 50 | 4.2 | .45 | 7.9 | 1.8 | 25 | 2.5 | 52 | 20 | 12 | -- | 4.7 | 113 | 27 | 0 | 184 | 6.7 | -- |
| Aug. 28..... | 40 | | | | | | | | | | | | | | | | | |
| FIVE MILE RIVER AT DANIELSON, CONN. | | | | | | | | | | | | | | | | | | |
| Apr. 3, 1962..... | 652 | 4.7 | 0.10 | 2.2 | 0.8 | 2.4 | 0.6 | 5 | 6.7 | 3.0 | 0.1 | 0.7 | 32 | 9 | 5 | 37 | 5.7 | 20 |
| May 28..... | 130 | 3.3 | .18 | 3.4 | 1.1 | 3.5 | .7 | 8 | 9.8 | 3.0 | .2 | 1.5 | 35 | 13 | 7 | 49 | 6.1 | 21 |
| July 3..... | 140 | -- | .30 | 4.9 | .7 | 4.4 | .7 | 14 | 8.2 | 4.7 | -- | 2.2 | 43 | 15 | 4 | 62 | 6.4 | -- |
| July 31..... | 80 | 4.5 | .34 | 4.8 | 1.0 | 7.6 | .9 | 18 | 9.5 | 5.6 | -- | 2.9 | 48 | 16 | 1 | 77 | 6.9 | -- |
| Aug. 28..... | 34 | 2.9 | .26 | 4.2 | .9 | 5.0 | .8 | 12 | 9.7 | 4.2 | -- | 2.0 | 44 | 14 | 4 | 62 | 6.4 | -- |
| QUINEBAUG RIVER AT WAUREGAN, CONN. | | | | | | | | | | | | | | | | | | |
| Apr. 3, 1962..... | 3,560 | 5.0 | 0.11 | 3.8 | 1.2 | 3.8 | 1.1 | 7 | 9.5 | 4.9 | 0.1 | 1.7 | 42 | 15 | 9 | 58 | 5.9 | 21 |
| May 28..... | 400 | 1.3 | .53 | 5.6 | 1.2 | 10 | 1.5 | 22 | 12 | 7.8 | .1 | 2.9 | 60 | 19 | 1 | 98 | 6.4 | 23 |
| July 3..... | 160 | 4.7 | .44 | 6.2 | 1.1 | 9.5 | 1.4 | 23 | 11 | 8.6 | -- | 2.7 | 92 | 20 | 1 | 98 | 6.4 | -- |
| Aug. 28..... | 110 | 4.6 | .38 | 7.3 | 1.7 | 14 | 2.1 | 34 | 17 | 12 * | -- | 2.4 | 90 | 23 | 0 | 146 | 6.6 | -- |
| MOOSUP RIVER AT CENTRAL VILLAGE, CONN. | | | | | | | | | | | | | | | | | | |
| Apr. 3, 1962..... | 675 | 4.3 | 0.12 | 2.5 | 1.0 | 2.9 | 0.8 | 4 | 6.7 | 4.1 | 0.1 | 0.8 | 36 | 10 | 7 | 42 | 5.7 | 24 |
| May 15..... | 121 | 4.1 | .20 | 3.2 | 1.6 | 3.5 | 1.3 | 8 | 7.6 | 4.2 | -- | .9 | 35 | 15 | 8 | 48 | 6.0 | 11 |
| May 28..... | 61 | 4.5 | .36 | 3.4 | 1.1 | 3.7 | .8 | 9 | 7.0 | 4.6 | .2 | 1.6 | 36 | 13 | 6 | 50 | 6.2 | 21 |
| July 3..... | 85 | -- | .36 | 3.3 | 1.0 | 3.7 | 1.4 | 10 | 6.9 | 5.0 | -- | 1.0 | 34 | 12 | 4 | 51 | 6.3 | -- |
| July 31..... | 22 | 3.0 | .40 | 4.2 | .9 | 4.7 | 2.1 | 15 | 6.5 | 5.6 | -- | 2.1 | 38 | 14 | 2 | 66 | 6.4 | -- |
| Aug. 28..... | 11 | 4.3 | .28 | 5.8 | .9 | 5.3 | 2.0 | 16 | 9.7 | 6.5 | -- | 3.0 | 48 | 18 | 5 | 80 | 6.5 | -- |

QUINEBAUG RIVER NEAR PACKER, CONN.

| | | | | | | | | | | | | | | | | | | |
|-------------------|-------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|-----|-----|----|
| Apr. 3, 1962..... | 4,820 | 4.9 | 0.14 | 3.2 | 1.0 | 3.5 | 1.0 | 6 | 9.3 | 4.8 | 0.1 | 1.6 | 41 | 12 | 7 | 54 | 5.8 | 25 |
| Apr. 15..... | 1,700 | 2.4 | .39 | 5.1 | 1.2 | 7.5 | 1.3 | 18 | 11 | 6.2 | -.2 | 2.3 | 53 | 18 | 3 | 84 | 6.4 | 15 |
| May 28..... | 1,720 | 1.6 | .49 | 5.6 | 1.4 | 8.7 | 1.5 | 20 | 11 | 7.0 | -.2 | 2.5 | 50 | 20 | 4 | 91 | 6.4 | 22 |
| July 3..... | 240 | .. | .37 | 5.6 | 1.2 | 9.2 | 1.2 | 24 | 9.9 | 7.2 | .. | 2.1 | 62 | 19 | 0 | 92 | 6.4 | .. |
| July 31..... | 130 | 3.3 | .43 | 6.7 | 1.3 | 13 | 2.0 | 29 | 12 | 10 | .. | 3.2 | 68 | 22 | 0 | 117 | 6.6 | .. |
| Aug. 28..... | 150 | 3.4 | .34 | 7.0 | 1.3 | 13 | 2.1 | 33 | 13 | 9.8 | .. | 2.8 | 71 | 23 | 0 | 124 | 6.7 | .. |

PACHAUG RIVER AT JEWETT CITY, CONN.

| | | | | | | | | | | | | | | | | | | |
|-------------------|-----|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Apr. 3, 1962..... | 500 | 2.9 | 0.07 | 2.4 | 1.2 | 2.6 | 0.5 | 5 | 6.5 | 4.1 | 0.1 | 0.8 | 30 | 11 | 7 | 38 | 5.8 | 15 |
| May 28..... | 76 | 1.1 | .27 | 3.2 | 1.0 | 3.4 | .7 | 8 | 7.5 | 4.1 | .1 | 1.2 | 34 | 12 | 6 | 49 | 6.2 | 21 |
| July 3..... | 42 | .. | .29 | 3.7 | 1.7 | 3.5 | .5 | 11 | 6.3 | 5.1 | .. | .3 | 31 | 12 | 3 | 50 | 6.2 | .. |
| July 31..... | 24 | 2.1 | .38 | 4.0 | 1.0 | 3.7 | .8 | 13 | 5.5 | 5.3 | .. | .5 | 34 | 14 | 4 | 54 | 6.4 | .. |
| Aug. 28..... | 44 | 1.4 | .32 | 3.3 | 1.0 | 3.7 | .5 | 12 | 6.4 | 4.4 | .. | .4 | 32 | 12 | 2 | 52 | 6.7 | .. |

HUDSON RIVER BASIN

1-3295. BATTEN KILL AT BATTENVILLE, N. Y.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-------|-----|------|----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|----|-----|-----|----|
| Dec. 29, 1961..... | a350 | 2.6 | .. | 21 | 6.0 | 2.0 | 0.2 | 81 | 10 | 6.7 | .. | .. | 95 | 77 | 11 | 174 | 7.4 | 3 |
| Apr. 8, 1962..... | 4,350 | 3.3 | 0.15 | 12 | 2.5 | 1.5 | .9 | 36 | 74 | .. | .. | .. | 60 | 41 | 11 | 92 | 6.8 | 5 |
| May 25..... | 922 | .. | .. | 26 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 76 | .. | 151 | 7.4 | .. |
| July 2..... | 137 | 1.9 | .. | 26 | 8.6 | 2.4 | .8 | 110 | 8.6 | 3.5 | .0 | 1.2 | 115 | 101 | 11 | 212 | 7.1 | 2 |
| Aug. 8..... | 462 | 2.3 | .12 | 30 | 7.5 | 2.3 | .8 | 120 | 9.8 | 3.5 | .1 | 1.3 | 117 | 106 | 8 | 230 | 7.3 | 3 |

1-3610. KINDERHOOK CREEK AT ROSSMAN, N. Y.

| | | | | | | | | | | | | | | | | | | |
|-------------------|-------|-----|------|----|-----|-----|-----|----|----|-----|-----|-----|-----|----|----|-----|-----|----|
| Jan. 9, 1962..... | a800 | 5.7 | 0.07 | 14 | 2.1 | 3.6 | 1.0 | 28 | 20 | 5.1 | 0.1 | 3.6 | 76 | 44 | 21 | 122 | 6.6 | 7 |
| Apr. 3..... | 1,630 | 4.1 | .. | 13 | 1.6 | 2.0 | .7 | 28 | 16 | 4.0 | .1 | 1.5 | 60 | 39 | 16 | 99 | 6.6 | 4 |
| May 31..... | 1,212 | .. | .. | 25 | .. | .. | .. | 63 | .. | .. | .. | 1.5 | .. | 76 | .. | 170 | 7.2 | .. |
| July 2..... | 39 | .. | .. | 23 | .. | .. | .. | 63 | 19 | .. | .. | 1.1 | .. | 74 | .. | 100 | 7.3 | .. |
| Aug. 28..... | 10 | 1.8 | .15 | 30 | 4.4 | 5.6 | 1.2 | 74 | 20 | 11 | .0 | 1.1 | 105 | 84 | 25 | 160 | 7.3 | 2 |
| Aug. 28..... | 10 | 1.8 | .. | 30 | 2.6 | 4.9 | 1.2 | 74 | 20 | 12 | .1 | 1.2 | 117 | 86 | 25 | 211 | 7.4 | 4 |

a Stage discharge relation affected by ice.

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

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|------------------------------------------------------|--------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-----------------------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------------------|----------------------------------|--------------------|-------------------------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbon- ate | | | |
| | | | | | | | | | | | | | | | | | | |
| HUDSON RIVER BASIN--Continued | | | | | | | | | | | | | | | | | | |
| 1-3625. ESOPUS CREEK AT COLDBROOK, N. Y. | | | | | | | | | | | | | | | | | | |
| Jan. 9, 1962..... | 803 | 3.2 | 0.07 | 5.6 | 1.4 | 1.6 | 0.4 | 10 | 11 | 1.7 | 0.1 | 2.5 | 36 | 20 | 12 | 56 | 6.2 | 4 |
| Apr. 3..... | 2,820 | 2.7 | .17 | 5.0 | 1.1 | 1.2 | .5 | 10 | 5.8 | 1.8 | .0 | 1.7 | 32 | 17 | 9 | 48 | 6.6 | 9 |
| May 31..... | 345 | -- | .05 | 7.4 | -- | -- | -- | 16 | -- | 1.2 | -- | 1.1 | -- | 24 | -- | 53 | 6.8 | -- |
| July 2..... | 240 | -- | .08 | 9.6 | -- | -- | -- | 22 | 9.6 | 1.4 | -- | .9 | -- | 29 | -- | 70 | 7.1 | -- |
| July 31..... | 78 | 2.6 | .00 | 10 | 1.6 | 2.5 | .7 | 30 | 8.8 | 3.0 | .0 | .8 | 46 | 32 | 7 | 80 | 7.1 | 2 |
| Aug. 28..... | 28 | 1.8 | .02 | 11 | 1.5 | 3.1 | .7 | 32 | 8.5 | 4.5 | .1 | .6 | 49 | 34 | 8 | 90 | 7.0 | 4 |
| 1-3725. WAPPINGER CREEK NEAR WAPPINGERS FALLS, N. Y. | | | | | | | | | | | | | | | | | | |
| Jan. 9, 1962..... | 1,030 | 6.3 | 0.08 | 18 | 4.2 | 3.0 | 1.5 | 48 | 24 | 3.7 | 0.1 | 5.2 | 96 | 63 | 23 | 156 | 6.9 | 5 |
| Apr. 3..... | 478 | 4.2 | .11 | 25 | 5.7 | 3.1 | .8 | 74 | 22 | 4.8 | .0 | 2.3 | 108 | 86 | 26 | 188 | 7.2 | 6 |
| May 31..... | 51 | -- | .09 | 39 | -- | -- | -- | 135 | -- | -- | -- | 2.3 | -- | 139 | -- | 282 | 7.5 | -- |
| July 2..... | 26 | -- | -- | 44 | -- | -- | -- | 137 | -- | -- | -- | 1.5 | -- | 136 | -- | 281 | 7.5 | -- |
| Aug. 1..... | 14 | 5.4 | .01 | 38 | 11 | 6.9 | 1.4 | 144 | 24 | 9.0 | .0 | .8 | 172 | 140 | 22 | 299 | 7.5 | 2 |
| Aug. 28..... | 15 | 4.2 | .08 | 38 | 9.9 | 7.0 | 1.2 | 138 | 26 | 9.6 | .1 | .9 | 168 | 136 | 23 | 303 | 7.4 | 2 |
| HUDSON RIVER AT TARRYTOWN, N. Y. | | | | | | | | | | | | | | | | | | |
| Aug. 21, 1962..... | | 1.1 | 0.05 | 103 | 278 | 2,340 | 84 | 72 | 585 | 4,180 | 0.4 | | 8,170 | 1,400 | 1,340 | 12,700 | 6.9 | 5 |
| Sept. 13..... | | 1.3 | | 119 | 383 | 2,860 | 102 | 78 | 717 | 5,180 | .5 | | 10,100 | 1,870 | 1,810 | 14,300 | 7.1 | 6 |

PASSAIC RIVER BASIN

1-3790. PASSAIC RIVER NEAR MILLINGTON, N. J.

| | | | | | | | | | | | | | | | | | | | | | | |
|----------------|----|----|--|------|----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|----|----|----|----|-----|-----|----|
| Apr. 17, 1962. | 85 | 16 | | 0.07 | 16 | 6.3 | 9.0 | 1.6 | 52 | 31 | 6.0 | 8.2 | 0.2 | 1.1 | 123 | 66 | 24 | 44 | 20 | 127 | 7.4 | 5 |
| Aug. 22..... | 13 | | | | | | | | | | | | | .2 | | | | | | 185 | 6.7 | 20 |

ELIZABETH RIVER BASIN

1-3932. ELIZABETH RIVER AT IRVINGTON, N. J.

| | | | | | | | | | | | | | | | | | | | | | | |
|----------------|-------|----|--|-----|----|----|-----|-----|-----|-----|----|--|-----|-----|-----|-----|-----|--|--|-----|-----|----|
| Apr. 17, 1962. | b5.19 | 52 | | 8.8 | 73 | 12 | 23 | 6.0 | 205 | 83 | 49 | | 1.0 | 1.5 | 604 | 275 | 107 | | | 658 | 7.7 | 5 |
| July 30..... | | | | | | | 120 | | 374 | 109 | 41 | | | .2 | | 232 | 0 | | | 524 | 8.2 | 25 |

RAMITAN RIVER BASIN

1-3965. SOUTH BRANCH RAMITAN RIVER NEAR HIGH BRIDGE, N. J.

| | | | | | | | | | | | | | | | | | | | | | | |
|----------------|--|-----|--|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|--|--|--|-----|-----|---|
| Oct. 5, 1961.. | | 13 | | 0.04 | 0.00 | 16 | 5.4 | 1.5 | 86 | 9.2 | 4.6 | 0.1 | 4.3 | 105 | 76 | 5 | | | | 167 | 8.1 | 2 |
| Dec. 20..... | | 12 | | .04 | .00 | 9.0 | 6.2 | 5.0 | 36 | 19 | 6.0 | 4.4 | 3.6 | 90 | 48 | 19 | | | | 125 | 7.1 | 5 |
| July 18, 1962. | | 7.3 | | .00 | .00 | 18 | 4.8 | 1.4 | 98 | 11 | 4.5 | 1.1 | 3.5 | 115 | 90 | 10 | | | | 192 | 7.7 | 4 |
| Aug. 3..... | | 7.2 | | .01 | .01 | 19 | 5.0 | 1.0 | 107 | 9.9 | 3.5 | .1 | 3.4 | 107 | 93 | 5 | | | | 199 | 7.3 | 5 |

1-3968. SPRUCE RUN AT CLINTON, N. J.

| | | | | | | | | | | | | | | | | | | | | | | |
|----------------|-----|----|--|------|------|----|-----|-----|-----|----|----|-----|-----|-----|-----|----|----|--|--|-----|-----|----|
| Oct. 5, 1961.. | 11 | 16 | | 0.00 | 0.00 | 18 | 9.0 | 7.5 | 1.8 | 80 | 19 | 5.4 | 0.2 | 2.3 | 118 | 82 | 17 | | | 184 | 8.0 | 3 |
| Dec. 20..... | 62 | 13 | | .12 | .14 | 16 | 6.7 | 6.7 | 2.0 | 40 | 31 | 8.8 | .3 | 6.3 | 116 | 68 | 35 | | | 165 | 7.0 | 20 |
| Aug. 3, 1962.. | 6.6 | 11 | | .09 | .00 | 18 | 7.3 | 6.2 | 1.5 | 75 | 21 | 6.1 | .3 | .5 | 120 | 75 | 14 | | | 181 | 6.8 | 37 |

1-3999. CHAMBERS BROOK AT NORTH BRANCH DEPOT, N. J.

| | | | | | | | | | | | | | | | | | | | | | | |
|----------------|-------|--|--|--|--|--|----|--|-----|-----|-----|--|-----|--|--|-----|----|--|--|-----|-----|---|
| Mar. 30, 1962. | b10.2 | | | | | | 10 | | c36 | 44 | 5.0 | | 7.5 | | | 67 | 38 | | | 185 | 8.5 | 5 |
| July 12..... | .41 | | | | | | 16 | | 104 | 113 | 8.5 | | .8 | | | 180 | 95 | | | 422 | 7.2 | 5 |

1-4016. BEDEN BROOK NEAR ROCKY HILL, N. J.

| | | | | | | | | | | | | | | | | | | | | | | |
|----------------|-------|-----|--|--|--|----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|----|--|--|-----|-----|---|
| Mar. 30, 1962. | b24.0 | 5.3 | | | | 12 | 6.7 | 8.8 | 1.8 | 30 | 38 | 7.0 | 0.1 | 4.7 | 105 | 58 | 33 | | | 163 | 7.1 | 3 |
| July 10..... | b.78 | | | | | | 17 | | | 88 | 43 | 16 | | .6 | | 104 | 32 | | | 277 | 7.8 | 7 |

b Discharge at time of sampling.

c Includes equivalent of 2 parts per million of carbonate (CO₃).

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

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Mean discharge (cfs) | Silica (SiO ₂) | Alum-inum (Al) | Iron (Fe) | Man-ga-nese (Mn) | Cal-cium (Ca) | Mag-nesium (Mg) | Sodium (Na) | Po-tas-sium (K) | Sulfate (SO ₄) | Chloride (Cl) | Fluo-ride (F) | Ni-trate (NO ₃) | Hardness as CaCO ₃ | | Total acid-ity (micro-mhos at 25°C) | pH | Col-or |
|--------------------|----------------------|----------------------------|----------------|-----------|------------------|---------------|-----------------|-------------|-----------------|----------------------------|---------------|---------------|-----------------------------|-------------------------------|----------------|-------------------------------------|----|--------|
| | | | | | | | | | | | | | | Cal-cium | Non-carbon-ate | | | |

RARITAN RIVER BASIN--Continued

1-4017. PINE RUN NEAR ROCKY HILL, N. J.

| | | | | | | | | | | | | | | | | | | |
|----------------|-------|--|--|--|--|--|--|----|--|----|-----|-----|-----|-----|-----|-----|-----|---|
| Mar. 30, 1962. | b16.0 | | | | | | | 12 | | 32 | 52 | 9.0 | 6.8 | 72 | 46 | 204 | 7.9 | 3 |
| July 10,..... | .80 | | | | | | | 25 | | 98 | 143 | 18 | .5 | 201 | 121 | 480 | 7.8 | 3 |

1-4031. EAST BRANCH AT MARTINSVILLE, N. J.

| | | | | | | | | | | | | | | | | | | |
|----------------|-------|--|--|--|--|--|--|-----|--|-----|----|-----|-----|----|----|-----|-----|---|
| Mar. 30, 1962. | b9.31 | | | | | | | 8.3 | | c35 | 35 | 7.0 | 5.7 | 62 | 33 | 163 | 8.5 | 4 |
| July 12,..... | b.36 | | | | | | | 11 | | 99 | 23 | 8.4 | .5 | 94 | 13 | 229 | 8.2 | 2 |

MULLICA RIVER BASIN

1-4094. MULLICA RIVER NEAR BATSTO, N. J.

| | | | | | | | | | | | | | | | | | | | |
|----------------|-----|-----|--|------|--|-----|--|-----|-----|-----|---|-----|-----|---|---|--|----|-----|----|
| Apr. 17, 1962. | 191 | 3.2 | | 0.64 | | 1.6 | | 0.5 | 1.6 | 0.8 | 0 | 9.2 | 3.6 | 6 | 6 | | 50 | 4.1 | 18 |
| July 25,..... | 69 | 4.4 | | 3.4 | | 1.6 | | 1.0 | 1.6 | .8 | 3 | 6.7 | .0 | 8 | 6 | | 35 | 4.8 | 5 |

DELAWARE RIVER BASIN

1-4315. LACKAWAXEN RIVER AT HAWLEY, PA.

| | | | | | | | | | | | | | | | | | | |
|----------------|-------|-----|--|------|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|-----|-----|---|
| Oct. 24, 1961. | 29 | 7.4 | | 0.00 | -- | 13 | 2.1 | 5.5 | 1.5 | 39 | 12 | 4.5 | 1.1 | 41 | 9 | 109 | 7.3 | 8 |
| Dec. 6,..... | 162 | 4.2 | | .02 | 0.03 | 11 | 1.8 | 4.1 | 1.8 | 25 | 16 | 4.0 | 3.8 | 35 | 15 | 91 | 6.7 | 3 |
| Jan. 12, 1962. | 402 | -- | | -- | -- | -- | -- | 4.0 | 1.8 | 20 | 15 | 3.5 | .2 | 32 | 16 | 84 | 6.0 | 2 |
| Feb. 22,..... | 239 | 6.1 | | .03 | .02 | 11 | 1.3 | 2.5 | 1.2 | 24 | 14 | 2.5 | .1 | 68 | 33 | 88 | 6.8 | 3 |
| Apr. 4,..... | 1,380 | 3.0 | | .01 | .00 | 7.3 | .6 | 1.6 | 1.2 | 12 | 11 | 2.0 | .1 | 49 | 21 | 58 | 6.6 | 7 |
| May 8,..... | 240 | 1.6 | | .02 | .00 | 10 | 1.6 | 2.4 | 1.2 | 24 | 13 | 3.0 | .0 | 55 | 32 | 80 | 6.5 | 3 |
| June 12,..... | 67 | 9.4 | | .00 | .00 | 12 | 2.3 | 5.4 | 1.5 | 38 | 13 | 4.0 | .2 | 68 | 40 | 107 | 6.9 | 6 |
| July 17,..... | 32 | 35 | | .02 | .01 | 14 | 2.2 | 12 | 1.6 | 60 | 14 | 4.5 | .2 | 120 | 44 | 146 | 7.0 | 3 |
| Aug. 28,..... | 50 | 4.1 | | .01 | .01 | 12 | 1.9 | 4.5 | 1.4 | 40 | 9.9 | 3.5 | .4 | 65 | 38 | 107 | 7.1 | 2 |

b Discharge at time of sampling.

c Includes equivalent of 2 parts per million of carbonate (CO₃).

1-4530. LEHIGH RIVER AT BETHLEHEM, PA.

| | | | | | | | | | | | | | | | | | |
|----------------|-----|------|------|----|-----|-----|-----|----|----|-----|-----|-----|-----|----|-----|-----|---|
| Nov. 17, 1961. | 9.7 | 0.00 | 0.00 | 16 | 5.0 | 6.5 | 1.8 | 30 | 34 | 6.0 | 7.2 | 121 | 61 | 36 | 166 | 6.6 | 2 |
| Dec. 11..... | 7.0 | .00 | .00 | 18 | 6.8 | 6.3 | 1.6 | 43 | 27 | 6.0 | 6.1 | 120 | 73 | 36 | 189 | 6.9 | 2 |
| Jan. 16, 1962. | 6.9 | .02 | .00 | 14 | 4.3 | 2.1 | 1.8 | 18 | 24 | 5.0 | 4.6 | 100 | 46 | 31 | 120 | 6.7 | 2 |
| Mar. 3..... | 5.5 | .03 | .00 | 11 | 4.7 | 3.8 | 1.5 | 26 | 29 | 6.0 | 5.5 | 100 | 53 | 31 | 139 | 6.7 | 4 |
| Apr. 13..... | 5.5 | .03 | .00 | 11 | 4.7 | 2.9 | 2.2 | 18 | 26 | 5.0 | 4.9 | 79 | 47 | 32 | 122 | 6.3 | 5 |
| May 18..... | 5.8 | .00 | .00 | 20 | 7.1 | 6.1 | 2.0 | 44 | 40 | 8.0 | 7.3 | 132 | 79 | 43 | 198 | 6.8 | 3 |
| June 18..... | 8.7 | .01 | .01 | 25 | 9.2 | 8.5 | 2.6 | 65 | 45 | 11 | 3.8 | 166 | 101 | 47 | 250 | 6.9 | 2 |
| July 26..... | 13 | .03 | .01 | 29 | 10 | 12 | 3.0 | 77 | 57 | 9.0 | 2.5 | 188 | 117 | 51 | 313 | 6.5 | 2 |
| Sept. 6..... | 8.0 | .03 | -- | 27 | 9.5 | 12 | 2.6 | 59 | 59 | 12 | 2.7 | 174 | 107 | 58 | 300 | 6.9 | 3 |

1-4575. DELAWARE RIVER AT RIEGELSVILLE, N. J.

| | | | | | | | | | | | | | | | | | |
|----------------|-------|-----|------|----|-----|-----|-----|----|----|-----|-----|-----|----|----|-----|-----|---|
| Oct. 20, 1961. | 3.030 | 4.1 | | 18 | 6.7 | 6.8 | 2.8 | 58 | 24 | 7.6 | 3.9 | 114 | 73 | 25 | 182 | 7.3 | 4 |
| July 26, 1962. | 2.5 | | 0.02 | 16 | 6.7 | 5.0 | 1.8 | 50 | 25 | 6.6 | 0.3 | 102 | 68 | 27 | 166 | 6.8 | 5 |

1-4584. HARIOKAKE CREEK NEAR FRENCHTOWN, N. J.

| | | | | | | | | | | | | | | | | | |
|----------------|------|--|--|--|--|-----|--|-----|----|-----|-----|--|----|----|-----|-----|---|
| Apr. 5, 1962.. | 16.7 | | | | | 5.5 | | 631 | 35 | 5.0 | 7.6 | | 65 | 38 | 169 | 8.4 | 5 |
| July 10..... | | | | | | 6.4 | | 68 | 15 | 3.1 | .9 | | 62 | 7 | 149 | 7.3 | 2 |

1-4586. NISHISAKAWICK CREEK AT FRENCHTOWN, N. J.

| | | | | | | | | | | | | | | | | | |
|----------------|------|--|--|--|--|-----|--|----|----|-----|-----|--|----|----|-----|-----|---|
| Apr. 5, 1962.. | 18.9 | | | | | 8.7 | | 32 | 17 | 6.0 | 0.8 | | 66 | 40 | 175 | 7.4 | 3 |
| July 10..... | | | | | | | | 70 | | | | | 65 | 8 | 163 | 8.0 | 3 |

1-4609. LOCKATONG CREEK NEAR RAVEN ROCK, N. J.

| | | | | | | | | | | | | | | | | | | |
|----------------|------|----|------|------|----|-----|-----|-----|----|----|-----|-----|-----|-----|----|-----|-----|---|
| Apr. 5, 1962.. | 19.1 | 12 | 0.03 | 0.00 | 12 | 4.5 | 6.9 | 2.2 | 16 | 37 | 6.8 | 0.0 | 6.5 | 100 | 49 | 149 | 6.2 | 5 |
| July 10..... | | | | | | 8.7 | | | 40 | 24 | 6.9 | .6 | | 49 | 16 | 146 | 7.9 | 2 |

1-4613. WICHECHONE CREEK AT STOCKTON, N. J.

| | | | | | | | | | | | | | | | | | | |
|----------------|------|----|--|------|------|----|-----|-----|-----|----|-----|-----|-----|-----|----|-----|-----|---|
| Apr. 5, 1962.. | 26.4 | 12 | | 0.00 | 0.00 | 13 | 4.3 | 9.5 | 2.0 | 20 | 7.8 | 0.1 | 5.8 | 105 | 50 | 154 | 7.0 | 3 |
| July 10..... | | | | | | | 13 | | | 59 | 7.3 | | 2.6 | 60 | 12 | 179 | 8.0 | 2 |

c Includes equivalent of 2 parts per million of carbonate (CO₃).

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

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Mean discharge (cfs) | Silica (SiO ₂) | Aluminum (Al) | Iron (Fe) | Manganese (Mn) | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Sulfate (SO ₄) | Chloride (Cl) | Fluoride (F) | Nitrate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ Calcium magnesium | Total acidity as H ⁺ (micro-mhos at 25°C) | Specific conductance (micro-mhos at 25°C) | Color or pH |
|------------------------------------------------------|----------------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------------------------|------------------------------------------------------|-------------------------------------------|-------------|
| DELAWARE RIVER BASIN--Continued | | | | | | | | | | | | | | | | | | |
| 1-4619. ALEXAUKEN CREEK NEAR LAMBERTVILLE, N. J. | | | | | | | | | | | | | | | | | | |
| Apr. 5, 1962... | 27.5 | | | | | | | 5.8 | | 29 | 35 | 7.5 | 5.8 | | 63 | 39 | 166 | 7.5 |
| July 10..... | | | | | | | | 8.7 | | 74 | 53 | 5.0 | .6 | | 104 | 44 | 256 | 7.4 |
| Apr. 5, 1962... | 16.7 | | | | | | | 14 | | 35 | 30 | 13 | 2.5 | | 60 | 32 | 167 | 7.8 |
| July 10..... | | | | | | | | | | 77 | | | | | 84 | 21 | 232 | 7.2 |
| 1-4622. MOORE CREEK NEAR TITUSVILLE, N. J. | | | | | | | | | | | | | | | | | | |
| 1-4628. JACOBS CREEK AT SOMERSET, N. J. | | | | | | | | | | | | | | | | | | |
| Apr. 5, 1962... | 25.9 | | | | | | | 9.2 | | 30 | 32 | 10 | 0.8 | | 66 | 42 | 185 | 7.6 |
| July 10..... | | | | | | | | | | 89 | | | | | 101 | 28 | 249 | 8.0 |
| 1-4738.8. PINE RUN TRIBUTARY AT FORT WASHINGTON, PA. | | | | | | | | | | | | | | | | | | |
| Apr. 10, 1962. | | 15 | | 0.07 | 0.00 | 25 | 7.8 | 8.7 | 3.3 | 29 | 41 | 7.5 | 15 | | 70 | 46 | 192 | 6.3 |
| Sept. 4..... | | | | | | | | 8.1 | | 85 | 28 | 8.8 | 0.2 | 6.1 | 151 | 95 | 234 | 7.5 |
| 1-4739. WISSAHICKON CREEK AT FORT WASHINGTON, PA. | | | | | | | | | | | | | | | | | | |
| Apr. 10, 1962. | | 12 | | 0.00 | 0.00 | 22 | 9.2 | 12 | 2.9 | 53 | 43 | 14 | 0.1 | 16 | 172 | 93 | 256 | 6.8 |
| Sept. 4..... | | 13 | | .00 | .00 | 33 | 13 | 25 | 6.8 | 105 | 50 | 22 | .6 | 25 | 248 | 136 | 387 | 7.1 |
| 1-4815. BRANDYWINE CREEK AT WILMINGTON, DEL. | | | | | | | | | | | | | | | | | | |
| Oct. 12, 1961. | 125 | 9.9 | | 0.00 | 0.00 | 19 | 6.3 | 15 | 3.0 | 70 | 24 | 14 | 0.5 | 5.2 | 140 | 74 | 219 | 7.0 |
| Dec. 7..... | 145 | 13 | | .00 | .00 | 15 | 7.7 | 14 | 2.8 | 58 | 28 | 13 | .2 | 7.9 | 140 | 69 | 210 | 7.1 |
| Jan. 29, 1962. | 204 | 15 | | .03 | .00 | 17 | 5.0 | 10 | 2.5 | 48 | 25 | 11 | .0 | 9.5 | 120 | 63 | 189 | 6.9 |
| Feb. 12..... | 187 | 13 | | .12 | .03 | 18 | 5.7 | 12 | 2.2 | 50 | 26 | 14 | .2 | 13 | 111 | 53 | 210 | 5.4 |
| Mar. 3..... | 474 | -- | | -- | -- | -- | -- | -- | -- | 49 | 24 | 8.0 | -- | 7.8 | -- | 60 | 165 | 6.7 |
| Apr. 23..... | 547 | 8.5 | | .06 | .00 | 14 | 4.7 | 7.6 | 2.0 | 43 | 22 | 8.0 | .1 | 7.9 | 102 | 55 | 156 | 7.0 |
| May 24..... | 542 | 8.8 | | .02 | .02 | 14 | 6.0 | 11 | 3.2 | 56 | 23 | 7.6 | .1 | 5.8 | 125 | 60 | 178 | 6.6 |
| June 27..... | 233 | 13 | | .02 | .00 | 16 | 5.6 | 9.5 | 3.8 | 53 | 22 | 8.6 | .1 | 7.8 | 124 | 63 | 176 | 6.7 |
| Sept. 10..... | 94 | 10 | | .07 | .01 | 19 | 6.6 | 7.7 | 2.8 | 68 | 29 | 5.0 | .2 | .5 | 140 | 75 | 221 | 6.7 |

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

| | | | | | | | | | | | | | | | | | | | |
|----------------|--------|-----|------|------|-----|-----|-------|-----|----|-----|-------|-----|-----|-------|-------|-------|--------|-----|----|
| Oct. 20, 1961. | 2,750 | 0.5 | 0.02 | 0.05 | 117 | 308 | 2,540 | 90 | 38 | 671 | 4,340 | 0.7 | 0.6 | 8,460 | 1,560 | 1,530 | 13,000 | 6.3 | 5 |
| Nov. 21..... | 4,980 | 1.8 | .02 | .00 | 106 | 335 | 2,770 | 120 | 34 | 337 | 4,710 | .7 | .6 | 8,190 | 1,540 | 1,620 | 14,400 | 6.6 | 10 |
| Dec. 19..... | 5,900 | 4.3 | .02 | .22 | 108 | 282 | 2,000 | 180 | 44 | 583 | 3,440 | .7 | .2 | 6,950 | 1,280 | 1,220 | 11,200 | 6.8 | 10 |
| Feb. 15, 1962. | 30,100 | 6.9 | .11 | .21 | 24 | 25 | 2,188 | 16 | 16 | 684 | 4,316 | .6 | 3.7 | 8,715 | 1,414 | 1,150 | 11,280 | 6.2 | 5 |
| Mar. 15..... | | | | | | | | | | | | | | | | | | | |
| May 29..... | 3,380 | 4.4 | .02 | .33 | 57 | 136 | 1,000 | 45 | 15 | 321 | 1,840 | .7 | 2.3 | 3,790 | 702 | 690 | 6,140 | 6.1 | 4 |
| June 27..... | 3,200 | 2.4 | .03 | .77 | 67 | 110 | 990 | 40 | 10 | 321 | 1,640 | .7 | 3.0 | 3,370 | 620 | 612 | 5,610 | 5.9 | 5 |
| Aug. 13..... | 3,380 | .5 | .04 | .09 | 100 | 243 | 2,000 | 100 | 21 | 580 | 3,450 | .7 | 1.0 | 6,840 | 1,250 | 1,230 | 11,200 | 6.7 | 4 |

LEIPSIK RIVER BASIN

1-4835. LEIPSIK RIVER NEAR CHESWOLD, DEL.

| | | | | | | | | | | | | | | | | | | | |
|----------------|--|----|------|------|----|-----|-----|----|-----|----|----|----|-----|-----|----|----|-----|-----|----|
| Apr. 25, 1962. | | 18 | 0.04 | 0.00 | 14 | 3.3 | 7.8 | 10 | 2.0 | 34 | 16 | 10 | 8.2 | 111 | 48 | 20 | 145 | 6.2 | 15 |
| Apr. 26..... | | | | | | | | | | | | | 0.1 | 9.5 | 49 | 19 | 152 | 6.7 | 15 |

SUSQUEHANNA RIVER BASIN

1-5100. OTSELIC RIVER AT CINCINNATUS, N. Y.

| | | | | | | | | | | | | | | | | | | | | |
|----------------|-----|-----|------|--|----|-----|-----|-----|----|----|--|-----|-----|-----|----|----|----|-----|-----|----|
| Jan. 11, 1962. | 240 | 5.1 | 0.12 | | 15 | 1.6 | 1.8 | 0.7 | 36 | 13 | | 2.0 | 0.1 | 3.6 | 61 | 44 | 15 | 105 | 7.5 | 3 |
| Apr. 5..... | 566 | 3.1 | .15 | | 12 | 1.1 | 1.2 | .7 | 27 | 11 | | 2.0 | .0 | 2.6 | 51 | 35 | 13 | 83 | 6.8 | 4 |
| May 23..... | 67 | -- | -- | | 23 | -- | -- | -- | 18 | -- | | -- | -- | 3.3 | -- | 67 | -- | 136 | 7.1 | -- |
| June 20..... | 26 | -- | -- | | 24 | -- | -- | -- | 69 | -- | | -- | -- | 2.7 | -- | 76 | -- | 157 | 7.5 | -- |
| July 25..... | 16 | 3.2 | .06 | | 24 | 3.4 | 2.6 | .9 | 70 | 12 | | 3.2 | .0 | 2.3 | 89 | 74 | 17 | 156 | 7.2 | 2 |
| Aug. 30..... | 13 | 3.2 | .04 | | 26 | 2.4 | 2.6 | .8 | 74 | 13 | | 3.9 | .1 | 2.2 | 91 | 75 | 15 | 170 | 7.3 | 2 |

1-5105. OTSELIC RIVER AT UPPER LISLE, N. Y.

| | | | | | | | | | | | | | | | | | | | | |
|----------------|-----|-----|------|--|----|-----|-----|-----|----|----|--|-----|-----|-----|----|----|----|-----|-----|----|
| Jan. 11, 1962. | 400 | 4.7 | 0.19 | | 13 | 1.6 | 2.0 | 0.9 | 30 | 12 | | 2.6 | 0.1 | 4.2 | 60 | 39 | 15 | 98 | 7.0 | 3 |
| Apr. 5..... | 746 | 3.1 | .05 | | 11 | 1.0 | 1.3 | .7 | 25 | 10 | | 2.0 | .0 | 2.6 | 50 | 32 | 11 | 81 | 6.9 | 7 |
| May 23..... | 96 | -- | -- | | 22 | -- | -- | -- | 56 | -- | | -- | -- | 2.3 | -- | 64 | -- | 133 | 7.5 | -- |
| June 20..... | 42 | 3.2 | .03 | | 22 | 3.1 | 2.9 | .9 | 65 | 12 | | 4.0 | .0 | 2.1 | 85 | 68 | 15 | 149 | 7.2 | 2 |

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

Chemical analyses, in parts per million, water year October 1961 to September 1962--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 ⁺ | Specific conductance (micro-mhos at 25°C) | pH or Col. |
|---------------------------------------------------|----------------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------------------------|-------------------------------------------|------------|
| SUSQUEHANNA RIVER BASIN--Continued | | | | | | | | | | | | | | | | | | | |
| 1-5345. LACKAWANNA RIVER AT ARCHBOLD, PA. | | | | | | | | | | | | | | | | | | | |
| Jan. 24, 1962 | 44 | -- | -- | -- | -- | -- | -- | 5.8 | -- | 10 | 79 | 5.5 | -- | 0.4 | -- | 86 | 78 | 212 | 6.2 |
| Mar. 7, | 138 | 7.1 | -- | 0.01 | 1.3 | 23 | 17 | 4.0 | 1.8 | 3 | 128 | 3.5 | 0.2 | 1.4 | 209 | 128 | 125 | 308 | 5.2 |
| Apr. 17, | 389 | 5.7 | -- | .07 | 1.45 | 17 | 12 | 2.8 | 1.7 | 5 | 85 | 3.0 | .2 | 2.8 | 159 | 92 | 88 | 216 | 6.3 |
| May 24, | 1,280 | 8.4 | -- | .03 | 1.4 | 27 | 22 | 5.1 | 2.7 | 4 | 165 | 4.0 | 1.0 | 1.3 | 276 | 158 | 155 | 365 | 5.5 |
| June 26, | 297 | 11 | -- | .01 | 2.1 | 33 | 31 | 8.1 | 3.0 | 3 | 223 | 5 | -- | 1.0 | 342 | 210 | 208 | 474 | 5.1 |
| Sept. 11, | 28 | 12 | -- | .01 | 2.4 | 37 | 36 | 7.6 | 3.9 | 13 | 250 | -- | -- | .8 | 387 | 241 | 230 | 570 | 5.5 |
| 1-5360. LACKAWANNA RIVER AT OLD FORGE, PA. | | | | | | | | | | | | | | | | | | | |
| Nov. 1, 1961 | 44 | 10 | 0.4 | 0.22 | -- | -- | -- | 51 | -- | 45 | 131 | 26 | -- | 0.9 | 231 | 98 | 61 | 414 | 6.1 |
| Dec. 12, | 138 | 6.5 | -- | .02 | 0.21 | 19 | 11 | 14 | 3.2 | 2 | 86 | 12 | -- | 20 | 172 | 93 | 91 | 273 | 5.8 |
| Jan. 23, 1962 | 1,280 | 5.3 | -- | .03 | .52 | 16 | 8.1 | 7.8 | 2.0 | 3 | 68 | 10 | -- | 6.1 | 143 | 74 | 43 | 258 | 6.2 |
| Feb. 26, | 297 | 7.4 | -- | .00 | .79 | 19 | 10 | 8.3 | 2.2 | 1 | 37 | 9.5 | 0.2 | 5.4 | 159 | 89 | 88 | 251 | 4.6 |
| 1-5435. SINNEMAHONING CREEK AT SINNEMAHONING, PA. | | | | | | | | | | | | | | | | | | | |
| Oct. 10, 1961 | 47 | -- | -- | 1.8 | 0.00 | 1.6 | -- | -- | -- | 0 | 128 | 13 | -- | 0.3 | 213 | 102 | 102 | 334 | 4.2 |
| Nov. 14, | 90 | 5.7 | -- | 1.3 | .06 | 1.9 | 8.0 | 8.9 | 1.8 | 12 | 96 | 10 | -- | .4 | 154 | 81 | 81 | 265 | 4.3 |
| Dec. 20d, | 841 | -- | -- | -- | -- | 19 | -- | 3.4 | -- | 12 | 27 | 2.0 | -- | .7 | -- | 34 | 24 | 91 | 6.9 |
| Dec. 20e, | 841 | -- | -- | -- | -- | -- | -- | 3.0 | -- | 2 | 42 | 4.0 | -- | .0 | -- | 44 | 43 | 130 | 4.8 |
| Jan. 31, 1962d | 1,090 | -- | -- | -- | -- | -- | -- | 2.3 | -- | 4 | 24 | 3.0 | -- | .4 | -- | 28 | 25 | 73 | 6.0 |
| Jan. 31e, | 1,090 | -- | -- | -- | -- | -- | -- | 2.5 | -- | 0 | 36 | 3.0 | -- | .0 | -- | 36 | 36 | 118 | 4.5 |
| Mar. 12e, | 681 | -- | -- | -- | -- | -- | -- | -- | -- | 0 | 48 | 8.5 | -- | .3 | -- | 44 | 44 | 148 | 4.2 |
| Apr. 26, | 1,050 | 6.2 | -- | .3 | .00 | .17 | 2.8 | 1.6 | 1.2 | 3 | 33 | 3.0 | 0.0 | .3 | 68 | 32 | 30 | 196 | 5.0 |
| May 30, | 352 | 6.7 | -- | .18 | .01 | .28 | 3.6 | 3.6 | 1.5 | 0 | 47 | 4.0 | -- | .2 | 98 | 40 | 40 | 136 | 4.3 |
| June 27, | 92 | 9.0 | -- | 1.8 | .00 | .96 | 17 | 8.0 | 1.3 | 0 | 88 | 8.5 | .2 | .9 | 152 | 71 | 71 | 431 | 5.6 |
| Aug. 6, | 4 | 12 | -- | 1.8 | .19 | 1.4 | 10 | 9.3 | 2.0 | 0 | 134 | 13 | -- | .1 | 234 | 123 | 123 | 492 | 3.2 |
| Sept. 25, | 28 | 9.9 | 7.6 | .06 | 2.6 | 32 | 14 | 13 | 2.0 | 0 | 178 | 19 | -- | .1 | 256 | 138 | 138 | 506 | 3.6 |

d Left side.
e Center and right side.

WEST BRANCH SUSQUEHANNA RIVER AT KEATING, PA.

| | | | | | | | | | | | | | | | | | | | | |
|----------------|-----|-----|------|-----|----|----|-----|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| June 27, 1962. | 8.8 | 2.2 | 0.47 | 2.8 | 47 | 22 | 9.6 | 2.2 | 0 | 250 | 8.0 | 0.2 | 0.0 | 377 | 208 | 208 | 1.0 | 637 | 3.4 | 3 |
| Aug. 8..... | 13 | 8.2 | 1.7 | 4.3 | 70 | 29 | 11 | 3.0 | 0 | 378 | 8.0 | .2 | .3 | 584 | 294 | 294 | 2.0 | 966 | 3.2 | 2 |

1-5479.5. BEECH CREEK AT MONUMENT, PA.

| | | | | | | | | | | | | | | | | | | | | |
|----------------|-----|-----|------|-----|----|-----|-----|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| May 28, 1962.. | 5.3 | 2.0 | 0.06 | 1.8 | 16 | 5.4 | 1.1 | 1.1 | 0 | 86 | 0.0 | 0.0 | 0.2 | 134 | 67 | 67 | 0.4 | 212 | 3.9 | 2 |
| June 30..... | 8.0 | 5.8 | .10 | 3.0 | 26 | 17 | 1.8 | 1.0 | 0 | 170 | 1.0 | .1 | .3 | 277 | 104 | 104 | .8 | 322 | 4.0 | 4 |
| Aug. 1..... | 9.5 | 5.8 | .10 | 3.5 | 28 | 17 | 2.2 | 1.8 | 0 | 176 | 2.5 | .2 | .5 | 277 | 135 | 135 | .9 | 417 | 3.9 | 0 |
| Sept. 14..... | 9.5 | 8.6 | .26 | 6.1 | 34 | 25 | 2.7 | 2.0 | 0 | 242 | 4.5 | .1 | .2 | 346 | 188 | 188 | 1.6 | 562 | 3.9 | 5 |

1-5479.8. BEECH CREEK AT BEECH CREEK, PA.

| | | | | | | | | | | | | | | | | | | | | |
|----------------|-----|-----|------|-----|----|-----|-----|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---|
| May 28, 1962.. | 5.3 | 2.0 | 0.06 | 1.6 | 11 | 8.1 | 1.1 | 1.2 | 0 | 78 | 0.0 | 0.0 | 0.3 | 122 | 61 | 61 | 0.4 | 193 | 4.0 | 2 |
| June 20..... | 7.4 | 1.9 | .08 | 2.7 | 19 | 13 | 1.2 | 1.5 | 0 | 123 | 4.0 | .1 | .0 | 188 | 101 | 101 | .8 | 304 | 3.8 | 3 |
| Aug. 1..... | 8.0 | 5.6 | .00 | 2.8 | 26 | 17 | 2.4 | 1.5 | 0 | 163 | 8.0 | .2 | .5 | 239 | 135 | 135 | .8 | 373 | 4.0 | 2 |
| Sept. 14..... | 8.7 | 7.1 | .17 | 4.5 | 33 | 22 | 2.6 | 2.1 | 0 | 220 | 6.0 | .0 | .2 | 323 | 173 | 173 | 1.4 | 494 | 4.1 | 3 |

1-5535. WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA.

| | | | | | | | | | | | | | | | | | | | | |
|----------------|--------|-----|------|------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|----|
| Oct. 5, 1961f. | 1,280 | -- | -- | -- | -- | -- | 14 | -- | 36 | 116 | 10 | -- | 3.6 | -- | 136 | 107 | -- | 347 | 6.6 | 2 |
| Oct. 5f..... | 1,280 | -- | -- | -- | -- | -- | 11 | -- | 16 | 116 | 10 | -- | 3.0 | -- | 126 | 113 | -- | 312 | 6.9 | 2 |
| Oct. 5f..... | 1,280 | -- | -- | -- | -- | -- | 11 | -- | 13 | 117 | 9.0 | -- | 2.8 | -- | 123 | 113 | -- | 302 | 6.8 | 5 |
| Oct. 5f..... | 1,280 | -- | -- | -- | -- | -- | 10 | -- | 12 | 117 | 7.0 | -- | 2.9 | -- | 116 | 179 | -- | 275 | 7.5 | 5 |
| Oct. 5f..... | 1,280 | -- | -- | -- | -- | -- | 10 | -- | 48 | 83 | 7.0 | -- | 3.9 | -- | 116 | 86 | -- | 324 | 7.0 | 7 |
| Oct. 30..... | 1,110 | 2.7 | 0.00 | -- | -- | 36 | 11 | 3.4 | 60 | 92 | 9.0 | 0.2 | 1.6 | 203 | 135 | 86 | -- | -- | -- | -- |
| Dec. 4..... | 3,550 | 5.7 | .04 | 0.50 | 16 | 5.7 | 4.1 | 1.8 | 8 | 55 | 5.0 | .2 | 4.7 | 106 | 64 | 57 | -- | 165 | 6.2 | 3 |
| Jan. 17, 1962. | 12,200 | -- | -- | -- | -- | -- | 6.0 | -- | 20 | 37 | 4.0 | -- | 2.1 | 90 | 49 | 33 | -- | 134 | 7.1 | 3 |
| Mar. 28..... | 37,100 | 4.6 | .00 | .00 | 14 | 3.3 | 3.5 | 2.0 | 7 | 42 | 4.5 | .1 | 4.0 | 100 | 49 | 43 | -- | 137 | 6.3 | 2 |
| Apr. 10..... | 51,700 | 4.8 | .00 | .12 | 7.8 | 4.0 | 1.5 | 1.0 | 3 | 30 | 4.0 | .2 | 3.9 | 68 | 36 | 34 | -- | 94 | 5.2 | 5 |
| May 10..... | 8,590 | 5.8 | .00 | .00 | 15 | 4.7 | 2.8 | 1.5 | 14 | 46 | 4.0 | .0 | 2.1 | 98 | 57 | 46 | -- | 147 | 6.5 | 3 |
| June 14..... | 2,550 | 33 | .01 | .01 | 31 | 1.9 | 16 | 2.1 | 33 | 76 | 5.5 | -- | 1.0 | 187 | 86 | 59 | -- | 252 | 6.7 | 5 |

f Five-point cross section.

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

Chemical analyses, in parts per million, water year October 1961 to September 1962--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 ⁺ | Specific conductance (micro-mhos at 25°C) | pH | Color |
|------------------------------------------------------------|----------------------|----------------------------|---------------|-----------|----------------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|---------------------------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | | | Calcium | Non-carbonate | | | | |
| SUSQUEHANNA RIVER BASIN--Continued | | | | | | | | | | | | | | | | | | | | | |
| 1-5620. RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA. | | | | | | | | | | | | | | | | | | | | | |
| Mar. 12, 1962. | | | | | | | | 3.4 | | 42 | 22 | 6.0 | | 4.3 | | 62 | 28 | | 146 | 7.5 | 2 |
| Mar. 14..... | | | | | | | | 3.4 | | 31 | 18 | 4.8 | | 4.5 | | 47 | 22 | | 120 | 7.3 | 5 |
| 1-5630. RAYSTOWN BRANCH JUNIATA RIVER NEAR HUNTINGDON, PA. | | | | | | | | | | | | | | | | | | | | | |
| July 10, 1962. | | 1.8 | | 0.00 | 0.00 | 29 | 9.8 | 2.4 | 1.8 | 88 | 37 | 4.4 | 0.1 | 2.5 | 137 | 113 | 41 | | 233 | 7.1 | 5 |
| Aug. 6..... | | 2.7 | | .00 | .00 | 32 | 13 | 2.6 | 1.5 | 102 | 47 | 4.4 | .1 | 2.1 | 162 | 134 | 50 | | 288 | 7.2 | 3 |
| Sept. 17..... | | 2.5 | | .00 | .00 | 32 | 13 | 2.9 | 1.8 | 100 | 50 | 5.8 | .0 | 2.1 | 170 | 134 | 52 | | 293 | 7.2 | 3 |
| 1-5680. SHERMAN CREEK AT SHERMANDALE, PA. | | | | | | | | | | | | | | | | | | | | | |
| Feb. 28, 1962. | | | | | | | | 2.8 | | 22 | 12 | 1.4 | | 6.8 | | 32 | 14 | | 77 | 6.9 | 3 |
| Mar. 12..... | | | | | | | | 4.6 | | 27 | 13 | 4.5 | | 5.1 | | 36 | 14 | | 89 | 7.1 | 3 |
| Mar. 13..... | | | | | | | | 3.9 | | 24 | 12 | 4.0 | | 5.0 | | 33 | 14 | | 82 | 7.1 | 3 |
| 1-5740. WEST CONEWAGO CREEK NEAR MANCHESTER, PA. | | | | | | | | | | | | | | | | | | | | | |
| Mar. 13, 1962. | | | | | | | | 5.3 | | 43 | 17 | 4.3 | | 6.4 | | 52 | 17 | | 130 | 7.2 | 2 |
| Mar. 15..... | | | | | | | | 5.5 | | 32 | 18 | 6.5 | | 7.0 | | 47 | 21 | | 119 | 7.7 | 4 |

PART 2. SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS

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 1962.

Water temperatures: October 1957 to September 1962.

EXTREMES: 1961-62.--Chloride: Maximum, 1,940 ppm Oct. 15; minimum daily, 56 micromhos July 18, 19.

Specific conductance: Maximum daily, 6,380 micromhos Oct. 15; minimum daily, 36 F Jan. 11-14.

Water temperatures: Maximum, 88 F July 31, Aug. 1, 21; minimum, 36 F Jan. 11-14.

EXTREMES: 1957-60.--Chloride: Maximum, 6,380 ppm Oct. 15; minimum, 56 micromhos July 18, 19, 1962.

Specific conductance: Maximum, 6,380 micromhos Oct. 15; minimum, 36 F Jan. 11-14.

Water temperatures: Maximum, 88 F July 31, Aug. 1, 21; minimum, 36 F Jan. 11-14.

REMARKS.--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 daily samples from October 1957 to September 1958, and October 1959 to September 1961 available in district office at Raleigh, N. C.

No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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) | Phosphate (PO ₄) | Dissolved solids | | Hardness as CaCO ₃ | | Specific conductance (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|------------------------------|------------------|------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Residue at 180°C | Calculated | Calcium | Non-magnesium | | | |
| Oct. 1-8, 1961 | 9.8 | 9.8 | 0.35 | 6.2 | 1.8 | 10 | 1.7 | 11 | 16 | 17 | 0.3 | 2.0 | | 133 | 70 | 23 | 14 | 99 | 6.1 | 360 |
| Dec. 13-15..... | 11 | 11 | .80 | 7.0 | 3.1 | 14 | 2.0 | 15 | 14 | 24 | 3 | 2.9 | | -- | 86 | 30 | 18 | 144 | 6.5 | 420 |
| Dec. 16-17..... | -- | -- | -- | 9.0 | 5.8 | -- | -- | 13 | -- | 49 | -- | -- | | -- | -- | 46 | 36 | 261 | 6.5 | -- |
| Dec. 17-31..... | 11 | 11 | .68 | 5.9 | 3.0 | 8.6 | 1.2 | 7 | 18 | 12 | 2 | 2.3 | | 131 | 66 | 27 | 22 | 111 | 5.5 | 320 |
| Jan. 1-30, 1962 | 8.9 | 8.9 | .44 | 7.1 | 1.4 | 6.8 | 1.3 | 6 | 15 | 9.5 | 2 | 2.1 | | 127 | 56 | 24 | 18 | 84 | 5.3 | 280 |
| Jan. 29-31..... | 6.8 | 6.8 | .07 | 4.7 | 2.0 | 5.5 | 1.3 | 8 | 12 | 7.5 | 1 | 1.6 | | -- | 46 | 20 | 14 | 70 | 5.9 | 160 |
| Feb. 1-22..... | 8.3 | 8.3 | .53 | 5.1 | 2.2 | 6.2 | .9 | 5 | 14 | 9.0 | 2 | 1.8 | | 115 | 50 | 22 | 18 | 86 | 5.2 | 360 |
| Feb. 23-28..... | 6.4 | 6.4 | .39 | 4.6 | 1.7 | 5.0 | 1.0 | 5 | 11 | 9.0 | 1 | 1.5 | | 98 | 43 | 18 | 14 | 72 | 5.4 | 320 |
| Mar. 1-31..... | 4.5 | 4.5 | .12 | 3.8 | 2.2 | 4.8 | .6 | 5 | 11 | 8.9 | 2 | 1.8 | | 99 | 40 | 18 | 13 | 74 | 5.1 | 240 |
| Apr. 1-30..... | 4.9 | 4.9 | .34 | 3.7 | 2.2 | 6.5 | .7 | 6 | 9.4 | 9.4 | 2 | 2.5 | | 106 | 43 | 20 | 13 | 82 | 5.2 | 520 |
| May 1-31..... | 6.6 | 6.6 | .89 | 4.8 | 1.8 | 7.4 | 1.0 | 8 | 10 | 12 | 3 | 4.2 | | 121 | 53 | 20 | 12 | 78 | 6.0 | 440 |
| June 1-30..... | 7.7 | 7.7 | .90 | 5.7 | 1.4 | 8.4 | 1.2 | 10 | 12 | 9.6 | 3 | 3.0 | | 135 | 55 | 20 | 12 | 78 | 6.0 | 440 |
| July 1-17..... | 8.0 | 8.0 | .09 | 5.1 | 2.0 | 6.9 | .9 | 11 | 8.4 | 10 | 2 | 3.0 | | 108 | 50 | 21 | 12 | 75 | 6.2 | 320 |
| July 18-31..... | 6.5 | 6.5 | .37 | 4.8 | 1.4 | 5.3 | 1.2 | 10 | 7.6 | 8.0 | 2 | 3.2 | | 102 | 44 | 18 | 10 | 63 | 6.1 | 320 |
| Aug. 1-31..... | 7.8 | 7.8 | .67 | 5.4 | 1.9 | 9.3 | 1.3 | 11 | 8.4 | 12 | 2 | 3.6 | | 121 | 56 | 22 | 12 | 89 | 6.3 | 450 |
| Sept. 1-30..... | 5.3 | 5.3 | .47 | 6.2 | 1.5 | 8.8 | 1.2 | 12 | 9.2 | 12 | 2 | 1.2 | | 110 | 52 | 22 | 12 | 85 | 5.8 | 300 |
| Time-weighted average..... | 7.1 | 7.1 | 0.51 | 5.3 | 1.9 | 7.3 | 1.1 | 8 | 11 | 11 | 0.2 | 2.6 | | 116 | 52 | 21 | 14 | 83 | -- | 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 1961 to September 1962

| Day | October | | November | | December | | January | |
|----------|-------------------------------------------|---------------|-------------------------------------------|---------------|-------------------------------------------|---------------|-------------------------------------------|---------------|
| | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) |
| 1 | 110 | 17 | 690 | 173 | 298 | 52 | 100 | 9.5 |
| 2 | 112 | | 848 | 217 | 360 | 78 | 100 | |
| 3 | 110 | | 1,860 | 518 | 498 | 119 | 100 | |
| 4 | 87 | | 1,220 | 350 | 510 | 120 | 100 | |
| 5 | 86 | | 622 | 156 | 1,000 | 230 | 89 | |
| 6 | 88 | 47 | 398 | 96 | 2,120 | 575 | 100 | |
| 7 | 89 | | 962 | 250 | 1,480 | 374 | 82 | |
| 8 | 92 | | 1,420 | 400 | 1,190 | 296 | 79 | |
| 9 | 217 | | 3,180 | 945 | 1,050 | 254 | 76 | |
| 10 | 589 | | 142 | 3,580 | 1,080 | 3,090 | 850 | |
| 11 | 837 | 206 | 3,820 | 1,150 | 3,500 | 975 | 85 | 7.5 |
| 12 | 2,380 | 700 | 3,260 | 975 | 632 | 150 | 83 | |
| 13 | 2,870 | 855 | 2,260 | 635 | 161 | 24 | 81 | |
| 14 | 3,000 | 895 | 2,210 | 626 | 129 | | 83 | |
| 15 | 6,380 | 1,940 | 1,320 | 400 | 157 | | 83 | |
| 16 | 5,900 | 1,810 | 1,280 | 350 | 261 | 49 | 76 | |
| 17 | 5,880 | 1,800 | 2,080 | 565 | 157 | | 75 | |
| 18 | 6,000 | 1,800 | 2,520 | 700 | 118 | | 78 | |
| 19 | 4,090 | 1,220 | 2,620 | 710 | 111 | | 78 | |
| 20 | 1,450 | 420 | 3,020 | 845 | 111 | | 78 | |
| 21 | 403 | 94 | 1,040 | 258 | 116 | 12 | 79 | |
| 22 | 100 | 14 | 518 | 118 | 112 | | 79 | |
| 23 | 87 | 13 | 1,880 | 520 | 104 | | 80 | |
| 24 | 197 | 41 | 629 | 141 | 105 | | 76 | |
| 25 | 1,020 | 274 | 168 | 28 | 109 | | 79 | |
| 26 | 2,540 | 740 | 154 | 27 | 108 | 9.4 | 84 | |
| 27 | 420 | 100 | 278 | 56 | 109 | | 80 | |
| 28 | 385 | 90 | 763 | 180 | 110 | | 75 | |
| 29 | 298 | 66 | 300 | 60 | 109 | | 67 | |
| 30 | 285 | 64 | 700 | 167 | 110 | | 69 | |
| 31 | 507 | 124 | -- | -- | 112 | | 74 | |
| | | | | | | | | |
| February | | | March | | April | | May | |
| 1 | 81 | 9.0 | 75 | 8.9 | 72 | 9.4 | 79 | 12 |
| 2 | 87 | | 75 | | 71 | | 80 | |
| 3 | 84 | | 75 | | 76 | | 76 | |
| 4 | 81 | | 75 | | 75 | | 80 | |
| 5 | 81 | | 72 | | 75 | | 82 | |
| 6 | 81 | 9.0 | 71 | 8.9 | 74 | 9.4 | 78 | |
| 7 | 80 | | 74 | | 72 | | 79 | |
| 8 | 82 | | 75 | | 73 | | 79 | |
| 9 | 80 | | 75 | | 74 | | 74 | |
| 10 | 82 | | 75 | | 74 | | 72 | |
| 11 | 99 | 9.0 | 75 | 8.9 | 72 | 9.4 | 70 | |
| 12 | 84 | | 75 | | 71 | | 77 | |
| 13 | 84 | | 73 | | 70 | | 75 | |
| 14 | 85 | | 72 | | 72 | | 75 | |
| 15 | 85 | | 72 | | 72 | | 75 | |
| 16 | 83 | 9.0 | 73 | 8.9 | 72 | 9.4 | 80 | |
| 17 | 84 | | 72 | | 71 | | 73 | |
| 18 | 85 | | 72 | | 70 | | 73 | |
| 19 | 87 | | 72 | | 89 | | 73 | |
| 20 | 85 | | 71 | | 71 | | 82 | |
| 21 | 85 | 9.0 | 69 | 8.9 | 71 | 9.4 | 80 | |
| 22 | 121 | | 65 | | 73 | | 85 | |
| 23 | 76 | | 63 | | 75 | | 82 | |
| 24 | 69 | | 68 | | 73 | | 82 | |
| 25 | 68 | | 69 | | 73 | | 84 | |
| 26 | 72 | 9.0 | 70 | 8.9 | 79 | 9.4 | 84 | |
| 27 | 74 | | 70 | | 81 | | 84 | |
| 28 | 75 | | 71 | | 79 | | 85 | |
| 29 | -- | | 71 | | 79 | | 84 | |
| 30 | -- | | 71 | | 78 | | 87 | |
| 31 | -- | | -- | | 71 | -- | -- | 86 |

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 1961 to September 1962--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 | 82 | | 95 | | 76 | | 90 | |
| 2 | 80 | | 97 | | 83 | | 90 | |
| 3 | 78 | | 94 | | 81 | | 89 | |
| 4 | 81 | | 87 | | 84 | | 87 | |
| 5 | 82 | | 76 | | 83 | | 85 | |
| 6 | 87 | | 68 | | 79 | | 83 | |
| 7 | 87 | | 70 | | 80 | | 83 | |
| 8 | 87 | | 70 | | 84 | | -- | |
| 9 | 88 | | 69 | | 85 | | 84 | |
| 10 | 87 | | 68 | 10 | 82 | | 86 | |
| 11 | 87 | | 67 | | 102 | | 83 | |
| 12 | 89 | | 77 | | 90 | | 84 | |
| 13 | 89 | | 75 | | 91 | | 86 | |
| 14 | 79 | | 73 | | 90 | | 86 | |
| 15 | 60 | | 73 | | 90 | | 87 | |
| 16 | 63 | 9.6 | 73 | | 91 | 12 | 85 | 12 |
| 17 | 73 | | 71 | | 89 | | 86 | |
| 18 | 71 | | 56 | | 88 | | 88 | |
| 19 | 69 | | 56 | | 89 | | 87 | |
| 20 | 70 | | 58 | | 89 | | 89 | |
| 21 | 75 | | 57 | | 88 | | 89 | |
| 22 | 76 | | 59 | | 92 | | 90 | |
| 23 | 76 | | 64 | | 92 | | 85 | |
| 24 | 79 | | 62 | 8.0 | 96 | | 88 | |
| 25 | 78 | | 65 | | 95 | | 91 | |
| 26 | 78 | | 65 | | 93 | | 90 | |
| 27 | 85 | | 70 | | 94 | | 90 | |
| 28 | 90 | | 71 | | 93 | | 89 | |
| 29 | 93 | | 71 | | 91 | | 86 | |
| 30 | 98 | | 72 | | 91 | | 86 | |
| 31 | -- | -- | 73 | | 91 | | -- | -- |

Temperature °F of water, water year October 1961 to September 1962
(Once-daily measurement between 1345 and 1930)

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|---------|------|------|------|------|------|------|------|-----|------|------|------|-------|
| 1.. | 74 | 60 | 47 | 39 | 41 | 56 | 64 | 80 | 77 | 84 | 88 | 84 |
| 2.. | 74 | 62 | 49 | 39 | 43 | 47 | 62 | 74 | 77 | 82 | 80 | 85 |
| 3.. | 71 | 64 | 47 | 39 | 45 | 42 | 59 | 73 | 78 | 74 | 77 | 85 |
| 4.. | 68 | 65 | 48 | 42 | 45 | 48 | 58 | 76 | 79 | 74 | 82 | 78 |
| 5.. | 68 | 64 | 52 | 44 | 47 | 49 | 58 | 74 | 78 | 74 | 84 | 82 |
| 6.. | 71 | 66 | 48 | 45 | 46 | 45 | 61 | 73 | 78 | 77 | 86 | 76 |
| 7.. | 73 | 61 | 48 | 42 | 44 | 40 | 65 | 74 | 73 | 78 | 86 | 78 |
| 8.. | 71 | 56 | 43 | 48 | 43 | 45 | 61 | 75 | 79 | 78 | 84 | -- |
| 9.. | 70 | 54 | 44 | 40 | 43 | 42 | 68 | 67 | 78 | 78 | 82 | 78 |
| 10.. | 71 | 55 | 46 | 41 | 41 | 43 | 64 | 69 | 80 | 78 | 80 | 82 |
| 11.. | 71 | 55 | 48 | 36 | 40 | 45 | 64 | 67 | 85 | 80 | 79 | 82 |
| 12.. | 70 | 58 | 50 | 36 | 39 | 51 | 62 | 71 | 81 | 84 | 79 | 82 |
| 13.. | 68 | 58 | 45 | 36 | 40 | 52 | 60 | 70 | 80 | 88 | 84 | 84 |
| 14.. | 69 | 59 | 47 | 36 | 43 | 51 | 60 | 75 | 72 | 84 | 84 | 81 |
| 15.. | 64 | 60 | 44 | 44 | 41 | 51 | 56 | 75 | 74 | 83 | 82 | 78 |
| 16.. | 67 | 59 | 45 | 43 | 42 | 51 | 54 | 72 | 78 | 84 | 82 | 77 |
| 17.. | 68 | 58 | 47 | 41 | 45 | 51 | 56 | 70 | 81 | 78 | 82 | 76 |
| 18.. | 67 | 55 | 50 | 40 | 44 | 51 | 58 | 79 | 84 | 78 | 78 | 75 |
| 19.. | 65 | 53 | 52 | 40 | 48 | 52 | 58 | 80 | 81 | 81 | 85 | 77 |
| 20.. | 60 | 53 | 50 | 40 | 48 | 53 | 56 | 84 | 82 | 78 | 86 | 68 |
| 21.. | 61 | 51 | 45 | 40 | 48 | 54 | 67 | 82 | 84 | 82 | 88 | 69 |
| 22.. | 67 | 50 | 46 | 48 | 50 | 53 | 69 | 76 | 82 | 79 | 84 | 71 |
| 23.. | 56 | 55 | 47 | 44 | 53 | 54 | 65 | 82 | 84 | 79 | 80 | 68 |
| 24.. | 57 | 54 | 44 | 47 | 58 | 54 | 62 | 85 | 85 | 78 | 81 | 72 |
| 25.. | 60 | 51 | 42 | 49 | 53 | 54 | 71 | 82 | 85 | 79 | 80 | 70 |
| 26.. | 60 | 52 | 42 | 51 | 52 | 52 | 69 | 82 | 83 | 82 | 82 | 69 |
| 27.. | 57 | 52 | 44 | 50 | 55 | 57 | 62 | 78 | 78 | 84 | 79 | 70 |
| 28.. | 54 | 48 | 40 | 45 | 48 | -- | 70 | 76 | 78 | 80 | 81 | 68 |
| 29.. | 58 | 42 | 39 | 42 | -- | -- | 70 | 76 | 74 | 78 | 81 | 69 |
| 30.. | 61 | 47 | 37 | 45 | -- | -- | 72 | 79 | 78 | 84 | 83 | 68 |
| 31.. | 61 | -- | 41 | 38 | -- | -- | -- | 81 | -- | 78 | 82 | -- |
| Average | 66 | 56 | 46 | 42 | 46 | 50 | 63 | 76 | 80 | 80 | 82 | 76 |

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 1962.

EXTREMES: Temperatures: Maximum, 79° F. Oct. 13 (B); minimum, 12 ppm on many days during year.

Specific conductance: Maximum daily, 750 micromhos Oct. 13 (B); minimum daily, 75 micromhos Mar. 1 (T).

Water temperatures: Maximum, 87° F. Aug. 7 (T); minimum, 36° F. Jan. 14 (T).

EXTREMES: 1957-62.--Chloride: Maximum, 8,020 ppm Oct. 30 (B), 1958; minimum, 4.5 ppm Mar. 6 (T), 1961.

Specific conductance: Maximum daily, 20,800 micromhos Oct. 29 (B), 1958; minimum daily, 63 micromhos June 3 (T), 1961.

Water temperatures: Maximum, 89° F. July 29, 30 (T), 1959, Sept. 1 (T), 1960; minimum, freezing point on several days during winter months.

REMARKS.--Top (T) and bottom (B) samples were collected once daily (1030) and were composited unless otherwise indicated. 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 daily samples available in district

office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, February 1962 to July 1962

| 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 (micro-mhos at 25° C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|--------------------------------------|-------------------------------|---------------|--------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Feb. 23, 24(T), 1962 | | 7.8 | 0.49 | 5.8 | 2.9 | 11 | 1.5 | 8 | 15 | 18 | 0.2 | 2.8 | a69 | 26 | 20 | 118 | 5.9 | 320 |
| Feb. 24(b), 25-28... | | 6.0 | .42 | 5.1 | 2.3 | 7.4 | 1.5 | 8 | 13 | 12 | .1 | 1.5 | a53 | 23 | 16 | 88 | 5.6 | 250 |
| Mar. 12(11)..... | | 5.5 | .24 | 5.9 | 4.9 | 6.6 | .9 | 9 | 12 | 22 | .2 | 1.8 | b11 | 22 | 16 | 150 | 6.2 | 220 |
| Mar. 13-17..... | | 5.2 | .20 | 5.8 | 2.0 | 8.6 | .8 | 7 | 13 | 12 | .2 | 1.6 | c108 | 23 | 18 | 86 | 5.4 | 220 |
| Apr. 12, 13(T)..... | | .5 | .22 | 4.3 | 2.4 | 8.6 | .9 | 10 | 10 | 12 | .3 | 1.9 | a48 | 20 | 12 | 87 | 5.9 | 220 |
| Apr. 14, 15(T)..... | | .4 | .35 | 4.8 | 2.4 | 10 | .9 | 12 | 11 | 15 | .2 | 1.9 | a53 | 22 | 12 | 103 | 6.0 | 250 |
| Apr. 16-18, 19(T)... | | 1.3 | .20 | 4.5 | 2.2 | 9.2 | .9 | 9 | 9.2 | 13 | .2 | 1.6 | a46 | 20 | 12 | 93 | 5.7 | 220 |
| July 6-7..... | | 6.4 | .45 | 7.4 | 7.6 | 56 | 3.5 | 12 | 20 | 100 | .2 | 1.8 | a209 | 50 | 40 | 393 | 6.2 | 310 |
| July 8-10..... | | 6.8 | .47 | 6.5 | 4.0 | 28 | 2.2 | 13 | 15 | 46 | .2 | 2.3 | a117 | 22 | 22 | 202 | 6.1 | 320 |
| July 11-15..... | | 6.9 | .28 | 5.6 | 3.2 | 13 | 1.8 | 19 | 9.8 | 22 | .2 | 3.4 | 122 | 27 | 12 | 120 | 6.8 | 320 |
| July 16..... | | 7.2 | .72 | 7.8 | 5.1 | -- | -- | 16 | 16 | 62 | -- | 2.3 | -- | 40 | 28 | 257 | 6.3 | 310 |
| July 17-20..... | | 7.5 | .39 | 7.0 | 2.7 | 11 | 1.7 | 18 | 9.2 | 17 | .4 | 2.7 | a69 | 28 | 14 | 109 | 6.3 | 400 |
| July 21(T)..... | | -- | -- | -- | -- | -- | -- | 17 | -- | 20 | -- | -- | -- | 42 | 28 | 242 | 6.9 | -- |
| July 21(b)..... | | -- | -- | -- | -- | -- | -- | 15 | -- | 11 | -- | -- | -- | 35 | 14 | 190 | 5.1 | 400 |
| July 23-27..... | | 7.6 | -- | 5.9 | 4.2 | -- | -- | 12 | -- | 33 | .2 | 2.5 | -- | 26 | 24 | 136 | 5.9 | 300 |
| July 28-30, 31(T)... | | 7.0 | .11 | 5.5 | 3.2 | 15 | 2.2 | 16 | 9.2 | 23 | .2 | 2.8 | d134 | 26 | 14 | 126 | 5.9 | 300 |
| July 31(B)..... | | -- | -- | 6.6 | 5.0 | 27 | 2.6 | 14 | 15 | 54 | .1 | 3.2 | a128 | 27 | 26 | 213 | 5.8 | 320 |
| July 31(T)..... | | -- | -- | -- | -- | -- | -- | 13 | -- | -- | -- | -- | -- | 46 | 35 | 321 | 6.6 | -- |

a Calculated from determined constituents.

b Organic matter present; sum of mineral constituents 51 parts per million.

c Organic matter present; sum of mineral constituents 30 parts per million.

d Organic matter present; sum of mineral constituents 80 parts per million.

PASQUOTANK RIVER BASIN--Continued
 2-438.62. PASQUOTANK RIVER AT ELIZABETH CITY, N. C.--Continued
 Chloride, in parts per million, water year October 1961 to September 1962

| 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 | 364 | 5,140 | 1,340 | 2,600 | 1,280 | 1,300 | 375 | 1,050 | 12 | 205 | | | 845 | 1,280 | 28 | 17 | 180 | 312 | 112 | 175 | 32 | 32 | 170 | 275 |
| 2 | 650 | 4,970 | 1,995 | 2,680 | 2,800 | 2,900 | 805 | 1,450 | -- | -- | | | 410 | 440 | 59 | 46 | 295 | 300 | 160 | 300 | 32 | 32 | 235 | 245 |
| 3 | 380 | 4,550 | 1,340 | 2,990 | 2,300 | 3,000 | 805 | 1,440 | -- | -- | | | 175 | 177 | 16 | 18 | 200 | 300 | 275 | 310 | 34 | 29 | 200 | 155 |
| 4 | 640 | 3,980 | 2,360 | 2,550 | 1,080 | 2,650 | 1,750 | 1,850 | 96 | 885 | | | 88 | 650 | 14 | 14 | 140 | 260 | 420 | 425 | 21 | 53 | 125 | 275 |
| 5 | 715 | 705 | 2,340 | 2,520 | 2,750 | 2,900 | 1,180 | 2,080 | 19 | 870 | | | 88 | 525 | 15 | 225 | 117 | 300 | 220 | 220 | 43 | 50 | 190 | 220 |
| 6 | 1,220 | 4,940 | 2,100 | 2,580 | 2,400 | 2,820 | 1,130 | 1,690 | 245 | 530 | 12 | 12 | 110 | 400 | 18 | 430 | 125 | 240 | | | 118 | 19 | 118 | 117 |
| 7 | 3,440 | 5,370 | 1,670 | 2,240 | 2,070 | 1,880 | 555 | 1,130 | 83 | 480 | | | 185 | 190 | 66 | 260 | 117 | 245 | 100 | 100 | 180 | 19 | 125 | 175 |
| 8 | 2,700 | 2,650 | 1,230 | 2,500 | 2,280 | 2,420 | 280 | 930 | 32 | 770 | | | 70 | 80 | 52 | 190 | 117 | 275 | | | 75 | 30 | 155 | 170 |
| 9 | 1,950 | 5,500 | 1,750 | 2,060 | 1,950 | 1,900 | 155 | 170 | 35 | 865 | | | 24 | 135 | 80 | 86 | 180 | 315 | 46 | 46 | 91 | 34 | 160 | 170 |
| 10 | 1,210 | 5,470 | 1,620 | 1,980 | 1,850 | 1,850 | 148 | 168 | 30 | 180 | | | 14 | 225 | 71 | 51 | 135 | 300 | | | 72 | 75 | 200 | 240 |
| 11 | 394 | 5,490 | 2,270 | 2,490 | 2,430 | 2,450 | 105 | 1,130 | 42 | 35 | | | 19 | 218 | 66 | 94 | 185 | 300 | | | 68 | 61 | 210 | 160 |
| 12 | 3,820 | 5,640 | 1,460 | 2,750 | 2,470 | 2,430 | -- | 1,670 | 67 | 360 | 29 | 29 | 12 | 12 | 29 | 45 | 260 | 370 | | | 96 | 111 | 130 | 125 |
| 13 | 3,350 | 5,730 | 1,770 | 2,510 | 1,500 | 1,450 | 80 | 1,640 | 175 | 455 | | | 12 | 117 | 37 | 38 | 310 | 325 | 22 | 22 | 100 | 130 | 180 | 240 |
| 14 | 1,760 | 4,650 | 1,950 | 2,650 | 2,260 | 2,280 | 56 | 1,900 | 43 | 490 | | | 13 | 13 | 36 | 99 | 125 | 120 | | | 153 | 180 | 190 | 230 |
| 15 | 3,030 | 3,050 | 1,670 | 2,630 | 2,120 | 2,500 | 132 | 117 | 61 | 160 | 12 | 12 | 13 | 142 | 37 | 195 | 172 | 99 | | | 91 | 205 | 175 | 190 |
| 16 | 3,000 | 3,520 | 1,650 | 2,450 | 1,120 | 1,240 | 185 | 1,560 | 132 | 300 | | | | | 27 | 500 | 49 | 265 | 62 | 62 | 150 | 175 | 140 | 150 |
| 17 | 2,570 | 3,280 | 1,800 | 2,600 | 1,340 | 2,370 | 113 | 1,660 | 105 | 155 | | | 13 | 13 | 38 | 485 | 28 | 435 | | | 130 | 185 | 195 | 225 |
| 18 | 2,490 | 3,380 | 1,700 | 2,600 | 2,130 | 2,350 | 91 | 80 | 56 | 575 | 60 | 5,000 | | | 66 | 440 | 300 | 525 | 17 | 17 | 160 | 122 | 155 | 160 |
| 19 | 2,550 | 3,350 | 1,900 | 1,850 | 650 | 2,380 | 88 | 1,680 | 78 | 545 | 77 | 96 | 335 | 145 | 410 | 360 | 515 | | | | 83 | 150 | 145 | 140 |
| 20 | 2,670 | 2,890 | 2,080 | 1,850 | 960 | 2,380 | 96 | 1,650 | 24 | 34 | 275 | 3,660 | 54 | 61 | 140 | 400 | 365 | 500 | | | 130 | 126 | 113 | 109 |
| 21 | 2,230 | 2,660 | 1,850 | 2,450 | 650 | 2,250 | 86 | 122 | 32 | 565 | 228 | 265 | 19 | 38 | 65 | 325 | 200 | 400 | 20 | 14 | 165 | 135 | 119 | 125 |
| 22 | 1,530 | 2,270 | 2,000 | 2,000 | 2,150 | 2,300 | 1,160 | 1,590 | 86 | 142 | 270 | 4,800 | 29 | 75 | 112 | 250 | 106 | 400 | 33 | 33 | 110 | 153 | 136 | 135 |
| 23 | 3,1780 | 2,230 | 2,150 | 2,250 | 550 | 2,550 | 67 | 1,600 | 18 | 18 | 175 | 1,930 | 35 | 280 | 325 | 410 | 285 | 375 | | | 120 | 130 | 136 | 134 |
| 24 | 2,280 | 2,750 | 1,850 | 1,900 | 2,400 | 1,310 | 1,620 | 1,620 | 18 | | 92 | 5,150 | 21 | 67 | 360 | 375 | 215 | 365 | | | 108 | 113 | 130 | 150 |
| 25 | 2,700 | 2,850 | 1,900 | 1,900 | 428 | 2,300 | 160 | 1,620 | | | 88 | 87 | 38 | 88 | 290 | 320 | 190 | 255 | 26 | 26 | 119 | 147 | 195 | 245 |
| 26 | 2,540 | 2,660 | 2,150 | 2,550 | 1,950 | 2,270 | 1,000 | 1,620 | 12 | | 75 | 4,720 | 24 | 95 | 250 | 280 | 125 | 270 | | | 119 | 190 | 225 | 245 |
| 27 | 1,570 | 2,720 | 1,700 | 2,800 | 1,060 | 2,350 | 35 | 1,200 | | | 124 | 4,570 | 21 | 168 | 250 | 270 | 120 | 265 | | | 200 | 250 | 210 | 210 |
| 28 | 1,760 | 2,640 | 1,650 | 2,200 | 1,780 | 2,070 | 130 | 133 | -- | -- | 136 | 4,750 | 50 | 153 | 232 | 198 | 116 | | | | 102 | 245 | 245 | 245 |
| 29 | 2,460 | 2,600 | 1,650 | -- | -- | -- | -- | -- | -- | -- | 82 | 4,750 | 57 | 167 | 220 | 340 | 186 | | | | 188 | 212 | 170 | 245 |
| 30 | 2,460 | 2,700 | -- | -- | -- | -- | -- | -- | -- | -- | 126 | 128 | -- | -- | 365 | 400 | -- | | | | -- | 122 | 240 | -- |
| 31 | 2,550 | 2,730 | -- | -- | -- | -- | -- | -- | -- | -- | | | -- | -- | | | -- | | | | | | | -- |

PASQUOTANK RIVER BASIN--Continued

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

| Temperature °F of water, water year October 1961 to September 1962 T _{top} (T) and bottom (B) once-daily measurements at approximately 1030' | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----|----------|----|----------|----|---------|----|----------|----|-------|----|-------|----|-----|----|------|----|------|----|--------|----|-----------|----|
| Day | October | | November | | December | | January | | February | | March | | April | | May | | June | | July | | August | | September | |
| | T | B | T | B | T | B | T | B | T | B | T | B | T | B | T | B | T | B | T | B | T | B | T | B |
| 1.. | 75 | 75 | 65 | 63 | 48 | 47 | 42 | 42 | 43 | 42 | 44 | 42 | 62 | 60 | 72 | 71 | 78 | 77 | 76 | 76 | 82 | 81 | 81 | 80 |
| 2.. | 75 | 74 | 67 | 64 | 50 | 49 | 42 | 41 | -- | -- | 48 | 47 | 60 | 58 | -- | -- | 77 | 78 | 77 | 83 | 84 | 80 | 82 | |
| 3.. | 74 | 74 | 68 | 64 | 51 | 50 | 42 | 41 | -- | 47 | 47 | 57 | 56 | 72 | 72 | 77 | 78 | 73 | 74 | 81 | 80 | 82 | 80 | |
| 4.. | 68 | 70 | 65 | 63 | 50 | 49 | 44 | 45 | 44 | 45 | 47 | 60 | 58 | 74 | 72 | 78 | 77 | 74 | 74 | 83 | 82 | 80 | 82 | |
| 5.. | 72 | 71 | 69 | 65 | 51 | 50 | 44 | 42 | 46 | 45 | 48 | 48 | 58 | 59 | 73 | 72 | 79 | 78 | 76 | 75 | 84 | 80 | 82 | |
| 6.. | 70 | 72 | 69 | 64 | 50 | 49 | 48 | 49 | 45 | 43 | 46 | 46 | 61 | 59 | 74 | 73 | 80 | 79 | 75 | 76 | 84 | 80 | 78 | |
| 7.. | 71 | 71 | 55 | 64 | 50 | 49 | 48 | 48 | 42 | 41 | 44 | 45 | 62 | 61 | 74 | 72 | 78 | 78 | 78 | 76 | 87 | 86 | 77 | |
| 8.. | 70 | 69 | 63 | 62 | 47 | 46 | 44 | 44 | 42 | 42 | 42 | 41 | 62 | 61 | 76 | 74 | 80 | 78 | 78 | 78 | 83 | 80 | 77 | |
| 9.. | 72 | 72 | 61 | 60 | 47 | 46 | 46 | 48 | 42 | 43 | 43 | 41 | 64 | -- | 69 | 69 | 79 | 78 | 79 | 80 | 84 | 85 | 78 | |
| 10.. | 72 | 72 | 66 | 67 | 49 | 48 | 48 | 49 | 38 | 42 | 42 | 41 | 65 | 63 | 72 | 70 | 79 | 78 | 76 | 78 | 83 | 82 | 78 | |
| 11.. | 71 | 70 | 59 | 58 | 57 | 56 | 38 | 40 | 41 | 39 | -- | 43 | 65 | 64 | 70 | 72 | 80 | 79 | 81 | 77 | 81 | 81 | 77 | |
| 12.. | 70 | 71 | 60 | 58 | 56 | -- | 38 | 38 | 39 | 48 | 48 | 48 | 62 | 62 | 69 | 69 | 80 | 78 | 78 | 80 | 80 | 80 | 78 | |
| 13.. | 71 | 71 | 61 | 62 | 53 | 54 | 37 | 38 | 41 | 40 | 48 | 47 | 64 | 62 | 77 | 76 | 78 | 76 | 79 | 76 | 82 | 81 | | |
| 14.. | 72 | 71 | 62 | 59 | 48 | 50 | 36 | 37 | 43 | 41 | 50 | 50 | 60 | 59 | 71 | 70 | 76 | 75 | 82 | 80 | -- | 80 | | |
| 15.. | 72 | 66 | 61 | 59 | 49 | 51 | 40 | -- | 44 | 42 | 58 | 58 | 59 | 59 | 72 | 63 | 77 | 76 | 81 | 78 | 82 | 80 | | |
| 16.. | 65 | 67 | 61 | 61 | 44 | 45 | 40 | 39 | 44 | 42 | 57 | 57 | 58 | 57 | 74 | 68 | 78 | 77 | 82 | 78 | 83 | 82 | | |
| 17.. | 65 | 66 | 62 | 60 | 45 | 45 | 39 | 38 | 42 | 42 | 52 | 50 | 56 | 56 | 73 | 78 | 79 | 78 | 80 | 79 | 81 | 81 | | |
| 18.. | 66 | 68 | 58 | 57 | 49 | 48 | 39 | 38 | 46 | 46 | 50 | 48 | 59 | 58 | 74 | 71 | 79 | 78 | 81 | 80 | 80 | 82 | | |
| 19.. | 68 | 67 | 56 | 55 | 49 | 48 | 38 | 38 | 47 | 45 | 53 | 51 | 60 | 59 | 77 | 72 | 76 | 72 | 80 | 80 | 82 | 81 | | |
| 20.. | 67 | 67 | 54 | 55 | 50 | 47 | 38 | 38 | 44 | 45 | 52 | 51 | 58 | 58 | 74 | 72 | 80 | 79 | 82 | 81 | 83 | 82 | | |
| 21.. | 66 | 65 | 54 | 54 | 48 | 46 | 38 | 38 | 46 | 44 | 52 | 49 | 60 | -- | 77 | 75 | -- | 78 | 83 | 81 | 83 | 82 | | |
| 22.. | 60 | 62 | 52 | 51 | 49 | 48 | 43 | 43 | 47 | 46 | 53 | 50 | 60 | 61 | 75 | 74 | 81 | 77 | 82 | 82 | 84 | 85 | | |
| 23.. | 60 | 61 | 56 | 57 | 46 | 47 | 45 | 42 | 50 | 48 | 51 | 52 | 58 | 62 | 76 | 72 | 84 | 82 | 84 | 82 | 82 | 82 | | |
| 24.. | 62 | 61 | 56 | 57 | 46 | 46 | 42 | 41 | 52 | 53 | 54 | 50 | 60 | 61 | 78 | 77 | 81 | 80 | 81 | 80 | 82 | 82 | | |
| 25.. | 63 | 62 | 56 | 55 | 45 | 46 | 46 | 46 | 45 | 45 | 52 | 50 | 61 | 58 | 77 | 77 | 81 | 80 | 81 | 80 | 82 | 82 | | |
| 26.. | 62 | -- | 54 | 56 | 45 | 45 | 45 | 42 | 52 | 50 | 52 | 49 | 60 | -- | 77 | 75 | -- | 78 | 83 | 81 | 83 | 82 | | |
| 27.. | 60 | 61 | 54 | 53 | 46 | 45 | 48 | 46 | 56 | 55 | 49 | 50 | 66 | 66 | 78 | 77 | 86 | -- | 85 | 84 | 82 | 82 | | |
| 28.. | 60 | 60 | 49 | 51 | 44 | 46 | 47 | 45 | 59 | 57 | 54 | 53 | 71 | 66 | 76 | 75 | 79 | 78 | 80 | 79 | 78 | 79 | | |
| 29.. | 61 | 60 | 48 | -- | 44 | 44 | 44 | 44 | -- | -- | 59 | 54 | 71 | 67 | 74 | 74 | 77 | 76 | 80 | 80 | 80 | 80 | | |
| 30.. | 64 | 62 | -- | -- | 42 | 43 | 42 | 43 | -- | -- | 58 | 54 | 72 | 70 | 78 | 76 | 75 | 74 | 81 | 80 | 80 | 79 | | |
| 31.. | 64 | 62 | -- | -- | 43 | 44 | 45 | 44 | -- | -- | 59 | 57 | -- | -- | 79 | 77 | -- | -- | 82 | 80 | 84 | 82 | | |
| Aver. | 67 | 67 | 60 | 59 | 48 | 48 | 43 | 42 | 46 | 45 | 51 | 49 | 62 | 61 | 74 | 73 | 79 | 78 | 80 | 79 | 82 | 81 | 75 | |

Temperature °F of water, water year October 1961 to September 1962
/Top (T) and bottom (B) once-daily measurements at approximately 10307

CHOWAN RIVER BASIN

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

LOCATION.--At bridge, draw section on U.S. Highway 158 and State Highway 97, at Winton, Hertford County, and 2.7 miles downstream from Meherrin River.
 DRAWING AVAILABLE.--Square miles of drainage area: 1954 to September 1962.
 RECORDS AVAILABLE.--Chemical analyses: October 1954 to September 1962.

Water temperatures: October 1954 to September 1962.
 EXTREMES, 1961-62.--Chloride: Maximum, 44 ppm Oct. 1-9; minimum, 5.0 ppm Jan. 7-21.

Specific conductance: Maximum daily, 360 micromhos Oct. 7, 8; minimum daily, 42 micromhos Jan. 10, 11, 13.
 Water temperatures: Maximum, 77°F Aug. 6; minimum, 38°F Jan. 28.

EXTREMES, 1954-62.--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, freezing point Feb. 12, 1960.

REMARKS.--Records of specific conductance of daily samples from October 1954 to September 1962 and records of suspended matter of composite samples from October 1954 to September 1955 available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-9, 1961..... | 14 | 0.32 | 8.4 | 2.3 | 46 | 2.0 | 74 | 11 | 44 | 0.5 | 7.7 | 188 | 30 | 0 | 289 | 7.1 | 180 | |
| Oct. 10-23..... | 11 | .30 | 7.5 | 1.5 | 12 | 2.3 | 30 | 14 | 12 | 2.2 | 1.2 | 95 | 25 | 0 | 120 | 7.1 | 90 | |
| Oct. 24..... | -- | -- | 9.5 | 1.7 | -- | -- | 38 | -- | 21 | -- | -- | -- | 30 | 0 | 187 | 7.4 | -- | |
| Oct. 25-31..... | 8.0 | .48 | 5.8 | 1.8 | 7.2 | 2.1 | 18 | 10 | 8.5 | .2 | 1.7 | 79 | 22 | 6 | 88 | 6.2 | 100 | |
| Nov. 1..... | -- | -- | 6.6 | .9 | -- | -- | 18 | -- | 9.5 | -- | -- | -- | 20 | 5 | 83 | 7.3 | -- | |
| Nov. 2-30..... | 12 | .42 | 6.7 | 2.0 | 16 | 2.3 | 34 | 10 | 18 | .3 | .7 | 107 | 24 | 0 | 131 | 7.1 | 130 | |
| Dec. 1-18..... | 14 | .34 | 5.3 | 2.1 | 13 | 2.2 | 28 | 12 | 14 | .3 | .5 | 91 | 22 | 0 | 123 | 7.0 | 120 | |
| Dec. 19-27..... | 10 | .23 | 4.2 | 1.3 | 4.7 | 1.7 | 12 | 8.8 | 6.0 | .2 | 1.2 | 61 | 16 | 6 | 62 | 6.7 | 110 | |
| Dec. 28-31..... | 11 | .22 | 4.8 | 1.3 | 11 | 1.5 | 22 | 10 | 8.5 | .2 | .6 | 80 | 17 | 0 | 100 | 7.1 | 130 | |
| Jan. 1-6, 1962..... | 11 | .13 | 5.0 | 1.5 | 6.8 | 1.4 | 15 | 12 | 9.0 | .1 | .2 | 58 | 18 | 6 | 79 | 6.7 | 60 | |
| Jan. 7-31..... | 8.4 | .18 | 3.7 | 1.0 | 3.9 | 1.4 | 11 | 8.6 | 5.0 | .1 | .4 | 43 | 13 | 4 | 52 | 6.2 | 75 | |
| Jan. 22-31..... | 8.5 | .12 | 5.4 | 1.3 | 5.7 | 2.0 | 20 | 9.2 | 6.5 | .1 | .0 | 68 | 18 | 2 | 75 | 6.3 | 120 | |
| Feb. 1-25..... | 9.3 | .13 | 4.2 | 2.4 | 5.6 | 1.3 | 15 | 7.8 | 6.5 | .0 | .6 | 52 | 20 | 8 | 68 | 6.8 | 80 | |
| Feb. 26-28..... | 5.3 | .08 | 9.0 | 2.7 | 10 | 2.0 | 26 | 13 | 10 | .2 | 2.0 | 87 | 22 | 0 | 102 | 7.0 | -- | |
| Mar. 1-31..... | 5.4 | .10 | 3.6 | 2.6 | 4.1 | 1.1 | 16 | 3.2 | 7.0 | .1 | 1.3 | 59 | 20 | 6 | 62 | 7.1 | 85 | |
| Apr. 1-3..... | -- | -- | 5.5 | 1.7 | 6.2 | 1.1 | 15 | 6.6 | 6.0 | .1 | .7 | 83 | 16 | 4 | 64 | 6.6 | 65 | |
| Apr. 4..... | -- | -- | 5.5 | 1.4 | -- | -- | 16 | -- | 13 | -- | -- | -- | 19 | 6 | 96 | 7.1 | -- | |
| Apr. 5-30..... | 7.0 | .16 | 4.8 | 1.3 | 5.3 | 1.2 | 19 | 5.2 | 6.0 | .1 | 1.1 | 55 | 17 | 2 | 66 | 7.1 | 65 | |
| May 1-18..... | 9.5 | .38 | 5.4 | 1.9 | 5.5 | 1.6 | 26 | 4.4 | 6.5 | .1 | 1.6 | 67 | 22 | 0 | 75 | 6.6 | 90 | |
| May 19..... | -- | -- | 6.4 | 2.0 | -- | -- | 25 | -- | 12 | -- | -- | -- | 24 | 4 | 130 | 6.7 | -- | |
| May 20-31..... | 12 | .32 | 5.6 | 1.8 | 5.8 | 1.5 | 30 | 5.2 | 5.3 | .1 | .6 | 60 | 21 | 0 | 78 | 6.8 | 70 | |
| June 1-30..... | 9.2 | .12 | 5.5 | 1.3 | 8.8 | 1.9 | 23 | 8.2 | 7.0 | .1 | 1.1 | 76 | 19 | 0 | 80 | 5.9 | 75 | |
| July 1-31..... | 9.9 | .26 | 5.1 | 1.2 | 7.7 | 1.4 | 26 | 4.0 | 8.5 | .2 | 3.5 | 75 | 18 | 0 | 86 | 6.5 | 100 | |
| Aug. 1-31..... | 13 | .24 | 6.4 | 1.9 | 12 | 2.0 | 33 | 5.6 | 12 | .2 | .9 | 79 | 24 | 0 | 108 | 6.9 | 85 | |
| Sept. 1-30..... | 15 | .11 | 6.0 | 2.3 | 14 | 2.0 | 39 | 5.6 | 12 | .2 | .9 | 89 | 24 | 0 | 110 | 7.3 | 65 | |
| Time-weighted average..... | | | | | | | | | | | | | | | | | | |
| 10 | 0.22 | 5.4 | 1.8 | 9.7 | 1.7 | 26 | 7.3 | 10 | 0.2 | 1.2 | 76 | 21 | 2 | 94 | -- | 90 | -- | |

a Calculated from determined constituents.

QUALITY OF SURFACE WATERS, 1962

CHOWAN RIVER BASIN--Continued

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

Temperature °F of water, November 1961 to September 1962

(Once-daily measurement between 0800 and 0900)

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

CHOWAN RIVER BASIN--Continued

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

LOCATION.--At bridge, draw section on U.S. Highway 17, 0.8 mile northeast of Edenhouse, Bertie County.

DRAINAGE AREA.--4,871 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1962.

Water temperatures: October 1957 to September 1962.

EXTREMES, 1961-62.--Chloride: Maximum, 2,440 ppm Dec. 2 (B); minimum, 6.5 ppm on many days in January and March.

Specific conductance: Maximum daily, 7,600 micromhos Dec. 2 (B); minimum daily, 50 micromhos Jan. 22, 23, (B).

Water temperatures: Maximum, 87°F Sept. 3 (B); minimum, 38°F Jan. 10-15 (T).

EXTREMES, 1957-62.--Chloride: Maximum, 9,140 ppm Nov. 11 (B), 1958; minimum, 3.0 ppm June 1-30, 1961.

Specific conductance: Maximum daily, 23,500 micromhos Nov. 11 (B), 1958; minimum daily, 43 micromhos Sept. 22 (B), 1960.

REMARKS.--Top (T) and bottom (B) samples were collected once daily between point Jan. 24, 25, 1961.

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 complete chemical analyses. Records of specific conductance of daily samples available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|-----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-6, 1961..... | | 5.5 | 0.05 | 5.5 | 4.1 | 24 | 2.4 | 24 | 10 | 37 | 0.2 | 1.2 | a102 | 31 | 12 | 195 | 7.0 | 35 |
| Oct. 7-10, 1961..... | | 4.3 | 0.02 | 4.8 | 2.9 | 15 | 2.0 | 24 | 7.8 | 21 | .2 | .9 | a71 | 24 | 4 | 130 | 7.0 | 45 |
| Oct. 11-13, 1961..... | | 5.8 | 0.03 | 5.3 | 4.5 | 28 | 2.5 | 25 | 10 | 41 | .1 | 1.4 | a111 | 32 | 11 | 210 | 7.0 | 35 |
| Oct. 14, 1961..... | | -- | -- | 5.6 | 1.8 | -- | -- | 23 | -- | 17 | -- | -- | -- | 22 | 2 | 112 | 6.5 | -- |
| Oct. 15-24, 1961..... | | 4.9 | 0.04 | 5.8 | 4.9 | 31 | 2.8 | 26 | 12 | 51 | .1 | 1.4 | 142 | 34 | 13 | 245 | 7.0 | 40 |
| Oct. 25-26, 1961..... | | 5.5 | .01 | 9.2 | 12 | 88 | 4.0 | 28 | 26 | 148 | .1 | 1.4 | a308 | 73 | 50 | 655 | 7.1 | 30 |
| Oct. 27(T)..... | | -- | -- | 6.1 | 5.8 | -- | -- | 26 | -- | 68 | -- | -- | -- | 39 | 18 | 309 | 7.4 | -- |
| Oct. 27(B)..... | | -- | -- | 7.3 | 9.5 | -- | -- | 30 | -- | 120 | -- | -- | -- | 99 | 34 | 498 | 7.4 | -- |
| Oct. 28(T)..... | | -- | -- | 6.1 | 3.8 | -- | -- | 28 | -- | 41 | -- | -- | -- | 31 | 8 | 210 | 7.3 | -- |
| Oct. 28(B)..... | | -- | -- | 8.3 | 9.9 | -- | -- | 28 | -- | 129 | -- | -- | -- | 62 | 38 | 525 | 7.3 | -- |
| Oct. 29-31, 1961..... | | 3.5 | .02 | 5.1 | 9.4 | 22 | 2.4 | 27 | 9.4 | 32 | .2 | 1.4 | a93 | 28 | 6 | 178 | 6.7 | 40 |
| Jan. 1-5, 1962..... | | 10 | .10 | 9.1 | 9.6 | 78 | 4.8 | 21 | 27 | 141 | .2 | 1.9 | a292 | 62 | 46 | 561 | 6.2 | 110 |
| Jan. 6, 1962..... | | -- | .13 | 6.9 | 2.9 | -- | -- | 16 | 18 | 69 | .1 | 2.1 | -- | 29 | 16 | 317 | 6.5 | -- |
| Jan. 7-12, 1962..... | | 10 | .13 | 5.5 | 3.0 | 23 | 2.4 | 15 | 13 | 38 | .1 | .2 | 115 | 26 | 14 | 190 | 6.4 | 90 |
| Jan. 13-15, 1962..... | | 8.8 | .16 | 4.2 | 1.3 | 7.2 | 1.8 | 13 | 10 | 10 | .1 | .2 | a50 | 16 | 5 | 78 | 6.6 | 100 |
| Jan. 16-31, 1962..... | | 7.4 | .18 | 3.9 | .9 | 4.4 | 1.6 | 9 | 8.6 | 6.5 | .0 | .9 | 48 | 14 | 8 | 58 | 6.2 | 80 |
| Feb. 1-25, 1962..... | | 8.5 | .17 | 4.2 | 1.5 | 6.1 | 1.5 | 12 | 7.8 | 8.5 | .0 | 1.2 | 54 | 16 | 6 | 72 | 6.5 | 90 |
| Feb. 26, 1962..... | | 9.5 | .16 | 6.2 | 2.1 | 16 | 4.3 | 31 | 9.6 | 20 | .1 | 2.1 | a95 | 24 | 0 | 145 | 7.1 | -- |

a Calculated from determined constituents.

CHOWAN RIVER BASIN--Continued

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

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Mean discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color | |
|--------------------------------------------|----------------------|----------------------------|-----------|----------------------|-----------------------------|----------------|----------------------------|-----------------------------------------|-------------------------------|------------------|----------------------|------------------------------------|------------------------------------|-----------------------------------|-------------------------------------------------------------|-----|-------|-----|
| | | | | | | | | | | | | | Dissolved (residue at 180°C) | Calcium Non- carbon- ate | | | | |
| Feb. 27-28, 1962..... | | 9.1 | 0.12 | 4.8 | 1.3 | 6.5 | 1.4 | 16 | 8.2 | 8.5 | 0.1 | 2.2 | a50 | 17 | 4 | 72 | 6.8 | 90 |
| Mar. 1-31..... | | 6.6 | .13 | 4.5 | 1.5 | 5.4 | 1.6 | 14 | 8.8 | 6.5 | -- | 1.4 | 60 | 17 | 6 | 67 | 6.6 | 70 |
| Apr. 2..... | | -- | -- | 5.5 | 1.6 | -- | -- | 13 | -- | 9.0 | -- | -- | -- | 20 | 10 | 61 | 7.0 | -- |
| Apr. 3, 4(T)..... | | 6.2 | .01 | 4.2 | 1.9 | 10 | 1.2 | 14 | 9.4 | 15 | 1.1 | .5 | a56 | 18 | 7 | 102 | 7.0 | 35 |
| Apr. 9-10, 11(T).... | | 5.2 | .04 | 4.4 | 1.9 | 13 | 1.7 | 16 | 7.8 | 18 | 1.1 | .7 | a61 | 19 | 6 | 112 | 7.0 | 55 |
| Apr. 12..... | | 5.0 | .19 | 3.8 | 1.7 | 11 | 2.0 | 17 | 9.2 | 15 | 1.1 | 1.2 | a57 | 16 | 2 | 100 | 6.6 | 65 |
| Apr. 13-14..... | | 5.3 | .07 | 5.7 | 3.9 | 25 | 1.7 | 18 | 12 | 43 | .1 | .7 | a106 | 30 | 15 | 210 | 6.7 | 40 |
| Apr. 15, 16(T)..... | | 4.3 | .12 | 4.5 | 1.6 | 8.4 | 1.4 | 18 | 7.4 | 10 | 1.1 | 1.0 | a48 | 18 | 2 | 86 | 6.8 | 85 |
| Apr. 16(B), 17-29.... | | 5.7 | .17 | 4.2 | 2.1 | 5.3 | 1.2 | 16 | 5.6 | 8.9 | 1.1 | 1.2 | 59 | 20 | 6 | 68 | 7.0 | 100 |
| Apr. 30..... | | 6.6 | .08 | 4.8 | 1.8 | 10 | 1.7 | 18 | 7.2 | 13 | 0 | .8 | a35 | 20 | 4 | 100 | 6.7 | 70 |
| May 1-31..... | | 4.3 | .16 | 4.7 | 1.7 | 8.4 | 1.6 | 20 | 6.6 | 11 | 1.1 | 1.5 | 66 | 19 | 2 | 87 | 6.5 | 70 |
| June 1-30..... | | 4.2 | .20 | 4.3 | 1.9 | 8.5 | 1.7 | 21 | 6.0 | 9.3 | 1.1 | 1.1 | 61 | 19 | 2 | 78 | 7.0 | 80 |
| July 1-31..... | | 6.7 | .11 | 3.8 | 2.7 | 6.2 | 1.4 | 20 | 2.2 | 7.5 | 0 | 3.7 | 60 | 20 | 4 | 72 | 6.3 | 60 |
| Aug. 1-22..... | | 7.1 | .16 | 4.2 | 1.7 | 7.0 | 1.8 | 18 | 6.3 | 7.4 | 1.1 | 1.1 | 57 | 18 | 2 | 73 | 6.7 | 90 |
| Aug. 23-31..... | | 7.3 | .23 | 6.1 | 1.7 | 11 | 1.7 | 25 | 8.2 | 13 | 1.1 | 2.1 | 66 | 22 | 2 | 105 | 6.7 | 60 |
| Sept. 1-15..... | | 7.8 | .11 | 4.3 | 2.6 | 12 | 2.0 | 23 | 8.4 | 15 | 1.2 | 1.6 | 80 | 22 | 3 | 105 | 6.7 | 65 |
| Sept. 16-30..... | | 7.3 | .32 | 5.5 | 2.0 | 11 | 1.8 | 24 | 7.8 | 14 | 1.1 | 1.4 | 81 | 22 | 2 | 105 | 6.9 | 55 |
| Time-weighted average..... | | 6.4 | 0.15 | 4.7 | 2.3 | 11 | 1.8 | 19 | 7.8 | 17 | 0.1 | 1.5 | 73 | 21 | 6 | 101 | -- | 95 |
| a Calculated from determined constituents. | | | | | | | | | | | | | | | | | | |

CHOWAN RIVER BASIN--Continued

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

Temperature °F of water, water year October 1961 to September 1962
Top (T) and bottom (B) once-daily measurements between 1100 and 1500

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

ROANOKE RIVER BASIN

2-660. ROANOKE (STAUNTON) RIVER AT RANDOLPH, VA.

LOCATION.--At gaging station at bridge on State Highway 746, 2.8 miles northwest of Randolph, Charlotte County, and 3.6 miles upstream from Roanoke Creek.

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 1962.

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 1962.

Suspended sediment, water year October 1961 to September 1962

| 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.. | 990 | -- | -- | 1290 | -- | -- | 1880 | -- | -- |
| 2.. | 990 | -- | -- | 1290 | -- | -- | 1770 | -- | -- |
| 3.. | 990 | -- | -- | 1290 | -- | -- | 1700 | -- | -- |
| 4.. | 1050 | -- | -- | 1260 | -- | -- | 1630 | -- | -- |
| 5.. | 1140 | -- | -- | 1290 | -- | -- | 1600 | 35 | 151 |
| 6.. | 1290 | 44 | 153 | 1320 | -- | -- | 1560 | -- | -- |
| 7.. | 1230 | -- | -- | 2470 | -- | -- | 1560 | -- | -- |
| 8.. | 1140 | -- | -- | 5700 | -- | -- | 1500 | -- | -- |
| 9.. | 1080 | -- | -- | 3400 | 380 | 3490 | 1470 | -- | -- |
| 10.. | 1050 | -- | -- | 2310 | -- | -- | 1700 | -- | -- |
| 11.. | 1020 | -- | -- | 1800 | -- | -- | 5240 | -- | -- |
| 12.. | 990 | -- | -- | 1630 | -- | -- | 13100 | 593 | S 23700 |
| 13.. | 990 | 28 | 75 | 1600 | -- | -- | 26800 | 606 | S 43100 |
| 14.. | 990 | -- | -- | 1530 | -- | -- | 21900 | -- | -- |
| 15.. | 990 | -- | -- | 1530 | -- | -- | 7440 | -- | -- |
| 16.. | 960 | -- | -- | 1600 | -- | -- | 4900 | -- | -- |
| 17.. | 935 | -- | -- | 1800 | -- | -- | 5300 | -- | -- |
| 18.. | 910 | -- | -- | 1910 | -- | -- | 9140 | 191 | S 5530 |
| 19.. | 910 | -- | -- | 1910 | -- | -- | 17900 | 482 | S 23500 |
| 20.. | 990 | 34 | 91 | 1800 | -- | -- | 15200 | -- | -- |
| 21.. | 2270 | -- | -- | 1770 | 30 | 143 | 7500 | -- | -- |
| 22.. | 8060 | -- | -- | 1700 | -- | -- | 5400 | -- | -- |
| 23.. | 5000 | -- | -- | 1600 | -- | -- | 4500 | -- | -- |
| 24.. | 2920 | -- | -- | 1770 | -- | -- | 4300 | -- | -- |
| *25.. | 1910 | -- | -- | 5020 | -- | -- | 4200 | -- | -- |
| 26.. | 1660 | -- | -- | 5500 | -- | -- | 3600 | -- | -- |
| 27.. | 1500 | -- | -- | 3500 | -- | -- | 3100 | -- | -- |
| 28.. | 1410 | -- | -- | 2740 | -- | -- | 3010 | -- | -- |
| 29.. | 1350 | 26 | 95 | 2310 | -- | -- | 3200 | -- | -- |
| 30.. | 1320 | -- | -- | 2070 | -- | -- | 3010 | -- | -- |
| 31.. | 1290 | -- | -- | -- | -- | -- | 2560 | -- | -- |
| Total | 49325 | -- | 414 | 66710 | -- | 3633 | 187670 | -- | 95981 |

S Computed by subdividing day.

QUALITY OF SURFACE WATERS, 1962

ROANOKE RIVER BASIN--Continued

2-660. ROANOKE (STAUNTON) RIVER AT RANDOLPH, VA.--Continued

Suspended sediment, water year October 1961 to September 1962--Continued

| Day | JANUARY | | | FEBRUARY | | | MARCH | | |
|-------|-----------------------|--------------------------|--------------|-----------------------|--------------------------|--------------|-----------------------|--------------------------|--------------|
| | Mean dis-charge (cfs) | Mean concentration (ppm) | Tons per day | Mean dis-charge (cfs) | Mean concentration (ppm) | Tons per day | Mean dis-charge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 2470 | -- | -- | 6150 | -- | -- | 6420 | 150 | 2600 |
| 2.. | 2560 | -- | -- | 5100 | -- | -- | 6780 | -- | -- |
| 3.. | 2650 | -- | -- | 4400 | -- | -- | 5880 | -- | -- |
| 4.. | 2560 | -- | -- | 4300 | -- | -- | 5100 | -- | -- |
| 5.. | 2740 | 30 | 222 | 4300 | -- | -- | 4700 | -- | -- |
| 6.. | 5080 | -- | -- | 4000 | 45 | 486 | 4700 | -- | -- |
| 7.. | 17100 | -- | -- | 3500 | -- | -- | 4800 | -- | -- |
| 8.. | 17000 | 368 | S 17500 | 3100 | -- | -- | 5100 | -- | -- |
| 9.. | 8500 | -- | -- | 3100 | -- | -- | 5790 | -- | -- |
| 10.. | 5700 | -- | -- | 4300 | -- | -- | 6060 | -- | -- |
| 11.. | 4500 | -- | -- | 4800 | -- | -- | 6600 | 95 | 1690 |
| 12.. | 3700 | -- | -- | 4300 | -- | -- | 14200 | 459 | S 19700 |
| 13.. | 3200 | -- | -- | 3800 | -- | -- | 27800 | 608 | S 45500 |
| 14.. | 3010 | -- | -- | 3600 | -- | -- | 27200 | 374 | S 29400 |
| 15.. | 3200 | -- | -- | 3400 | -- | -- | 12100 | -- | -- |
| 16.. | 4500 | -- | -- | 3200 | -- | -- | 7320 | -- | -- |
| 17.. | 4500 | -- | -- | 3800 | 45 | 462 | 6150 | -- | -- |
| 18.. | 3800 | -- | -- | 3700 | -- | -- | 5500 | -- | -- |
| 19.. | 3200 | -- | -- | 5630 | -- | -- | 4900 | -- | -- |
| 20.. | 3010 | -- | -- | 5970 | -- | -- | 4600 | -- | -- |
| 21.. | 2920 | -- | -- | 4800 | -- | -- | 5300 | -- | -- |
| 22.. | 2830 | -- | -- | 4200 | -- | -- | 9300 | -- | -- |
| 23.. | 3100 | -- | -- | 5200 | -- | -- | 9600 | -- | -- |
| 24.. | 3300 | 45 | 401 | 7140 | -- | -- | 7500 | -- | -- |
| 25.. | 3100 | -- | -- | 8300 | -- | -- | 6240 | -- | -- |
| 26.. | 2920 | -- | -- | 8220 | -- | -- | 5400 | -- | -- |
| 27.. | 2920 | -- | -- | 7230 | -- | -- | 4900 | -- | -- |
| 28.. | 3400 | -- | -- | 6420 | -- | -- | 4500 | -- | -- |
| 29.. | 3900 | -- | -- | -- | -- | -- | 4100 | 70 | 775 |
| 30.. | 4100 | -- | -- | -- | -- | -- | 3900 | -- | -- |
| 31.. | 5300 | -- | -- | -- | -- | -- | 3800 | -- | -- |
| Total | 140770 | -- | 18123 | 135960 | -- | 948 | 236240 | -- | 99665 |
| | | | | | | | | | |
| Day | APRIL | | | MAY | | | JUNE | | |
| | Mean dis-charge (cfs) | Mean concentration (ppm) | Tons per day | Mean dis-charge (cfs) | Mean concentration (ppm) | Tons per day | Mean dis-charge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 4900 | 120 | 1590 | 2920 | -- | -- | 2230 | -- | -- |
| 2.. | 7050 | -- | -- | 3100 | -- | -- | 2230 | -- | -- |
| 3.. | 7230 | -- | -- | 4100 | -- | -- | 2070 | -- | -- |
| 4.. | 5700 | -- | -- | 3300 | -- | -- | 1990 | -- | -- |
| 5.. | 4900 | -- | -- | 2830 | 135 | 1030 | 1990 | -- | -- |
| 6.. | 4400 | -- | -- | 2650 | -- | -- | 3680 | -- | -- |
| 7.. | 4500 | -- | -- | 2560 | -- | -- | 3800 | -- | -- |
| 8.. | 9070 | -- | -- | 2470 | -- | -- | 2310 | 410 | 2560 |
| 9.. | 18200 | -- | -- | 2390 | -- | -- | 2070 | -- | -- |
| 10.. | 11100 | -- | -- | 2390 | -- | -- | 1950 | -- | -- |
| 11.. | 7580 | -- | -- | 2470 | -- | -- | 1800 | -- | -- |
| 12.. | 7050 | -- | -- | 2560 | -- | -- | 1740 | -- | -- |
| 13.. | 7500 | -- | -- | 2560 | -- | -- | 10300 | 666 | S 26600 |
| 14.. | 6870 | 120 | 2230 | 2560 | -- | -- | 19000 | 662 | S 34400 |
| 15.. | 6060 | -- | -- | 2470 | -- | -- | 16700 | 1210 | S 55900 |
| 16.. | 5400 | -- | -- | 2390 | -- | -- | 6200 | -- | -- |
| 17.. | 4900 | -- | -- | 2310 | 50 | 312 | 3600 | -- | -- |
| 18.. | 4500 | -- | -- | 2310 | -- | -- | 2830 | -- | -- |
| 19.. | 4300 | -- | -- | 2390 | -- | -- | 2470 | -- | -- |
| 20.. | 4100 | -- | -- | 2150 | -- | -- | 3800 | -- | -- |
| 21.. | 3900 | -- | -- | 2070 | -- | -- | 5400 | -- | -- |
| 22.. | 3700 | -- | -- | 2070 | -- | -- | 3100 | -- | -- |
| 23.. | 3500 | 55 | 520 | 1990 | -- | -- | 2560 | -- | -- |
| 24.. | 3400 | -- | -- | 1990 | -- | -- | 2560 | -- | -- |
| 25.. | 3300 | -- | -- | 2230 | -- | -- | 3400 | -- | -- |
| 26.. | 3200 | -- | -- | 2070 | -- | -- | 3300 | -- | -- |
| 27.. | 3100 | -- | -- | 2950 | -- | -- | 3900 | 399 | S 4360 |
| 28.. | 3010 | -- | -- | 4200 | -- | -- | 5300 | -- | -- |
| 29.. | 2920 | -- | -- | 3010 | -- | -- | 3500 | -- | -- |
| 30.. | 3010 | -- | -- | 2560 | 190 | 1310 | 2560 | -- | -- |
| 31.. | -- | -- | -- | 2390 | -- | -- | -- | -- | -- |
| Total | 168350 | -- | 4340 | 80410 | -- | 2652 | 128340 | -- | 123820 |

S Computed by subdividing day.

ROANOKE RIVER BASIN--Continued

2-660. ROANOKE (STAUNTON) RIVER AT RANDOLPH, VA.--Continued

Suspended sediment, water year October 1961 to September 1962--Continued

| Day | Mean discharge (cfs) | JULY Suspended sediment | | Mean discharge (cfs) | AUGUST Suspended sediment | | Mean discharge (cfs) | SEPTEMBER Suspended sediment | |
|-------|----------------------|----------------------------|--------------|----------------------|------------------------------|--------------|----------------------|---------------------------------|--------------|
| | | Mean concentration (ppm) | Tons per day | | Mean concentration (ppm) | Tons per day | | Mean concentration (ppm) | Tons per day |
| 1.. | 2230 | -- | -- | 3010 | -- | -- | 1080 | -- | -- |
| 2.. | 2310 | -- | -- | 2560 | -- | -- | 1050 | -- | -- |
| 3.. | 2390 | -- | -- | 2070 | -- | -- | 1050 | -- | -- |
| 4.. | 5110 | -- | -- | 1990 | 215 | 1160 | 1050 | -- | -- |
| 5.. | 5600 | -- | -- | 2070 | -- | -- | 1260 | -- | -- |
| 6.. | 4000 | 250 | 2700 | 2230 | -- | -- | 1470 | -- | -- |
| 7.. | 2830 | -- | -- | 2230 | -- | -- | 1440 | -- | -- |
| 8.. | 2390 | -- | -- | 1950 | -- | -- | 1290 | -- | -- |
| 9.. | 2230 | -- | -- | 2800 | -- | -- | 1200 | -- | -- |
| 10.. | 2150 | -- | -- | 2830 | -- | -- | 1170 | -- | -- |
| 11.. | 1990 | -- | -- | 1880 | -- | -- | 1170 | 30 | 95 |
| 12.. | 1840 | -- | -- | 1560 | -- | -- | 1230 | -- | -- |
| 13.. | 1700 | -- | -- | 1440 | -- | -- | 1230 | -- | -- |
| 14.. | 1660 | -- | -- | 1410 | -- | -- | 1140 | -- | -- |
| 15.. | 1700 | -- | -- | 1470 | -- | -- | 1080 | -- | -- |
| 16.. | 1660 | -- | -- | 1660 | -- | -- | 1050 | -- | -- |
| 17.. | 1740 | -- | -- | 1530 | -- | -- | 1230 | -- | -- |
| 18.. | 1740 | -- | -- | 1470 | 70 | 278 | 2140 | -- | -- |
| 19.. | 1660 | -- | -- | 1530 | -- | -- | 2560 | -- | -- |
| 20.. | 1660 | -- | -- | 1440 | -- | -- | 1770 | -- | -- |
| 21.. | 1500 | -- | -- | 1350 | -- | -- | 1410 | -- | -- |
| 22.. | 1600 | -- | -- | 1560 | -- | -- | 1320 | -- | -- |
| 23.. | 1630 | -- | -- | 2560 | -- | -- | 1230 | 50 | 166 |
| 24.. | 1700 | -- | -- | 1890 | -- | -- | 1200 | -- | -- |
| 25.. | 1770 | 75 | 358 | 1410 | 240 | 914 | 1200 | -- | -- |
| 26.. | 1840 | -- | -- | 1320 | -- | -- | 1200 | -- | -- |
| 27.. | 1840 | -- | -- | 1290 | -- | -- | 1560 | -- | -- |
| 28.. | 1660 | -- | -- | 1260 | -- | -- | 1880 | -- | -- |
| 29.. | 1560 | -- | -- | 1230 | -- | -- | 1770 | -- | -- |
| 30.. | 2070 | -- | -- | 1200 | -- | -- | 1500 | -- | -- |
| 31.. | 2650 | -- | -- | 1140 | -- | -- | -- | -- | -- |
| Total | 68410 | -- | 3058 | 55340 | -- | 2352 | 40930 | -- | 261 |

Total discharge for year (cfs-days).....1358455

Total measured load for year (tons).....355247

Estimated load for days not sampled (tons).....545343

Estimated load for year (tons).....900590

ROANOKE RIVER BASIN--Continued
2-660. ROANOKE (STAUNTON) RIVER AT RANDOLPH, VA.--Continued

Particle-size analyses of suspended sediment, water year October 1961 to September 1962
(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) | Water temp- per- ature point (°F) | Discharge (cfs) | Sediment concentra- tion (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 | |
| Jan. 9, 1962..... | 1445 | | 15,900 | 226 | | 30 | 37 | 54 | 64 | 75 | 81 | 86 | 93 | 99 | 100 SBWC | |

ROANOKE RIVER BASIN--Continued

2-715. DAN RIVER AT LEAKSVILLE, N. C.

LOCATION.--At gaging station, 0.5 mile below bridge on State Highway 87 at Leaksville, Rockingham County, and 0.5 mile above Smith River.

RECORDS AVAILABLE.--150 square miles. November 1944 to October 1945, October 1954 to September 1955, October 1961 to September 1962.

Water temperatures.--Normal 1944 to October 1945, October 1961 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 58 ppm Nov. 1-30; minimum, 41 ppm Feb. 16-28.

Hardness: Maximum, 26 ppm June 14; minimum, 14 ppm Feb. 16-28; Mar. 1-31, June 1-13, 15-30.

Specific conductance: Maximum daily, 168 micromhos June 14; minimum daily, 37 micromhos Aug. 4.

Water temperatures: Maximum, 80°F July 22; minimum, 33°F Jan. 1.

EXTREMES, 1944-45, 1954-55, 1961-62.--Dissolved solids: Maximum, 58 ppm Nov. 1-30, 1961; minimum, 35 ppm Sept. 13-20, 1945.

Hardness: Maximum, 26 ppm June 14, 1962; minimum, 12 ppm on many days in 1945.

Specific conductance (1961-62): Maximum daily, 168 micromhos June 14, 1962; minimum daily, 37 micromhos Aug. 4, 1962.

Water temperatures: Maximum, 87°F July 1, 1945; minimum, freezing point on several days in December 1944 and February 1945.

REMARKS.--Records of specific conductance of daily samples from October 1961 to September 1962 available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-31, 1961..... | | 18 | 0.05 | 5.1 | 2.2 | 4.4 | 1.8 | 30 | 2.2 | 2.8 | 0.0 | 0.9 | 57 | 22 | 0 | 61 | 6.8 | 10 |
| Nov. 1-30..... | | 18 | .14 | 4.6 | 1.7 | 4.1 | 1.9 | 28 | 2.0 | 2.8 | .2 | .8 | 58 | 18 | 0 | 63 | 7.4 | 25 |
| Dec. 1-31..... | | 15 | .00 | 3.9 | 1.8 | 4.6 | 1.5 | 22 | 3.4 | 4.5 | .1 | .8 | 51 | 18 | 0 | 63 | 6.8 | 10 |
| Jan. 1-8, 1962..... | | 13 | .00 | 3.5 | 1.6 | 3.3 | 1.3 | 21 | 3.0 | 3.0 | .1 | .7 | 43 | 16 | 0 | 49 | 6.4 | 8 |
| Jan. 9..... | | -- | -- | 5.3 | 1.8 | -- | -- | 24 | -- | 16 | -- | -- | -- | 20 | 1 | 103 | 7.4 | -- |
| Jan. 10-31..... | | 15 | .01 | 4.0 | 1.4 | 3.7 | 1.3 | 20 | 1.2 | 3.2 | .1 | .9 | 44 | 16 | 0 | 51 | 6.4 | 2 |
| Feb. 1-14..... | | 15 | .04 | 4.0 | 1.6 | 3.7 | 1.3 | 21 | 2.8 | 3.5 | .2 | 1.4 | 47 | 16 | 0 | 53 | 7.0 | 2 |
| Feb. 15-28..... | | 12 | .04 | 3.7 | 1.5 | 3.0 | 1.4 | 26 | 4.6 | 16 | -- | -- | 41 | 21 | 0 | 96 | 7.5 | -- |
| Mar. 1-31..... | | 14 | .01 | 3.3 | 1.5 | 3.0 | 1.3 | 18 | 3.6 | 2.6 | .1 | .7 | 42 | 14 | 0 | 48 | 7.2 | 0 |
| Apr. 1-16..... | | 12 | .01 | 4.2 | 1.3 | 3.8 | 1.1 | 19 | 4.2 | 3.0 | .1 | 1.2 | 46 | 16 | 0 | 50 | 7.0 | 7 |
| Apr. 17..... | | -- | -- | 6.4 | 1.0 | -- | -- | 21 | -- | 14 | -- | -- | -- | 20 | 3 | 85 | 7.2 | -- |
| Apr. 18-30..... | | 14 | .03 | 4.4 | 1.0 | 3.6 | 1.0 | 23 | 2.8 | 2.5 | .0 | .7 | 42 | 15 | 0 | 52 | 7.3 | 5 |
| May 1-3..... | | 15 | .02 | 4.6 | 1.0 | 4.2 | 1.1 | 24 | 3.2 | 2.0 | .1 | 1.1 | a45 | 19 | 0 | 55 | 6.5 | 12 |
| May 4..... | | -- | -- | -- | 1.0 | -- | -- | 30 | -- | 14 | -- | -- | -- | 20 | 0 | 95 | 7.4 | -- |
| May 5-18..... | | 15 | .05 | 4.8 | 1.4 | 4.1 | 1.1 | 28 | 2.6 | 2.0 | .1 | 1.7 | 49 | 18 | 0 | 60 | 6.8 | 5 |
| May 19..... | | -- | -- | 6.7 | 1.3 | -- | -- | 34 | -- | 13 | -- | -- | -- | 22 | 0 | 95 | 7.3 | -- |
| May 20-31..... | | 13 | .03 | 4.3 | 1.4 | 3.4 | 1.3 | 20 | 3.2 | 1.0 | .1 | 1.3 | 49 | 16 | 0 | 54 | 6.6 | 20 |
| June 1-13..... | | 14 | .06* | 3.5 | 1.2 | 3.5 | 1.7 | 20 | 2.8 | 3.0 | .1 | 1.5 | 42 | 14 | 0 | 50 | 7.0 | 7 |
| June 14..... | | -- | -- | -- | -- | -- | -- | 47 | -- | 15 | -- | -- | -- | 26 | 0 | 168 | 7.3 | -- |
| June 15-30..... | | 15 | .05 | 3.5 | 1.2 | 4.5 | 1.5 | 19 | 3.2 | 3.0 | .2 | 1.0 | 49 | 14 | 0 | 51 | 6.8 | 5 |
| July 1-31..... | | 16 | .04 | 3.8 | 1.8 | 4.1 | 1.6 | 24 | 2.8 | 3.5 | .2 | 1.2 | 52 | 17 | 0 | 61 | 6.6 | 8 |
| Aug. 1..... | | 16 | .09 | 3.5 | 1.9 | 3.9 | 1.6 | 26 | 3.5 | 3.2 | .2 | .9 | 53 | 17 | 0 | 59 | 7.2 | 17 |
| Sept. 1-30..... | | 15 | .01 | 4.5 | 1.7 | 4.8 | 1.6 | 28 | 2.8 | 3.5 | .0 | .9 | a49 | 18 | 0 | 57 | 7.0 | 23 |
| Time-weighted average..... | | 15 | 0.04 | 4.1 | 1.6 | 4.0 | 1.5 | 23 | 2.8 | 3.2 | 0.1 | 1.0 | 49 | 17 | 0 | 57 | -- | 11 |

a Calculated from determined constituents.

QUALITY OF SURFACE WATERS, 1962

ROANOKE RIVER BASIN--Continued

2-715. DAN RIVER AT LEAKSVILLE, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962
 (Once-daily measurement between 0800 and 2000)

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

ROANOKE RIVER BASIN--Continued

2-755. DAN RIVER AT PACES, VA.

LOCATION.--At gaging station at bridge on State Highway 658, 0.5 mile southeast of Paces, Halifax County, 0.5 mile upstream from Big Toby Creek, and 2.7 miles upstream from Birch Creek.

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 1962.

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 1962.

Suspended sediment, water year October 1961 to September 1962

| Day | OCTOBER | | | NOVEMBER | | | DECEMBER | | |
|-------|-----------------------|--------------------------|--------------|-----------------------|--------------------------|--------------|-----------------------|--------------------------|--------------|
| | Mean dis-charge (cfs) | Suspended sediment | | Mean dis-charge (cfs) | Suspended sediment | | Mean dis-charge (cfs) | Suspended sediment | |
| | | Mean concentration (ppm) | Tons per day | | Mean concentration (ppm) | Tons per day | | Mean concentration (ppm) | Tons per day |
| 1.. | 1220 | -- | -- | 970 | -- | -- | 1490 | -- | -- |
| 2.. | 720 | -- | -- | 1020 | -- | -- | 1490 | -- | -- |
| 3.. | 670 | -- | -- | 1020 | -- | -- | 1430 | -- | -- |
| 4.. | 970 | -- | -- | 1020 | -- | -- | 1140 | -- | -- |
| 5.. | 1020 | -- | -- | 1020 | -- | -- | 1120 | 39 | 118 |
| 6.. | 1160 | 83 | 260 | 945 | -- | -- | 1220 | -- | -- |
| 7.. | 1200 | -- | -- | 1020 | -- | -- | 1220 | -- | -- |
| 8.. | 1000 | -- | -- | 1610 | -- | -- | 1220 | -- | -- |
| 9.. | 890 | -- | -- | 1610 | 93 | 404 | 1200 | -- | -- |
| 10.. | 920 | -- | -- | 1320 | -- | -- | 1370 | -- | -- |
| 11.. | 950 | -- | -- | 1170 | -- | -- | 2360 | -- | -- |
| 12.. | 960 | -- | -- | 1120 | -- | -- | 9850 | 818 | S 25300 |
| 13.. | 970 | 55 | 144 | 1070 | -- | -- | 18300 | 1100 | S 53300 |
| 14.. | 920 | -- | -- | 1100 | -- | -- | 14300 | -- | -- |
| 15.. | 1200 | -- | -- | 1220 | -- | -- | 4470 | -- | -- |
| 16.. | 720 | -- | -- | 1320 | -- | -- | 3410 | -- | -- |
| 17.. | 615 | -- | -- | 1490 | -- | -- | 3880 | -- | -- |
| 18.. | 895 | -- | -- | 1320 | -- | -- | 6400 | 280 | S 5260 |
| 19.. | 870 | -- | -- | 1370 | -- | -- | 12900 | 656 | S 23100 |
| 20.. | 1040 | 72 | 202 | 1170 | -- | -- | 7500 | -- | -- |
| 21.. | 1200 | -- | -- | 1100 | 35 | 104 | 4360 | -- | -- |
| 22.. | 1370 | -- | -- | 1200 | -- | -- | 3410 | -- | -- |
| 23.. | 1170 | -- | -- | 1170 | -- | -- | 3130 | -- | -- |
| 24.. | 1020 | -- | -- | 1270 | -- | -- | 3200 | -- | -- |
| 25.. | 1040 | -- | -- | 1910 | -- | -- | 2430 | -- | -- |
| 26.. | 945 | -- | -- | 2150 | -- | -- | 2150 | -- | -- |
| 27.. | 995 | -- | -- | 1490 | -- | -- | 2030 | -- | -- |
| 28.. | 970 | -- | -- | 1320 | -- | -- | 2360 | -- | -- |
| 29.. | 920 | 40 | 99 | 1490 | -- | -- | 2570 | -- | -- |
| 30.. | 870 | -- | -- | 1490 | -- | -- | 2570 | -- | -- |
| 31.. | 945 | -- | -- | -- | -- | -- | 2220 | -- | -- |
| Total | 30355 | -- | 705 | 38495 | -- | 508 | 126700 | -- | 107078 |

SComputed by subdividing day.

ROANOKE RIVER BASIN--Continued

2-755. DAN RIVER AT PACES, VA.--Continued

Suspended sediment, water year October 1961 to September 1962--Continued

| Day | Mean discharge (cfs) | JANUARY | | | FEBRUARY | | | MARCH | | |
|-------|----------------------|--------------------------|--------------|-------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| | | Suspended sediment | | | Suspended sediment | | | Suspended sediment | | |
| | | Mean concentration (ppm) | Tons per day | | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 1730 | -- | -- | | 6470 | -- | -- | 5400 | 155 | 2260 |
| 2.. | 2090 | -- | -- | | 4920 | -- | -- | 4680 | -- | -- |
| 3.. | 2220 | -- | -- | | 4360 | -- | -- | 4040 | -- | -- |
| 4.. | 2500 | -- | -- | | 4200 | -- | -- | 3480 | -- | -- |
| 5.. | 2780 | -- | -- | | 3960 | -- | -- | 2920 | -- | -- |
| 6.. | 7610 | -- | -- | | 3800 | 75 | 770 | 3080 | -- | -- |
| 7.. | 19400 | -- | -- | | 3340 | -- | -- | 3480 | -- | -- |
| 8.. | 21500 | 430 | 25000 | | 2920 | -- | -- | 4120 | -- | -- |
| 9.. | 7990 | -- | -- | | 2850 | -- | -- | 3800 | -- | -- |
| 10.. | 4300 | -- | -- | | 3410 | -- | -- | 4040 | -- | -- |
| 11.. | 3800 | -- | -- | | 3410 | -- | -- | 4520 | 105 | 1280 |
| 12.. | 3060 | -- | -- | | 2710 | -- | -- | 7190 | 270 | 5240 |
| 13.. | 2990 | -- | -- | | 2570 | -- | -- | 11300 | 430 | 13100 |
| 14.. | 2850 | -- | -- | | 2500 | -- | -- | 7200 | -- | -- |
| 15.. | 2360 | -- | -- | | 2360 | -- | -- | 5000 | -- | -- |
| 16.. | 3270 | -- | -- | | 2290 | -- | -- | 4280 | -- | -- |
| 17.. | 1800 | -- | -- | | 2570 | 40 | 278 | 3880 | -- | -- |
| 18.. | 3130 | -- | -- | | 2570 | -- | -- | 3560 | -- | -- |
| 19.. | 2780 | -- | -- | | 5140 | -- | -- | 2680 | -- | -- |
| 20.. | 2640 | -- | -- | | 8740 | -- | -- | 2680 | -- | -- |
| 21.. | 2500 | -- | -- | | 5240 | -- | -- | 3960 | -- | -- |
| 22.. | 2090 | -- | -- | | 4120 | -- | -- | 5320 | -- | -- |
| 23.. | 2150 | -- | -- | | 5860 | -- | -- | 4840 | -- | -- |
| 24.. | 2360 | 55 | 350 | | 12100 | -- | -- | 3880 | -- | -- |
| 25.. | 2570 | -- | -- | | 11100 | -- | -- | 3480 | -- | -- |
| 26.. | 2780 | -- | -- | | 7300 | -- | -- | 2680 | -- | -- |
| 27.. | 2850 | -- | -- | | 11300 | -- | -- | 2760 | -- | -- |
| 28.. | 5080 | -- | -- | | 8140 | -- | -- | 2840 | -- | -- |
| 29.. | 7730 | -- | -- | | -- | -- | -- | 2600 | 58 | 407 |
| 30.. | 7010 | -- | -- | | -- | -- | -- | 2530 | -- | -- |
| 31.. | 7010 | -- | -- | | -- | -- | -- | 2600 | 121 | 896 |
| Total | 146930 | -- | 25350 | | 140250 | -- | 1048 | 128820 | -- | 23183 |
| | | | | | | | | | | |
| APRIL | | | | MAY | | | | JUNE | | |
| 1.. | 4920 | -- | -- | 2390 | -- | -- | | 3640 | -- | -- |
| 2.. | 7400 | -- | -- | 2920 | -- | -- | | 2250 | -- | -- |
| 3.. | 5560 | -- | -- | 2600 | -- | -- | | 3240 | -- | -- |
| 4.. | 3960 | -- | -- | 2250 | -- | -- | | 2920 | -- | -- |
| 5.. | 3720 | -- | -- | 2180 | 80 | 471 | | 2390 | -- | -- |
| 6.. | 3480 | -- | -- | 2110 | -- | -- | | 2760 | -- | -- |
| 7.. | 3640 | -- | -- | 1790 | -- | -- | | 2760 | -- | -- |
| 8.. | 7660 | -- | -- | 1730 | -- | -- | | 2680 | 315 | 2280 |
| 9.. | 16900 | -- | -- | 1910 | -- | -- | | 2760 | -- | -- |
| 10.. | 12800 | -- | -- | 1910 | -- | -- | | 2110 | -- | -- |
| 11.. | 5200 | -- | -- | 1970 | -- | -- | | 1500 | -- | -- |
| 12.. | 5100 | -- | -- | 2040 | -- | -- | | 1550 | -- | -- |
| 13.. | 6820 | -- | -- | 2040 | -- | -- | | 6990 | 964 | 5 27100 |
| 14.. | 7010 | 235 | 4450 | 1670 | -- | -- | | 18500 | 1580 | 5 77400 |
| 15.. | 5080 | -- | -- | 1670 | -- | -- | | 13600 | 600 | 22000 |
| 16.. | 3880 | -- | -- | 1790 | -- | -- | | 4200 | -- | -- |
| 17.. | 3320 | -- | -- | 1850 | 50 | 250 | | 3080 | -- | -- |
| 18.. | 3560 | -- | -- | 1910 | -- | -- | | 2390 | -- | -- |
| 19.. | 3400 | -- | -- | 1730 | -- | -- | | 1850 | -- | -- |
| 20.. | 3240 | -- | -- | 1730 | -- | -- | | 2180 | -- | -- |
| 21.. | 3160 | -- | -- | 1550 | -- | -- | | 2600 | -- | -- |
| 22.. | 3160 | -- | -- | 1550 | -- | -- | | 2600 | -- | -- |
| 23.. | 2460 | 205 | 1360 | 1670 | -- | -- | | 2390 | -- | -- |
| 24.. | 2180 | -- | -- | 1610 | -- | -- | | 3800 | -- | -- |
| 25.. | 2600 | -- | -- | 1610 | -- | -- | | 3080 | -- | -- |
| 26.. | 2530 | -- | -- | 1730 | -- | -- | | 3720 | -- | -- |
| 27.. | 2600 | -- | -- | 3080 | -- | -- | | 5880 | 650 | 5 10200 |
| 28.. | 2460 | -- | -- | 2920 | -- | -- | | 4120 | -- | -- |
| 29.. | 2460 | -- | -- | 4760 | -- | -- | | 3080 | -- | -- |
| 30.. | 2180 | -- | -- | 4040 | 1530 | 5 17900 | | 2390 | -- | -- |
| 31.. | -- | -- | -- | 2680 | -- | -- | | -- | -- | -- |
| Total | 142450 | -- | 5810 | 67390 | -- | 18621 | | 117010 | -- | 138980 |

S Computed by subdividing day.

ROANOKE RIVER BASIN--Continued

2-755. DAN RIVER AT PACES, VA.--Continued

Suspended sediment, water year October 1961 to September 1962--Continued

| Day | JULY | | | AUGUST | | | SEPTEMBER | | |
|-------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 2040 | -- | -- | 2320 | -- | -- | 1120 | -- | -- |
| 2.. | 1730 | -- | -- | 1910 | -- | -- | 1050 | -- | -- |
| 3.. | 1730 | -- | -- | 1730 | -- | -- | 750 | -- | -- |
| 4.. | 2840 | -- | -- | 2700 | 697 | 5 6400 | 640 | -- | -- |
| 5.. | 5320 | -- | -- | 3680 | -- | -- | 850 | -- | -- |
| 6.. | 3400 | 663 | 5 6380 | 2390 | -- | -- | 975 | -- | -- |
| 7.. | 2460 | -- | -- | 1790 | -- | -- | 1080 | -- | -- |
| 8.. | 2180 | -- | -- | 1550 | -- | -- | 1100 | -- | -- |
| 9.. | 1730 | -- | -- | 4240 | -- | -- | 975 | -- | -- |
| 10.. | 1730 | -- | -- | 3020 | -- | -- | 800 | -- | -- |
| 11.. | 1790 | -- | -- | 1790 | -- | -- | 850 | 70 | 161 |
| 12.. | 1730 | -- | -- | 1730 | -- | -- | 1120 | -- | -- |
| 13.. | 1790 | -- | -- | 1000 | -- | -- | 1150 | -- | -- |
| 14.. | 2530 | -- | -- | 1120 | -- | -- | 1000 | -- | -- |
| 15.. | 2180 | -- | -- | 1300 | -- | -- | 975 | -- | -- |
| 16.. | 1300 | -- | -- | 1500 | -- | -- | 950 | -- | -- |
| 17.. | 1670 | -- | -- | 1450 | -- | -- | 2460 | -- | -- |
| 18.. | 1670 | -- | -- | 1910 | -- | -- | 5080 | -- | -- |
| 19.. | 1550 | -- | -- | 1670 | -- | -- | 2920 | -- | -- |
| 20.. | 1450 | -- | -- | 950 | -- | -- | 1730 | -- | -- |
| 21.. | 1400 | -- | -- | 1200 | -- | -- | 1350 | -- | -- |
| 22.. | 1550 | -- | -- | 1670 | -- | -- | 1220 | -- | -- |
| 23.. | 1080 | -- | -- | 2680 | -- | -- | 1400 | 80 | 302 |
| 24.. | 1670 | -- | -- | 1730 | -- | -- | 1300 | -- | -- |
| 25.. | 1730 | 130 | 607 | 1350 | 130 | 474 | 900 | -- | -- |
| 26.. | 1610 | -- | -- | 1400 | -- | -- | 1080 | -- | -- |
| 27.. | 1550 | -- | -- | 975 | -- | -- | 1570 | -- | -- |
| 28.. | 1450 | -- | -- | 900 | -- | -- | 2390 | -- | -- |
| 29.. | 1550 | -- | -- | 1080 | -- | -- | 1970 | -- | -- |
| 30.. | 1610 | -- | -- | 1150 | -- | -- | 1450 | -- | -- |
| 31.. | 1850 | -- | -- | 1100 | -- | -- | -- | -- | -- |
| Total | 59870 | -- | 6987 | 54985 | -- | 6874 | 42205 | -- | 463 |

Total discharge for year (cfs-days).....1095460

Total measured load for year (tons).....335607

Estimated load for days not sampled (tons).....651756

Estimated load for year (tons).....987363

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 1961 to September 1962
(Methods of analysis: B, bottom withdrawal tube; C, chemically dispersed; D, decantation; N, in native water;
P, pipe; S, sieve; V, visual accumulation tube; W, in distilled water)

| Date of collection | Time (24 hour) | Samp- ling point | Water temp- per- ature (°F) | Discharge (cfs) | Sediment concentra- tion (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 | |
| Jan. 8, 1962..... | 1630 | | | 24,500 | 352 | | 44 | 48 | 53 | 57 | 60 | 62 | 67 | 81 | 98 | 100 | SBWC |
| May 30..... | 1330 | | | 3,540 | 1,430 | | 59 | 67 | 83 | 91 | 94 | 95 | 98 | 99 | 100 | 100 | SBWC |

ROANOKE RIVER BASIN--Continued

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 1962.

Water temperatures: October 1955 to September 1962. Maximum, 81 ppm Oct. 1-31; minimum, 59 ppm Apr. 1-30.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 81 ppm Oct. 1-30; minimum, 24 ppm Jan. 9-31, Mar. 1-31.

Hardness: Maximum, 32 ppm Oct. 1-30; minimum, 18 ppm Jan. 9-31, Mar. 1-31.

Specific conductance: Maximum daily, 188 micromhos Oct. 7, minimum daily, 66 micromhos July 14.

Water temperature: Maximum, 81°F, several days, July 1-14, minimum, 56°F, Oct. 1-14.

EXTREMES, 1955-62.--Dissolved solids: Maximum, 91 ppm June 1-10, 1956; minimum, 54 ppm June 1-30, 1957.

Hardness: Maximum, 52 ppm Oct. 1, 1959; minimum, 13 ppm June 1-30, 1957.

Specific conductance: Maximum daily, 188 micromhos Oct. 7, 1961; minimum daily, 66 micromhos Mar. 3, 1958.

Water temperatures: Maximum, 88°F July 6, 1956; minimum, freezing point Jan. 11, 1961.

REMARKS.--Records of specific conductance of daily samples from October 1955 to September 1962 and records of suspended matter of composite samples from October 1955 to September 1956 available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Oct. 1-31, 1961..... | | 9.0 | 0.03 | 8.7 | 2.5 | 9.0 | 2.9 | 41 | 7.8 | 7.6 | 0.1 | 4.0 | 81 | 32 | 0 | 113 | 6.9 | 15 |
| Nov. 1-30..... | | 9.2 | 0.05 | 8.3 | 2.6 | 10.2 | 2.6 | 44 | 6.4 | 6.8 | 0.1 | 2.4 | 73 | 32 | 0 | 118 | 7.1 | 20 |
| Dec. 1-31..... | | 11 | 0.01 | 7.8 | 2.8 | 9.1 | 3.0 | 43 | 7.6 | 7.3 | 0.1 | 3.6 | 872 | 31 | 0 | 111 | 7.0 | 5 |
| Jan. 1-31..... | | 10 | 0.03 | 6.6 | 2.8 | 9.0 | 2.5 | 41 | 6.4 | 7.0 | 0.1 | 1.2 | 72 | 28 | 0 | 104 | 7.2 | 21 |
| Jan. 9-31..... | | 10 | 0.04 | 5.7 | 2.5 | 6.3 | 2.2 | 29 | 6.2 | 5.0 | 0.2 | 1.2 | 71 | 24 | 0 | 78 | 6.9 | 50 |
| Feb. 1-28..... | | 10 | 0.09 | 5.9 | 2.4 | 5.6 | 2.0 | 27 | 8.4 | 4.9 | 0.1 | 1.2 | 62 | 25 | 3 | 82 | 7.0 | 35 |
| Mar. 1-31..... | | 9.3 | 0.10 | 6.4 | 1.9 | 6.5 | 1.7 | 28 | 7.4 | 4.5 | 0.1 | 2.0 | 61 | 24 | 1 | 81 | 7.2 | 25 |
| Apr. 1-30..... | | 7.6 | 0.10 | 7.5 | 1.8 | 5.9 | 1.6 | 31 | 6.4 | 4.1 | 0.1 | 1.7 | 59 | 26 | 1 | 84 | 7.7 | 32 |
| May 1-31..... | | 10 | 0.04 | 7.9 | 2.4 | 7.3 | 1.8 | 35 | 6.8 | 4.5 | 0.0 | 2.2 | 65 | 30 | 1 | 96 | 7.0 | 12 |
| June 1-30..... | | 8.4 | 0.09 | 7.1 | 2.3 | 6.9 | 1.9 | 34 | 6.4 | 5.5 | 0.1 | 1.3 | 64 | 27 | 0 | 90 | 6.7 | 37 |
| July 1-31..... | | 9.6 | 0.13 | 7.6 | 1.9 | 6.8 | 1.8 | 34 | 6.0 | 4.2 | 0.1 | 3.1 | 75 | 27 | 0 | 87 | 6.6 | 38 |
| Aug. 1-31..... | | 11 | 0.07 | 8.3 | 2.3 | 7.4 | 1.6 | 39 | 5.2 | 4.8 | 0.0 | 2.1 | 69 | 30 | 0 | 101 | 7.0 | 22 |
| Sept. 1-30..... | | 10 | 0.06 | 8.0 | 3.1 | 7.5 | 2.0 | 42 | 7.2 | 5.0 | 0.2 | 2.3 | 74 | 32 | 0 | 98 | 7.1 | 13 |
| Time-weighted average..... | | 9.5 | 0.07 | 7.5 | 2.4 | 7.4 | 2.1 | 36 | 6.9 | 5.4 | 0.1 | 2.3 | 69 | 28 | 0 | 96 | -- | 25 |

a Calculated from determined constituents.

QUALITY OF SURFACE WATERS, 1962

ROANOKE RIVER BASIN--Continued

2-810.94. ROANOKE RIVER AT JAMESVILLE, N. C.--Continued

Temperature °F of water, November 1961 to September 1962
 (Once-daily measurement between 1000 and 2000)

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

ROANOKE RIVER BASIN--Continued
2-811.19. CASHIE RIVER AT WINDSOR, N. C.

LOCATION.--Three-fourths of a mile south of Windsor, Bertie County, 4.8 miles above Wading Place Creek.

DRAINAGE AREA.--179 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1962.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Oct. 3, 1961..... | | 10 | 0.35 | 7.0 | 1.8 | 15 | 2.7 | 34 | 14 | 15 | 0.2 | 0.6 | 97 | 25 | 0 | 130 | 6.2 | 100 |
| Nov. 3..... | | 14 | .40 | 6.4 | 2.6 | 17 | 3.0 | 33 | 16 | 17 | .2 | .8 | 115 | 26 | 0 | 140 | 6.3 | 90 |
| Dec. 1..... | | 14 | .48 | 5.5 | 2.0 | 11 | 3.4 | 28 | 10 | 11 | .1 | 1.5 | 99 | 22 | 0 | 109 | 6.2 | 80 |
| Jan. 3, 1962..... | | 15 | .18 | 5.0 | 2.2 | 7.2 | 1.4 | 8 | 19 | 9.0 | .2 | .6 | 77 | 22 | 15 | 85 | 5.7 | 37 |
| Feb. 4..... | | 8.8 | .06 | 2.7 | 1.3 | 4.6 | 1.2 | 6 | 8.2 | 5.6 | .2 | 1.0 | 51 | 12 | 7 | 48 | 5.8 | 55 |
| Mar. 4..... | | 6.4 | .23 | 3.6 | 1.4 | 4.0 | 1.1 | 7 | 7.6 | 5.3 | .2 | .4 | 56 | 15 | 10 | 55 | 5.9 | 100 |
| Mar. 25..... | | 4.8 | .19 | 2.2 | 1.1 | 3.6 | 1.1 | 7 | 5.6 | 5.5 | .1 | .9 | 649 | 10 | 4 | 45 | 6.0 | 90 |
| May 2..... | | 3.2 | .19 | 3.8 | 1.5 | 6.3 | 1.3 | 17 | 2.8 | 6.2 | .2 | .4 | 662 | 16 | 2 | 63 | 6.5 | 90 |
| June 1..... | | 8.5 | .10 | 5.6 | 1.4 | 11 | 2.2 | 29 | 3.0 | 12 | .2 | 1.0 | 90 | 20 | 0 | 94 | 6.3 | 75 |
| July 3..... | | 3.3 | .00 | 2.6 | .9 | 12.2 | 3.2 | 6 | 4.2 | 3.1 | .2 | 1.2 | 681 | 10 | 5 | 94 | 6.3 | 100 |
| Aug. 2..... | | 8.8 | .30 | 3.3 | 1.6 | 11 | 2.3 | 30 | 3.8 | 10 | .2 | .6 | 85 | 21 | 0 | 94 | 6.3 | 70 |
| Sept. 1..... | | 6.8 | .09 | 6.3 | 1.8 | 16 | 2.6 | 36 | 8.0 | 14 | .2 | .7 | 95 | 23 | 0 | 122 | 6.3 | 70 |

a Organic matter present; sum of mineral constituents 33 parts per million.

b Organic matter present; sum of mineral constituents 28 parts per million.

c Organic matter present; sum of mineral constituents 34 parts per million.

d Organic matter present; sum of mineral constituents 24 parts per million.

ALBEMARLE SOUND

2-811.53. ALBEMARLE SOUND NEAR EDENTON, N. C.

LOCATION --At bridge draw section on State Highway 32, 7.6 miles southeast of Edenton, Chowan County.

DRAINAGE AREA --14,600 square miles.

RECORDS AVAILABLE --Chemical analyses: October 1957 to September 1962.

Water temperatures: October 1957 to September 1962.

EXTREMES, 1961-62.--Chloride: Maximum, 10,300 ppm Mar. 23, 31, (B); minimum, 8.5 ppm Feb. 1-8.

Specific conductance: Maximum daily, 28,000 microhos 23, 31, (B); minimum daily, 70 microhos Feb. 4 (T).

Water temperatures: Maximum, 88°F June 25 (T); minimum, 36°F Jan. 11 (T), 12, 13.

EXTREMES, 1957-62.--Chloride: Maximum, 12,100 ppm Nov. 3-6 (B), 1958; minimum, 4.7 ppm Apr. 1-30, 1958.

Specific conductance: Maximum daily, 30,600 microhos Nov. 6 (B), 1958; minimum daily, 50 microhos May 20 (B), 1958.

Water temperatures: Maximum, 87°F Aug. 14 (T), 1960; minimum, freezing point Feb. 4, 1961.

REMARKS.--Top (T) and bottom (B) samples were collected once daily (1200) and were composited unless otherwise indicated. 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 daily samples available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, January 1962 to August 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Jan. 12-13, 1962.... | | 9.4 | 0.09 | 8.7 | 9.0 | 64 | 4.2 | 28 | 24 | 111 | 0.1 | 0.6 | a245 | 59 | 36 | 440 | 7.2 | 60 |
| Jan. 14-19..... | | 11 | .14 | 6.4 | 5.3 | 34 | 3.0 | 21 | 17 | 58 | .1 | 1.1 | 170 | 38 | 21 | 251 | 6.8 | 75 |
| Jan. 20..... | | 9.0 | .08 | 6.0 | 2.4 | 8.3 | 2.4 | 26 | 8.0 | 9.5 | .1 | .8 | a60 | 25 | 4 | 88 | 6.8 | -- |
| Jan. 21..... | | 8.2 | .07 | 6.5 | 3.0 | 15 | 2.6 | 29 | 11 | 22 | .1 | .7 | a83 | 28 | 4 | 138 | 6.9 | -- |
| Jan. 22-31..... | | 8.9 | .16 | 6.3 | 2.0 | 8.0 | 2.2 | 24 | 8.0 | 9.5 | .2 | 1.8 | 62 | 24 | 4 | 86 | 6.7 | 40 |
| Feb. 1-8..... | | 9.3 | .06 | 5.3 | 2.0 | 6.6 | 1.8 | 21 | 7.4 | 8.5 | .0 | 1.1 | 56 | 22 | 4 | 83 | 6.7 | 70 |
| Feb. 9-28..... | | 9.1 | .08 | 5.2 | 2.0 | 7.0 | 2.0 | 21 | 7.6 | 9.0 | .0 | 1.4 | 60 | 21 | 4 | 86 | 6.6 | 70 |
| Mar. 1-19..... | | 8.2 | .03 | 5.2 | 2.5 | 6.6 | 1.7 | 21 | 7.0 | 9.4 | .1 | 2.3 | 75 | 23 | 6 | 88 | 6.4 | 80 |
| June 4-12..... | | 8.2 | .13 | 5.5 | 5.6 | 32 | 2.9 | 27 | 13 | 52 | .1 | 2.9 | 148 | 36 | 14 | 241 | 7.1 | 55 |
| June 13-15..... | | 7.5 | .11 | 4.5 | 2.7 | 13 | 2.0 | 24 | 12 | 15 | .2 | 3.2 | 71 | 22 | 2 | 113 | 6.6 | 55 |
| June 16-25..... | | 8.8 | .09 | 5.3 | 5.0 | 28 | 2.7 | 27 | 12.2 | 41 | .1 | 1.1 | 158 | 34 | 12 | 209 | 7.1 | 50 |
| June 26-28..... | | 8.9 | .09 | 5.8 | 2.7 | 11 | 2.2 | 29 | 6.8 | 11 | .2 | 4.4 | 71 | 26 | 2 | 107 | 7.5 | 45 |
| June 29-30..... | | 7.4 | .07 | 6.1 | 8.2 | 56 | 3.6 | 25 | 19 | 93 | .1 | 1.8 | 215 | 48 | 28 | 382 | 6.4 | 32 |
| July 5-24..... | | 7.2 | .15 | 3.8 | 3.0 | 9.6 | 1.7 | 22 | 5.0 | 14 | .2 | 4.3 | 71 | 22 | 4 | 99 | 7.0 | 50 |
| July 25-28..... | | 6.8 | -- | 4.0 | 2.9 | -- | -- | 19 | 9.2 | 28 | .1 | .5 | -- | 22 | 6 | 139 | 6.8 | 80 |
| July 27-31..... | | 6.8 | .16 | 3.0 | 3.0 | 9.6 | 1.7 | 20 | 8.0 | 14 | .2 | 2.7 | 66 | 20 | 4 | 95 | 6.8 | 50 |
| Aug. 1-24..... | | 8.6 | .17 | 3.7 | 3.0 | 12 | 2.2 | 22 | 7.0 | 15 | .1 | .8 | 75 | 22 | 4 | 105 | 6.7 | 80 |
| Aug. 25-27..... | | 9.9 | .15 | 5.9 | 2.6 | 15 | 2.4 | 31 | 11 | 17 | .1 | .6 | a80 | 26 | 0 | 130 | 7.1 | 80 |

a Calculated from determined constituents.

ALBEMARLE SOUND--Continued

2-811.53. ALBEMARLE SOUND NEAR EDENTON, N. C.--Continued

Chloride, in parts per million. water year October 1961 to September 1962

| 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 | | |
| 1 | 106 | 115 | 612 | 1,920 | 1,550 | 2,200 | 815 | 925 | 1,320 | 1,320 | 275 | 9,860 | 72 | 73 | 78 | 230 | 180 | 320 | 190 | 320 | | | -- | -- |
| 2 | 106 | 115 | 612 | 1,920 | 1,550 | 2,200 | 815 | 925 | 1,320 | 1,320 | 275 | 9,860 | 58 | 175 | 79 | 150 | 205 | 138 | 130 | 130 | | | 86 | 87 |
| 3 | 133 | 134 | 514 | 516 | 1,200 | 2,420 | 890 | 590 | 1,200 | 2,420 | 280 | 9,860 | 59 | 175 | 56 | 79 | 130 | 130 | 130 | 130 | | | 87 | 86 |
| 4 | 316 | 326 | 512 | 514 | 1,200 | 2,420 | 890 | 590 | 1,200 | 2,420 | 280 | 9,860 | 59 | 175 | 56 | 79 | 130 | 130 | 130 | 130 | | | 87 | 87 |
| 5 | 320 | 316 | 508 | 510 | 1,140 | 1,120 | 270 | 670 | 965 | 2,650 | 275 | 655 | 177 | 420 | 60 | 225 | 79 | 130 | 131 | 131 | | | 87 | 86 |
| 6 | 338 | 338 | 506 | 510 | 1,200 | 3,250 | 260 | 810 | 8.5 | 8.5 | | | 220 | 245 | 62 | 200 | | | | | | | 87 | 87 |
| 7 | 308 | 308 | 610 | 1,150 | 1,300 | 1,380 | 260 | 995 | | | | | 220 | 1,250 | 56 | 120 | | | | | | | 87 | 87 |
| 8 | 310 | 310 | 644 | 648 | 1,380 | 1,390 | 440 | 480 | | | | | 225 | 1,370 | 54 | 99 | | | | | | | 87 | 87 |
| 9 | 312 | 310 | 845 | 825 | 1,180 | 1,280 | -- | 425 | | | | | 173 | 300 | 59 | 56 | | | | | | | 48 | 48 |
| 10 | 227 | 1,700 | 850 | 850 | 1,250 | 1,180 | 425 | 425 | | | | | 173 | 175 | 56 | 57 | | | | | | | 27 | 25 |
| 11 | 242 | 1,830 | 560 | 558 | 1,140 | 1,150 | 180 | 165 | | | | | 215 | 4,750 | 57 | 56 | | | | | | | -- | -- |
| 12 | 176 | 176 | 536 | 766 | 1,220 | 1,350 | 111 | 111 | | | | | 154 | 8,760 | 15 | 14 | | | | | | | 67 | 108 |
| 13 | 290 | 5,570 | 550 | 706 | 1,260 | 1,350 | 111 | 111 | | | | | 154 | 8,800 | 15 | 14 | | | | | | | 70 | 88 |
| 14 | 300 | 4,000 | 900 | 985 | 1,260 | 1,200 | | | | | | | 150 | 6,800 | 14 | 14 | | | | | | | 96 | 95 |
| 15 | 378 | 372 | 875 | 985 | 1,260 | 1,240 | | | | | | | 417 | 618 | 14 | 14 | | | | | | | 95 | 95 |
| 16 | 350 | 358 | 880 | 990 | 1,120 | 1,220 | 58 | 58 | | | | | 430 | 495 | 44 | 44 | | | | | | | 94 | 94 |
| 17 | 352 | 354 | 880 | 990 | 1,140 | 1,200 | | | | | | | 400 | 415 | 44 | 44 | | | | | | | 94 | 96 |
| 18 | 358 | 360 | 875 | 990 | 1,250 | 1,240 | | | | | | | 400 | 400 | 43 | 80 | | | | | | | 99 | 96 |
| 19 | 560 | 1,750 | 880 | 985 | 1,140 | 1,320 | | | | | | | 400 | 400 | 44 | 84 | | | | | | | 97 | 96 |
| 20 | 564 | 1,465 | 1,120 | 1,130 | 1,120 | 1,290 | 9.5 | 9.5 | | | | | 400 | 400 | 45 | 88 | | | | | | | 94 | 94 |
| 21 | 645 | 640 | 386 | 735 | 795 | 790 | 22 | 22 | | | | | 56 | 780 | 158 | 59 | | | | | | | 95 | 91 |
| 22 | 244 | 254 | 390 | 735 | 800 | 790 | | | | | | | 750 | 9,900 | 148 | 45 | | | | | | | 87 | 91 |
| 23 | 225 | 238 | 494 | 504 | 785 | 800 | | | | | | | 650 | 10,300 | 137 | 215 | | | | | | | 120 | 160 |
| 24 | 342 | 860 | 1,240 | 1,240 | 885 | 900 | | | | | | | 118 | 7,860 | 187 | 212 | | | | | | | 120 | 165 |
| 25 | 640 | 630 | 1,250 | 1,220 | 890 | 900 | | | | | | | 107 | 7,460 | -- | 230 | | | | | | | 155 | 175 |
| 26 | 630 | 635 | 544 | 546 | 835 | 1,000 | 9.5 | 9.5 | | | | | 107 | 2,570 | 128 | 555 | | | | | | | 17 | 155 |
| 27 | 446 | 444 | 1,000 | 1,280 | 900 | 1,220 | | | | | | | 107 | 118 | 128 | 585 | | | | | | | 175 | 325 |
| 28 | 450 | 534 | 1,140 | 1,900 | 890 | 1,400 | | | | | | | 48 | 9,050 | 128 | 180 | | | | | | | 98 | 215 |
| 29 | 448 | 690 | 920 | 910 | 865 | 885 | | | | | | | 45 | 8,450 | 128 | 163 | | | | | | | 91 | 211 |
| 30 | 565 | 568 | 1,080 | 1,580 | 850 | 900 | | | | | | | 46 | 6,750 | 93 | 677 | | | | | | | 92 | 215 |
| 31 | 640 | 1,790 | | | 875 | 973 | | | | | | | 215 | 10,300 | | 63 | | | | | | | 52 | 211 |

ALBEMARLE SOUND--Continued

2-811.53. ALBEMARLE SOUND NEAR EDENTON, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962

Top (T) and bottom (B) once-daily measurements at approximately 1200'

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

SCUPPERNONG RIVER BASIN

2-811.66. SCUPPERNONG RIVER NEAR CRESWELL, N. C.

LOCATION.--At bridge on county road at Cross Landing, 3.5 miles east of Creswell, Tyrrell County.

DRAINAGE AREA.--115 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1959 to September 1962.

WATER TEMPERATURES: October 1959 to September 1962.

EXTREMES, 1961-62.--Chloride: Maximum, 890 ppm Dec. 8; minimum, 5.2 ppm June 30.

Specific conductance: Maximum daily, 3,300 micromhos Dec. 8; minimum daily, 40 micromhos June 30.

WATER TEMPERATURES: Maximum, 82°F June 23, July 16; minimum, 38°F Jan. 12.

EXTREMES, 1959-62.--Chloride: Maximum, 890 ppm Dec. 8, 1961; minimum, 5.1 ppm Aug. 21-31, 1961.

Specific conductance: Maximum, 3,300 micromhos Dec. 8, 1961; minimum daily, 40 micromhos June 30, 1962.

REMARKS.--Thermometer used, maximum, freezing point Jan. 22, 1961. Conductance and chloride determinations are tabulated separately from the composite chemical analyses. No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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) | Phosphate (PO ₄) | Dissolved solids | | Hardness as CaCO ₃ | | Specific conductance (micro-mhos at 25°C) | pH or Col. | | |
|-----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|------------------------------|------------------|-------------|-------------------------------|---------------|-------------------------------------------|------------|-----|----|
| | | | | | | | | | | | | | | Residue at 180°C | Calculation | Calcium | Non-carbonate | | | | |
| Oct. 1-24, 1961 | | 9.9 | 0.60 | 7.1 | 2.1 | 5.7 | 0.9 | 17 | 10 | 9.0 | 0.2 | 1.7 | | 108 | 55 | 27 | 13 | 79 | 6.7 | 260 | |
| Oct. 29-31, 1961 | | 11 | .29 | 7.0 | 5.1 | 17 | 1.7 | 22 | 14 | 33 | .3 | .7 | | -- | 101 | 38 | 20 | 171 | 6.2 | -- | |
| Nov. 1-6, 1961 | | 12 | .58 | 10 | 3.2 | 12 | 1.3 | 27 | 13 | 22 | .3 | 1.5 | | 126 | 88 | 38 | 16 | 137 | 6.5 | 420 | |
| Dec. 1-14, 1961 | | 12 | .43 | 12 | 3.2 | 7.8 | 2.2 | 32 | 15 | 13 | .3 | 2.6 | | -- | 85 | 42 | 16 | 123 | 7.4 | 140 | |
| Dec. 15-31, 1961 | | 12 | .44 | 8.8 | 2.8 | 7.3 | 1.1 | 23 | 11 | 12 | .3 | 1.1 | | 108 | 68 | 34 | 14 | 101 | 7.0 | 240 | |
| Jan. 1-20, 1962 | | 12 | .46 | 10 | 2.8 | 6.8 | .7 | 28 | 11 | 11 | .2 | .9 | | 94 | 70 | 37 | 14 | 110 | 7.1 | 180 | |
| Jan. 21, 1962 | | -- | -- | 31 | 2.7 | -- | -- | 87 | 17 | -- | -- | -- | | -- | -- | 88 | 16 | 221 | 8.0 | -- | |
| Jan. 22-30, 1962 | | 9.1 | .32 | 7.7 | 2.3 | 5.7 | .8 | 16 | 12 | 9.5 | .2 | 1.2 | | 91 | 57 | 28 | 16 | 88 | 6.5 | 160 | |
| Jan. 31, 1962 | | -- | -- | 35 | 3.2 | -- | -- | 100 | -- | 19 | -- | -- | | -- | -- | 100 | 18 | 221 | 8.1 | -- | |
| Feb. 1-28, 1962 | | 7.8 | .08 | 6.7 | 2.5 | 6.0 | .6 | 17 | 9.8 | 9.0 | .1 | 1.4 | | 87 | 52 | 27 | 13 | 85 | 6.4 | 200 | |
| Mar. 1-19, 1962 | | 6.0 | .39 | 6.8 | 1.9 | 6.0 | .9 | 15 | 11 | 9.0 | .2 | 1.4 | | 101 | 52 | 25 | 12 | 86 | 6.5 | 180 | |
| Mar. 25-31, 1962 | | 4.9 | .24 | 6.3 | 2.3 | 4.9 | .6 | 15 | 9.8 | 8.7 | .2 | 1.6 | | 86 | 47 | 26 | 13 | 76 | 6.6 | 160 | |
| Apr. 1-30, 1962 | | 6.5 | .28 | 5.9 | 2.6 | 6.5 | .6 | 18 | 8.4 | 8.6 | .2 | 1.5 | | 87 | 50 | 26 | 11 | 81 | 6.9 | 150 | |
| May 1-31, 1962 | | 6.8 | .26 | 8.8 | 2.3 | 7.9 | .7 | 26 | 10 | 10 | .1 | 1.3 | | 95 | 61 | 32 | 10 | 116 | 6.3 | 140 | |
| June 1-29, 1962 | | 8.3 | .48 | 9.9 | 2.0 | 7.8 | 1.2 | 29 | 8.4 | 8.2 | .2 | 1.6 | | 100 | 62 | 33 | 9 | 95 | 7.0 | 180 | |
| June 30, 1962 | | -- | -- | -- | -- | -- | -- | 12 | -- | 5.2 | -- | -- | | -- | -- | -- | -- | 0 | 40 | 6.5 | -- |
| July 1-31, 1962 | | 6.8 | .33 | 5.2 | 2.1 | 5.1 | 1.1 | 14 | 6.8 | 7.0 | .3 | 1.5 | | 88 | 43 | 22 | 10 | 64 | 6.1 | 300 | |
| Aug. 1-27, 1962 | | 7.4 | .45 | 7.1 | 1.7 | 6.4 | .8 | 17 | 7.0 | 8.5 | .2 | 2.1 | | 86 | 50 | 24 | 10 | 78 | 6.6 | 250 | |
| Aug. 28-31, 1962 | | 7.0 | .72 | 6.8 | 2.4 | 12 | 1.1 | 17 | 8.6 | 18 | .1 | 1.4 | | -- | -- | 66 | 27 | 110 | 6.4 | 240 | |
| Sept. 1-8, 1962 | | 6.8 | .28 | 6.7 | 2.7 | 10 | 1.1 | 19 | 7.4 | 17 | .1 | 3.0 | | 111 | 64 | 28 | 13 | 110 | 6.6 | 280 | |
| Sept. 9-30, 1962 | | 10 | .43 | 8.7 | 2.7 | 13 | 1.1 | 26 | 6.4 | 19 | .2 | 1.3 | | 126 | 76 | 33 | 12 | 120 | 6.6 | 270 | |
| Time-weighted average, 1962 | | 8.3 | 0.37 | 7.8 | 2.4 | 7.3 | 0.9 | 21 | 9.2 | 11 | 0.2 | 1.5 | | 98 | 58 | 29 | 12 | 94 | -- | 210 | |

SCUPPERNONG RIVER BASIN--Continued

2-811.66. SCUPPERNONG RIVER NEAR CRESWELL, N. C.--Continue^d

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1961 to September 1962

| Day | October | | November | | December | | January | | |
|----------|-------------------------------------------|---------------|-------------------------------------------|---------------|-------------------------------------------|---------------|-------------------------------------------|---------------|-----|
| | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) | |
| 1 | 85 | 9.0 | 137 | 22 | 525 | 125 | 110 | 11 | |
| 2 | 85 | | 140 | | 930 | 246 | 111 | | |
| 3 | 68 | | 138 | | 1,800 | 506 | 122 | | |
| 4 | 68 | | 132 | | 1,820 | 518 | 118 | | |
| 5 | 72 | | 120 | | 1,800 | 508 | 109 | | |
| 6 | 71 | | 120 | 2,800 | 820 | 121 | | | |
| 7 | 73 | | 2,110 | 2,900 | 825 | 127 | | | |
| 8 | 74 | | 1,920 | 3,300 | 890 | 127 | | | |
| 9 | 71 | | 153 | 2,650 | 770 | 102 | | | |
| 10 | 74 | | 208 | 42 | 1,100 | 270 | 98 | | |
| 11 | 74 | 9.0 | 1,060 | 290 | 1,100 | 266 | 99 | 9.5 | |
| 12 | 76 | | 219 | 43 | 172 | | 100 | | |
| 13 | 80 | | 1,110 | 314 | 120 | 13 | 110 | | |
| 14 | 80 | | 1,850 | 540 | 113 | | 110 | | |
| 15 | 80 | | 2,900 | 875 | 105 | | 110 | | |
| 16 | 80 | | 1,580 | 452 | 100 | | 90 | | |
| 17 | 86 | | 2,430 | 740 | 102 | | 92 | | |
| 18 | 90 | | 2,700 | 805 | 100 | | 85 | | |
| 19 | 83 | | 2,630 | 795 | 107 | | 84 | | |
| 20 | 85 | | 790 | 197 | 100 | | 92 | | |
| 21 | 88 | 384 | 465 | 109 | 106 | 12 | 221 | -- | |
| 22 | 91 | | 1,200 | 342 | 100 | | 85 | | |
| 23 | 92 | | 2,350 | 700 | 100 | | 84 | | |
| 24 | 92 | | 1,280 | 358 | 103 | | 88 | | |
| 25 | 1,400 | | 150 | 21 | 100 | | 91 | | |
| 26 | 646 | 146 | 150 | 19 | 100 | | 95 | 19 | |
| 27 | 680 | 165 | 158 | 20 | 106 | | 90 | | |
| 28 | 349 | 72 | 712 | 178 | 100 | | 87 | | |
| 29 | 195 | 33 | 135 | 17 | 107 | | 86 | | |
| 30 | 178 | | 148 | 18 | 107 | | -- | | |
| 31 | 163 | | -- | -- | 101 | | 221 | | |
| February | | March | | April | | May | | | |
| 1 | 79 | 9.0 | 92 | 9.0 | 76 | 8.6 | 93 | 10 | |
| 2 | 76 | | 91 | | 76 | | 96 | | |
| 3 | 77 | | 90 | | 79 | | 94 | | |
| 4 | 78 | | 89 | | 82 | | 96 | | |
| 5 | 78 | | 88 | | 85 | | 95 | | |
| 6 | 74 | | 86 | | 85 | | 96 | | |
| 7 | 80 | | 82 | | 86 | | 96 | | |
| 8 | 81 | | 87 | | 84 | | 96 | | |
| 9 | 82 | | 88 | | 87 | | 97 | | |
| 10 | 81 | | 86 | | 85 | | 98 | | |
| 11 | 88 | 9.0 | 85 | 99 | 80 | 8.6 | 98 | 10 | |
| 12 | 88 | | 88 | | 78 | | 100 | | |
| 13 | 83 | | 102 | | 81 | | 99 | | |
| 14 | 88 | | 84 | | 80 | | 103 | | |
| 15 | 85 | | 77 | | 77 | | 108 | | |
| 16 | 89 | | 86 | | 77 | | 108 | | |
| 17 | 84 | | 80 | | 78 | | 108 | | |
| 18 | 90 | | 84 | | 78 | | 109 | | |
| 19 | 100 | | 81 | | 78 | | 109 | | |
| 20 | 94 | | 430 | | 80 | | 107 | | |
| 21 | 105 | 9.0 | 100 | 11 | 84 | 8.6 | 110 | 10 | |
| 22 | 95 | | 80 | | 10 | | 87 | | 111 |
| 23 | 81 | | 169 | | 30 | | 85 | | 112 |
| 24 | 85 | | 86 | | 11 | | 85 | | 119 |
| 25 | 83 | | 73 | | | | 89 | | 130 |
| 26 | 92 | | 73 | | | | 93 | | 125 |
| 27 | 85 | | 77 | | 8.7 | | 96 | | 126 |
| 28 | 83 | | 84 | | | | 95 | | 120 |
| 29 | -- | | 79 | | | | 95 | | 121 |
| 30 | -- | | 79 | | | | 93 | | 121 |
| 31 | -- | 77 | -- | 128 | | | | | |

SCUPPERNONG RIVER BASIN--Continued

2-811.66. SCUPPERNONG RIVER NEAR CRESWELL, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1961 to September 1962--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 | 128 | | 60 | | 68 | | 120 | |
| 2 | 95 | | 59 | | 67 | | 120 | |
| 3 | 82 | | 49 | | 70 | | 110 | |
| 4 | 82 | | 59 | | 74 | | 105 | |
| 5 | 85 | | 47 | | 73 | | 98 | |
| 6 | 91 | | 44 | | 76 | | 120 | |
| 7 | 84 | | 56 | | 71 | | 100 | |
| 8 | 92 | | 54 | | 74 | | 99 | |
| 9 | 93 | | 53 | | 73 | | 150 | |
| 10 | 94 | | 57 | | 76 | | 140 | |
| 11 | 97 | | 59 | | 75 | | 130 | |
| 12 | 100 | | 60 | | 80 | | 110 | |
| 13 | 100 | | 65 | | 77 | | 110 | |
| 14 | 100 | | 58 | | 76 | | 110 | |
| 15 | 103 | | 75 | | 76 | | 140 | |
| 16 | 106 | | 68 | | 76 | | 130 | |
| 17 | 106 | | 69 | | 77 | | 130 | |
| 18 | 105 | | 71 | | 76 | | 160 | |
| 19 | 105 | | 69 | | 76 | | 165 | |
| 20 | 104 | | 74 | | 81 | | 120 | |
| 21 | 103 | | 63 | | 78 | | 110 | |
| 22 | 103 | | 61 | | 79 | | 110 | |
| 23 | 105 | | 60 | | 82 | | 110 | |
| 24 | 109 | | 60 | | 82 | | 110 | |
| 25 | 106 | | 68 | | 84 | | 110 | |
| 26 | 102 | | 70 | | 90 | | 110 | |
| 27 | 104 | | 68 | | 89 | | 110 | |
| 28 | 106 | | 70 | | 127 | | 125 | |
| 29 | 116 | | 69 | | 105 | | 160 | |
| 30 | 40 | | 100 | | 100 | | 120 | |
| 31 | -- | | 70 | | 107 | | -- | |

Temperature °F of water, November 1961 to September 1962

/Once-daily measurement at approximately 0700/

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

PAMLICO RIVER BASIN

2-830. FISHING CREEK NEAR ENFIELD, N. C.

LOCATION.--Temperature recorder at gaging station, 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, 4.8 miles downstream from Rocky Creek, and 40 miles upstream from mouth.

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 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 79°F July 24-26; minimum, 36°F Jan. 13-16.

EXTREMES, 1948-49, 1953-62.--Water temperatures: Maximum, 86°F on several days in July 1955, June, July, 1959; minimum, 33°F on several days in December 1948, December 1958.

REMARKS.--Recorder stopped July 5-9, Sept. 28-30; range in temperature 61°F to 75°F.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|----|-------------------------------|---------------|-------------------------------------------|----|-------|
| | | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Mar. 13, 1962..... | 2,030 | 10 | 0.04 | 2.7 | 1.7 | 3.3 | 1.2 | 12 | 7.8 | 4.0 | 0.2 | 0.3 | 37 | 14 | 4 | 49 | 6.9 | 30 | |
| Aug. 23..... | 114 | 18 | .04 | 5.0 | 2.7 | 5.6 | 1.6 | 36 | 1.8 | 4.0 | .1 | .0 | 57 | 24 | 0 | 75 | 7.1 | 16 | |

PAMLICO RIVER BASIN--Continued

2-830. FISHING CREEK NEAR ENFIELD, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962

Continuous ethyl alcohol-actuated thermometer⁷

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

PAMLICO RIVER BASIN--Continued
2-835. TAR RIVER AT TARBORO, N. C.

LOCATION --At gaging station at bridge 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, October 1961 to September 1962.

Water temperatures: October 1944 to September 1945, October 1953 to September 1954, October 1961 to September 1962.

Sediment records: January 1958 to September 1962.

EXTREMES, 1961-62. --Dissolved solids: Maximum, 81 ppm Oct. 16-31; minimum, 48 ppm Jan. 9-16.

Hardness: Maximum, 26 ppm Aug. 23-31; minimum, 13 ppm Jan. 9-16.

Specific conductance: Maximum daily, 155 micromhos Oct. 16; minimum daily, 44 micromhos Jan. 12, 13.

Water temperatures: Maximum, 81°F July 15; minimum, 35°F Jan. 14.

Sediment concentrations: Maximum daily, 300 ppm Aug. 10; minimum daily, 6 ppm Nov. 11, 12.

Sediment loads: Maximum daily, 460 tons Jan. 10; minimum daily, 12 tons Aug. 12.

EXTREMES, 1943-54. 1933-54. 1938-62. --Dissolved solids (1944-45, 1953-54, 1961-62): Maximum, 89 ppm Sept. 21-30, 1954; minimum, 45 ppm on many days in February, 1943.

Hardness (1944-45, 1953-54, 1961-62): Maximum, 26 ppm Aug. 23-31, 1962; minimum, 9 ppm Jan. 21-31, 1954.

Water temperatures (1944-45, 1953-54, 1961-62): Maximum, 84°F July 2, 1945; minimum, 34°F Dec. 20, 1944, Jan. 27, Feb. 2-4, 1945.

Sediment concentrations (1958-62): Maximum daily, 353 ppm July 17, 1958; minimum daily, 6 ppm Dec. 28-30, 1960, Nov. 11, 12, 1961.

Sediment loads (1958-62): Maximum daily, 6,130 tons May 12, 1958; minimum daily, 4 tons Nov. 12, 1961.

REMARKS --Records of specific conductance of daily samples from October 1961 to September 1962 available in district office at Raleigh, N. C.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Oct. 1-15, 1961..... | 299 | 18 | 0.34 | 6.3 | 1.9 | 10 | 1.9 | 35 | 6.2 | 11 | 0.2 | 1.4 | 74 | 24 | 0 | 105 | 7.2 | 20 |
| Oct. 16-31..... | 251 | 19 | 0.44 | 7.1 | 1.6 | 13 | 2.0 | 33 | 5.8 | 16 | .2 | 1.4 | 81 | 24 | 0 | 120 | 7.1 | 20 |
| Nov. 1-15..... | 276 | 18 | 0.45 | 5.1 | 2.3 | 16 | 2.5 | 33 | 7.4 | 17 | .1 | 2.0 | 85 | 25 | 0 | 120 | 7.1 | 10 |
| Nov. 16-30..... | 676 | 18 | 0.51 | 5.1 | 2.3 | 16 | 2.5 | 33 | 7.4 | 17 | .1 | 2.0 | 85 | 25 | 0 | 86 | 6.5 | 10 |
| Dec. 1-31..... | 1,375 | 17 | 0.6 | 5.3 | 1.8 | 8.3 | 2.3 | 21 | 9.0 | 8.4 | .1 | 1.7 | 68 | 20 | 3 | 86 | 7.2 | 15 |
| Jan. 1-8, 1962..... | 3,305 | 14 | .08 | 4.1 | 1.8 | 5.7 | 1.7 | 15 | 8.6 | 6.5 | .1 | 1.1 | 65 | 18 | 5 | 70 | 6.6 | 35 |
| Jan. 9-16..... | 8,335 | 9.0 | .04 | 3.2 | 1.3 | 3.3 | 2.0 | 9 | 7.2 | 5.0 | .1 | .9 | 48 | 13 | 6 | 51 | 6.2 | 60 |
| Jan. 17-31..... | 3,743 | 13 | .06 | 4.1 | 1.4 | 5.6 | 1.6 | 13 | 8.4 | 7.0 | .1 | 1.1 | 57 | 16 | 6 | 68 | 6.6 | 36 |
| Feb. 1-28..... | 4,396 | 12 | .05 | 3.6 | 1.8 | 4.9 | 1.5 | 14 | 7.6 | 5.7 | .0 | .9 | 54 | 16 | 5 | 62 | 6.6 | 20 |
| Mar. 1-31..... | 6,150 | 9.5 | .07 | 3.4 | 1.4 | 4.1 | 1.4 | 13 | 6.0 | 4.6 | .0 | .8 | 52 | 14 | 4 | 54 | 6.9 | 30 |
| Apr. 1-30..... | 4,964 | 11 | .06 | 4.8 | 1.5 | 5.4 | 1.2 | 20 | 4.2 | 4.3 | .1 | 1.5 | 50 | 18 | 2 | 62 | 7.1 | 23 |
| May 1-31..... | 1,120 | 15 | .19 | 6.3 | 1.9 | 7.2 | 1.6 | 32 | 3.4 | 6.8 | .1 | 1.9 | a61 | 24 | 0 | 86 | 7.3 | 33 |
| June 1-30..... | 1,367 | 15 | .20 | 4.6 | 1.7 | 6.5 | 2.0 | 24 | 4.2 | 5.9 | .2 | 1.5 | 66 | 18 | 0 | 71 | 6.9 | 32 |
| July 1-13..... | 3,183 | 15 | .10 | 4.7 | 1.5 | 4.4 | 1.7 | 18 | 5.6 | 5.8 | .3 | 1.8 | 67 | 18 | 3 | 92 | 7.0 | 45 |
| July 14-31..... | 1,458 | 14 | .11 | 3.9 | 1.6 | 3.6 | 1.7 | 24 | 4.6 | 6.2 | .4 | 1.6 | 63 | 20 | 0 | 82 | 7.0 | 30 |
| Aug. 1-9..... | 1,369 | 14 | .09 | 5.1 | 2.1 | 5.9 | 1.7 | 20 | 3.8 | 3.8 | .1 | 2.1 | a83 | 22 | 0 | 83 | 6.7 | 30 |
| Aug. 10-14..... | 1,449 | 12 | .04 | 5.6 | 2.1 | 5.9 | 1.4 | 21 | 5.0 | 3.1 | .1 | 1.5 | 58 | 18 | 2 | 63 | 6.7 | 30 |
| Aug. 15-22..... | 610 | 16 | .13 | 6.5 | 2.2 | 7.5 | 2.0 | 28 | 4.6 | 7.7 | .2 | 2.6 | a64 | 25 | 2 | 88 | 6.6 | -- |

| | | | | | | | | | | | | | | | | | |
|-------------------------------|-------|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|-----|-----|----|
| Aug. 23-31, 1962.... | 460 | 15 | .21 | 6.6 | 2.4 | 8.6 | 1.9 | 33 | 5.2 | 9.0 | .1 | 2.2 | 68 | 26 | 96 | 6.9 | -- |
| Sept. 1-19..... | 378 | 16 | .15 | 7.2 | 1.8 | 9.9 | 2.1 | 34 | 5.6 | 10 | .3 | 2.2 | 76 | 25 | 105 | 7.3 | 17 |
| Sept. 20-30..... | 811 | 14 | .02 | 5.2 | 1.2 | 7.1 | 2.2 | 26 | 5.6 | 7.9 | .3 | .1 | 59 | 18 | 77 | 6.8 | 20 |
| Time-weighted average..... | 2,346 | 14 | 0.12 | 5.2 | 1.7 | 7.0 | 1.8 | 24 | 5.8 | 7.4 | 0.1 | 1.4 | 63 | 20 | 79 | -- | 26 |

a Calculated from determined constituents.

QUALITY OF SURFACE WATERS, 1962

PAMLICO RIVER BASIN--Continued

2-835. TAR RIVER AT TARBORO, N. C.--Continued

Temperature °F of water, November 1961 to September 1962

/Once-daily measurement between 0600 and 1045/

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

PAMLICO RIVER BASIN--Continued

2-835. TAR RIVER AT TARBORO, N.C.--Continued

Suspended sediment, water year October 1961 to September 1962

| Day | OCTOBER | | | NOVEMBER | | | DECEMBER | | |
|-------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| | Suspended sediment | | | Suspended sediment | | | Suspended sediment | | |
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 246 | 12 | 8 | 226 | 11 | 7 | 485 | 14 | 18 |
| 2.. | 270 | 14 | 10 | 224 | 10 | 6 | 470 | 13 | 16 |
| 3.. | 260 | 15 | 11 | 255 | 11 | 8 | 470 | 15 | 19 |
| 4.. | 318 | 22 | 19 | 224 | 11 | 7 | 440 | 15 | 18 |
| 5.. | 308 | 21 | 17 | 235 | 8 | 5 | 425 | 15 | 17 |
| 6.. | 380 | 24 | 25 | 237 | 9 | 6 | 410 | 18 | 20 |
| 7.. | 380 | 25 | 26 | 250 | 9 | 6 | 410 | 11 | 12 |
| 8.. | 380 | 21 | 22 | 246 | 10 | 7 | 410 | 9 | 10 |
| 9.. | 318 | 18 | 15 | 302 | 10 | 8 | 380 | 9 | 9 |
| 10.. | 322 | 21 | 18 | 255 | 8 | 6 | 395 | 9 | 10 |
| 11.. | 272 | 18 | 13 | 282 | 6 | 5 | 410 | 12 | 13 |
| 12.. | 255 | 20 | 14 | 270 | 6 | 4 | 515 | 16 | 22 |
| 13.. | 270 | 18 | 13 | 272 | 7 | 5 | 772 | 25 | 52 |
| 14.. | 252 | 16 | 11 | 275 | 9 | 7 | 1630 | 64 | 291 |
| 15.. | 248 | 15 | 10 | 282 | 10 | 8 | 2240 | 58 | 351 |
| 16.. | 246 | 11 | 7 | 280 | 11 | 8 | 1890 | 50 | 255 |
| 17.. | 232 | 8 | 5 | 308 | 12 | 10 | 1400 | 46 | 174 |
| 18.. | 228 | 8 | 5 | 300 | 10 | 8 | 1310 | 42 | 149 |
| 19.. | 228 | 9 | 6 | 302 | 9 | 7 | 1710 | 44 | 203 |
| 20.. | 252 | 13 | 9 | 348 | 11 | 10 | 2940 | 64 | 508 |
| 21.. | 248 | 12 | 8 | 374 | 12 | 12 | 3920 | 125 | 1320 |
| 22.. | 252 | 11 | 7 | 371 | 10 | 10 | 4450 | 150 | 1800 |
| 23.. | 232 | 10 | 6 | 425 | 12 | 14 | 2960 | 66 | 527 |
| 24.. | 213 | 10 | 6 | 515 | 20 | 28 | 2240 | 50 | 302 |
| 25.. | 265 | 9 | 6 | 575 | 25 | 39 | 1740 | 39 | 183 |
| 26.. | 280 | 10 | 8 | 638 | 35 | 60 | 2040 | 34 | 187 |
| 27.. | 290 | 10 | 8 | 830 | 40 | 90 | 2040 | 22 | 121 |
| 28.. | 275 | 10 | 7 | 760 | 25 | 51 | 1300 | 26 | 91 |
| 29.. | 275 | 10 | 7 | 605 | 16 | 26 | 877 | 35 | 83 |
| 30.. | 270 | 8 | 6 | 545 | 18 | 26 | 1030 | 27 | 75 |
| 31.. | 235 | 10 | 6 | -- | -- | -- | 930 | 30 | 75 |
| Total | 8500 | -- | 339 | 11011 | -- | 494 | 42639 | -- | 6931 |
| | | | | | | | | | |
| Day | JANUARY | | | FEBRUARY | | | MARCH | | |
| | Suspended sediment | | | Suspended sediment | | | Suspended sediment | | |
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 970 | 22 | 58 | 7760 | 73 | 1530 | 8850 | 61 | 1460 |
| 2.. | 1310 | 23 | 81 | 8690 | 53 | 1240 | 8850 | 59 | 1410 |
| 3.. | 2390 | 44 | 284 | 9120 | 40 | 985 | 8100 | 41 | 897 |
| 4.. | 3800 | 89 | 923 | 7490 | 34 | 688 | 6610 | 30 | 535 |
| 5.. | 4260 | 118 | 1360 | 5840 | 30 | 473 | 4920 | 24 | 319 |
| 6.. | 3780 | 56 | 572 | 4300 | 26 | 302 | 4430 | 25 | 299 |
| 7.. | 4280 | 106 | 1220 | 3380 | 20 | 183 | 4740 | 35 | 448 |
| 8.. | 5650 | 96 | 1460 | 2820 | 16 | 122 | 5190 | 35 | 490 |
| 9.. | 6520 | 183 | 3220 | 2440 | 16 | 105 | 5580 | 26 | 392 |
| 10.. | 7550 | 167 | 3400 | 2290 | 13 | 80 | 6050 | 25 | 408 |
| 11.. | 8840 | 133 | 3170 | 2240 | 11 | 67 | 6450 | 23 | 401 |
| 12.. | 10900 | 105 | 3090 | 2290 | 11 | 68 | 6790 | 25 | 458 |
| 13.. | 12100 | 81 | 2450 | 2290 | 10 | 62 | 7470 | 45 | 908 |
| 14.. | 9580 | 64 | 1660 | 2090 | 9 | 51 | 8050 | 35 | 761 |
| 15.. | 6660 | 49 | 881 | 1940 | 10 | 52 | 8370 | 51 | 1150 |
| 16.. | 4530 | 47 | 575 | 1940 | 13 | 68 | 8530 | 42 | 967 |
| 17.. | 3960 | 37 | 396 | 2090 | 12 | 68 | 7520 | 32 | 650 |
| 18.. | 4080 | 34 | 375 | 2340 | 17 | 107 | 5880 | 25 | 397 |
| 19.. | 3900 | 47 | 495 | 2880 | 23 | 179 | 4410 | 23 | 274 |
| 20.. | 3360 | 58 | 526 | 3540 | 34 | 325 | 3420 | 20 | 185 |
| 21.. | 3060 | 44 | 364 | 3540 | 22 | 210 | 3200 | 24 | 207 |
| 22.. | 2880 | 27 | 210 | 4510 | 42 | 511 | 4440 | 68 | 815 |
| 23.. | 2700 | 28 | 204 | 5060 | 66 | 902 | 5390 | 44 | 640 |
| 24.. | 2490 | 28 | 188 | 5260 | 36 | 511 | 6320 | 70 | 1190 |
| 25.. | 2540 | 25 | 171 | 5580 | 40 | 603 | 6650 | 43 | 772 |
| 26.. | 2760 | 30 | 224 | 6180 | 81 | 1350 | 6250 | 32 | 540 |
| 27.. | 3420 | 34 | 314 | 7060 | 146 | 2780 | 5780 | 31 | 484 |
| 28.. | 4000 | 44 | 475 | 8130 | 98 | 2150 | 5520 | 26 | 388 |
| 29.. | 4560 | 58 | 714 | -- | -- | -- | 5720 | 44 | 680 |
| 30.. | 5650 | 56 | 854 | -- | -- | -- | 5650 | 39 | 595 |
| 31.. | 6790 | 88 | 1610 | -- | -- | -- | 5520 | 32 | 477 |
| Total | 149270 | -- | 31724 | 123090 | -- | 15772 | 190650 | -- | 19597 |

S Computed by subdividing day.

QUALITY OF SURFACE WATERS, 1962

PAMLICO RIVER BASIN--Continued

2-835. TAR RIVER AT TARBORO, N.C.--Continued

Suspended sediment, water year October 1961 to September 1962--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.. | 5190 | 26 | 364 | 1860 | 41 | 206 | 673 | 14 | 25 |
| 2.. | 4860 | 38 | 499 | 2040 | 33 | 182 | 673 | 25 | 45 |
| 3.. | 5720 | 114 | 1760 | 2130 | 39 | 224 | 750 | 35 | 71 |
| 4.. | 6650 | 110 | 1980 | 1820 | 37 | 182 | 1630 | 203 | 908 |
| 5.. | 7470 | 80 | 1610 | 1680 | 36 | 163 | 2230 | 120 | 723 |
| 6.. | 8210 | 54 | 1200 | 1510 | 30 | 122 | 2280 | 104 | 640 |
| 7.. | 7620 | 40 | 823 | 1330 | 30 | 108 | 2000 | 94 | 508 |
| 8.. | 6720 | 35 | 635 | 1200 | 25 | 81 | 1680 | 67 | 304 |
| 9.. | 6180 | 35 | 584 | 1160 | 20 | 63 | 1380 | 50 | 186 |
| 10.. | 6320 | 54 | 921 | 1200 | 18 | 58 | 1120 | 47 | 142 |
| 11.. | 6790 | 99 | 1810 | 1160 | 21 | 66 | 910 | 38 | 93 |
| 12.. | 7550 | 85 | 1730 | 1200 | 25 | 81 | 810 | 31 | 68 |
| 13.. | 8450 | 56 | 1280 | 1290 | 23 | 80 | 790 | 28 | 60 |
| 14.. | 8530 | 42 | 967 | 1290 | 18 | 63 | 1070 | 54 | 156 |
| 15.. | 7910 | 46 | 982 | 1330 | 24 | 86 | 1890 | 87 | 444 |
| 16.. | 7190 | 41 | 796 | 1160 | 19 | 60 | 2090 | 96 | 542 |
| 17.. | 5980 | 39 | 630 | 1070 | 18 | 52 | 2000 | 83 | 448 |
| 18.. | 4500 | 36 | 437 | 970 | 20 | 52 | 1460 | 62 | 244 |
| 19.. | 3540 | 31 | 296 | 930 | 25 | 63 | 1070 | 54 | 156 |
| 20.. | 3030 | 36 | 295 | 870 | 19 | 45 | 870 | 40 | 94 |
| 21.. | 2760 | 30 | 224 | 850 | 17 | 39 | 790 | 35 | 75 |
| 22.. | 2480 | 24 | 161 | 750 | 20 | 41 | 750 | 30 | 61 |
| 23.. | 2280 | 25 | 154 | 711 | 16 | 31 | 970 | 51 | 134 |
| 24.. | 2130 | 29 | 167 | 711 | 16 | 31 | 1290 | 57 | 199 |
| 25.. | 2000 | 35 | 189 | 636 | 16 | 27 | 1070 | 39 | 113 |
| 26.. | 1910 | 30 | 155 | 654 | 20 | 35 | 990 | 41 | 110 |
| 27.. | 1820 | 25 | 123 | 600 | 11 | 18 | 2010 | 129 | 764 |
| 28.. | 1730 | 30 | 140 | 636 | 22 | 38 | 2340 | 157 | 992 |
| 29.. | 1640 | 31 | 137 | 600 | 21 | 34 | 1640 | 150 | 664 |
| 30.. | 1770 | 47 | 225 | 692 | 23 | 43 | 1770 | 176 | 841 |
| 31.. | --- | --- | --- | 692 | 23 | 43 | --- | --- | --- |
| Total | 148930 | -- | 21274 | 34732 | -- | 2417 | 40996 | -- | 9810 |
| | | | | | | | | | |
| 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.. | 2840 | 141 | 1080 | 618 | 29 | 48 | 386 | 22 | 23 |
| 2.. | 3030 | 106 | 867 | 810 | 44 | 96 | 356 | 17 | 16 |
| 3.. | 3160 | 97 | 828 | 850 | 43 | 99 | 348 | 14 | 13 |
| 4.. | 4720 | 118 | 1500 | 770 | 37 | 77 | 311 | 14 | 12 |
| 5.. | 5450 | 65 | 956 | 750 | 29 | 59 | 314 | 12 | 10 |
| 6.. | 5520 | 60 | 894 | 1390 | 73 | 287 | 292 | 15 | 12 |
| 7.. | 4860 | 55 | 722 | 1550 | 60 | 251 | 320 | 16 | 14 |
| 8.. | 3520 | 55 | 523 | 1210 | 73 | 238 | 371 | 20 | 20 |
| 9.. | 2480 | 52 | 348 | 2540 | 210 | 5 | 1505 | 374 | 17 |
| 10.. | 1930 | 49 | 255 | 3140 | 300 | 5 | 2580 | 462 | 32 |
| 11.. | 1550 | 36 | 151 | 1610 | 135 | 5 | 614 | 342 | 22 |
| 12.. | 1290 | 41 | 143 | 990 | 85 | 227 | 394 | 25 | 27 |
| 13.. | 1030 | 48 | 133 | 830 | 70 | 157 | 336 | 24 | 22 |
| 14.. | 970 | 53 | 139 | 673 | 53 | 96 | 331 | 24 | 21 |
| 15.. | 1470 | 55 | 218 | 582 | 42 | 66 | 289 | 20 | 16 |
| 16.. | 1730 | 81 | 378 | 530 | 36 | 52 | 322 | 20 | 17 |
| 17.. | 1910 | 97 | 500 | 565 | 42 | 64 | 306 | 22 | 18 |
| 18.. | 1550 | 66 | 276 | 565 | 38 | 58 | 400 | 36 | 39 |
| 19.. | 1820 | 76 | 373 | 636 | 42 | 72 | 932 | 110 | 5 |
| 20.. | 1730 | 78 | 364 | 730 | 47 | 93 | 1680 | 146 | 662 |
| 21.. | 1330 | 58 | 208 | 673 | 35 | 64 | 1330 | 99 | 356 |
| 22.. | 1120 | 47 | 142 | 600 | 30 | 49 | 870 | 81 | 190 |
| 23.. | 1120 | 54 | 163 | 565 | 25 | 38 | 636 | 64 | 110 |
| 24.. | 1010 | 40 | 109 | 456 | 16 | 20 | 512 | 52 | 72 |
| 25.. | 1120 | 50 | 151 | 443 | 18 | 22 | 456 | 45 | 55 |
| 26.. | 1200 | 50 | 162 | 530 | 21 | 30 | 436 | 47 | 55 |
| 27.. | 1120 | 48 | 145 | 495 | 24 | 32 | 565 | 55 | 84 |
| 28.. | 950 | 37 | 95 | 462 | 28 | 35 | 750 | 81 | 164 |
| 29.. | 870 | 36 | 85 | 415 | 24 | 27 | 692 | 60 | 112 |
| 30.. | 770 | 31 | 64 | 400 | 17 | 18 | 990 | 87 | 233 |
| 31.. | 711 | 31 | 60 | 374 | 17 | 17 | --- | --- | --- |
| Total | 63881 | -- | 12032 | 26752 | -- | 7091 | 16103 | -- | 2739 |

S Computed by subdividing day.

PAMLICO RIVER BASIN--Continued

2-843.92. TRANTERS CREEK NEAR WASHINGTON, N. C.

LOCATION.--At bridge on county road, 0.9 mile upstream from mouth, 0.4 mile west of Atlantic Coast Line Railroad, and 2.5 miles northwest of Washington, Beaufort County.

DRAINAGE AREA.--254 square miles.

PERIODS AVAILABLE.--Chemical analyses: October 1960 to September 1962.

EXTREMES 1961-62.--October 1961: Maximum, 2,130 ppm Dec. 11; minimum, 3.4 ppm July 1-7.

Specific conductance: Maximum daily, 6,850 micromhos Dec. 11; minimum daily, 41 micromhos July 2.

Water temperatures: Maximum, 84°F Aug. 22; minimum, freezing point Jan. 17, 18.

EXTREMES 1960-62.--Chloride: Maximum, 2,130 ppm Dec. 11, 1961; minimum, 3.4 ppm July 1-7, 1962.

Specific conductance: Maximum daily, 6,850 micromhos Dec. 11, 1961; minimum daily, 35 micromhos June 24, 1961.

Water temperatures: Maximum, 88°F Aug. 1, 1961; minimum, freezing point Jan. 17, 18, 1962.

REMARKS.--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.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Oct. 23-27, 1961..... | | 11 | 0.01 | 34 | 81 | 635 | 25 | 36 | 164 | 1,160 | 0.2 | 0.6 | 2,129 | 418 | 389 | 4,050 | 6.7 | 20 |
| Oct. 28-31..... | | 12 | 12 | 22 | 43 | 330 | 15 | 29 | 114 | 575 | 2 | 0.7 | 2,280 | 231 | 207 | 2,280 | 6.7 | -- |
| Dec. 18-21..... | | 12 | 39 | 5.4 | 3.2 | 19 | 3.0 | 15 | 16 | 32 | 1 | 0.6 | 499 | 26 | 14 | 178 | 6.7 | 100 |
| Dec. 22-31..... | | 12 | 26 | 6.1 | 2.5 | 13 | 2.6 | 12 | 18 | 19 | 2 | 1.2 | 89 | 25 | 15 | 136 | 6.5 | 80 |
| Jan. 1-5, 1962..... | | 12 | 25 | 7.1 | 2.2 | 12 | 2.3 | 13 | 19 | 18 | 1 | 0.7 | 80 | 27 | 16 | 138 | 6.5 | 80 |
| Jan. 6-8..... | | 10 | 11 | 6.3 | 1.8 | 8.7 | 2.7 | 11 | 16 | 13 | 2 | 0.5 | 364 | 22 | 15 | 110 | 6.4 | -- |
| Jan. 9-31..... | | 8.4 | 17 | 5.6 | 2.1 | 7.4 | 1.8 | 10 | 18 | 10 | 1 | 0.8 | 69 | 23 | 15 | 95 | 6.1 | 60 |
| Feb. 1-28..... | | 5.7 | 12 | 6.3 | 1.6 | 7.0 | 1.7 | 9 | 17 | 10 | 1 | 0.9 | 68 | 22 | 15 | 93 | 6.4 | 90 |
| Mar. 1-31..... | | 3.2 | 10 | 5.0 | 2.1 | 5.2 | 1.4 | 9 | 14 | 8.4 | 1 | 1.3 | 64 | 22 | 14 | 76 | 6.1 | 80 |
| Apr. 1-30..... | | 3.5 | 16 | 5.0 | 1.5 | 6.3 | 1.2 | 13 | 9.4 | 8.1 | 1 | 1.3 | 62 | 18 | 8 | 79 | 6.8 | 90 |
| May 1-31..... | | 6.3 | 37 | 6.0 | 2.0 | 9.0 | 1.9 | 22 | 8.4 | 10 | 2 | 1.8 | 80 | 24 | 6 | 106 | 7.0 | 50 |
| June 1-16..... | | 7.8 | 45 | 7.3 | 1.6 | 9.6 | 2.1 | 25 | 8.4 | 11 | 1 | 1.5 | 89 | 24 | 4 | 100 | 7.0 | 110 |
| June 17-20..... | | 6.4 | 18 | 5.3 | 1.1 | 5.5 | 1.8 | 13 | 12 | 5.1 | 2 | 1.4 | 67 | 18 | 7 | 83 | 6.6 | 110 |
| July 1-23..... | | 4.8 | 23 | 3.8 | 1.1 | 2.4 | 1.6 | 16 | 8.8 | 2.4 | 2 | 1.3 | 62 | 18 | 8 | 83 | 6.6 | 120 |
| Aug. 1-31..... | | 9.0 | 26 | 5.1 | 2.2 | 6.4 | 1.9 | 19 | 8.2 | 8.0 | 2 | 1.3 | 60 | 24 | 9 | 83 | 6.5 | 120 |
| Sept. 1-30..... | | 7.4 | 19 | 5.4 | 2.3 | 6.8 | 2.1 | 24 | 9.4 | 7.5 | 1 | 3.2 | 75 | 23 | 4 | 87 | 7.0 | 100 |
| Time-weighted average..... | | 6.8 | 0.22 | 6.3 | 3.8 | 22 | 2.4 | 16 | 16 | 36 | 0.1 | 1.5 | 120 | 31 | 19 | 185 | -- | 90 |

a Calculated from determined constituents.

b Organic matter present; sum of mineral constituents 30 parts per million.

PAMLICO RIVER BASIN--Continued

2-843.92. TRANTERS CREEK NEAR WASHINGTON, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1961 to September 1962

| Water year October 1901 to September 1902 | | | | | | | | |
|-------------------------------------------|-------------------------------------------|---------------|-------------------------------------------|---------------|-------------------------------------------|---------------|-------------------------------------------|---------------|
| Day | October | | November | | December | | January 115 | |
| | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) |
| 1 | 115 | 17 | 2,080 | 564 | 3,880 | 1,140 | 152 | 18 |
| 2 | 85 | 6.0 | 3,000 | 820 | 1,800 | 495 | 130 | |
| 3 | 167 | 29 | 2,820 | 764 | 4,820 | 1,460 | 131 | |
| 4 | 720 | 175 | 3,300 | 925 | 5,020 | 1,520 | 128 | |
| 5 | 1,680 | 558 | 3,180 | 885 | 1,810 | 500 | 132 | |
| 6 | 1,570 | 334 | 3,120 | 870 | 4,420 | 1,325 | 89 | 13 |
| 7 | 269 | 47 | 2,800 | 780 | 2,730 | 625 | 111 | |
| 8 | 91 | 10 | 2,780 | 750 | 3,700 | 1,090 | 121 | |
| 9 | 758 | 183 | 2,760 | 750 | 5,580 | 1,710 | 108 | |
| 10 | 758 | 180 | 3,820 | 1,080 | 3,270 | 930 | 85 | |
| | 2,400 | | | | | | | |
| 11 | 2,400 | 680 | 4,800 | 1,380 | 6,850 | 2,130 | 70 | 10 |
| 12 | 619 | 142 | 4,420 | 1,260 | 2,100 | 585 | 82 | |
| 13 | 3,680 | 1,050 | 3,940 | 1,110 | 2,200 | 620 | 85 | |
| 14 | 1,300 | 324 | 3,380 | 930 | 2,890 | 860 | 89 | |
| 15 | 1,450 | 394 | 2,560 | 692 | 2,780 | 800 | 110 | |
| 16 | 2,470 | 715 | 2,940 | 814 | 1,380 | 355 | 100 | 10 |
| 17 | 1,890 | 525 | 2,680 | 726 | 705 | 165 | 111 | |
| 18 | 2,820 | 810 | 3,000 | 825 | 145 | | 107 | |
| 19 | 2,480 | 690 | 2,060 | 552 | 225 | | 97 | |
| 20 | 1,830 | 500 | 2,250 | 608 | 140 | 32 | 97 | |
| 21 | 2,000 | 550 | 2,520 | 682 | 185 | | 110 | 10 |
| 22 | 2,000 | 550 | 2,820 | 766 | 160 | | 100 | |
| 23 | 4,400 | | 3,800 | 1,070 | 163 | | 100 | |
| 24 | 4,920 | | 2,170 | 580 | 110 | | 111 | |
| 25 | 4,640 | 1,160 | 2,080 | 558 | 143 | 19 | 102 | |
| 26 | 3,120 | | 2,080 | 558 | 123 | | 102 | 10 |
| 27 | 2,990 | | 1,670 | 444 | 153 | | 109 | |
| 28 | 2,760 | | 2,320 | 628 | 108 | | 100 | |
| 29 | 2,180 | 575 | 1,500 | 406 | 123 | | 88 | |
| 30 | 2,150 | | 3,040 | 850 | 118 | | 92 | |
| 31 | 1,900 | | -- | -- | 128 | | 91 | |
| | | | | | | | | |
| February | | | March | | April | | May | |
| 1 | 86 | | 86 | | 78 | | 119 | 10 |
| 2 | 84 | | 85 | | 82 | | 120 | |
| 3 | 89 | | 84 | | 85 | | 120 | |
| 4 | 93 | | 80 | | 78 | | 120 | |
| 5 | 93 | | 79 | | 83 | | 118 | |
| 6 | 85 | | 80 | | 85 | | 132 | 10 |
| 7 | 97 | | 82 | | 84 | | 122 | |
| 8 | 103 | | 74 | | 85 | | 135 | |
| 9 | 99 | | 81 | | 84 | | 123 | |
| 10 | 100 | | 81 | | 83 | | 129 | |
| 11 | 101 | | 79 | | 85 | | 130 | 10 |
| 12 | 99 | | 78 | | 69 | | 130 | |
| 13 | 99 | | 76 | | 73 | | 128 | |
| 14 | 100 | | 73 | | 72 | | 128 | |
| 15 | 102 | 10 | 70 | | 77 | | 130 | |
| 16 | 104 | | 71 | 8.4 | 72 | 8.1 | 130 | 10 |
| 17 | 105 | | 74 | | 72 | | 132 | |
| 18 | 100 | | 76 | | 73 | | 130 | |
| 19 | 100 | | 76 | | 72 | | 131 | |
| 20 | 100 | | 77 | | 72 | | 136 | |
| 21 | 100 | | 79 | | 75 | | 137 | 10 |
| 22 | 95 | | 76 | | 77 | | 130 | |
| 23 | 83 | | 76 | | 83 | | 136 | |
| 24 | 78 | | 74 | | 75 | | 140 | |
| 25 | 91 | | 70 | | 79 | | 140 | |
| 26 | 76 | | 70 | | 81 | | 141 | 10 |
| 27 | 81 | | 76 | | 81 | | 145 | |
| 28 | 82 | | 76 | | 85 | | 140 | |
| 29 | -- | -- | 81 | | 85 | | 141 | |
| 30 | -- | -- | 76 | | 85 | | 142 | |
| 31 | -- | -- | 75 | | -- | -- | 148 | |

PAMLICO RIVER BASIN--Continued

2-843.92. TRANTERS CREEK NEAR WASHINGTON, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1961 to September 1962--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 | 109 | | 43 | | 73 | | 79 | |
| 2 | 111 | | 41 | | 75 | | 85 | |
| 3 | 111 | | 42 | | 71 | | 86 | |
| 4 | 110 | | 42 | 3.4 | 75 | | 85 | |
| 5 | 110 | | 44 | | 79 | | 83 | |
| 6 | 110 | | 51 | | 82 | | 89 | |
| 7 | 96 | | 52 | | 76 | | 86 | |
| 8 | 105 | | 70 | | 80 | | 88 | |
| 9 | 102 | | 55 | | 78 | | 92 | |
| 10 | 103 | 11 | 57 | | 79 | | 83 | |
| 11 | 96 | | 60 | | 80 | | 76 | |
| 12 | 101 | | 61 | | 69 | | 100 | |
| 13 | 100 | | 62 | | 83 | | 91 | |
| 14 | 99 | | 65 | | 77 | | 91 | |
| 15 | 98 | | 74 | | 67 | | 99 | |
| 16 | 87 | | 71 | | 78 | 8.0 | 105 | 7.5 |
| 17 | 61 | | 71 | | 78 | | 91 | |
| 18 | 54 | | 66 | | 79 | | 90 | |
| 19 | 58 | | 57 | 5.6 | 82 | | 83 | |
| 20 | 60 | | 47 | | 84 | | 83 | |
| 21 | 69 | | 49 | | 87 | | 96 | |
| 22 | 64 | | 52 | | 85 | | 97 | |
| 23 | 70 | 5.1 | 54 | | 90 | | 84 | |
| 24 | 70 | | 55 | | 89 | | 97 | |
| 25 | 76 | | 57 | | 93 | | 88 | |
| 26 | 78 | | 67 | | 95 | | 96 | |
| 27 | 74 | | 61 | | 86 | | 82 | |
| 28 | 76 | | 68 | | 94 | | 80 | |
| 29 | 52 | | 70 | | 84 | | 80 | |
| 30 | 53 | | 71 | | 87 | | 81 | |
| 31 | -- | -- | 75 | | 91 | | -- | -- |

Temperature °F of water, November 1961 to September 1962
(Once-daily measurement between 1040 and 1810)

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

PAMLICO RIVER BASIN--Continued
2-844.72. PAMLICO RIVER AT WASHINGTON, N. C.

LOCATION --At bridge on U. S. Highway 17 at Washington, Beaufort County, 0.7 mile below Kennedy Creek.
DRAINAGE AREA --3,080 square miles, approximately.
RECORDS AVAILABLE --Chemical analyses: October 1961 to September 1962.

Water temperatures: October 1961 to September 1962.

EXTREMES, 1961-62.--Chloride: Maximum, 5,980 ppm Dec. 4 (B); minimum, 4.2 ppm July 1 (T).

Specific conductance: Maximum daily, 17,600 micromhos Dec. 23 (B); minimum daily, 46 micromhos Jan. 14.

Water temperatures: Maximum, 85°F June 19 (T); minimum, 35°F Jan. 14 (T).

REMARKS.--Top (T) and bottom (B) samples were collected once daily at approximately high tide and were composited unless otherwise indicated. When individual chloride determinations are tabulated separately from the composite chemical analyses. Records of specific conductance of daily samples available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, January to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|-------------------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium carbonate | | | |
| Jan. 6, 1962..... | | 14 | 0.00 | 5.8 | 3.1 | 17 | 2.3 | 20 | 9.8 | 25 | 0.2 | 0.5 | a88 | 28 | 11 | 133 | 7.0 | -- |
| Jan. 7-10..... | | 9.6 | 5.8 | 5.8 | 1.5 | 5.8 | 2.0 | 12 | 11 | 9.5 | 1.1 | 1.0 | a52 | 20 | 10 | 72 | 6.0 | 40 |
| Jan. 11-17..... | | 7.8 | 0.06 | 4.2 | 1.1 | 4.0 | 2.3 | 11 | 9.0 | 5.0 | 1.1 | 1.0 | 60 | 15 | 6 | 54 | 6.6 | 80 |
| Jan. 18-23, 24(T)... | | 11 | 0.00 | 5.9 | 1.3 | 6.4 | 1.9 | 11 | 12 | 9.0 | 1.1 | 1.0 | 68 | 20 | 12 | 77 | 6.0 | 35 |
| Jan. 29-31..... | | 10 | 0.05 | 5.5 | 2.2 | 7.0 | 1.9 | 15 | 12 | 10 | 1.1 | 1.5 | a56 | 23 | 10 | 82 | 6.3 | 40 |
| Feb. 1-7..... | | 9.5 | 0.09 | 4.4 | 1.3 | 4.8 | 1.5 | 10 | 10 | 7.5 | 1.0 | 1.1 | 52 | 16 | 8 | 67 | 6.5 | 55 |
| Feb. 19-20..... | | 10 | 0.16 | 6.4 | 1.7 | 10 | 1.8 | 16 | 13 | 16 | 1.1 | 2.7 | a70 | 23 | 10 | 117 | 6.9 | 55 |
| Feb. 21-28..... | | 8.8 | 0.04 | 4.6 | 1.6 | 5.8 | 1.4 | 13 | 11 | 8.0 | 1.0 | 1.3 | 53 | 18 | 8 | 74 | 6.6 | 50 |
| Mar. 1-21, 22(T)... | | 7.3 | 0.01 | 4.2 | 2.1 | 4.2 | 1.1 | 11 | 9.2 | 7.1 | 1.1 | 1.0 | 43 | 19 | 10 | 65 | 6.4 | 55 |
| Mar. 24, 25(T)..... | | 7.2 | 0.06 | 4.5 | 1.8 | 6.1 | 1.2 | 14 | 8.0 | 11 | 1.1 | 2.9 | a51 | 18 | 7 | 80 | 6.5 | 30 |
| Mar. 26-31..... | | 8.5 | 0.09 | 4.3 | 2.0 | 4.6 | 1.0 | 14 | 6.4 | 7.9 | 1.1 | 1.5 | 71 | 19 | 8 | 67 | 7.0 | 70 |
| Apr. 1-30..... | | | 0.09 | 4.5 | 1.8 | 5.6 | 1.2 | 18 | 6.4 | 6.8 | 1.1 | 1.9 | 63 | 18 | 3 | 69 | 7.0 | 45 |
| May 1-22..... | | 12 | 0.23 | 6.3 | 1.8 | 7.4 | 1.7 | 27 | 7.2 | 10 | 2.4 | 2.4 | 75 | 23 | 1 | 94 | 6.8 | 60 |
| May 23-24..... | | 13 | 0.00 | 6.2 | 2.7 | 9.6 | 2.1 | 33 | 8.2 | 12 | 1.1 | 1.4 | a74 | 26 | 0 | 122 | 6.6 | 30 |
| May 25-31..... | | 12 | 0.10 | 6.3 | 2.7 | 9.8 | 1.9 | 33 | 6.8 | 12 | 1.1 | 1.9 | 74 | 27 | 0 | 124 | 6.7 | 40 |
| June 1-8..... | | 13 | 0.18 | 7.7 | 1.7 | 10 | 2.0 | 34 | 6.2 | 9.4 | 1.1 | 1.4 | 77 | 26 | 2 | 103 | 7.4 | 37 |
| June 9-30..... | | 11 | 0.17 | 5.1 | 1.9 | 7.3 | 1.9 | 23 | 7.2 | 7.5 | 2.2 | 4.5 | 71 | 21 | 0 | 77 | 7.2 | 80 |
| July 1(T)..... | | -- | -- | -- | -- | -- | -- | 10 | -- | 4.2 | -- | -- | -- | 14 | 6 | 53 | 6.8 | -- |

PAMLICO RIVER BASIN--Continued
 2-844.72. PAMLICO RIVER AT WASHINGTON, N. C.--Continued

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

NEUSE RIVER BASIN
2-852.2. LITTLE RIVER NEAR ORANGE FACTORY, N. C.

LOCATION.--At gaging station at bridge on U.S. Highway 501, 1 mile above Mountain Creek, and 1.5 miles northwest of Orange Factory, Durham County.
DRAINAGE AREA.--81.6 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1962.
Water temperatures: October 1961 to September 1962.
EXTREMES, 1961-62.--Water temperatures: Maximum, 82°F July 22; minimum, freezing point Dec. 31, Jan. 14, 15.
REMARKS.--No discharge records available.

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 31, 1961..... | | 17 | 0.03 | 6.6 | 2.6 | 5.6 | 1.2 | 41 | 2.0 | 5.2 | 0.1 | 0.2 | a61 | 28 | 0 | 82 | 6.7 | 10 |
| Nov. 21..... | | 20 | .18 | 6.7 | 4.2 | 5.6 | 1.1 | 44 | 1.2 | 6.1 | .0 | .1 | a67 | 34 | 0 | 85 | 7.3 | 18 |
| Jan. 8, 1962..... | | 9.8 | .05 | 3.0 | 1.3 | 2.7 | 1.2 | 12 | 5.2 | 3.8 | .0 | 1.0 | 36 | 12 | 2 | 44 | 6.4 | 18 |
| Feb. 11..... | | 16 | .01 | 3.8 | 1.8 | 5.0 | .7 | 22 | 2.8 | 4.7 | .1 | .7 | 49 | 17 | 0 | 59 | 7.1 | 8 |
| Mar. 15..... | | 13 | .00 | 3.4 | 1.4 | 3.4 | .6 | 17 | 3.2 | 4.0 | .0 | .2 | 39 | 14 | 0 | 47 | 6.6 | 10 |
| Apr. 12..... | | 9.1 | .09 | 3.1 | 1.4 | 2.6 | 1.3 | 16 | 4.4 | 3.0 | .1 | .5 | 42 | 14 | 0 | 43 | 6.6 | 50 |
| May 31..... | | 15 | .10 | 5.1 | 3.0 | 5.1 | .6 | 32 | 1.8 | 7.2 | .1 | .4 | 58 | 26 | 0 | 65 | 6.9 | 25 |
| June 21..... | | 15 | .09 | 5.5 | 2.0 | 4.9 | 1.0 | 31 | 2.0 | 3.7 | .2 | .8 | 56 | 22 | 0 | 53 | 6.6 | 20 |
| July 26..... | | 14 | .03 | 6.1 | 2.5 | 5.4 | 1.3 | 36 | 1.6 | 4.0 | .2 | .3 | 57 | 26 | 0 | 72 | 6.6 | 10 |
| Sept. 6..... | | 13 | .01 | 6.3 | 2.1 | 4.8 | 1.7 | 36 | 2.6 | 4.2 | .1 | .6 | a54 | 23 | 0 | 73 | 7.3 | 20 |

^a Calculated from determined constituents.

NEUSE RIVER BASIN--Continued

2-871.82. NEUSE RIVER AT FALLS, N. C.

LOCATION --At bridge on county road at Falls, Wake County, 1.8 miles downstream from Horse Creek and 1.5 miles upstream from Richland Creek.

DRAINAGE AREA --77 square miles.

RECORDS AVAILABLE --Chemical analyses: October 1953 to September 1954, November 1960 to September 1962.

Water temperatures: October 1954, November 1960 to September 1962.

EXTREMES 1961-62.--Dissolved solids: Maximum, 100 ppm Oct. 1-31; minimum, 46 ppm Apr. 1-18.

Hardness: Maximum, 46 ppm Jan. 1; minimum, 14 ppm Apr. 1-18.

Specific conductance: Maximum daily, 201 micromhos Oct. 26; minimum daily, 43 micromhos Apr. 9.

Water temperatures: Maximum, 79°F July 15; minimum, 35°F Dec. 30, Jan. 12-14.

EXTREMES, 1953-54, 1960-62.--Dissolved solids: Maximum, 129 ppm Sept. 21-30, 1954; minimum, 38 ppm Jan. 15-17, 1961.

Hardness: Maximum, 46 ppm Jan. 1, 1962; minimum, 13 ppm Jan. 21-31, 1954.

Specific conductance (1960-62): Maximum daily, 201 micromhos Oct. 26, 1961; minimum daily, 37 micromhos Aug. 4, 1961.

Water temperatures: Maximum, 81°F July 15, 1954; minimum, freezing point on many days during winter months.

REMARKS.--Records of specific conductance of daily samples from November 1960 to September 1962 and records of suspended matter from October 1953 to September 1954 available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-31, 1961..... | | 19 | 0.06 | 9.5 | 2.4 | 16 | 3.6 | 52 | 5.8 | 12 | 0.2 | 4.1 | 100 | 34 | 0 | 140 | 7.7 | 10 |
| Nov. 1-30..... | | 19 | 0.10 | 9.5 | 2.7 | 18 | 3.9 | 53 | 6.4 | 14 | .2 | 5.9 | 107 | 34 | 0 | 160 | 7.5 | 20 |
| Dec. 1-13..... | | 19 | 0.10 | 8.0 | 2.7 | 13 | 3.1 | 43 | 6.0 | 11 | 1.1 | 4.8 | 95 | 31 | 0 | 141 | 7.2 | 15 |
| Dec. 14-31..... | | 13 | 0.13 | 5.6 | 1.9 | 6.0 | 2.2 | 22 | 8.0 | 7.8 | 1.1 | 2.5 | 59 | 22 | 4 | 89 | 7.0 | 32 |
| Jan. 1, 1962..... | | -- | -- | 16 | 1.8 | -- | -- | 56 | -- | 8.4 | -- | -- | -- | 46 | 0 | 152 | 7.9 | -- |
| Jan. 2-18..... | | 10 | .01 | 4.1 | 1.7 | 5.0 | 1.7 | 16 | 7.4 | 5.5 | 1.1 | 1.0 | 57 | 17 | 4 | 62 | 6.8 | 55 |
| Jan. 19-31..... | | 12 | .05 | 5.3 | 1.6 | 5.7 | 1.7 | 21 | 7.0 | 5.5 | .2 | 1.4 | 54 | 20 | 2 | 71 | 7.1 | 25 |
| Feb. 1-28..... | | 12 | .03 | 3.8 | 2.6 | 3.9 | 1.2 | 15 | 7.2 | 4.5 | 1.1 | .7 | 48 | 16 | 4 | 75 | 7.0 | 25 |
| Mar. 31-28..... | | 19.5 | .03 | 3.8 | 2.6 | 3.9 | 1.2 | 15 | 7.2 | 4.5 | 1.1 | .7 | 48 | 16 | 4 | 75 | 7.0 | 25 |
| Apr. 1-31..... | | 11 | .05 | 4.1 | 2.1 | 4.8 | 1.3 | 19 | 6.0 | 4.7 | 1.0 | 1.1 | 51 | 19 | 4 | 64 | 7.1 | 10 |
| Apr. 1-18..... | | 9.9 | .11 | 3.6 | 1.4 | 4.1 | 1.3 | 18 | 5.0 | 3.5 | 1.1 | 1.7 | 46 | 14 | 0 | 54 | 7.1 | 35 |
| Apr. 19-30..... | | 13 | .02 | 5.7 | 1.4 | 6.1 | 1.1 | 27 | 4.6 | 4.1 | 1.1 | 1.8 | 58 | 20 | 0 | 71 | 7.4 | 9 |
| May 1-7..... | | 13 | .02 | 5.1 | 2.3 | 6.8 | 1.3 | 32 | 5.6 | 6.5 | .0 | .1 | 57 | 23 | 0 | 82 | 6.7 | 10 |
| May 8-23..... | | 16 | .04 | 6.6 | 2.8 | 8.8 | 1.4 | 35 | 4.4 | 6.5 | .0 | 4.2 | 71 | 28 | 0 | 96 | 7.5 | 15 |
| May 24-31..... | | 15 | .03 | 6.6 | 2.9 | 9.8 | 2.0 | 40 | 4.6 | 7.0 | 1.1 | 4.4 | 89 | 28 | 0 | 115 | 7.3 | 30 |
| June 1-12..... | | 14 | .09 | 5.9 | 1.7 | 7.8 | 1.7 | 31 | 4.4 | 6.5 | 1.1 | 2.8 | 66 | 22 | 0 | 84 | 7.0 | 9 |
| June 13-14..... | | 10 | .04 | 4.3 | 1.5 | 4.7 | 1.5 | 20 | 3.6 | 3.2 | 0 | 2.3 | 41 | 17 | 0 | 57 | 7.0 | 28 |
| June 15-30..... | | 14 | .05 | 6.4 | 1.9 | 8.0 | 1.9 | 29 | 5.2 | 6.0 | .1 | 3.5 | 66 | 24 | 0 | 86 | 7.1 | 18 |

| | | | | | | | | | | | | | | | | | |
|----------------------|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|---|-----|-----|----|
| July 1-20, 1962..... | 14 | .06 | 5.8 | 1.9 | 5.6 | 1.8 | 28 | 4.4 | 5.3 | .2 | 2.8 | 66 | 22 | 0 | 78 | 7.2 | 20 |
| July 21-31..... | 16 | .07 | 9.1 | 1.8 | 12 | 2.5 | 42 | 6.2 | 9.2 | .0 | 8.1 | 92 | 30 | 0 | 121 | 7.0 | 22 |
| Aug. 1-5..... | 14 | .02 | 7.9 | 2.3 | 12 | 2.6 | 40 | 6.4 | 8.8 | .2 | 5.2 | a80 | 29 | 0 | 120 | 6.7 | -- |
| Aug. 6-17..... | 18 | .09 | 5.4 | 1.8 | 5.5 | 2.0 | 26 | 5.6 | 5.2 | .2 | 1.9 | 74 | 20 | 0 | 76 | 6.7 | 35 |
| Aug. 18-31..... | 13 | .11 | 8.1 | 2.5 | 9.6 | 2.5 | 39 | 7.0 | 8.6 | .0 | 1.8 | 71 | 28 | 0 | 107 | 6.8 | 40 |
| Sept. 1-18..... | 16 | .09 | 8.8 | 2.5 | 14 | 3.2 | 43 | 6.4 | 11 | .2 | 6.0 | 93 | 32 | 0 | 140 | 7.4 | 18 |
| Sept. 19-25..... | 11 | .02 | 5.9 | 2.3 | 6.8 | 2.5 | 32 | 7.0 | 6.6 | .0 | .4 | 62 | 24 | 0 | 90 | 6.8 | 20 |
| Sept. 26-30..... | 15 | .01 | 7.1 | 2.8 | 13 | 3.0 | 42 | 8.6 | 11 | .1 | 3.1 | a85 | 29 | 0 | 130 | 7.0 | 20 |
| Time-weighted | | | | | | | | | | | | | | | | | |
| average..... | 14 | 0.07 | 6.4 | 2.1 | 9.0 | 2.2 | 32 | 6.0 | 7.6 | 0.1 | 3.0 | 72 | 25 | 1 | 98 | -- | 22 |

a Calculated from determined constituents.

QUALITY OF SURFACE WATERS, 1962

NEUSE RIVER BASIN--Continued

2-871.82. NEUSE RIVER AT FALLS, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962

(Once-daily measurement between 0800 and 1300)

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

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 1962.

REMARKS.--No appreciable inflow between sampling point and gaging station except during periods of heavy local runoff.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| Date of collection | Mean discharge (dis) | 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 2, 1961..... | 215 | 16 | 0.05 | 7.0 | 2.7 | 27 | 3.3 | 45 | 7.2 | 29 | 0.1 | 3.7 | 127 | 28 | 0 | 192 | 6.3 | 15 |
| Nov. 1..... | 166 | 19 | .03 | 7.8 | 3.0 | 30 | 4.1 | 48 | 7.8 | 33 | .1 | 4.9 | 143 | 32 | 0 | 219 | 6.4 | 15 |
| Nov. 30..... | 230 | 18 | .07 | 5.9 | 3.1 | 17 | 3.1 | 43 | 6.8 | 15 | .2 | 5.5 | 102 | 28 | 0 | 142 | 7.0 | 10 |
| Jan. 2, 1962..... | 2,620 | 16 | .07 | 4.7 | 2.1 | 7.7 | 1.7 | 21 | 7.2 | 9.1 | .2 | .1 | 68 | 20 | 4 | 61 | 6.5 | 42 |
| Feb. 1..... | 2,140 | 20 | .03 | 3.1 | 1.7 | 3.8 | 1.7 | 13 | 7.0 | 4.6 | .1 | .6 | 79 | 13 | 4 | 66 | 6.5 | 35 |
| Mar. 3..... | 2,700 | 11 | .06 | 4.6 | 1.2 | 5.6 | 1.6 | 18 | 6.2 | 3.4 | .0 | 1.2 | 58 | 16 | 2 | 69 | 6.5 | 38 |
| Apr. 3..... | 5,680 | 8.4 | .07 | 3.2 | 1.6 | 4.0 | 1.7 | 17 | 5.6 | 4.2 | .2 | .3 | 48 | 14 | 0 | 54 | 6.1 | 40 |
| May 1..... | 818 | 10 | .10 | 3.5 | 1.6 | 5.5 | 1.7 | 19 | 5.2 | 4.5 | .2 | 1.0 | 49 | 16 | 0 | 64 | 6.2 | 35 |
| June 5..... | 1,380 | 14.2 | .01 | 5.2 | 1.7 | 9.3 | 2.0 | 32 | 4.0 | 8.0 | .2 | 1.4 | a62 | 20 | 0 | 83 | 6.4 | 11 |
| July 3..... | 488 | 13 | .02 | 5.1 | 1.2 | 7.1 | 2.0 | 26 | 3.6 | 5.5 | .3 | .8 | a52 | 18 | 0 | 71 | 6.2 | 11 |
| Aug. 2..... | 594 | 10 | .06 | 5.3 | 1.5 | 10 | 2.5 | 26 | 6.2 | 11 | .1 | .1 | 61 | 19 | 0 | 90 | 6.8 | 29 |
| Sept. 4..... | 202 | 14 | .04 | 6.9 | 2.1 | 24 | 2.7 | 40 | 6.0 | 28 | .1 | 3.0 | 110 | 26 | 0 | 168 | 6.7 | 20 |

a. Calculated from determined constituents.

NEUSE RIVER BASIN--Continued

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 1962 (discontinued).

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 2, 1961..... | | 10 | 0.08 | 5.0 | 1.9 | 11 | 2.5 | 30 | 9.8 | 11 | 0.1 | 0.4 | 77 | 20 | 0 | 105 | 6.5 | 30 |
| Nov. 1..... | | 15 | .06 | 6.3 | 2.2 | 20 | 3.1 | 44 | 6.4 | 21 | .1 | 1.7 | 102 | 23 | 0 | 160 | 6.5 | 15 |
| Nov. 30..... | | 13 | .28 | 4.1 | 1.8 | 11 | 2.6 | 23 | 7.0 | 15 | .1 | 2.0 | 70 | 18 | 0 | 104 | 7.0 | 17 |
| Jan. 2, 1962..... | | 13 | .10 | 4.3 | 2.0 | 8.5 | 1.9 | 20 | 6.0 | 12 | .2 | .1 | 71 | 19 | 4 | 86 | 6.0 | 28 |
| Feb. 1..... | | 8.1 | .07 | 2.2 | 1.6 | 3.4 | 1.5 | 10 | 6.8 | 3.8 | .1 | .7 | 43 | 12 | 4 | 50 | 6.2 | 25 |
| Mar. 3..... | | 8.7 | .08 | 4.5 | .6 | 4.4 | 1.5 | 13 | 7.4 | 4.3 | .0 | .5 | 51 | 14 | 3 | 58 | 6.4 | 45 |
| Apr. 3..... | | 7.2 | .06 | 3.4 | 1.3 | 4.0 | 2.1 | 15 | 5.2 | 4.1 | .2 | .5 | 42 | 14 | 2 | 52 | 6.5 | 30 |
| May 1..... | | 9.3 | .04 | 5.0 | .8 | 7.3 | 1.5 | 21 | 4.0 | 7.8 | .1 | .7 | 53 | 16 | 0 | 75 | 6.1 | 28 |
| June 5..... | | 12 | .03 | 5.1 | 2.0 | 15 | 2.2 | 36 | 5.8 | 14 | .3 | .8 | 80 | 22 | 0 | 120 | 6.2 | 21 |
| July 3..... | | 8.2 | .05 | 3.7 | 1.4 | 5.4 | 1.8 | 14 | 8.0 | 5.6 | .3 | 1.0 | 50 | 14 | 3 | 56 | 6.0 | 35 |
| Aug. 2..... | | 12 | .05 | 4.7 | 1.8 | 11 | 2.1 | 28 | 4.8 | 11 | .2 | .1 | 67 | 20 | 0 | 93 | 6.0 | 18 |
| Sept. 4..... | | 11 | .02 | 5.8 | 1.9 | 14 | 2.2 | 33 | 6.4 | 15 | .2 | .2 | 76 | 22 | 0 | 114 | 6.2 | 10 |

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 1950 to September 1962.

Water temperatures: October 1948 to September 1962. Maximum, 104 ppm Oct. 20-31; minimum, 31 ppm July 5-12.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 104 ppm Oct. 20-31; minimum, 12 ppm July 5-12.

Hardness: Maximum, 26 ppm Oct. 20-31; minimum, 12 ppm July 5-12.

Specific conductance: Maximum, 88 μ mhos Nov. 7; minimum daily, 37 μ mhos July 6.

EXTREMES, 1948-49.--Dissolved solids: Maximum, 88 μ mhos Aug. 13; minimum, 104 μ mhos Oct. 20-31, 1961; minimum, 31 μ mhos July 6.

Hardness: Maximum, 26 ppm Oct. 20-31, 1961; minimum, 11 ppm Jan. 1-10, 1949.

Specific conductance (1960-62): Maximum daily, 172 μ mhos Nov. 7, 1961; minimum daily, 37 μ mhos July 6, 1962.

Water temperatures: Maximum, 88°F Aug. 7-9, 1962; minimum, freezing point Jan. 28, 1961.

REMARKS.--Records of specific conductance of daily samples from October 1960 to September 1962 available in district office at Raleigh, N. C.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Oct. 1-19, 1961..... | 419 | 14 | 0.27 | 6.3 | 2.1 | 14 | 2.4 | 31 | 7.0 | 15 | 0.2 | 3.4 | 98 | 25 | 0 | 120 | 6.9 | 30 |
| Oct. 20-31..... | 523 | 15 | .47 | 6.8 | 2.8 | 19 | 3.5 | 37 | 7.6 | 13 | .2 | 3.8 | 134 | 26 | 0 | 149 | 7.2 | 33 |
| Nov. 1-30..... | 728 | 14 | .23 | 6.9 | 1.3 | 13 | 2.8 | 24 | 8.0 | 13 | .2 | 4.0 | 85 | 20 | 0 | 120 | 6.9 | 28 |
| Dec. 1-14..... | 2,951 | 12 | .06 | 4.5 | 1.6 | 7.4 | 2.4 | 16 | 8.2 | 19 | 9.5 | 2 | 459 | 18 | 4 | 86 | 6.9 | 25 |
| Dec. 15-25..... | 2,460 | -- | -- | 4.3 | 2.1 | -- | -- | 22 | -- | -- | -- | -- | -- | 20 | 5 | 128 | 7.1 | -- |
| Dec. 27-31..... | 1,828 | 12 | .09 | 4.0 | 1.8 | 7.1 | 1.9 | 16 | 10 | 10 | 8.0 | 1 | 65 | 17 | 4 | 82 | 6.5 | 33 |
| Jan. 1-8, 1962..... | 3,260 | 11 | .10 | 4.4 | 1.9 | 8.6 | 2.2 | 15 | 8.0 | 10 | .2 | 2.7 | 62 | 19 | 6 | 88 | 6.6 | 33 |
| Jan. 9-21..... | 6,856 | 8.9 | .03 | 3.0 | 1.4 | 4.9 | 1.9 | 10 | 7.2 | 6.0 | 1 | 1.3 | 54 | 14 | 6 | 59 | 6.1 | 55 |
| Jan. 22-31..... | 3,535 | 11 | .08 | 3.8 | 1.4 | 7.4 | 1.7 | 13 | 8.4 | 8.5 | .2 | 2.2 | 60 | 16 | 5 | 75 | 6.2 | 24 |
| Feb. 1-28..... | 4,351 | 11 | .07 | 3.8 | 1.4 | 6.7 | 1.7 | 15 | 6.8 | 7.8 | 1 | 1.8 | 54 | 15 | 2 | 70 | 7.0 | 30 |
| Mar. 1-31..... | 6,099 | 8.9 | .07 | 3.3 | 1.2 | 5.3 | 1.4 | 14 | 6.4 | 5.6 | .1 | 1.2 | 52 | 13 | 2 | 61 | 7.0 | 25 |
| Apr. 1-4..... | 3,755 | 8.3 | .17 | 3.3 | 1.5 | 6.0 | 1.3 | 19 | 5.6 | 6.0 | .2 | .3 | 48 | 14 | 0 | 64 | 6.9 | 30 |
| Apr. 5..... | 5,180 | -- | -- | 4.8 | 1.8 | -- | -- | 18 | -- | 15 | -- | -- | -- | 20 | 4 | 87 | 7.3 | -- |
| Apr. 6-20..... | 7,926 | 7.7 | .10 | 2.6 | 1.7 | 4.7 | 1.3 | 23 | 4.8 | 5.4 | .2 | 1.0 | 57 | 14 | 3 | 73 | 6.9 | 50 |
| Apr. 21-29..... | 2,600 | 12 | .07 | 4.6 | 1.5 | 7.7 | 1.6 | 25 | 4.8 | 8.3 | .2 | 4.5 | 58 | 16 | 0 | 86 | 7.0 | 22 |
| May 1-19..... | 1,600 | 12 | .20 | 5.3 | 2.0 | 9.2 | 2.1 | 33 | 8.8 | 14 | .0 | .6 | 66 | 22 | 1 | 86 | 7.0 | 40 |
| May 20-31..... | 613 | 9.3 | .03 | 5.6 | 2.6 | 13 | 2.1 | 33 | 7.2 | 14 | .0 | .6 | 371 | 25 | 0 | 123 | 6.8 | 20 |

a Calculated from determined constituents.

NEUSE RIVER BASIN--Continued

2-888.21. NEUSE RIVER AT GOLDSBORO, N. C.--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| June 1-6, 1962..... | 876 | 15 | 0.12 | 7.0 | 1.8 | 14 | 2.2 | 34 | 5.8 | 12 | 0.2 | 3.4 | 86 | 25 | 0 | 125 | 7.5 | 20 |
| June 7-14..... | 1,225 | 13 | .12 | 4.6 | 1.7 | 9.8 | 2.0 | 23 | 6.0 | 10 | .2 | 2.9 | 64 | 18 | 0 | 96 | 7.1 | 21 |
| June 15-20..... | 1,687 | 11 | .17 | 3.6 | 1.6 | 7.7 | 2.1 | 18 | 5.4 | 7.0 | .2 | 2.7 | 57 | 16 | 0 | 77 | 7.1 | 32 |
| June 21-30..... | 1,236 | 13 | .18 | 4.6 | 1.8 | 11 | 2.3 | 26 | 5.2 | 11 | .1 | 2.5 | 72 | 18 | 0 | 101 | 7.1 | 30 |
| July 1-4..... | 4,892 | 8.6 | .11 | 4.6 | 1.0 | 6.9 | 1.2 | 18 | 6.0 | 6.3 | .0 | 1.3 | a45 | 16 | 0 | 65 | 7.3 | 33 |
| July 5-12..... | 11,659 | 5.8 | .12 | 2.6 | 1.4 | 3.7 | 1.5 | 12 | 5.2 | 2.4 | .1 | 1.7 | a31 | 12 | 2 | 44 | 6.6 | 130 |
| July 13-31..... | 2,363 | 11 | .14 | 3.8 | 1.6 | 6.3 | 1.9 | 19 | 4.8 | 7.0 | .2 | 2.2 | 61 | 16 | 0 | 89 | 6.0 | 45 |
| Aug. 1-12..... | 2,063 | 11 | .14 | 5.2 | 2.3 | 7.8 | 2.0 | 20 | 5.6 | 7.4 | .2 | 3.4 | 90 | 18 | 2 | 77 | 6.7 | 50 |
| Aug. 13-31..... | 911 | 12 | .30 | 8.5 | 2.4 | 12.4 | 2.2 | 26 | 8.6 | 15.2 | .2 | 3.5 | 78 | 24 | 2 | 132 | 7.6 | 53 |
| Sept. 1-2..... | 288 | 12 | .20 | 8.0 | 1.5 | 13.4 | 2.1 | 20 | 8.1 | 18.3 | .2 | 3.5 | 78 | 21 | 2 | 132 | 7.6 | 53 |
| Sept. 25-30..... | 2,723 | 8.5 | .01 | 4.3 | 1.0 | 6.4 | 2.1 | 16 | 6.8 | 8.3 | .2 | .5 | a46 | 15 | 2 | 67 | 6.6 | 45 |
| Time-weighted average..... | 2,774 | 11 | 0.15 | 4.8 | 1.6 | 9.7 | 2.1 | 22 | 6.5 | 10 | 0.1 | 2.7 | 68 | 19 | 1 | 92 | -- | 35 |

a Calculated from determined constituents.

NEUSE RIVER BASIN--Continued

2-888.21. NEUSE RIVER AT GOLDSBORO, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962
(Once-daily measurement between 0515 and 19507)

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|---------|------|------|------|------|------|------|------|-----|------|------|------|-------|
| 1.. | 73 | 65 | 45 | 40 | 40 | 55 | 60 | 70 | 80 | 70 | 80 | 79 |
| 2.. | 72 | 65 | 46 | 38 | 42 | 52 | 60 | 70 | 80 | 70 | 80 | 80 |
| 3.. | 72 | 65 | 48 | 38 | 42 | 45 | 58 | 70 | 80 | 72 | 79 | 80 |
| 4.. | 68 | 70 | 48 | 38 | 45 | 42 | 55 | 70 | 80 | 70 | 73 | 80 |
| 5.. | 65 | 68 | 50 | 40 | 45 | 42 | 54 | 70 | 78 | 70 | 79 | 82 |
| 6.. | 65 | 70 | 52 | 44 | 48 | 42 | 55 | 70 | 76 | 70 | 79 | 81 |
| 7.. | 65 | 70 | 52 | 44 | 47 | 42 | 58 | 70 | 78 | 70 | 83 | 75 |
| 8.. | 67 | 68 | 50 | 43 | 44 | 40 | 58 | 70 | 76 | 72 | 83 | 74 |
| 9.. | 65 | 60 | 48 | 47 | 46 | 42 | 62 | 70 | 75 | 72 | 83 | 75 |
| 10.. | 65 | 55 | 48 | 42 | 42 | 42 | 63 | 69 | 75 | 73 | 85 | 75 |
| 11.. | 65 | 55 | 50 | 38 | 40 | 45 | 63 | 69 | 74 | 74 | 85 | 76 |
| 12.. | 65 | 56 | 52 | 35 | 40 | 45 | 63 | 69 | 76 | 74 | 84 | 76 |
| 13.. | 65 | 58 | 55 | 33 | 40 | 48 | 62 | 69 | 78 | 76 | 73 | 76 |
| 14.. | 65 | 58 | 48 | 33 | 42 | 50 | 60 | 68 | 78 | 78 | 79 | 75 |
| 15.. | 65 | 59 | 46 | 35 | 44 | 50 | 58 | 70 | 74 | 78 | 73 | 76 |
| 16.. | 63 | 62 | 50 | 38 | 44 | 48 | 56 | 72 | 73 | 78 | 79 | 76 |
| 17.. | 62 | 64 | 45 | 40 | 44 | 49 | 54 | 72 | 74 | 78 | 73 | 76 |
| 18.. | 62 | 65 | 48 | 40 | 44 | 50 | 54 | 74 | 75 | 76 | -- | 75 |
| 19.. | 65 | 60 | 48 | 40 | 45 | 49 | 55 | 75 | 78 | 78 | 80 | 74 |
| 20.. | 65 | 56 | 50 | 39 | 46 | -- | 55 | 78 | 80 | 79 | 80 | 72 |
| 21.. | 62 | 55 | 50 | 40 | 46 | -- | 55 | 78 | 80 | 79 | 80 | 68 |
| 22.. | 62 | 50 | 46 | 40 | 46 | 55 | 56 | 78 | 80 | 78 | 80 | 65 |
| 23.. | 60 | 50 | 45 | 41 | 48 | 52 | 62 | 78 | 81 | 79 | 80 | 65 |
| 24.. | 58 | 54 | 43 | 40 | 50 | 54 | 62 | 79 | 82 | 76 | 79 | 64 |
| 25.. | 60 | 50 | 45 | 40 | 54 | 54 | 62 | 80 | 81 | 78 | 79 | 62 |
| 26.. | 60 | 50 | 42 | 42 | 55 | 54 | 65 | 80 | 82 | 72 | 79 | 62 |
| 27.. | 55 | 57 | 42 | 45 | 52 | 52 | 65 | 82 | 81 | 76 | 79 | 62 |
| 28.. | 52 | 50 | 42 | 42 | 55 | 52 | 67 | 80 | 78 | 76 | 78 | 66 |
| 29.. | 60 | 48 | 42 | 40 | -- | 52 | 62 | 78 | 76 | 78 | 79 | 64 |
| 30.. | 60 | 48 | 38 | 44 | -- | 55 | 65 | 78 | 70 | 78 | 76 | 64 |
| 31.. | 55 | -- | 38 | 43 | -- | 56 | -- | 79 | -- | 79 | 78 | -- |
| Average | 64 | 59 | 47 | 40 | 46 | 49 | 59 | 74 | 78 | 75 | 80 | 72 |

NEUSE RIVER BASIN--Continued
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 1962.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962.

| 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 (micro-mhos at 25° C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|--------------------------------------|-------------------------------|---------------|--------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 2, 1961..... | | 10 | 0.06 | 4.5 | 1.3 | 7.9 | 1.7 | 22 | 8.6 | 2.5 | 0.0 | 0.5 | a48 | 16 | 0 | 92 | 6.4 | 30 |
| Nov. 1..... | | 13 | .05 | 4.9 | 2.5 | 18 | 2.7 | 33 | 7.4 | 19 | .0 | .8 | 93 | 22 | 0 | 140 | 6.3 | 10 |
| Nov. 30..... | | 13 | .29 | 4.2 | 1.9 | 11 | 2.6 | 20 | 8.4 | 14 | .2 | 1.7 | a68 | 18 | 2 | 104 | 6.7 | 35 |
| Jan. 2, 1962..... | | 13 | .23 | 3.8 | 2.0 | 8.7 | 1.8 | 16 | 8.0 | 11 | .2 | .9 | 62 | 18 | 4 | 82 | 6.2 | 35 |
| Feb. 1..... | | 8.6 | .09 | 2.7 | 1.6 | 4.7 | 1.6 | 12 | 6.8 | 5.8 | .1 | 1.0 | 50 | 14 | 4 | 54 | 6.2 | 38 |
| Mar. 3..... | | 8.9 | .08 | 3.6 | 1.5 | 4.4 | 1.5 | 13 | 6.4 | 4.6 | .1 | 1.1 | 49 | 15 | 4 | 59 | 6.4 | 38 |
| Apr. 3..... | | 9.1 | .09 | 3.5 | 1.7 | 6.6 | 2.0 | 20 | 6.0 | 7.7 | .2 | .7 | 50 | 16 | 0 | 69 | 6.3 | 25 |
| May 1..... | | 10.6 | .01 | 5.0 | 1.7 | 17.6 | 2.7 | 20 | 4.6 | 18.5 | .3 | .7 | a47 | 21 | 0 | 130 | 6.2 | 15 |
| June 1..... | | 10.1 | .01 | 5.0 | 1.7 | 17.6 | 2.7 | 32 | 7.6 | 18.5 | .3 | .7 | 46 | 21 | 0 | 130 | 6.2 | 20 |
| July 3..... | | 8.2 | .04 | 4.1 | 1.3 | 6.6 | 1.8 | 22 | 7.6 | 6.8 | .3 | 1.1 | 51 | 15 | 2 | 83 | 5.9 | 30 |
| Aug. 2..... | | 10.2 | .02 | 4.7 | 1.4 | 8.9 | 2.1 | 22 | 7.0 | 9.8 | .3 | 1.1 | 60 | 18 | 0 | 82 | 6.2 | 15 |
| Sept. 4..... | | 6.6 | .03 | 5.3 | 1.8 | 9.9 | 2.2 | 26 | 5.8 | 12 | .3 | 1.2 | 64 | 20 | 0 | 94 | 6.4 | 20 |

a Calculated from determined constituents.

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 gage.
 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 1962.
 REMARKS.--No appreciable inflow between sampling point and gaging station except during periods of heavy local runoff.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25° C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|--------------------------------------|-------------------------------|---------------|--------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Oct. 2, 1961..... | 767 | 10 | 0.01 | 4.9 | 1.9 | 11 | 2.4 | 26 | 6.8 | 13 | 0.1 | 0.3 | 77 | 20 | 0 | 105 | 6.3 | 20 |
| Nov. 1..... | 413 | 11 | .03 | 5.7 | 2.1 | 15 | 2.7 | 34 | 7.6 | 18 | .0 | .3 | 96 | 22 | 0 | 130 | 6.2 | 10 |
| Nov. 30..... | 1,070 | 13 | .07 | 4.5 | 1.8 | 11 | 3.2 | 20 | 8.0 | 15 | .1 | 2.3 | 83 | 18 | 2 | 110 | 6.2 | 25 |
| Jan. 2, 1962..... | 1,920 | 13 | .22 | 4.2 | 1.6 | 7.7 | 1.9 | 18 | 7.6 | 5.9 | .2 | .2 | 64 | 17 | 2 | 79 | 6.3 | 33 |
| Feb. 1..... | 5,040 | 12 | .07 | 3.5 | 1.4 | 7.2 | 1.8 | 13 | 7.6 | 7.0 | .1 | 1.1 | 53 | 14 | 4 | 65 | 6.2 | 33 |
| Mar. 3..... | 7,270 | 8.9 | .07 | 3.9 | 1.1 | 4.6 | 1.5 | 13 | 6.8 | 5.4 | .0 | .5 | 47 | 14 | 4 | 61 | 6.3 | 40 |
| Mar. 28..... | 5,950 | 8.7 | .07 | 4.2 | .9 | 5.2 | 1.4 | 15 | 7.0 | 5.5 | .2 | 1.3 | 44 | 14 | 2 | 60 | 6.5 | 40 |
| Apr. 3..... | 3,750 | 8.0 | .01 | 3.7 | 1.5 | 6.4 | 1.9 | 18 | 6.4 | 7.8 | .2 | .7 | 48 | 15 | 0 | 68 | 6.1 | 30 |
| May 1..... | 2,530 | 9.8 | .01 | 4.6 | 1.1 | 7.4 | 2.0 | 21 | 4.8 | 11 | .0 | 1.3 | 62 | 16 | 0 | 80 | 6.1 | 20 |
| June 3..... | 914 | 8.9 | .03 | 6.2 | 1.6 | 11 | 2.2 | 31 | 6.0 | 11 | .1 | 1.7 | 64 | 22 | 0 | 103 | 6.3 | 27 |
| July 3..... | 5,400 | 7.7 | .02 | 3.8 | 1.2 | 8.3 | 1.6 | 14 | 8.2 | 8.5 | .1 | 1.4 | 51 | 14 | 3 | 63 | 6.0 | 18 |
| Aug. 2..... | 1,440 | 9.7 | .04 | 4.4 | 1.7 | 7.7 | 2.0 | 21 | 5.8 | 8.6 | .2 | .2 | 61 | 16 | 1 | 76 | 6.0 | 18 |
| Sept. 4..... | 683 | 4.9 | .01 | 5.8 | 1.6 | 9.2 | 2.2 | 26 | 8.0 | 11 | .1 | .9 | 61 | 21 | 0 | 94 | 6.2 | 15 |
| Sept. 11..... | 746 | 4.9 | .10 | 5.8 | 1.6 | 10 | 2.5 | 23 | 7.2 | 11 | .1 | 4.1 | 59 | 21 | 2 | 107 | 6.2 | 22 |

a Calculated from determined constituents.

NEUSE RIVER BASIN--Continued

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 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 94 ppm Nov. 1-30; minimum, 38 ppm Apr. 16-17, 18 (a.m.).

Specific conductance: Maximum, 29 ppm Oct. 7-31; minimum, 11 ppm Apr. 16-17, 18 (a.m.).

Sulfate concentration: Maximum daily, 172 micrograms Oct. 31 (a.m.); minimum daily, 58 (a.m.).

Water temperatures: Maximum, 85°F June 24 (p.m.); Aug. 5, 7, 21 (p.m.); Sept. 2, 3, 12, 13 (p.m.); minimum, 38°F Jan. 13 (a.m.).

EXTREMES, 1954-62.--Dissolved solids: Maximum, 6,270 ppm Oct. 15 (p.m.), 1954; minimum, 38 ppm Apr. 16-17, 18 (a.m.), 1962.

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 microhmhos Aug. 12 (p.m.), 1955; minimum daily, 40 microhmhos Feb. 25 (a.m.), 1960.

Water temperatures: Maximum, 92°F July 28 (p.m.), 1955; minimum, freezing point Dec. 16 (a.m.), 1958.

REMARKS.--Samples were collected twice daily (0730 and 1630) and were composited unless otherwise indicated. Records of specific conductance of daily samples available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (microhmhos at 25°C) | pH | Color |
|----------------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-15, 16 (a.m.), 1961..... | | 11 | 0.16 | 7.5 | 1.5 | 10 | 2.7 | 27 | 8.4 | 13 | 0.2 | 3.7 | 82 | 25 | 3 | 115 | 6.7 | 30 |
| Oct. 16 (p.m.), 17-31 | | 12 | 0.09 | 8.3 | 1.9 | 15 | 3.1 | 36 | 8.8 | 16 | | 2.2 | 89 | 29 | 0 | 140 | 6.9 | 20 |
| Nov. 1-30..... | | 12 | 0.14 | 7.1 | 2.6 | 16 | 3.3 | 36 | 12 | 18 | | 4.0 | 94 | 28 | 0 | 142 | 7.4 | 20 |
| Dec. 1-18..... | | 12 | 0.19 | 8.3 | 1.3 | 11 | 3.0 | 27 | 8.8 | 13 | | 4.2 | 90 | 26 | 4 | 130 | 7.2 | 23 |
| Dec. 19-31..... | | 11 | 0.13 | 5.1 | 1.7 | 7.6 | 2.5 | 15 | 12 | 9.0 | | 1.7 | 68 | 20 | 8 | 90 | 6.9 | 55 |
| Jan. 1-8, 9 (a.m.), 1962..... | | 12 | 0.17 | 6.2 | 1.1 | 7.5 | 2.0 | 16 | 11 | 8.7 | | 3.1 | 53 | 20 | 7 | 90 | 6.6 | 35 |
| Jan. 9 (p.m.), 10-31. | | 9.1 | 0.12 | 4.8 | 1.4 | 5.7 | 1.7 | 11 | 9.8 | 8.3 | | 1.8 | 53 | 18 | 9 | 74 | 6.3 | 50 |
| Feb. 1-28..... | | 8.7 | 0.17 | 5.1 | 1.2 | 6.5 | 1.8 | 14 | 8.8 | 9.0 | | 2.3 | 55 | 18 | 6 | 70 | 6.5 | 70 |
| Mar. 1-31..... | | 5.0 | 0.06 | 4.6 | 1.6 | 5.2 | 1.5 | 14 | 7.4 | 8.0 | | 1.4 | 60 | 18 | 6 | 71 | 6.2 | 55 |
| Apr. 1-15..... | | 5.1 | 0.13 | 4.4 | 1.4 | 6.5 | 1.6 | 17 | 6.6 | 8.1 | | 1.4 | 57 | 17 | 3 | 73 | 6.7 | 55 |
| Apr. 16-17, 18 (a.m.), 1962..... | | 6.0 | 0.00 | 4.2 | 1.1 | 5.5 | 1.3 | 17 | 6.6 | 5.5 | | 1.1 | 438 | 14 | 0 | 64 | 6.8 | 45 |
| Apr. 19 (p.m.), 19-20 | | 2.9 | 0.09 | 3.7 | 1.3 | 6.0 | 2.6 | 15 | 6.4 | 6.9 | | 1.9 | 830 | 13 | 2 | 72 | 6.9 | 55 |
| Apr. 21 (p.m.), 21-22 | | 9.4 | 0.11 | 5.1 | 1.1 | 5.1 | 1.6 | 17 | 6.7 | 5.4 | | 1.3 | 439 | 13 | 2 | 62 | 6.9 | 65 |
| Apr. 23 (p.m.), 23-26 | | 6.3 | 0.08 | 4.1 | 1.3 | 6.3 | 1.8 | 18 | 5.0 | 13 | | 1.0 | 441 | 15 | 4 | 92 | 7.3 | -- |
| Apr. 27 (p.m.), 28-30 | | 7.1 | 0.01 | 5.7 | 1.6 | 8.0 | 2.2 | 25 | 5.6 | 8.0 | | 1.6 | 451 | 20 | 0 | 69 | 6.6 | 55 |
| | | | | | | | | | | | | | 451 | 20 | 0 | 89 | 6.7 | 35 |

| | | | | | | | | | | | | | | | | | | | |
|--------------------------------------------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|----|---|-----|-----|-----|----|
| May 1-15, 1962..... | 8-7 | .26 | 6-1 | 1-8 | 7-8 | 2-2 | 21 | 8-4 | 9-0 | .2 | 4-1 | 60 | 20 | 20 | 2 | 2 | 93 | 6-9 | 60 |
| May 16-31..... | 8-0 | .04 | 7-0 | 1-8 | 12 | 2-6 | 31 | 8-4 | 14 | .2 | 4-9 | 78 | 25 | 0 | 2 | 0 | 122 | 6-7 | 35 |
| June 1-17..... | 9-1 | .03 | 6-5 | 1-9 | 11 | 2-5 | 27 | 8-0 | 11 | .2 | 5-4 | 70 | 24 | 2 | 2 | 109 | 7-3 | 20 | |
| June 18-23..... | 9-3 | .13 | 5-2 | 1-6 | 8-1 | 2-5 | 19 | 7-0 | 7-0 | .1 | 5-4 | 64 | 20 | 4 | 2 | 84 | 7-1 | 13 | |
| June 24-30..... | 9-6 | .04 | 5-2 | 1-6 | 8-7 | 2-3 | 24 | 7-2 | 7-2 | .1 | 5-6 | 66 | 22 | 6 | 2 | 94 | 7-1 | 13 | |
| July 1-31..... | 7-2 | .21 | 5-5 | 1-5 | 4-9 | 2-0 | 16 | 7-0 | 6-1 | .2 | 2-1 | 66 | 20 | 6 | 2 | 70 | 7-0 | 90 | |
| Aug. 1-31..... | 9-6 | .16 | 5-9 | 1-8 | 8-0 | 2-2 | 21 | 7-4 | 8-3 | .2 | 4-6 | 66 | 22 | 5 | 5 | 87 | 6-8 | 45 | |
| Sept. 1-15..... | 5-0 | .04 | 7-2 | 1-5 | 10 | 2-5 | 28 | 8-6 | 12 | .1 | 5-2 | 73 | 24 | 1 | 1 | 110 | 6-6 | 45 | |
| Sept. 16-30..... | 8-9 | .06 | 5-8 | 2-1 | 10 | 2-8 | 22 | 8-0 | 12 | .2 | 2-6 | 72 | 23 | 5 | 5 | 100 | 6-5 | 35 | |
| Time-weighted average..... | 8-8 | 0.13 | 6-0 | 1-7 | 8-8 | 2-3 | 22 | 8-5 | 10 | 0.1 | 3-2 | 68 | 22 | 4 | 4 | 96 | -- | 46 | |
| a Calculated from determined constituents. | | | | | | | | | | | | | | | | | | | |

NEUSE RIVER BASIN--Continued

2-918-31. NEUSE RIVER AT COWEN LANDING, NEAR VANCEBORO, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962
/Twice-daily measurements at approximately 0730 and 1630/

| 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 | 65 | 68 | 49 | 56 | 42 | 40 | 46 | 48 | 58 | 56 | 65 | 63 | 70 | 75 | 79 | 82 | 75 | 75 | 80 | 84 | 80 | 84 |
| 2.. | 72 | 75 | 67 | 70 | 51 | 53 | 42 | 43 | 46 | 48 | 53 | 56 | 58 | 61 | 67 | 75 | 78 | 81 | 78 | 83 | 80 | 83 | 80 | 85 |
| 3.. | 76 | 74 | 67 | 70 | 50 | 52 | 43 | 44 | 46 | 48 | 53 | 56 | 58 | 57 | 69 | 75 | 80 | 83 | 78 | 82 | 84 | 81 | 85 | 85 |
| 4.. | 71 | 65 | 70 | 52 | 52 | 41 | 48 | 45 | 50 | 49 | 50 | 56 | 58 | 68 | 73 | 80 | 80 | 72 | 73 | 81 | 83 | 82 | 84 | 84 |
| 5.. | 68 | 71 | 67 | 72 | 55 | 54 | 44 | 46 | 48 | 47 | 50 | 49 | 58 | 60 | 71 | 75 | 81 | 81 | 78 | 75 | 82 | 85 | 81 | 84 |
| 6.. | 71 | 67 | 70 | 70 | 52 | 51 | 54 | 49 | 41 | 48 | 47 | 60 | 61 | 73 | 72 | 79 | 82 | 82 | 77 | 82 | 83 | 78 | 80 | 80 |
| 7.. | 67 | 70 | 71 | 70 | 51 | 52 | 45 | 43 | 47 | 45 | 49 | 47 | 63 | 65 | 73 | 76 | 81 | 81 | 78 | 80 | 81 | 83 | 76 | 75 |
| 8.. | 68 | 70 | 67 | 67 | 48 | 42 | 46 | 43 | 44 | 45 | 49 | 45 | 61 | 64 | 72 | 73 | 78 | 80 | 78 | 83 | 81 | 83 | 76 | 80 |
| 9.. | 67 | 70 | 67 | 67 | 48 | 42 | 46 | 43 | 44 | 45 | 49 | 45 | 61 | 64 | 72 | 73 | 78 | 80 | 78 | 83 | 81 | 83 | 76 | 80 |
| 10.. | 67 | 70 | 67 | 67 | 48 | 42 | 46 | 43 | 44 | 45 | 49 | 45 | 61 | 64 | 72 | 73 | 78 | 80 | 78 | 83 | 81 | 83 | 76 | 80 |
| 11.. | 67 | 71 | 64 | 60 | 51 | 50 | 42 | 41 | 46 | 46 | 46 | 46 | 48 | 65 | 64 | 68 | 72 | 78 | 80 | 75 | 81 | 79 | 82 | 81 |
| 12.. | 70 | 71 | 61 | 54 | 55 | 40 | 41 | 42 | 43 | 50 | 52 | 63 | 65 | 65 | 70 | 78 | 80 | 76 | 79 | 78 | 80 | 80 | 80 | 85 |
| 13.. | 65 | 75 | 58 | 61 | 54 | 55 | 38 | 41 | 41 | 43 | 48 | 53 | 66 | 61 | 68 | 70 | 80 | 80 | 76 | 80 | 78 | 82 | 81 | 85 |
| 14.. | 69 | 71 | 61 | 60 | 51 | 53 | 43 | 47 | 44 | 46 | 49 | 52 | 57 | 60 | 68 | 75 | 78 | 80 | 78 | 80 | 78 | 81 | 79 | 82 |
| 15.. | 65 | 66 | 61 | 61 | 51 | 51 | 45 | 49 | 45 | 47 | 51 | 52 | 59 | 60 | 71 | 74 | 76 | 80 | 79 | 81 | 79 | 81 | 80 | 83 |
| 16.. | 67 | 63 | 63 | 63 | 49 | 51 | 43 | 44 | 45 | 48 | 52 | 54 | 58 | 59 | 72 | 78 | 80 | 79 | 79 | 81 | 83 | 79 | 82 | 82 |
| 17.. | 67 | 68 | 63 | 64 | 52 | 52 | 41 | 43 | 46 | 47 | 52 | 54 | 56 | 59 | 70 | 76 | 78 | 80 | 78 | 80 | 81 | 80 | 82 | 80 |
| 18.. | 67 | 67 | 62 | 61 | 52 | 56 | 41 | 43 | 46 | 48 | 51 | 54 | 56 | 60 | 72 | 78 | 82 | 80 | 81 | 80 | 83 | 76 | 80 | 80 |
| 19.. | 67 | 69 | 61 | 68 | 53 | 54 | 42 | 43 | 50 | 53 | 52 | 53 | 57 | 60 | 73 | 80 | 79 | 80 | 78 | 79 | 81 | 82 | 76 | 84 |
| 20.. | 66 | 66 | 56 | 56 | 51 | 52 | 41 | 43 | 51 | 51 | 54 | 57 | 56 | 59 | 72 | 82 | 78 | 81 | 80 | 82 | 83 | 77 | 79 | 79 |
| 21.. | 61 | 65 | -- | 55 | 49 | 48 | 39 | 44 | 50 | 52 | 58 | 60 | 57 | 60 | 78 | 80 | 80 | 82 | 80 | 82 | 82 | 85 | 74 | 72 |
| 22.. | 62 | 64 | -- | 56 | 50 | 52 | 43 | 48 | 58 | 47 | 55 | 57 | 59 | 62 | 79 | 80 | 80 | 80 | 81 | 83 | 81 | 84 | 76 | 74 |
| 23.. | 63 | 61 | -- | 48 | 52 | 46 | 48 | 55 | 57 | 55 | 58 | 59 | 65 | 78 | 80 | 81 | 83 | 81 | 81 | 81 | 80 | 83 | 70 | 70 |
| 24.. | 61 | 64 | 55 | 56 | 49 | 49 | 45 | 45 | 58 | 59 | 55 | 58 | 62 | 65 | 79 | 83 | 80 | 82 | 81 | 83 | 80 | 82 | 68 | 70 |
| 25.. | 63 | 64 | 51 | 55 | 46 | 45 | 48 | 50 | 58 | 56 | 54 | 60 | 63 | 67 | 81 | 84 | 81 | 84 | 81 | 81 | 81 | 83 | 67 | 70 |
| 26.. | 60 | 64 | 53 | -- | 46 | 46 | 49 | 47 | 54 | 58 | 56 | 55 | 65 | 67 | 80 | 83 | 82 | 83 | 78 | 81 | 81 | 82 | 68 | 70 |
| 27.. | 63 | 62 | 53 | 57 | 45 | 47 | 52 | 58 | 55 | 60 | 54 | 58 | 66 | 82 | 81 | 81 | 83 | 80 | 81 | 80 | 83 | 71 | 72 | 72 |
| 28.. | 59 | 64 | -- | 54 | 46 | 45 | 50 | 49 | 58 | 62 | 56 | 59 | 66 | 70 | 79 | 83 | 80 | 80 | 76 | 81 | 79 | 82 | 69 | 72 |
| 29.. | 59 | 66 | 50 | 51 | 43 | 44 | 47 | 49 | -- | -- | 58 | 60 | 68 | 71 | 78 | 81 | 77 | 78 | 82 | 80 | 82 | 75 | 70 | 70 |
| 30.. | 63 | 66 | -- | 41 | 48 | 50 | -- | -- | -- | -- | 69 | 73 | 77 | 80 | 72 | 74 | 80 | 80 | 77 | 81 | 82 | 69 | 70 | 70 |
| 31.. | 65 | 68 | -- | -- | 42 | 43 | 46 | 46 | -- | -- | 61 | -- | -- | -- | 78 | 83 | -- | -- | 80 | 80 | 79 | 84 | -- | -- |
| Aver. | 66 | 68 | -- | 61 | 49 | 50 | 44 | 46 | 49 | 51 | 52 | 54 | 61 | 63 | 73 | 77 | 79 | 81 | 78 | 80 | 80 | 83 | 76 | 78 |

NEUSE RIVER BASIN--Continued
2-918.36. NEUSE RIVER AT STREETS FERRY, NEAR VANCEBORO, N. C.

LOCATION --At Streets Ferry, 1.5 miles east of Lima, Craven County.

DRAINAGE AREA --4,040 square miles.

RECORDS AVAILABLE --Chemical analyses: September 1954 to September 1962.

Water temperatures: October 1954 to September 1962.

EXTREMES, 1961-62.--Chloride: Maximum, 24 ppm June 30 (T); minimum, 5.4 ppm July 1-22.

Specific conductance: Maximum daily, 367 micromhos June 30 (T); minimum daily, 48 micromhos July 12 (T), 13.

Water temperatures: Maximum, 92°F July 7, 22 (T); minimum, 36°F Jan. 12, 13 (B).

EXTREMES, 1954-62.--Chloride: Maximum, 6,630 ppm Oct. 15 (m.); minimum, 3.0 ppm June 22-30, 1961.

Specific conductance: Maximum daily, 17,800 micromhos Oct. 15 (m.); minimum daily, 40 micromhos Nov. 3 (B), 1959.

Water temperatures: Maximum, 92°F June 29, 30, (T), 1959, July 7, 22 (T), 1962, minimum, 33°F Feb. 19 (B), 1958.

REMARKS.--Top (T) and bottom (B) samples were collected once daily (1200) and were composited unless otherwise indicated. Integrated samples were collected three times daily (0600, 1200, 1800) from September 1954 to September 1957. Records of specific conductance of daily samples available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-31, 1961..... | | 11 | 0.25 | 7.5 | 1.4 | 12 | 2.7 | 30 | 11 | 14 | 0.2 | 3.5 | 82 | 25 | 0 | 122 | 6.7 | 30 |
| Nov. 1-30..... | | 12 | .21 | 8.5 | 1.8 | 14 | 2.9 | 36 | 10 | 17 | .2 | 3.1 | 94 | 28 | 0 | 139 | 7.3 | 20 |
| Dec. 1-21..... | | 12 | .23 | 6.2 | 2.1 | 10 | 2.9 | 24 | 13 | 12 | .2 | 1.6 | 76 | 24 | 4 | 110 | 6.9 | 40 |
| Dec. 22-31..... | | 11 | .18 | 4.9 | 1.9 | 7.0 | 2.2 | 16 | 11 | 9.0 | .1 | 1.7 | 69 | 20 | 7 | 82 | 6.3 | 70 |
| Jan. 1-31, 1962..... | | 9.9 | .17 | 5.3 | 1.1 | 6.0 | 1.7 | 14 | 9.6 | 8.0 | .1 | 1.5 | 54 | 18 | 6 | 76 | 6.5 | 40 |
| Feb. 1-28..... | | 8.9 | .16 | 4.7 | 1.4 | 6.1 | 1.4 | 14 | 9.0 | 8.5 | .0 | 2.1 | 58 | 18 | 6 | 78 | 6.6 | 40 |
| Mar. 1-10, 11(T).... | | 7.4 | .08 | 4.4 | 1.8 | 4.8 | 1.2 | 14 | 7.0 | 7.6 | .1 | 1.7 | 73 | 18 | 7 | 69 | 6.4 | 80 |
| Mar. 11(B)..... | | | | | | 4.6 | | 46 | | 7.2 | | | | 46 | 8 | 99 | 7.8 | |
| Mar. 12-31..... | | 5.5 | .06 | 4.5 | 1.5 | 4.7 | 1.2 | 13 | 8.4 | 8.0 | .1 | 1.6 | 62 | 17 | 6 | 66 | 6.9 | 60 |
| Apr. 1-30..... | | 6.3 | .09 | 4.2 | 1.6 | 5.4 | 1.2 | 16 | 8.0 | 6.3 | .1 | 1.8 | 53 | 17 | 4 | 65 | 7.2 | 45 |
| May 1-15..... | | 8.9 | .35 | 6.0 | 1.4 | 7.0 | 1.9 | 21 | 7.8 | 9.0 | .2 | 3.5 | 58 | 20 | 4 | 89 | 7.4 | 70 |
| May 16-31..... | | 8.0 | .15 | 7.0 | 1.9 | 10 | 2.0 | 31 | 7.4 | 12 | .2 | 3.2 | 72 | 26 | 0 | 110 | 6.8 | 35 |
| June 1-16..... | | 10 | .06 | 6.4 | 2.0 | 11 | 2.3 | 29 | 6.8 | 11 | .2 | 3.7 | 70 | 24 | 0 | 109 | 6.7 | 25 |
| June 17-29..... | | 11 | .19 | 5.5 | 1.6 | 8.1 | 2.1 | 20 | 7.2 | 8.7 | .2 | 2.1 | 63 | 20 | 4 | 88 | 7.2 | 50 |
| June 30(B)..... | | | | | | | | | | | | | | | | | | |
| July 1-22..... | | | | | | | | | | | | | | | | | | |
| July 23-31..... | | 9.7 | .20 | 4.6 | 1.4 | 4.1 | 2.0 | 13 | 7.2 | 5.4 | .2 | 1.3 | 54 | 18 | 7 | 58 | 6.3 | 100 |
| Aug. 1-31..... | | 10 | .29 | 6.3 | 1.5 | 6.5 | 1.6 | 20 | 6.6 | 7.1 | .2 | 2.0 | 61 | 22 | 5 | 74 | 6.5 | 45 |
| | | | | 6.1 | 1.2 | 7.3 | 1.8 | 20 | 6.8 | 7.3 | .2 | 1.8 | 62 | 20 | 4 | 82 | 7.1 | 40 |
| Sept. 1-6..... | | 6.8 | .13 | 7.4 | 1.4 | 9.2 | 2.2 | 29 | 6.4 | 9.6 | .2 | 2.5 | 70 | 24 | 0 | 98 | 6.9 | 50 |
| Sept. 10-13..... | | 8.5 | .16 | 8.7 | 1.2 | 11 | 2.6 | 31 | 7.0 | 10 | .3 | 3.9 | 77 | 24 | 0 | 110 | 7.1 | 45 |
| Sept. 14-18..... | | 6.7 | .14 | 5.8 | 1.7 | 8.9 | 2.3 | 31 | 7.0 | 10 | .3 | 3.9 | 77 | 24 | 0 | 110 | 7.0 | 42 |
| Sept. 20-27..... | | 10 | .24 | 5.8 | 1.7 | 8.9 | 2.3 | 31 | 9.0 | 11 | .2 | 2.6 | 71 | 22 | 4 | 90 | 6.8 | 50 |
| Sept. 28-30..... | | 7.3 | .32 | 5.5 | 1.8 | 6.6 | 2.6 | 16 | 9.2 | 7.0 | .3 | 4.0 | a53 | 21 | 8 | 75 | 6.8 | 75 |
| Time-weighted average..... | | 9.2 | 0.19 | 5.9 | 1.5 | 8.1 | 2.0 | 21 | 8.7 | 9.7 | 0.2 | 2.3 | 67 | 21 | 4 | 91 | -- | 49 |

a Calculated from determined constituents.

NEUSE RIVER BASIN--Continued
 2-918.36. NEUSE RIVER AT STREETS FERRY, NEAR VANCEBORO, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962
 /Top (T) and bottom (B) once-daily measurements between 1200 and 2000/

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

NEUSE RIVER BASIN--Continued

2-920. SWIFT CREEK NEAR VANCEBORO, N. C.

LOCATION.--Temperature recorder at gaging station at highway bridge, 2.5 miles upstream from bridge on State Highway 118, 2.5 miles downstream from Clayroot Swamp, and 3.5 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 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 78°F on several days in July and August; minimum, 42°F Jan. 14, 15.

EXTREMES, 1951-52, 1954-62.--Water temperatures: Maximum, 87°F July 29, 1952; minimum, freezing point on several days in November, 1956.

REMARKS.--Recorder stopped Feb. 7-14, range in temperature 47°F to 55°F.

Temperature °F of water, water year October 1961 to September 1962

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 | 70 | 60 | 58 | 49 | 48 | 45 | 45 | 50 | 49 | 64 | 63 | 64 | 63 | 66 | 65 | 70 | 70 | 70 | 70 | 76 | 75 | 76 | 76 |
| 2.. | 70 | 70 | 61 | 60 | 48 | 47 | 45 | 45 | 49 | 48 | 63 | 62 | 65 | 64 | 68 | 66 | 71 | 70 | 70 | 70 | 76 | 76 | 76 | 76 |
| 3.. | 70 | 70 | 62 | 61 | 47 | 47 | 45 | 45 | 51 | 50 | 58 | 57 | 57 | 56 | 58 | 56 | 72 | 71 | 70 | 70 | 76 | 76 | 76 | 76 |
| 4.. | 69 | 69 | 63 | 62 | 48 | 47 | 46 | 45 | 51 | 50 | 58 | 57 | 57 | 56 | 58 | 56 | 72 | 71 | 70 | 70 | 76 | 76 | 76 | 76 |
| 5.. | 69 | 69 | 63 | 62 | 48 | 47 | 46 | 45 | 54 | 53 | 52 | 52 | 55 | 54 | 56 | 55 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 6.. | 64 | 64 | 63 | 62 | 46 | 46 | 45 | 45 | 54 | 53 | 52 | 52 | 55 | 54 | 56 | 55 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 7.. | 64 | 64 | 64 | 64 | 49 | 49 | 52 | 50 | 57 | 56 | 57 | 56 | 57 | 56 | 58 | 57 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 8.. | 63 | 63 | 64 | 64 | 49 | 49 | 52 | 50 | 57 | 56 | 57 | 56 | 57 | 56 | 58 | 57 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 9.. | 63 | 63 | 64 | 64 | 49 | 49 | 52 | 50 | 57 | 56 | 57 | 56 | 57 | 56 | 58 | 57 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 10.. | 63 | 63 | 62 | 62 | 49 | 48 | 52 | 50 | 57 | 56 | 57 | 56 | 57 | 56 | 58 | 57 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 11.. | 63 | 63 | 59 | 57 | 48 | 48 | 50 | 47 | 57 | 56 | 57 | 56 | 57 | 56 | 58 | 57 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 12.. | 64 | 64 | 57 | 56 | 50 | 49 | 47 | 45 | 57 | 56 | 57 | 56 | 57 | 56 | 58 | 57 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 13.. | 64 | 64 | 56 | 56 | 53 | 50 | 45 | 43 | 57 | 56 | 57 | 56 | 57 | 56 | 58 | 57 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 14.. | 64 | 64 | 56 | 56 | 53 | 52 | 43 | 42 | 57 | 56 | 57 | 56 | 57 | 56 | 58 | 57 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 15.. | 64 | 64 | 57 | 56 | 52 | 51 | 43 | 42 | 57 | 56 | 57 | 56 | 57 | 56 | 58 | 57 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 16.. | 63 | 63 | 58 | 57 | 51 | 50 | 45 | 43 | 57 | 56 | 57 | 56 | 57 | 56 | 58 | 57 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 17.. | 63 | 62 | 59 | 58 | 50 | 49 | 45 | 45 | 57 | 56 | 57 | 56 | 57 | 56 | 58 | 57 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 18.. | 62 | 61 | 59 | 58 | 50 | 49 | 45 | 45 | 57 | 56 | 57 | 56 | 57 | 56 | 58 | 57 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 19.. | 61 | 61 | 59 | 58 | 50 | 49 | 45 | 45 | 57 | 56 | 57 | 56 | 57 | 56 | 58 | 57 | 74 | 73 | 72 | 71 | 76 | 76 | 76 | 76 |
| 20.. | 61 | 61 | 59 | 57 | 53 | 53 | 45 | 45 | 55 | 54 | 58 | 55 | 56 | 55 | 57 | 56 | 75 | 74 | 73 | 72 | 76 | 76 | 76 | 76 |
| 21.. | 61 | 61 | 57 | 55 | 53 | 52 | 46 | 45 | 55 | 54 | 58 | 55 | 56 | 55 | 57 | 56 | 75 | 74 | 73 | 72 | 76 | 76 | 76 | 76 |
| 22.. | 61 | 60 | 55 | 53 | 52 | 49 | 48 | 46 | 55 | 54 | 60 | 58 | 56 | 54 | 58 | 57 | 75 | 74 | 73 | 72 | 76 | 76 | 76 | 76 |
| 23.. | 60 | 60 | 53 | 52 | 49 | 47 | 51 | 48 | 55 | 54 | 60 | 58 | 56 | 54 | 58 | 57 | 75 | 74 | 73 | 72 | 76 | 76 | 76 | 76 |
| 24.. | 59 | 59 | 54 | 52 | 47 | 47 | 51 | 51 | 62 | 58 | 60 | 60 | 61 | 60 | 60 | 59 | 75 | 74 | 73 | 72 | 76 | 76 | 76 | 76 |
| 25.. | 59 | 59 | 54 | 54 | 47 | 46 | 54 | 51 | 62 | 58 | 60 | 60 | 61 | 60 | 60 | 59 | 75 | 74 | 73 | 72 | 76 | 76 | 76 | 76 |
| 26.. | 59 | 59 | 54 | 54 | 44 | 44 | 57 | 54 | 62 | 60 | 61 | 60 | 63 | 60 | 62 | 61 | 76 | 75 | 74 | 73 | 76 | 76 | 76 | 76 |
| 27.. | 59 | 59 | 52 | 46 | 46 | 46 | 58 | 57 | 60 | 60 | 61 | 60 | 63 | 60 | 62 | 61 | 76 | 75 | 74 | 73 | 76 | 76 | 76 | 76 |
| 28.. | 59 | 59 | 52 | 46 | 46 | 46 | 58 | 57 | 60 | 60 | 61 | 60 | 63 | 60 | 62 | 61 | 76 | 75 | 74 | 73 | 76 | 76 | 76 | 76 |
| 29.. | 59 | 59 | 52 | 46 | 46 | 46 | 58 | 57 | 60 | 60 | 61 | 60 | 63 | 60 | 62 | 61 | 76 | 75 | 74 | 73 | 76 | 76 | 76 | 76 |
| 30.. | 59 | 59 | 52 | 46 | 46 | 46 | 58 | 57 | 60 | 60 | 61 | 60 | 63 | 60 | 62 | 61 | 76 | 75 | 74 | 73 | 76 | 76 | 76 | 76 |
| 31.. | 58 | 57 | 52 | 46 | 46 | 46 | 58 | 57 | 60 | 60 | 61 | 60 | 63 | 60 | 62 | 61 | 76 | 75 | 74 | 73 | 76 | 76 | 76 | 76 |
| Aver. | 63 | 62 | 58 | 57 | 43 | 48 | 49 | 48 | 55 | 54 | 58 | 57 | 60 | 58 | 61 | 60 | 74 | 73 | 75 | 74 | 77 | 77 | 72 | 72 |

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 1962 (discontinued).

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 2, 1961..... | | 9.5 | 0.07 | 20 | 2.2 | 4.6 | 1.8 | 68 | 5.8 | 7.2 | 0.1 | 0.5 | 115 | 59 | 4 | 138 | 7.0 | 70 |
| Nov. 1..... | | 13 | .21 | 35 | 5.6 | 30 | 3.2 | 107 | 10 | 58 | .2 | .5 | 239 | 110 | 22 | 390 | 7.1 | 65 |
| Nov. 30..... | | 14 | .09 | 32 | 4.5 | 9.5 | 3.2 | 114 | 5.6 | 14 | .2 | .3 | 151 | 99 | 6 | 220 | 7.1 | 37 |
| Jan. 1, 1962..... | | 16 | .04 | 32 | 3.6 | 9.0 | 1.6 | 129 | 7.8 | 17 | .0 | .2 | 173 | 131 | 6 | 289 | 6.8 | 43 |
| Feb. 1..... | | 9.0 | .15 | 12 | 2.6 | 4.9 | 1.0 | 36 | 7.6 | 7.0 | .0 | .7 | 66 | 36 | 8 | 91 | 6.7 | 70 |
| Mar. 3..... | | 7.8 | .16 | 11 | 2.3 | 4.1 | .9 | 36 | 7.6 | 7.0 | .0 | .7 | 66 | 37 | 8 | 91 | 6.7 | 70 |
| Mar. 24..... | | 6.7 | .11 | 12 | 1.3 | 3.8 | .8 | 37 | 4.8 | 6.5 | .1 | .5 | 67 | 36 | 5 | 88 | 6.9 | 50 |
| May 1..... | | 7.7 | .02 | 25 | 1.5 | 4.8 | 1.3 | 82 | 3.6 | 7.3 | .2 | .4 | 97 | 69 | 2 | 139 | 7.2 | 27 |
| June 4..... | | 7.8 | .01 | 31 | 1.9 | 6.8 | 1.5 | 102 | 5.0 | 10 | .2 | .3 | 119 | 86 | 2 | 188 | 7.1 | 22 |
| July 2..... | | 2.9 | .02 | 3.8 | .8 | 1.6 | .8 | 11 | 5.0 | 1.3 | .3 | .4 | 47 | 12 | 4 | 35 | 6.2 | 90 |
| Aug. 2..... | | 9.3 | .01 | 31 | 2.2 | 5.9 | 1.2 | 101 | 3.8 | 8.0 | .1 | .5 | 119 | 86 | 3 | 178 | 7.4 | 30 |
| Sept. 4..... | | 8.9 | .04 | 20 | 1.9 | 4.5 | 1.3 | 65 | 5.8 | 6.5 | .2 | .3 | 91 | 58 | 4 | 132 | 7.0 | 45 |

NEUSE RIVER BASIN--Continued

2-921.62. NEUSE RIVER AT NEW BERN, 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 1956 to September 1962.

Water temperatures: October 1956 to September 1962. Maximum, 6,080 ppm Dec. 8 (B); minimum, 6.0 ppm July 1-18, 19 (T).

EXTREMES, 1961-62.--Chloride: Maximum, 847.7 mg/l, 1,400 micromhos Dec. 8 (B); minimum, 34.7 mg/l, 59 micromhos July 2.

Specific conductance: Maximum, 847.7 mg/l, 1,400 micromhos Dec. 8 (B); minimum, 34.7 mg/l, 59 micromhos July 2.

EXTREMES, 1956-62.--Chloride: Maximum, 9,420 ppm Sept. 28 (B), 1957; minimum, 4.5 ppm on several days in June and July 1961.

Specific conductance: Maximum daily, 25,900 micromhos Sept. 28 (B), 1957; minimum daily, 52 micromhos May 16 (T), 1958, May 2 (T), 1959.

Water temperatures: Maximum, 89°F June 17, 22, Aug. 3, 18 (T), 1957; minimum, 33°F Feb. 18 (T), 19, 20, 1958.

REMARKS.--Top (T) and bottom (B) samples were collected once daily (0800) and were composited unless otherwise specified. 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 during October and

November 1956. Records of specific conductance of daily samples available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, February to August 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|---------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Feb. 24-28, 1962.... | | 8.2 | 0.18 | 7.3 | 2.1 | 11 | 1.8 | 22 | 11 | 17 | 0.1 | 2.5 | a72 | 27 | 9 | 119 | 6.9 | 75 |
| Mar. 1-16, 1962.... | | 6.8 | .09 | 4.6 | 2.0 | 7.0 | 1.4 | 16 | 8.0 | 12 | .1 | 1.8 | 69 | 20 | 7 | 89 | 7.2 | 80 |
| Apr. 1, 2(T)..... | | 6.4 | .05 | 5.3 | 1.5 | 8.6 | 1.5 | 17 | 7.6 | 10 | .1 | 1.8 | a50 | 19 | 5 | 87 | 6.7 | 50 |
| Apr. 2(B), 3-7, 8(T)..... | | 1.7 | .08 | 5.9 | 1.8 | 9.4 | 1.2 | 20 | 8.8 | 14 | .3 | .3 | 63 | 22 | 6 | 99 | 6.6 | 35 |
| Apr. 8(B)..... | | -- | -- | 10 | 4.6 | -- | -- | 30 | -- | 24 | -- | -- | -- | 48 | 23 | 146 | 7.5 | -- |
| Apr. 9-30..... | | 6.3 | .09 | 4.9 | 2.1 | 6.9 | 1.3 | 19 | 7.2 | 9.1 | .1 | .8 | 61 | 20 | 5 | 80 | 7.2 | 55 |
| May 1-4..... | | 7.6 | .00 | 7.4 | 1.8 | 11 | 1.8 | 27 | 8.4 | 15 | .1 | .4 | a66 | 26 | 4 | 115 | 7.0 | 35 |
| May 7-8..... | | 7.4 | .01 | 6.7 | 1.0 | 9.8 | 2.0 | 24 | 9.2 | 14 | .1 | .3 | a63 | 20 | 1 | 103 | 6.5 | 40 |
| July 1-18, 19(T)..... | | 6.4 | .16 | 5.6 | 1.5 | 4.6 | 1.7 | 15 | 7.6 | 6.0 | .1 | 1.1 | 57 | 20 | 8 | 68 | 6.7 | 80 |
| July 22-23..... | | 9.0 | .33 | 7.1 | 1.9 | 8.6 | 2.1 | 24 | 6.4 | 11 | .2 | 3.6 | 75 | 26 | 6 | 95 | 6.3 | 75 |
| July 24-25..... | | 9.6 | .39 | 9.1 | 2.6 | 12 | 2.1 | 28 | 8.6 | 18 | .2 | 3.6 | 92 | 34 | 11 | 130 | 6.6 | 75 |
| July 26..... | | 9.4 | -- | 8.1 | 1.6 | 7.3 | 1.9 | 24 | 8.0 | 10 | .1 | 1.1 | a60 | 28 | 7 | 96 | 7.4 | 100 |
| Aug. 11..... | | 9.5 | -- | 9.9 | 3.0 | 24 | 2.2 | 28 | 12 | 36 | .3 | 2.5 | a13 | 36 | 14 | 194 | 6.3 | -- |
| Aug. 12-23..... | | 9.4 | .25 | 7.9 | 1.4 | 9.5 | 1.7 | 25 | 8.2 | 12 | .0 | 2.4 | 72 | 25 | 4 | 103 | 6.6 | 50 |
| Aug. 24..... | | -- | -- | 9.7 | 5.1 | -- | 30 | 15 | 5.9 | 17 | -- | -- | -- | 45 | 20 | 271 | 7.3 | 80 |
| Aug. 25-30, 31(T)..... | | 8.9 | .27 | 11 | 1.9 | 13 | 1.3 | 34 | 10 | 17 | .2 | 2.8 | 85 | 34 | 6 | 136 | 6.8 | 50 |

a Calculated from determined constituents.

NEUSE RIVER BASIN--Continued

Chloride, in parts per million, water year October 1961 to September 1962

| 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 | 2,006 | 3,560 | 1,780 | 4,590 | 1,710 | 4,420 | 300 | 5,150 | 19 | 2,020 | 10 | 10 | 10 | 10 | 225 | 335 | 65 | 625 | 21 | 48 | 65 | 625 | 21 | 48 | |
| 2 | 1,810 | 4,280 | 1,250 | 5,340 | 1,100 | 4,490 | 2,870 | 3,430 | 56 | 3,250 | 10 | 14 | 15 | 15 | 130 | 190 | 75 | 1,700 | 21 | 48 | 75 | 1,700 | 21 | 48 | |
| 3 | 1,210 | 4,310 | 2,430 | 4,790 | 790 | 4,810 | 695 | 4,220 | 51 | 3,570 | 10 | 14 | 15 | 15 | 90 | 340 | 210 | 1,015 | 17 | 160 | 210 | 1,015 | 17 | 160 | |
| 4 | 2,820 | 3,150 | 2,450 | 4,390 | 785 | 4,850 | 1,070 | 4,220 | 54 | 2,370 | 14 | 14 | 14 | 14 | 125 | 810 | 240 | 1,170 | 19 | 275 | 240 | 1,170 | 19 | 275 | |
| 5 | 2,500 | 3,300 | 2,230 | 4,320 | 1,380 | 4,210 | 1,940 | 5,080 | 53 | 62 | 14 | 14 | 14 | 14 | 425 | 1,600 | 119 | 775 | 56 | 555 | 118 | 1,270 | 56 | 555 | |
| 6 | 2,200 | 3,320 | 1,380 | 3,500 | 1,080 | 4,370 | 1,120 | 4,800 | 700 | 3,240 | 12 | 12 | 12 | 12 | 48 | 1,275 | 134 | 1,315 | 225 | 1,450 | 41 | 92 | 225 | 1,450 | |
| 7 | 1,540 | 3,620 | 1,350 | 4,150 | 1,850 | 5,640 | 400 | 2,320 | 170 | 2,810 | 10 | 14 | 14 | 14 | 14 | 515 | 960 | 60 | 104 | 525 | 18 | 104 | 525 | 1,850 | |
| 8 | 1,780 | 4,200 | 2,090 | 4,390 | 3,210 | 6,080 | 137 | 605 | 155 | 4,070 | 12 | 12 | 14 | 24 | 67 | 86 | 340 | 1,585 | 100 | 925 | 20 | 61 | 400 | 925 | |
| 9 | 1,660 | 4,650 | 3,490 | 3,630 | 3,190 | 5,690 | 133 | 1,730 | 96 | 4,680 | 10 | 14 | 14 | 14 | 135 | 315 | 330 | 975 | 6 | 1,425 | 100 | 130 | 400 | 1,425 | |
| 10 | 2,040 | 5,070 | 3,280 | 4,080 | 2,930 | 5,580 | 148 | 2,210 | 650 | 2,200 | 12 | 12 | 12 | 12 | 67 | 315 | 330 | 975 | 6 | 1,425 | 100 | 130 | 400 | 1,425 | |
| 11 | 2,070 | 5,070 | 3,200 | 3,900 | 3,220 | 4,400 | 330 | 3,430 | 260 | 2,640 | 10 | 14 | 14 | 14 | 105 | 745 | 36 | 36 | 555 | 225 | 36 | 36 | 555 | 225 | |
| 12 | 2,850 | 4,250 | 3,270 | 3,690 | 3,000 | 4,120 | 330 | 3,510 | 61 | 3,130 | 10 | 14 | 14 | 14 | 119 | 190 | 40 | 80 | 220 | 1,225 | 40 | 80 | 220 | 1,225 | |
| 13 | 2,500 | 3,430 | 1,910 | 3,630 | 3,000 | 3,540 | 485 | 3,430 | 32 | 2,820 | 10 | 14 | 14 | 14 | 82 | 117 | 125 | 135 | 275 | 1,225 | 40 | 80 | 220 | 1,225 | |
| 14 | 2,450 | 4,260 | 3,190 | 3,630 | 3,000 | 3,540 | 485 | 3,430 | 32 | 2,820 | 10 | 14 | 14 | 14 | 82 | 117 | 125 | 135 | 275 | 1,225 | 40 | 80 | 220 | 1,225 | |
| 15 | 3,800 | 3,890 | 1,200 | 4,250 | 5,040 | 3,610 | 132 | 5,350 | 96 | 4,260 | 10 | 14 | 14 | 14 | 41 | 111 | 130 | 130 | 91 | 750 | 41 | 111 | 130 | 130 | |
| 16 | 3,110 | 3,550 | 1,090 | 4,970 | 2,550 | 3,290 | 105 | 3,950 | 775 | 2,830 | 10 | 14 | 14 | 14 | 125 | 675 | 62 | 1,180 | 325 | 1,225 | 12 | 12 | 500 | 715 | |
| 17 | 3,140 | 3,660 | 2,610 | 4,610 | 1,990 | 3,930 | 66 | 4,420 | 805 | 2,675 | 10 | 14 | 14 | 14 | 165 | 275 | 135 | 1,485 | 400 | 850 | 12 | 12 | 500 | 715 | |
| 18 | 2,800 | 3,350 | 2,170 | 3,780 | 1,480 | 2,750 | 120 | 5,150 | 180 | 3,080 | 48 | 2,680 | 9.1 | 9.1 | 83 | 550 | 145 | 1,455 | 300 | 1,100 | | | 300 | 1,100 | |
| 19 | 1,910 | 3,520 | 2,470 | 3,750 | 1,030 | 2,410 | 120 | 5,120 | 200 | 1,970 | 16 | 3,250 | 16 | 3,250 | 56 | 420 | 30 | 48 | 1,715 | 3,000 | | | 300 | 1,100 | |
| 20 | 1,920 | 3,490 | 3,380 | 4,050 | 524 | 3,080 | 180 | 3,880 | 128 | 1,720 | 10 | 14 | 14 | 14 | 130 | 785 | 21 | 19 | 55 | 3,000 | | | 625 | 1,000 | |
| 21 | 2,660 | 3,400 | 3,270 | 3,800 | 1,280 | 3,690 | 88 | 4,880 | 168 | 2,010 | 11 | 520 | 11 | 520 | 100 | 1,225 | 70 | 83 | 24 | 46 | | | 260 | 450 | |
| 22 | 3,450 | 3,410 | 2,330 | 3,670 | 1,040 | 4,610 | 37 | 4,650 | 70 | 83 | 35 | 2,140 | 35 | 2,140 | 325 | 1,550 | 88 | 890 | 11 | 11 | | | 135 | 450 | |
| 23 | 3,030 | 3,800 | 2,930 | 4,400 | 690 | 4,620 | 29 | 2,710 | 42 | 220 | 12 | 2,600 | 120 | 2,600 | 220 | 65 | 130 | 1,130 | 11 | 11 | | | 775 | 290 | |
| 24 | 2,860 | 4,110 | 2,520 | 3,100 | 2,020 | 3,410 | 27 | 4,000 | 27 | 4,000 | 24 | 2,210 | 24 | 2,210 | 190 | 840 | 62 | 585 | 18 | 18 | 59 | 59 | 135 | 275 | |
| 25 | 3,160 | 3,970 | 1,920 | 3,580 | 1,420 | 4,580 | 20 | 3,580 | 39 | 4,380 | 39 | 4,380 | 39 | 4,380 | 200 | 275 | 35 | 875 | 35 | 35 | | | 46 | 325 | |
| 26 | 3,000 | 4,010 | 1,700 | 3,800 | 580 | 3,840 | 33 | 2,690 | 17 | 17 | 58 | 3,880 | 58 | 3,880 | 425 | 715 | 118 | 1,875 | 10 | 10 | | | 38 | 1,300 | |
| 27 | 2,810 | 3,850 | 1,900 | 3,700 | 218 | 5,290 | 24 | 3,810 | 95 | 3,350 | 95 | 3,350 | 95 | 3,350 | 775 | 535 | 275 | 2,090 | 225 | 62 | 17 | | | 62 | 1,675 |
| 28 | 2,130 | 4,200 | 2,790 | 3,820 | 264 | 3,060 | 350 | 3,430 | 122 | 2,980 | 122 | 2,980 | 122 | 2,980 | 465 | 765 | 775 | 2,535 | 290 | 215 | 17 | | | 215 | 1,475 |
| 29 | 2,500 | 4,580 | 3,120 | 3,970 | 980 | 4,500 | 36 | 1,670 | 143 | 2,540 | 143 | 2,540 | 143 | 2,540 | 180 | 780 | 725 | 1,190 | 240 | 165 | | | | 165 | 1,775 |
| 30 | 1,750 | 4,260 | 1,530 | 3,500 | 745 | 4,960 | 30 | 1,580 | --- | --- | 16 | 21 | 21 | 21 | 300 | 1,165 | 1,125 | 1,350 | 130 | 167 | | | | 167 | 2,225 |
| 31 | 1,780 | 4,260 | --- | --- | --- | --- | --- | --- | --- | --- | 16 | 21 | 21 | 21 | 300 | 365 | 1,125 | 1,350 | 130 | 167 | 278 | | | 278 | --- |

NEUSE RIVER BASIN--Continued

2-921.62. NEUSE RIVER AT NEW BERN, N. C.--Continued

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

Temperature °F of water, water year October 1961 to September 1962
 /Top (T) and bottom (B) once-daily measurements at approximately high tide/

| | | | | | | | | | | | | | | | | | | |
|----------------------------|-------|-----|------|------|-----|-----|-----|----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|
| June 28-30, 1962..... | 633 | 3.4 | .12 | 5.0 | 1.0 | 2.1 | 0.5 | 14 | 4.8 | 2.0 | .2 | 0.5 | 327 | 16 | 5 | 38 | 6.5 | 180 |
| July 1-9..... | 4,230 | 3.1 | .18 | 4.7 | .6 | 1.5 | .9 | 11 | 3.6 | 2.6 | .1 | 1.2 | 334 | 23 | 6 | 33 | 6.5 | 200 |
| July 10-13..... | 594 | 3.5 | .14 | 5.1 | .7 | 1.6 | .8 | 12 | 3.6 | 2.6 | .2 | 1.2 | 334 | 23 | 8 | 33 | 6.5 | 200 |
| July 14-15..... | 790 | 6.7 | .18 | 16.1 | 1.6 | 2.8 | .8 | 42 | 7.2 | 4.5 | .2 | 5.3 | 86 | 47 | 8 | 106 | 6.6 | 90 |
| Aug. 1-6..... | 664 | 4.2 | .23 | 7.4 | .8 | 2.3 | .8 | 19 | 3.6 | 2.5 | .1 | 1.6 | 461 | 22 | 6 | 50 | 6.7 | 120 |
| Aug. 7-14..... | 319 | 6.7 | .32 | 11 | .9 | 3.9 | .9 | 27 | 4.6 | 6.2 | .0 | 1.1 | 80 | 32 | 10 | 77 | 7.0 | 160 |
| Aug. 15-28..... | 155 | 7.7 | .30 | 15 | 1.0 | 3.9 | .8 | 39 | 7.8 | 5.8 | .1 | .8 | 83 | 40 | 8 | 95 | 7.4 | 120 |
| Aug. 29-31..... | 473 | 5.7 | .31 | 8.7 | .9 | 2.5 | .9 | 21 | 7.8 | 3.9 | .1 | 1.1 | 342 | 25 | 8 | 57 | 7.2 | 160 |
| Sept. 1-4..... | 250 | 7.7 | .32 | 13 | 1.6 | 3.7 | .8 | 37 | 4.4 | 3.8 | .4 | 3.6 | 85 | 38 | 7 | 87 | 7.1 | 150 |
| Sept. 5-19..... | 57.9 | 8.9 | .17 | 23 | 1.4 | 4.2 | .7 | 63 | 9.2 | 7.4 | .2 | 2.1 | 105 | 63 | 12 | 140 | 7.1 | 90 |
| Sept. 20-30..... | 186 | 8.0 | .18 | 12 | 1.3 | 4.2 | .7 | 32 | 6.4 | 6.4 | .2 | 1.3 | 78 | 34 | 8 | 85 | 7.0 | 100 |
| Time-weighted average..... | 267.7 | 6.7 | 0.17 | 18 | 1.5 | 4.0 | 0.9 | 46 | 10 | 6.2 | 0.1 | 1.9 | 90 | 50 | 12 | 120 | -- | 100 |

a Calculated from determined constituents.

b Organic matter present: sum of mineral constituents 38 parts per million.

c Organic matter present: sum of mineral constituents 24 parts per million.

d Organic matter present: sum of mineral constituents 32 parts per million.

QUALITY OF SURFACE WATERS, 1962

NEUSE RIVER BASIN--Continued

2-925. TRENT RIVER NEAR TRENTON, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962
/Once-daily measurement between 0500 and 1730/

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

NEUSE RIVER BASIN--Continued

2-925.54. TRENT RIVER AT POLLOCKSVILLE, N. C.

LOCATION.--At bridge on U.S. Highway 17 in Pollocksville, Jones County, and 0.4 mile upstream from Mill Creek.

DRAINAGE AREA.--372 square miles.

RECORDS AVAILABLE.--Chemical analyses: January 1955 to November 1958, October 1961 to September 1962.

Water temperatures: January 1955 to November 1958, October 1961 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 132 ppm Nov. 1-30; minimum, 57 ppm Feb. 24-28.

Hardness: Maximum, 98 ppm Nov. 1-30; minimum, 20 ppm July 1-14.

Specific conductance: Maximum daily, 242 micromhos Nov. 11; minimum daily, 37 micromhos July 9, 10.

Water temperatures: Maximum, 80°F June 2; minimum, 36°F Jan 15, 1955; minimum, 57 ppm Feb. 24-28, 1962.

EXTREMES, 1958-59, 1961-62.--Dissolved solids: Maximum, 13,080 ppm Jan 1-8, 1955; minimum, 57 ppm Feb. 24-28, 1962.

Hardness: Maximum, 1,200 ppm Jan 1-8, 1955; minimum, 13 ppm Feb. 24-28, 1962.

Specific conductance: Maximum, 1,920 ppm Jan 1-8, 1955; minimum, 37 ppm Feb. 24-28, 1962.

Water temperatures: Maximum, 88°F June 7, 1956; minimum, 36°F Jan 15, 1955; minimum, 57 ppm Feb. 24-28, 1962.

REMARKS.--Records of specific conductance of daily samples available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 3-31, 1961..... | | 8.2 | 0.29 | 30 | 2.3 | 5.1 | 1.5 | 86 | 9.2 | 7.5 | 0.2 | 1.6 | 120 | 84 | 14 | 180 | 7.4 | 55 |
| Nov. 1-30..... | | 9.4 | 0.15 | 36 | 1.8 | 5.3 | 1.2 | 109 | 11 | 7.5 | .2 | 1.2 | 132 | 98 | 8 | 215 | 7.4 | 40 |
| Dec. 1-31..... | | 7.8 | 0.16 | 30 | 2.4 | 5.3 | 1.3 | 88 | 14 | 8.5 | .3 | 1.0 | 122 | 85 | 13 | 194 | 7.6 | 50 |
| Jan. 1-11, 1962..... | | 7.6 | 0.14 | 27 | 1.6 | 5.3 | 1.1 | 71 | 13 | 9.0 | .1 | .2 | 102 | 73 | 15 | 163 | 7.3 | 55 |
| Jan. 12-31..... | | 6.6 | .08 | 14 | 1.8 | 4.3 | 1.0 | 33 | 14 | 7.0 | .3 | .5 | 83 | 43 | 16 | 110 | 7.8 | 100 |
| Feb. 1-23..... | | 6.1 | .20 | 18 | 1.6 | 3.9 | .6 | 45 | 11 | 7.5 | .1 | .8 | 57 | 52 | 14 | 122 | 7.0 | 110 |
| Feb. 24-28..... | | 5.1 | .19 | 12 | 1.0 | 4.7 | 1.0 | 29 | 8.8 | 7.8 | .1 | 2.1 | 457 | 34 | 10 | 93 | 6.8 | 140 |
| Mar. 1-31..... | | 4.1 | .13 | 12 | 3.3 | 3.0 | 1.2 | 28 | 9.6 | 6.5 | .2 | 1.0 | 76 | 42 | 20 | 87 | 7.4 | 100 |
| Apr. 1-12..... | | 4.7 | .11 | 17 | 9 | 4.9 | .6 | 44 | 8.0 | 5.6 | .1 | .9 | 90 | 46 | 10 | 102 | 6.7 | 90 |
| Apr. 13-22..... | | 4.5 | .12 | 11 | .9 | 4.4 | .8 | 25 | 8.0 | 5.2 | .2 | .9 | 70 | 30 | 10 | 72 | 7.0 | 110 |
| Apr. 23-30..... | | 5.5 | .04 | 19 | 1.1 | 5.3 | .7 | 54 | 7.6 | 5.7 | .1 | .6 | 94 | 52 | 8 | 117 | 6.6 | 75 |
| May 1-27..... | | 6.7 | .16 | 26 | 1.4 | 4.7 | 1.0 | 74 | 8.0 | 7.0 | .2 | 2.5 | 102 | 70 | 10 | 167 | 6.6 | 70 |
| May 28-31..... | | 7.0 | .00 | 33 | 1.8 | 6.5 | 1.1 | 99 | 9.6 | 9.5 | .2 | .4 | 118 | 90 | 8 | 218 | 7.2 | 40 |
| June 1-15..... | | 10 | .03 | 34 | 1.5 | 5.6 | 1.2 | 101 | 9.0 | 6.6 | .2 | 1.8 | 127 | 92 | 8 | 198 | 7.9 | 20 |
| June 16-23..... | | 5.6 | .11 | 14 | .8 | 3.1 | 1.0 | 30 | 10 | 4.3 | .2 | 1.1 | 76 | 38 | 14 | 91 | 7.1 | 80 |
| June 24-28..... | | 7.6 | .21 | 19 | 1.4 | 3.8 | 1.1 | 50 | 9.6 | 5.2 | .1 | 1.6 | 87 | 54 | 13 | 114 | 7.4 | 100 |
| June 30..... | | -- | -- | -- | -- | -- | -- | 29 | -- | 3.3 | -- | -- | -- | 30 | 6 | 77 | 7.3 | -- |
| July 1-14..... | | 3.5 | .16 | 5.6 | 1.3 | 3.1 | 1.0 | 13 | 5.2 | 4.4 | .1 | 1.0 | 60 | 20 | 9 | 48 | 6.4 | 140 |

a Calculated from determined constituents.

b Organic matter present; sum of mineral constituents 31 parts per million.

NEUSE RIVER BASIN--Continued
 2--925.54. TRENT RIVER AT POLLOCKSVILLE, N. C.--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| July 15-17, 1962.... | | 5.8 | 0.44 | 15 | 1.2 | 2.8 | 1.2 | 41 | 5.2 | 5.2 | 0.1 | 1.4 | a58 | 43 | 10 | 92 | 7.6 | 160 |
| July 18-31..... | | 7.1 | .33 | 23 | 1.3 | 4.2 | .8 | 62 | 8.0 | 6.3 | .1 | 1.1 | 108 | 62 | 10 | 136 | 7.1 | 100 |
| Aug. 1-3..... | | 7.5 | .35 | 19 | 1.3 | 3.7 | .8 | 50 | 9.6 | 5.0 | .1 | 1.1 | a73 | 52 | 12 | 114 | 7.5 | 120 |
| Aug. 4-11..... | | 4.8 | .23 | 9.6 | 1.2 | 2.2 | .8 | 26 | 4.0 | 3.4 | .2 | 1.0 | c72 | 29 | 8 | 64 | 7.4 | 160 |
| Aug. 12-18..... | | 6.5 | .28 | 16 | 1.4 | 3.3 | .9 | 44 | 7.0 | 4.3 | .1 | 2.2 | 89 | 46 | 10 | 102 | 7.4 | 120 |
| Aug. 19-26..... | | 6.9 | .32 | 20 | 1.4 | 4.2 | 1.1 | 57 | 7.0 | 6.0 | .1 | .8 | 102 | 36 | 9 | 126 | 7.8 | 130 |
| Aug. 27-31..... | | 5.5 | .26 | 12 | 1.4 | 3.6 | .9 | 31 | 7.0 | 5.2 | .1 | 1.0 | 78 | 36 | 10 | 78 | 7.0 | 120 |
| Sept. 1-8..... | | 6.7 | .27 | 14 | 1.8 | 3.6 | .9 | 38 | 4.0 | 5.0 | .2 | 3.9 | 85 | 39 | 8 | 89 | 7.1 | 150 |
| Sept. 9-30..... | | 7.8 | .21 | 23 | 1.8 | 3.8 | .8 | 68 | 7.6 | 6.0 | .0 | 3.4 | 105 | 64 | 9 | 140 | 7.2 | 100 |
| Time-weighted average..... | | 6.8 | 0.18 | 22.0 | 1.7 | 4.4 | 0.9 | 60 | 9.4 | 6.6 | 0.2 | 1.4 | 98 | 61 | 12 | 138 | -- | 85 |

a Calculated from determined constituents.

c Organic matter present; sum of mineral constituents 41 parts per million.

NEUSE RIVER BASIN--Continued

2-925.54. TRENT RIVER AT POLLOCKSVILLE, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962
/Once-daily measurement at approximately 0700/

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

CAPE FEAR RIVER BASIN

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, 0.5 mile upstream from Rockingham-Guilford County line, 6 miles downstream from Troublesome Creek, and 6 miles east of Benaja, Rockingham County.

Drainage area, 88 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1952 to September 1953.

Water temperatures: October 1952 to September 1953: July 1954 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 77°F Aug. 21, minimum, 33°F Jan. 1, 2, 13-15.

EXTREMES, 1952-62.--Water temperatures: Maximum, 84°F Aug. 2, 1953; minimum, freezing point on many days in 1954-56, 1958-61.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|----|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Mar. 5, 1962..... | 198 | 14 | 0.08 | 3.8 | 1.7 | 3.5 | 1.6 | 22 | 4.0 | 3.3 | 0.1 | 0.6 | 44 | 16 | 16 | 0 | 56 | 6.9 | 30 |
| Aug. 21..... | 35.6 | 19 | .20 | 7.2 | 2.5 | 6.2 | 2.2 | 41 | 2.6 | 4.4 | .1 | 1.0 | 66 | 28 | 28 | 0 | 85 | 7.0 | 30 |

CAPE FEAR RIVER BASIN--Continued
 2-935. HAW RIVER NEAR BENAJA, N. C.--Continued
 Temperature °F of water, water year October 1961 to September 1962
 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 | |
| 1.. | 63 | 59 | 64 | 60 | 40 | 40 | 34 | 33 | 36 | 36 | 52 | 50 | 59 | 58 | 69 | 66 | 71 | 70 | 68 | 74 | 70 | 74 | 70 | |
| 2.. | 65 | 63 | 63 | 60 | 42 | 40 | 34 | 33 | 37 | 36 | 50 | 44 | 59 | 53 | 70 | 69 | 72 | 71 | 69 | 73 | 72 | 75 | 70 | |
| 3.. | 64 | 63 | 65 | 63 | 44 | 42 | 34 | 34 | 39 | 36 | 44 | 40 | 53 | 49 | 69 | 65 | 72 | 70 | 69 | 72 | 71 | 75 | 72 | |
| 4.. | 63 | 59 | 68 | 64 | 46 | 44 | 36 | 34 | 42 | 39 | 40 | 40 | 51 | 49 | 65 | 63 | 70 | 69 | 69 | 71 | 70 | 73 | 72 | |
| 5.. | 59 | 56 | 68 | 65 | 48 | 46 | 37 | 36 | 46 | 42 | 40 | 38 | 52 | 51 | 66 | 63 | 69 | 68 | 69 | 72 | 71 | 75 | 72 | |
| 6.. | 57 | 54 | 66 | 64 | 48 | 47 | 42 | 37 | 46 | 43 | 38 | 37 | 54 | 52 | 66 | 63 | 70 | 69 | 69 | 75 | 72 | 75 | 69 | |
| 7.. | 58 | 54 | 66 | 63 | 48 | 44 | 42 | 41 | 43 | 38 | 40 | 37 | 60 | 59 | 68 | 66 | 72 | 70 | 71 | 76 | 74 | 68 | 66 | |
| 8.. | 58 | 54 | 63 | 56 | 46 | 42 | 41 | 40 | 38 | 37 | 41 | 40 | 60 | 57 | 68 | 65 | 71 | 68 | 75 | 73 | 76 | 74 | 67 | |
| 9.. | 59 | 54 | 56 | 50 | 42 | 40 | 40 | 38 | 38 | 37 | 42 | 40 | 60 | 57 | 68 | 65 | 72 | 68 | 75 | 72 | 75 | 72 | 69 | |
| 10.. | 60 | 56 | 50 | 46 | 40 | 38 | 36 | 36 | 38 | 34 | 41 | 39 | 60 | 57 | 65 | 62 | 72 | 68 | 75 | 72 | 75 | 72 | 69 | |
| 11.. | 60 | 57 | 68 | 45 | 40 | 40 | 36 | 34 | 38 | 36 | 42 | 41 | 57 | 55 | 62 | 61 | 74 | 70 | 73 | 70 | 72 | 75 | 72 | |
| 12.. | 60 | 57 | 58 | 43 | 40 | 34 | 34 | 33 | 38 | 36 | 46 | 42 | 56 | 54 | 63 | 61 | 73 | 70 | 74 | 71 | 72 | 68 | 73 | |
| 13.. | 60 | 57 | 55 | 50 | 45 | 40 | 34 | 33 | 38 | 37 | 46 | 44 | 55 | 54 | 63 | 62 | 70 | 74 | 72 | 70 | 72 | 67 | 69 | |
| 14.. | 60 | 58 | 56 | 55 | 45 | 42 | 34 | 33 | 40 | 38 | 47 | 46 | 56 | 52 | 64 | 62 | 70 | 74 | 73 | 72 | 73 | 68 | 69 | |
| 15.. | 59 | 55 | 40 | 34 | 42 | 40 | 34 | 33 | 42 | 40 | 47 | 46 | 54 | 52 | 68 | 64 | 70 | 69 | 76 | 73 | 74 | 71 | 73 | |
| 16.. | 56 | 53 | 59 | 59 | 40 | 40 | 34 | 34 | 42 | 40 | 46 | 44 | 52 | 49 | 70 | 68 | 69 | 76 | 74 | 74 | 71 | 72 | 68 | |
| 17.. | 56 | 52 | 59 | 57 | 40 | 39 | 35 | 34 | 40 | 39 | 46 | 44 | 52 | 50 | 70 | 68 | 70 | 69 | 76 | 73 | 73 | 71 | 68 | |
| 18.. | 56 | 53 | 57 | 51 | 45 | 40 | 35 | 35 | 41 | 40 | 45 | 44 | 52 | 51 | 71 | 67 | 72 | 70 | 74 | 72 | 73 | 70 | 66 | |
| 19.. | 57 | 53 | 51 | 47 | 45 | 45 | 35 | 35 | 42 | 40 | 44 | 43 | 54 | 52 | 73 | 70 | 75 | 72 | 75 | 72 | 72 | 70 | 66 | |
| 20.. | 57 | 55 | 47 | 45 | 44 | 43 | 35 | 35 | 43 | 42 | 48 | 43 | 54 | 53 | 72 | 70 | 74 | 72 | 75 | 72 | 76 | 72 | 65 | |
| 21.. | 55 | 54 | 45 | 44 | 43 | 40 | 36 | 35 | 43 | 41 | 55 | 48 | 54 | 51 | 72 | 70 | 72 | 71 | 76 | 73 | 77 | 73 | 63 | |
| 22.. | 57 | 54 | 44 | 42 | 40 | 38 | 39 | 36 | 42 | 41 | 52 | 58 | 54 | 73 | 70 | 72 | 70 | 76 | 73 | 75 | 73 | 60 | | |
| 23.. | 57 | 54 | 45 | 43 | 38 | 38 | 43 | 39 | 49 | 42 | 52 | 50 | 61 | 58 | 72 | 70 | 72 | 71 | 74 | 73 | 74 | 73 | 58 | |
| 24.. | 56 | 52 | 48 | 45 | 38 | 37 | 43 | 41 | 52 | 47 | 52 | 51 | 61 | 58 | 74 | 70 | 73 | 72 | 73 | 73 | 70 | 59 | 57 | |
| 25.. | 58 | 48 | 46 | 46 | 38 | 37 | 43 | 41 | 52 | 47 | 52 | 51 | 61 | 58 | 74 | 70 | 73 | 72 | 73 | 72 | 70 | 59 | 57 | |
| 26.. | 57 | 55 | 46 | 45 | 37 | 36 | 46 | 43 | 47 | 44 | 52 | 50 | 64 | 61 | 74 | 70 | 73 | 72 | 74 | 72 | 74 | 70 | 59 | |
| 27.. | 55 | 52 | 46 | 45 | 36 | 35 | 47 | 46 | 49 | 44 | 50 | 47 | 66 | 64 | 73 | 69 | 73 | 72 | 73 | 69 | 74 | 72 | 61 | |
| 28.. | 52 | 48 | 46 | 44 | 38 | 36 | 47 | 46 | 54 | 49 | 51 | 50 | 68 | 66 | 73 | 69 | 72 | 70 | 72 | 67 | 75 | 70 | 59 | |
| 29.. | 53 | 48 | 44 | 42 | 38 | 36 | 36 | 35 | 52 | 44 | 51 | 50 | 68 | 68 | 69 | 67 | 70 | 68 | 69 | 67 | 75 | 70 | 58 | |
| 30.. | 56 | 51 | 42 | 40 | 36 | 34 | 38 | 36 | --- | --- | 53 | 53 | 66 | 67 | 68 | 67 | 68 | 69 | 67 | 74 | 70 | 58 | 57 | |
| 31.. | 61 | 56 | --- | --- | 34 | 34 | 38 | 36 | --- | --- | 58 | 57 | --- | --- | 71 | 69 | --- | --- | 72 | 69 | 74 | 69 | --- | |
| Aver. | 58 | 55 | 54 | 51 | 42 | 40 | 38 | 36 | 43 | 40 | 47 | 45 | 58 | 56 | 69 | 66 | 72 | 70 | 73 | 71 | 74 | 71 | 68 | |

CAPE FEAR RIVER BASIN--Continued
2-935.49. HAW RIVER AT ALTAHAW, N. C.

LOCATION.--At bridge on State Highway 87 at Altamahaw, Alamance County, 1.2 miles above Reedy Fork.
DRAINAGE AREA.--186 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1962.
REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 16, 1961..... | | 19 | 0.07 | 6.9 | 2.7 | 7.3 | 2.5 | 46 | 4.0 | 4.8 | 0.2 | 0.4 | 70 | 28 | 0 | 94 | 7.0 | 25 |
| Nov. 16..... | | 20 | .10 | 6.9 | 2.3 | 5.8 | 3.1 | 40 | 2.4 | 5.5 | .1 | .4 | 75 | 26 | 0 | 87 | 6.6 | 20 |
| Dec. 15..... | | 11 | .04 | 2.5 | 1.6 | 2.9 | 3.0 | 13 | 6.0 | 5.2 | .1 | .2 | 47 | 12 | 2 | 52 | 3.7 | 20 |
| Jan. 16, 1962..... | | 16 | .00 | 3.8 | 1.9 | 3.7 | 1.8 | 19 | 3.6 | 4.3 | .0 | 1.1 | 58 | 18 | 2 | 62 | 6.7 | 19 |
| Feb. 17..... | | 17 | .01 | 4.4 | 1.6 | 4.0 | 1.6 | 24 | 3.6 | 5.6 | .0 | .1 | 58 | 18 | 0 | 62 | 6.7 | 9 |
| Mar. 17..... | | 13 | .00 | 4.8 | 1.3 | 3.1 | 1.4 | 20 | 4.6 | 2.5 | .1 | .2 | 43 | 14 | 0 | 51 | 6.6 | 6 |
| Apr. 14..... | | 11 | .06 | 3.8 | 1.8 | 2.8 | 2.1 | 23 | 3.8 | 2.8 | .2 | .2 | 43 | 17 | 0 | 51 | 7.0 | 20 |
| May 15..... | | 17 | .02 | 6.5 | 2.2 | 4.7 | 1.9 | 40 | 1.6 | 2.7 | .2 | .1 | 59 | 25 | 0 | 76 | 6.7 | 7 |
| June 14..... | | 9.2 | .00 | 3.6 | 1.3 | 2.5 | 2.0 | 20 | 4.0 | 1.2 | .1 | 1.3 | 42 | 14 | 0 | 44 | 6.9 | 17 |
| July 16..... | | 16 | .00 | 6.1 | 2.3 | 4.7 | 1.9 | 36 | 3.0 | 4.0 | .3 | .0 | 56 | 24 | 0 | 72 | 6.7 | 5 |
| Aug. 15..... | | 18 | .03 | 7.2 | 2.4 | 6.1 | 2.0 | 42 | 1.8 | 4.5 | .3 | .0 | 63 | 28 | 0 | 82 | 6.5 | 8 |
| Sept. 15..... | | 18 | .02 | 7.2 | 2.6 | 6.5 | 2.7 | 44 | 2.6 | 5.2 | .3 | .4 | 68 | 29 | 0 | 90 | 6.6 | 12 |

^a Calculated from determined constituents.

CAPE FEAR RIVER BASIN--Continued

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 5.5 miles upstream from gaging station. DRAINAGE AREA.--1,280 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: October 1955 to September 1962.

Water temperatures: October 1955 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 314 ppm Nov. 1-17; minimum, 41 ppm June 24-26.

Hardness: Maximum, 50 ppm Oct. 17-31, Nov. 1-17; minimum, 12 ppm July 1.

Specific conductance: Maximum daily, 387 micromhos Nov. 14; minimum daily, 51 micromhos June 24.

Water temperatures: Maximum, 81° July 16, 2° minimum, freezing 1956, 1958, 1959, 1960, 1961, 1962.

EXTREMES, 1955-62.--Dissolved solids: Maximum, 314 ppm June 24-26, 1962.

Hardness: Maximum, 50 ppm Oct. 17-31, Nov. 1-17, 1961; minimum, 12 ppm July 1, 1962.

Specific conductance: Maximum daily, 657 micromhos Aug. 24, 1956; minimum, 47 micromhos Feb. 18, 19, 1960.

Water temperatures: Maximum, 88° July 5, 1956; minimum, freezing point on many days during winter months.

REMARKS.--Records of specific conductance of daily samples from October 1955 to September 1962 and records of composite samples from October 1955 to September 1960 available in district office at Raleigh, N. C. Records of discharge are given for Haw River near Pittsboro.

No appreciable inflow between sampling point and gaging station except during periods of heavy local runoff.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-16, 1961..... | 85.1 | 16 | 0.02 | 12 | 3.5 | 50 | 4.6 | 92 | 16 | 39 | 0.9 | 2.2 | 201 | 44 | 0 | 333 | 7.8 | 15 |
| Oct. 17-31..... | 104 | 17 | .05 | 14 | 3.9 | 80 | 6.4 | 125 | 28 | 68 | 1.6 | 4.4 | 293 | 50 | 0 | 498 | 7.9 | 23 |
| Nov. 1-17..... | 136 | 20 | .07 | 13 | 3.9 | 91 | 7.1 | 133 | 29 | 70 | 2.3 | 5.1 | 314 | 50 | 0 | 542 | 8.0 | 40 |
| Nov. 18-30..... | 213 | 20 | .15 | 3.2 | 8.6 | 62 | 5.5 | 102 | 23 | 50 | 1.2 | 7.1 | 242 | 43 | 0 | 409 | 7.5 | 25 |
| Dec. 1-12..... | 339 | 18 | .08 | 9.9 | 3.5 | 45 | 4.5 | 81 | 18 | 36 | .7 | 6.3 | 200 | 40 | 0 | 315 | 7.6 | 20 |
| Dec. 13-31..... | 1,548 | 14 | .06 | 6.1 | 2.7 | 10 | 2.6 | 27 | 12 | 10 | .4 | 3.5 | 75 | 26 | 4 | 112 | 6.8 | 20 |
| Jan. 1-6, 1962..... | 3,462 | 10 | .00 | 5.6 | 2.3 | 8.1 | 3.0 | 25 | 8.6 | 8.7 | .4 | 3.8 | 78 | 24 | 3 | 102 | 6.3 | 85 |
| Jan. 7-14..... | 7,086 | 11 | .09 | 4.8 | 1.9 | 7.0 | 1.9 | 19 | 9.6 | 6.0 | .2 | 1.4 | 64 | 20 | 4 | 85 | 6.5 | 32 |
| Jan. 15-28..... | 1,811 | 15 | .09 | 6.7 | 1.8 | 12 | 1.9 | 30 | 11 | 10 | .2 | 3.5 | 83 | 24 | 0 | 121 | 6.7 | 45 |
| Jan. 29-31..... | 6,240 | 11 | .05 | 5.20 | 5.6 | 1.6 | 5.9 | 2.0 | 19 | 8.8 | .1 | 2.2 | a53 | 20 | 5 | 82 | 6.6 | 32 |
| Feb. 1-5..... | 1,978 | 14 | .11 | 4.6 | 2.5 | 8.6 | 1.6 | 23 | 9.2 | 9.0 | .2 | 1.7 | 72 | 22 | 2 | 98 | 7.1 | 33 |
| Feb. 6-19..... | 1,120 | 16 | .03 | 5.6 | 2.6 | 13 | 1.8 | 32 | 10 | 11 | .2 | 2.8 | 83 | 24 | 0 | 124 | 7.3 | 5 |
| Feb. 20-28..... | 5,996 | 10 | .06 | 4.9 | 1.7 | 5.7 | 1.4 | 20 | 7.4 | 4.4 | .1 | 2.4 | 58 | 19 | 2 | 76 | 6.5 | 55 |
| Mar. 1-2..... | 2,695 | 11 | .02 | 4.9 | 2.1 | 6.3 | 1.4 | 22 | 7.2 | 6.5 | .2 | 1.3 | a81 | 18 | 0 | 77 | 6.7 | 15 |
| Mar. 3-11..... | 2,108 | 15 | .03 | 6.0 | 2.3 | 9.4 | 1.5 | 28 | 8.0 | 7.4 | .2 | 2.1 | 63 | 24 | 2 | 99 | 7.2 | 20 |
| Mar. 12-27..... | 2,960 | 13 | .04 | 5.1 | 2.0 | 7.9 | 1.3 | 26 | 7.6 | 6.4 | .2 | 2.0 | 69 | 22 | 0 | 87 | 7.0 | 25 |
| Mar. 28-31..... | 1,325 | 13 | .06 | 5.6 | 2.5 | 12 | 1.7 | 34 | 9.6 | 10 | .5 | 2.3 | 98 | 24 | 0 | 120 | 6.8 | 75 |
| Apr. 1-6..... | 3,865 | 14 | .06 | 6.7 | 1.3 | 9.0 | 1.6 | 26 | 7.6 | 8.2 | .3 | 1.6 | 68 | 22 | 0 | 97 | 6.7 | 30 |

a Calculated from determined constituents.

CAPE FEAR RIVER BASIN--Continued
2-969.59. HAW RIVER AT BYNUM, N. C.--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|-------------------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium carbonate | | | |
| Apr. 7-14, 1962..... | 5,622 | 12 | 0.05 | 5.5 | 1.5 | 5.9 | 1.6 | 21 | 6.8 | 4.6 | 0.3 | 2.2 | 55 | 20 | 2 | 73 | 7.0 | 30 |
| Apr. 12-17..... | 2,850 | 15 | .17 | 5.7 | 2.5 | 7.3 | 1.4 | 28 | 7.5 | 23 | -- | 1.3 | a50 | 28 | 4 | 138 | 6.4 | 50 |
| Apr. 18-23..... | 1,825 | 15 | .11 | 6.6 | 2.8 | 14 | 1.8 | 46 | 8.4 | 13.0 | .3 | 2.3 | a84 | 28 | 0 | 129 | 7.3 | 25 |
| Apr. 18-30..... | 1,921 | 15 | .11 | 6.6 | 2.8 | 14 | 1.8 | 46 | 8.4 | 13.0 | .3 | 2.3 | a84 | 28 | 0 | 129 | 7.3 | 25 |
| May 1-13..... | 551 | 17 | .01 | 8.1 | 3.1 | 21 | 2.0 | 54 | 10.4 | 14 | .3 | 5.1 | 111 | 32 | 0 | 170 | 7.8 | 15 |
| May 14-31..... | 350 | 19 | .02 | 9.6 | 3.1 | 33 | 3.0 | 69 | 14 | 22 | .9 | 4.3 | 145 | 37 | 0 | 228 | 7.1 | 10 |
| June 1-3..... | 1,147 | 21 | .04 | 9.3 | 3.1 | 28 | 2.9 | 59 | 14 | 20 | .8 | 4.8 | 149 | 36 | 0 | 200 | 7.4 | 28 |
| June 4-12..... | 1,225 | 15 | .07 | 6.3 | 2.4 | 11 | 2.3 | 34 | 7.6 | 8.7 | .4 | 3.7 | 106 | 26 | 0 | 106 | 7.1 | 27 |
| June 13..... | 2,330 | -- | -- | -- | -- | -- | -- | 71 | -- | 27 | -- | -- | -- | 20 | 0 | 256 | 7.8 | -- |
| June 14-19..... | 1,940 | 11 | .02 | 6.1 | 1.9 | 7.8 | 1.9 | 28 | 7.0 | 4.6 | .3 | 2.4 | 74 | 23 | 0 | 86 | 6.8 | 25 |
| June 20-23..... | 1,593 | 14 | .02 | 6.7 | 3.1 | 15 | 2.3 | 43 | 9.6 | 11 | .3 | 3.3 | 105 | 30 | 0 | 130 | 7.2 | 21 |
| June 24-26..... | 7,140 | 8.8 | .03 | 4.6 | 1.5 | 4.3 | 1.6 | 20 | 6.0 | 2.6 | .2 | 1.5 | a41 | 18 | 1 | 58 | 7.1 | 34 |
| June 27-30..... | 1,351 | 12 | .02 | 5.8 | 1.9 | 7.3 | 1.7 | 30 | 7.2 | 5.0 | .2 | 2.1 | a58 | 22 | 0 | 78 | 7.2 | 29 |
| July 1..... | 568 | -- | -- | -- | -- | -- | -- | 23 | -- | 15 | -- | -- | -- | 12 | 0 | 110 | 7.3 | -- |
| July 2-8..... | 2,743 | 11 | .08 | 5.1 | 2.3 | 4.4 | 1.8 | 23 | 6.4 | 5.0 | .3 | 2.2 | 62 | 22 | 4 | 73 | 7.2 | 45 |
| July 9-13..... | 540 | 16 | .02 | 7.2 | 2.6 | 10 | 1.9 | 55 | 7.8 | 9.7 | .1 | 2.5 | a74 | 29 | 0 | 109 | 7.6 | 25 |
| July 14-16..... | 561 | 18 | .03 | 12 | 2.5 | 23 | 2.8 | 57 | 12 | 17 | .6 | 3.9 | a121 | 30 | 0 | 108 | 7.7 | -- |
| July 21-31..... | 301 | 13 | .02 | 9.6 | 3.3 | 32 | 3.1 | 67 | 15 | 23 | .1 | 4.7 | 143 | 38 | 0 | 230 | 7.5 | 15 |
| Aug. 1-31..... | 458 | 14 | .02 | 8.0 | 3.0 | 27 | 3.1 | 56 | 14 | 20 | .3 | 4.4 | a123 | 32 | 0 | 192 | 7.0 | 25 |
| Sept. 1-7..... | 150 | 14 | .02 | 11 | 3.1 | 34 | 3.5 | 76 | 14 | 25 | .5 | 3.0 | 150 | 40 | 0 | 240 | 7.7 | 15 |
| Sept. 8-17..... | 267 | 14 | .04 | 12 | 2.8 | 55 | 4.5 | 96 | 20 | 39 | .7 | 4.3 | 207 | 42 | 0 | 330 | 7.6 | 17 |
| Sept. 18-28..... | 569 | 13 | .06 | 7.9 | 2.4 | 17 | 3.1 | 40 | 13 | 14 | .4 | 3.9 | 101 | 30 | 0 | 150 | 6.7 | 27 |
| Sept. 29-30..... | 444 | 16 | .82 | 9.9 | 3.1 | 43 | 4.1 | 77 | 19 | 30 | .6 | 3.9 | a170 | 38 | 0 | 270 | 7.0 | 12 |
| Time-weighted average..... | 1,464.7 | 15 | 0.05 | 7.8 | 2.9 | 27 | 3.0 | 55 | 13 | 21 | 0.6 | 3.6 | 129 | 32 | 1 | 200 | -- | 26 |

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 1961 to September 1962
 (Once-daily measurement between 0833 and 2330)

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

CAPE FEAR RIVER BASIN--Continued

2--991.56. 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, N.C.

DRAINAGE AREA.--340 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1956 to September 1962.

Water temperatures: October 1956 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 177 ppm Oct. 1-31; minimum, 35 ppm Jan. 7-11.

Hardness: Maximum, 56 ppm Oct. 1-31; minimum, 11 ppm June 21.

Specific conductance: Maximum daily, 308 micromhos Oct. 31; minimum daily, 40 micromhos June 13, 25, July 5.

Water temperatures: Maximum, 79°F Sept. 14; minimum, freezing point Jan. 13, 14.

EXTREMES, 1956-62.--Dissolved solids: Maximum, 177 ppm Oct. 1-31, 1961; minimum, 31 ppm Sept. 1, 6-9, 1959.

Hardness: Maximum, 56 ppm Oct. 1-31, 1961; minimum, 8 ppm July 24, 1957.

Specific conductance: Maximum daily, 308 micromhos Oct. 31, 1961; 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 specific conductance of daily samples from October 1956 to September 1962 and records of suspended matter of composite samples from October 1956 to September 1960 available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-31, 1961..... | | 17 | 0.04 | 16 | 3.8 | 31 | 6.7 | 70 | 16 | 27 | 0.3 | 11 | 177 | 56 | 0 | 268 | 7.6 | 23 |
| Nov. 1-30..... | | 16 | .05 | 16 | 3.6 | 29 | 7.2 | 63 | 17 | 24 | .2 | 14 | 175 | 54 | 2 | 272 | 7.3 | 25 |
| Dec. 1-12..... | | 15 | .04 | 13 | 3.4 | 18 | 5.2 | 35 | 24 | 16 | .3 | 12 | 140 | 47 | 18 | 208 | 7.5 | 18 |
| Dec. 13-18..... | | 12 | .05 | 7.5 | 2.3 | 11 | 3.5 | 20 | 14 | 12 | .2 | 4.7 | 93 | 28 | 12 | 128 | 7.2 | 43 |
| Dec. 19-31..... | | 9.9 | .04 | 5.3 | 1.8 | 7.3 | 2.8 | 16 | 12 | 9.8 | .1 | 1.0 | 79 | 20 | 8 | 93 | 6.6 | 55 |
| Jan. 1-6, 1962..... | | | .02 | 5.0 | 1.8 | 6.6 | 1.9 | 14 | 10 | 9.6 | .2 | 1.8 | 77 | 20 | 8 | 86 | 6.4 | 75 |
| Jan. 7-11..... | | 6.9 | -- | 2.9 | 1.6 | 3.6 | 1.9 | 25 | .4 | 4.7 | .3 | .1 | 835 | 14 | 0 | 50 | 5.9 | 28 |
| Jan. 12-28..... | | 11.9 | .03 | 4.9 | 2.7 | 7.2 | 1.7 | 15 | 9.2 | 5.4 | .0 | 2.1 | 70 | 20 | 8 | 86 | 6.6 | 38 |
| Jan. 29-31..... | | 7.9 | .05 | 3.2 | 1.7 | 4.8 | 1.6 | 11 | 9.6 | 5.4 | .0 | .9 | 20 | 15 | 6 | 54 | 5.9 | 50 |
| Feb. 1-5..... | | 10 | .08 | 4.6 | 1.5 | 5.7 | 1.4 | 15 | 8.8 | 7.1 | .2 | 1.4 | 64 | 18 | 5 | 75 | 6.5 | 45 |
| Feb. 6-21..... | | 12 | .02 | 5.6 | 2.0 | 8.2 | 1.8 | 18 | 10 | 8.1 | .1 | 3.2 | 74 | 22 | 8 | 97 | 7.2 | 10 |
| Feb. 22-28..... | | 9.2 | .08 | 4.4 | 1.3 | 5.4 | 1.2 | 13 | 8.8 | 5.5 | .1 | 1.4 | 48 | 16 | 6 | 69 | 6.8 | 45 |
| Mar. 1-12..... | | 11 | .06 | 5.1 | 1.7 | 6.2 | 1.2 | 17 | 9.2 | 6.4 | .1 | 1.6 | 57 | 20 | 6 | 77 | 7.2 | 34 |
| Mar. 13-31..... | | 9.7 | .05 | 4.9 | 1.5 | 5.7 | 1.2 | 17 | 7.6 | 5.8 | .1 | 1.7 | 52 | 18 | 4 | 71 | 7.0 | 38 |
| Apr. 1-8..... | | 9.4 | .09 | 4.2 | 1.2 | 5.1 | 1.4 | 14 | 6.4 | 5.4 | .2 | 1.0 | 53 | 16 | 4 | 62 | 6.3 | 90 |
| Apr. 9-16..... | | 8.9 | .08 | 3.0 | 1.7 | 4.2 | 1.4 | 12 | 7.2 | 3.6 | .2 | 1.0 | 48 | 14 | 4 | 53 | 6.7 | 48 |
| Apr. 17-30..... | | 13 | .18 | 6.3 | 1.8 | 7.5 | 1.7 | 23 | 7.2 | 5.6 | .1 | 2.3 | 66 | 22 | 4 | 90 | 7.0 | 40 |
| May 1-11..... | | 14 | .02 | 7.9 | 2.9 | 10 | 2.0 | 36 | 8.0 | 8.5 | .0 | 6.2 | 84 | 32 | 2 | 118 | 7.2 | 22 |

| | | | | | | | | | | | | | | | | | |
|----------------------------|------|------|-----|-----|-----|-----|----|------|-----|-----|-----|------|----|---|-----|-----|-----|
| May 12-20, 1962..... | 16 | .06 | 9.1 | 2.9 | 14 | 2.7 | 41 | 8.6 | 12 | .0 | 7.6 | 99 | 35 | 1 | 140 | 6.9 | 18 |
| May 21-31..... | 14 | .04 | 13 | 3.7 | 17 | 3.8 | 43 | 10.2 | 14 | .3 | 6.5 | 111 | 42 | 2 | 170 | 7.5 | 19 |
| June 1-10..... | 13 | .01 | 6.8 | 2.9 | 8.2 | 2.2 | 27 | 18.0 | 7.5 | .2 | 2.7 | a111 | 28 | 0 | 170 | 7.6 | 33 |
| June 11-20..... | 13 | .01 | 3.2 | 1.6 | 4.9 | 1.8 | 11 | -- | 3.0 | .2 | 1.9 | 77 | 26 | 4 | 92 | 7.1 | 27 |
| June 13-14..... | 12 | .12 | 5.9 | 2.2 | 8.4 | 2.3 | 24 | 8.0 | 8.0 | .3 | 3.0 | 73 | 24 | 4 | 43 | 6.4 | 55 |
| June 15-20..... | | | | | | | | | | | | | | | 90 | 7.1 | 32 |
| June 21..... | 12 | .02 | 7.4 | 1.4 | 8.9 | 2.1 | 14 | -- | 6.3 | -- | -- | -- | 11 | 0 | 57 | 7.2 | -- |
| June 22-24..... | 12 | .02 | 7.4 | 1.4 | 8.9 | 2.1 | 26 | 7.4 | 8.0 | .2 | 3.4 | a65 | 24 | 3 | 92 | 6.9 | 31 |
| June 25..... | 10 | .10 | 4.5 | 1.8 | 5.5 | 2.0 | 10 | -- | 3.2 | -- | -- | -- | 12 | 4 | 40 | 6.9 | -- |
| June 26-30..... | 10 | .10 | 4.5 | 1.8 | 5.5 | 2.0 | 18 | 5.4 | 5.2 | .2 | 2.5 | 71 | 18 | 4 | 65 | 7.1 | 45 |
| July 1-3..... | 14 | .28 | 5.8 | 2.3 | 8.4 | 2.3 | 27 | 8.0 | 8.2 | .2 | 1.6 | a65 | 24 | 2 | 92 | 6.7 | 60 |
| July 4-8..... | 7.8 | .07 | 4.2 | 1.2 | 3.5 | 1.1 | 14 | 5.0 | 2.0 | .4 | 1.6 | 50 | 16 | 4 | 46 | 6.3 | 65 |
| July 9-14..... | 14 | .00 | 6.4 | 2.0 | 7.3 | 1.9 | 26 | 7.2 | 6.5 | .1 | 2.0 | 64 | 24 | 4 | 86 | 7.4 | 40 |
| July 15-18..... | 11 | .18 | 6.0 | 1.9 | 6.7 | 2.2 | 22 | 7.8 | 7.2 | .3 | 1.3 | a55 | 23 | 5 | 77 | 7.2 | 100 |
| July 19-22..... | 14 | .11 | 8.7 | 2.3 | 10 | 2.7 | 35 | 5.4 | 4.2 | .1 | 1.1 | a44 | 18 | 2 | 110 | 7.2 | 50 |
| July 23-26..... | 18.1 | .08 | 4.6 | 1.3 | 3.6 | 2.3 | 27 | 9.2 | 11 | .2 | 5.0 | a88 | 34 | 4 | 124 | 6.7 | 28 |
| July 27-31..... | 16 | .02 | 8.7 | 2.7 | 12 | 3.2 | 43 | 9.6 | 13 | .3 | 1.9 | 94 | 35 | 0 | 113 | 7.2 | 20 |
| Aug. 1-8..... | | | | | | | | | | | | | | | | | |
| Aug. 9-22..... | 11 | .08 | 7.3 | 2.1 | 7.2 | 2.6 | 29 | 8.6 | 7.2 | .2 | .8 | 76 | 27 | 4 | 91 | 6.8 | 55 |
| Aug. 23-31..... | 14 | .01 | 11 | 3.3 | 13 | 3.3 | 48 | 9.8 | 13 | .3 | 1.0 | 97 | 40 | 0 | 114 | 7.1 | 25 |
| Sept. 1-18..... | 15 | .10 | 14 | 3.2 | 21 | 4.6 | 58 | 13 | 19 | .5 | 5.3 | 133 | 48 | 0 | 190 | 7.6 | 20 |
| Sept. 19-30..... | 12 | .06 | 8.8 | 2.7 | 9.7 | 3.5 | 31 | 14 | 11 | .4 | 3.9 | 189 | 33 | 8 | 125 | 6.8 | 25 |
| Time-weighted average..... | 13 | 0.06 | 8.6 | 2.5 | 13 | 3.2 | 34 | 11 | 12 | 0.2 | 4.7 | 95 | 31 | 4 | 132 | -- | 35 |

a Calculated from determined constituents.

QUALITY OF SURFACE WATERS, 1962

CAPE FEAR RIVER BASIN--Continued

2-981.56. NEW HOPE RIVER NEAR NEW HILL, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962
(Once-daily measurement between 0547 and 1830)

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

CAPE FEAR RIVER BASIN--Continued
2-1020. DEEP RIVER AT MONCURE, N. C.

LOCATION.--At gaging station, 1.5 miles northwest of Moncure, Chatham County, 2.2 miles downstream from Rocky River, and 4.5 miles upstream from confluence with Haw River.

DRAINAGE AREA.--1,410 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: October 1943 to September 1944, October 1955 to September 1956, October 1961 to September 1962.

Water temperatures: October 1943 to September 1946, October 1956 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 101 ppm Dec. 1-18; minimum, 38 ppm July 1-5.

HARDNESS: Maximum, 35 ppm Nov. 1-30; minimum, 15 ppm Jan. 7-17.

Specific conductance: Maximum daily, 180 micromhos Dec. 6-8; minimum daily, 46 micromhos Apr. 7-10, June 29, 30.

Water temperatures: Maximum, 84°F July 23-25; minimum, 35°F Dec. 31, Jan. 13.

EXTREMES, 1943-44, 1945-46, 1961-62.--Dissolved solids: Maximum, 106 ppm Dec. 11-20, 1943; minimum, 38 ppm Mar. 21-31, 1944, July 1-5, 1962.

Specific conductance: Maximum, 180 micromhos daily, 1961; minimum, 46 micromhos daily, 1961; maximum daily, 25 micromhos July 21, 1956.

Water temperatures: Maximum, 94°F July 3, 1956; minimum, 33°F Dec. 17-19, 1943.

REMARKS.--Records of specific conductance of daily samples available in district office at Raleigh, N. C.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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) | Hardness as CaCO ₃ | | Specific conductance (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-31, 1961..... | 57.9 | 3.4 | 0.01 | 8.2 | 2.8 | 13 | 2.6 | 48 | 4.6 | 12 | 0.1 | 0.8 | 32 | 0 | 132 | 7.1 | 10 |
| Nov. 1-30..... | 83.6 | 4.7 | .03 | 8.9 | 3.2 | 16 | 3.0 | 59 | 5.6 | 14 | .2 | .7 | 93 | 35 | 153 | 7.8 | 12 |
| Dec. 1-18..... | 820 | 8.4 | .06 | 7.7 | 2.9 | 17 | 3.4 | 48 | 9.2 | 16 | .2 | .9 | 101 | 31 | 155 | 7.6 | 30 |
| Dec. 19-31..... | 1,392 | 10 | .04 | 4.2 | 2.4 | 5.5 | 2.0 | 21 | 8.0 | 6.0 | .1 | 1.8 | 63 | 20 | 74 | 6.5 | 60 |
| Jan. 1-6, 1962..... | 2,758 | 11 | .08 | 5.5 | 2.0 | 6.0 | 2.0 | 21 | 6.2 | 7.2 | .2 | 1.9 | 852 | 22 | 81 | 7.1 | 38 |
| Jan. 7-17..... | 6,205 | 8.5 | .01 | 4.3 | 1.0 | 3.9 | 1.5 | 12 | 7.0 | 4.8 | .2 | 1.8 | 52 | 15 | 5 | 6.8 | 55 |
| Jan. 18-31..... | 3,322 | 11 | .05 | 4.5 | 1.9 | 5.9 | 1.2 | 18 | 6.2 | 6.5 | .1 | 1.4 | 57 | 19 | 4 | 70 | 38 |
| Feb. 1-28..... | 2,872 | 12 | .07 | 4.6 | 1.3 | 3.4 | 1.0 | 17 | 5.2 | 5.3 | .1 | 1.7 | 53 | 20 | 4 | 69 | 32 |
| Mar. 1-31..... | 2,847 | 10 | .05 | 4.8 | 1.3 | 3.2 | 1.0 | 19 | 5.6 | 5.3 | .1 | 1.7 | 53 | 20 | 2 | 62 | 32 |
| Apr. 1-30..... | 3,933 | 11 | .04 | 4.9 | 1.2 | 5.2 | 1.9 | 17 | 4.8 | 3.3 | .1 | 1.5 | 48 | 17 | 2 | 60 | 20 |
| May 1-29..... | 3,378 | 7.0 | .00 | 6.0 | 2.2 | 8.6 | 1.0 | 36 | 3.4 | 6.0 | .1 | 3.2 | 356 | 24 | 0 | 70 | 10 |
| May 30-31..... | 515 | 8.3 | .04 | 8.3 | 1.8 | 12 | 2.1 | 41 | 4.8 | 12 | .1 | 3.7 | 369 | 28 | 0 | 120 | 20 |
| June 1-5..... | 814 | 8.0 | .04 | 6.7 | 2.7 | 11 | 1.7 | 40 | 4.8 | 9.0 | .1 | 3.1 | 76 | 28 | 0 | 107 | 22 |
| June 6-30..... | 1,505 | 10 | .06 | 4.4 | 1.6 | 3.8 | 1.7 | 19 | 4.8 | 3.4 | .3 | 2.9 | 53 | 18 | 2 | 58 | 70 |
| July 1-5..... | 1,151 | 8.4 | .04 | 4.0 | 1.6 | 3.7 | 1.6 | 18 | 5.0 | 2.7 | 1 | 1.4 | 438 | 16 | 2 | 53 | 7.0 |
| July 6-15..... | 500 | 15 | .07 | 4.6 | 2.2 | 5.6 | 1.6 | 25 | 5.4 | 5.7 | .2 | 1.9 | 70 | 20 | 0 | 74 | 25 |
| July 16-31..... | 161 | 7.7 | .07 | 6.6 | 2.5 | 7.9 | 1.5 | 34 | 6.4 | 6.9 | .1 | 1.6 | 63 | 27 | 0 | 95 | 7.3 |
| Aug. 1-31..... | 201 | 7.8 | .01 | 7.0 | 3.0 | 12 | 2.0 | 45 | 5.0 | 9.1 | .2 | 2.9 | 77 | 30 | 0 | 111 | 7.5 |
| Sept. 1-30..... | 159 | 8.1 | .07 | 6.9 | 2.6 | 18 | 3.2 | 48 | 8.0 | 12 | .2 | 1.6 | 94 | 28 | 0 | 140 | 7.6 |
| Time-weighted average..... | 1,454.3 | 8.5 | 0.04 | 6.1 | 2.2 | 9.3 | 1.9 | 33 | 5.8 | 7.9 | 0.1 | 1.8 | 67 | 24 | 1 | 96 | -- |

a Calculated from determined constituents.

QUALITY OF SURFACE WATERS, 1962

CAPE FEAR RIVER BASIN--Continued

2-1020, DEEP RIVER AT MONCURE, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962
 /Once daily measurement between 0750 and 1610/

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

CAPE FEAR RIVER BASIN--Continued

2-1025. CAPE FEAR RIVER AT LILLINGTON, N. C.

LOCATION.--At gaging station at 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 Neal Creek.

DRAINAGE AREA.--3,440 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: November 1944 to October 1945, October 1944 to September 1955, November 1960 to September 1962.

Water temperatures: November 1944 to October 1945, October 1954 to September 1955, June 1959 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Minimum, 37°F on several days in January.

EXTREMES, 1944-45, 1954-55, 1959-62.--Water temperatures: Maximum, 96°F June 30, 1959; minimum, 34°F on several days in 1944, 1955.

REMARKS.--Recorder stopped Mar. 19 to Aug. 2.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 3, 1961..... | 347 | 3.1 | 0.01 | 5.7 | 2.9 | 20 | 2.7 | 52 | 8.4 | 17 | 0.2 | 0.4 | 90 | 26 | 0 | 156 | 6.9 | 20 |
| Nov. 2..... | 186 | 4.6 | 0.03 | 8.6 | 4.1 | 39 | 4.4 | 80 | 14 | 33 | 1.5 | 0.4 | 156 | 38 | 0 | 268 | 6.8 | 20 |
| Nov. 30..... | 353 | 1.1 | 0.1 | 9.1 | 3.8 | 57 | 5.2 | 201 | 18 | 42 | 1.0 | 2.0 | 270 | 20 | 0 | 348 | 6.1 | 45 |
| Jan. 2, 1962..... | 6,350 | 13 | 0.17 | 17 | 1.8 | 79 | 1.4 | 22 | 8.8 | 7 | 1.2 | 1.7 | 73 | 52 | 2 | 60 | 6.2 | 28 |
| Feb. 2..... | 6,350 | 10 | 0.04 | 3.5 | 1.8 | 5.0 | 1.4 | 16 | 7.6 | 16 | 5.7 | 1.1 | 52 | 16 | 4 | 60 | 6.5 | 28 |
| Feb. 12..... | 2,650 | 13 | .05 | 4.8 | 2.2 | 8.6 | 1.4 | 25 | 5.6 | 8.5 | 2 | 1.8 | a58 | 21 | 0 | 95 | 6.7 | 21 |
| Mar. 4..... | 4,080 | 12 | .05 | 4.7 | 1.4 | 5.2 | 1.4 | 18 | 8.4 | 5.0 | 0 | 0.8 | 49 | 18 | 3 | 69 | 6.8 | 30 |
| Apr. 3..... | 13,400 | 8.5 | .08 | 3.6 | 1.8 | 4.0 | 1.8 | 15 | 6.8 | 4.1 | 2 | 0.6 | a38 | 16 | 4 | 56 | 6.4 | 50 |
| May 1..... | 2,160 | 9.7 | .02 | 5.6 | 1.8 | 9.2 | 1.5 | 32 | 5.4 | 7.4 | 2 | 0.5 | 60 | 21 | 0 | 92 | 6.4 | 13 |
| June 4..... | 4,170 | 11 | .03 | 8.2 | 3.0 | 26 | 2.7 | 63 | 11 | 19 | 5 | 0.8 | 116 | 32 | 0 | 187 | 6.6 | 17 |
| July 2..... | 1,240 | 9.1 | .03 | 4.8 | 1.5 | 5.6 | 1.9 | 22 | 5.6 | 4.5 | 2 | 0.2 | 61 | 18 | 0 | 66 | 6.1 | 65 |
| Aug. 1..... | 786 | 6.3 | .04 | 4.6 | 1.5 | 9.8 | 1.9 | 27 | 6.2 | 8.2 | 2 | 0.5 | 61 | 18 | 0 | 82 | 6.3 | 30 |
| Aug. 6..... | 879 | 5.0 | .04 | 7.3 | 2.7 | 19 | 2.4 | 51 | 10 | 15 | 2 | 0.6 | a87 | 29 | 0 | 140 | 7.0 | 20 |
| Sept. 5..... | 338 | 5.9 | .02 | 6.0 | 2.1 | 17 | 2.6 | 42 | 8.8 | 15 | 2 | 0.5 | 81 | 24 | 0 | 130 | 6.5 | 20 |

a Calculated from determined constituents.

CAPE FEAR RIVER BASIN--Continued

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.--5,220 square miles.

RECORDS AVAILABLE.--Discharge records: October 1956 to September 1962.

REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 3, 1961..... | | 8.6 | 0.11 | 3.5 | 1.8 | 5.8 | 1.5 | 18 | 6.0 | 7.0 | 0.0 | 0.5 | 55 | 16 | 1 | 64 | 6.1 | 50 |
| Nov. 1..... | | 5.6 | .08 | 4.1 | 1.8 | 17.3 | 1.5 | 21 | 6.4 | 9.4 | .0 | 1.0 | 52 | 14 | 0 | 57 | 6.1 | 25 |
| Dec. 1..... | | 5.7 | .13 | 4.1 | 1.9 | 17.3 | 2.6 | 34 | 7.6 | 16.4 | .0 | 1.0 | 82 | 18 | 0 | 125 | 6.6 | 40 |
| Jan. 1, 1962..... | | 10.3 | .06 | 3.2 | 1.9 | 5.9 | 1.6 | 13 | 7.6 | 8.1 | .2 | 1.3 | 68 | 16 | 4 | 66 | 6.2 | 70 |
| Feb. 2, 1962..... | | 9.3 | .06 | 2.7 | 1.8 | 4.2 | 1.1 | 13 | 6.4 | 5.2 | .1 | 1.1 | 55 | 14 | 4 | 57 | 6.3 | 45 |
| Mar. 4..... | | 9.1 | .01 | 3.4 | 1.5 | 3.8 | 1.1 | 12 | 7.4 | 4.0 | .0 | .5 | 48 | 14 | 4 | 52 | 6.3 | 55 |
| Apr. 3..... | | 8.5 | .08 | 3.4 | 1.5 | 5.5 | 1.6 | 17 | 6.2 | 5.3 | .2 | 1.0 | 48 | 14 | 0 | 61 | 6.3 | 35 |
| May 1..... | | 8.9 | .02 | 4.2 | 1.1 | 6.4 | 1.3 | 20 | 4.6 | 6.0 | .1 | .6 | 52 | 15 | 0 | 68 | 6.1 | 22 |
| June 4..... | | 1.2 | .01 | 4.7 | 1.8 | 10 | 1.6 | 30 | 6.2 | 10 | .3 | .1 | 51 | 20 | 0 | 91 | 6.3 | 20 |
| July 2..... | | 7.2 | .06 | 3.8 | 1.2 | 4.8 | 1.5 | 16 | 4.8 | 3.8 | .2 | .4 | 47 | 14 | 2 | 51 | 6.1 | 35 |
| Aug. 1..... | | 7.5 | .10 | 3.4 | 1.6 | 6.7 | 1.5 | 18 | 6.0 | 6.0 | .2 | .3 | 48 | 15 | 0 | 63 | 6.0 | 28 |
| Sept. 5..... | | 7.8 | .01 | 5.4 | 1.5 | 8.7 | 1.7 | 26 | 8.2 | 8.0 | .1 | .4 | 59 | 20 | 0 | 82 | 6.5 | 40 |

a. Calculated from determined constituents.

CAPE FEAR RIVER BASIN--Continued

2-1070. SOUTH RIVER NEAR PARKERSBURG, N. C.

LOCATION.--Temperature recorder at gaging station, 5 feet downstream from highway bridge at Bladen-Sampson County line and 1.9 miles southwest of Parkersburg, Sampson County.

DRAINAGE AREA.--382 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1954 to September 1955.

Water temperatures: November 1961 to September 1962.--Water temperatures: Maximum, 82°F on several days in June, July, August; minimum, 33°F Jan. 13, 14.

EXTREMES, November 1961 to September 1962.--Water temperatures: Maximum, 82°F on several days in June, July, August; minimum, 33°F Jan. 13, 14.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Feb. 15, 1962..... | 378 | 3.9 | 0.09 | 1.0 | 0.5 | 5.1 | 0.9 | 3 | 4.0 | 7.3 | 0.0 | 0.5 | 24 | 4 | 2 | 46 | 5.7 | 70 |
| Aug. 8..... | 306 | 6.7 | .41 | 1.4 | .5 | 4.7 | 1.2 | 5 | 4.4 | 5.8 | .1 | 1.1 | 28 | 6 | 2 | 37 | 5.6 | 180 |

CAPE FEAR RIVER BASIN--Continued
2-1070. SOUTH RIVER NEAR PARKERSBURG, N. C.--Continued

Temperature °F of water, November 1961 to September 1962
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.. | | | -- | -- | 46 | 44 | 40 | 39 | 44 | 41 | 60 | 57 | 62 | 60 | 70 | 68 | 78 | 76 | 75 | 72 | 81 | 79 | 80 | 77 |
| 2.. | | | -- | -- | 46 | 45 | 39 | 38 | 43 | 43 | 57 | 50 | 62 | 60 | 72 | 68 | 73 | 73 | 73 | 73 | 81 | 80 | 80 | 77 |
| 3.. | | | 65 | 64 | 47 | 46 | 39 | 38 | 44 | 43 | 50 | 47 | 60 | 56 | 72 | 70 | 74 | 74 | 76 | 75 | 80 | 78 | 80 | 78 |
| 4.. | | | 66 | 65 | 48 | 47 | 39 | 38 | 45 | 43 | 47 | 45 | 56 | 53 | 70 | 68 | 74 | 73 | 76 | 75 | 81 | 79 | 80 | 79 |
| 5.. | | | 66 | 65 | 48 | 48 | 40 | 39 | 47 | 45 | 46 | 45 | 56 | 53 | 70 | 66 | 73 | 72 | 75 | 75 | 81 | 79 | 80 | 80 |
| 6.. | | | 66 | 65 | 49 | 48 | 47 | 40 | 47 | 46 | 44 | 44 | 57 | 56 | 68 | 66 | 72 | 71 | 76 | 74 | 81 | 80 | 80 | 75 |
| 7.. | | | 66 | 66 | 49 | 49 | 48 | 47 | 47 | 44 | 44 | 43 | 60 | 57 | 68 | 66 | 73 | 72 | 77 | 76 | 81 | 79 | 75 | 72 |
| 8.. | | | 66 | 66 | 49 | 48 | 47 | 46 | 44 | 44 | 44 | 44 | 60 | 56 | 70 | 66 | 74 | 72 | 78 | 76 | 81 | 79 | 74 | 72 |
| 9.. | | | 62 | 58 | 48 | 47 | 46 | 44 | 42 | 41 | 44 | 44 | 65 | 63 | 70 | 68 | 74 | 72 | 79 | 78 | 78 | 79 | 76 | 74 |
| 10.. | | | 58 | 54 | 47 | 47 | 44 | 41 | 42 | 46 | 44 | 44 | 66 | 63 | 68 | 66 | 74 | 72 | 79 | 77 | 78 | 77 | 77 | 76 |
| 11.. | | | 55 | 52 | 49 | 47 | 41 | 37 | 42 | 40 | 46 | 46 | 65 | 63 | 66 | 64 | 74 | 72 | 77 | 76 | 77 | 75 | 78 | 76 |
| 12.. | | | 55 | 54 | 52 | 49 | 37 | 34 | 41 | 40 | 50 | 46 | 64 | 63 | 66 | 64 | 73 | 72 | 77 | 77 | 76 | 74 | 79 | 77 |
| 13.. | | | 57 | 55 | 53 | 52 | 34 | 33 | 40 | 39 | 52 | 50 | 65 | 63 | 66 | 65 | 72 | 72 | 78 | 77 | 75 | 73 | 79 | 76 |
| 14.. | | | 58 | 57 | 53 | 51 | 34 | 33 | 43 | 40 | 52 | 51 | 64 | 60 | 67 | 65 | 72 | 71 | 79 | 78 | 76 | 74 | 78 | 76 |
| 15.. | | | 60 | 58 | 51 | 50 | 38 | 34 | 46 | 43 | 52 | 52 | 61 | 58 | 70 | 67 | 72 | 71 | 80 | 79 | 76 | 75 | 78 | 77 |
| 16.. | | | 61 | 60 | 50 | 48 | 39 | 38 | 46 | 44 | 52 | 50 | 59 | 55 | 72 | 70 | 74 | 71 | 81 | 80 | 77 | 75 | 78 | 76 |
| 17.. | | | 62 | 61 | 48 | 47 | 39 | 38 | 45 | 44 | 52 | 50 | 57 | 54 | 72 | 70 | 76 | 74 | 81 | 80 | 76 | 75 | 78 | 76 |
| 18.. | | | 62 | 58 | 50 | 47 | 39 | 38 | 45 | 44 | 52 | 49 | 57 | 54 | 70 | 69 | 78 | 75 | 80 | 78 | 77 | 75 | 76 | 74 |
| 19.. | | | 58 | 55 | 42 | 50 | 38 | 38 | 48 | 45 | 50 | 49 | 58 | 55 | 73 | 70 | 80 | 77 | 80 | 78 | 78 | 76 | 74 | 72 |
| 20.. | | | 55 | 53 | 52 | 50 | 40 | 38 | 50 | 48 | 54 | 50 | 59 | 57 | 74 | 72 | 80 | 78 | 80 | 77 | 80 | 77 | 73 | 70 |
| 21.. | | | 53 | 50 | 52 | 49 | 40 | 39 | 50 | 48 | 57 | 56 | 59 | 56 | 74 | 72 | 80 | 78 | 80 | 79 | 82 | 78 | 70 | 68 |
| 22.. | | | 51 | 48 | 49 | 46 | 41 | 39 | 50 | 48 | 57 | 56 | 60 | 56 | 74 | 72 | 79 | 77 | 81 | 79 | 82 | 80 | 68 | 65 |
| 23.. | | | 51 | 48 | 46 | 44 | 44 | 41 | 54 | 50 | 56 | 56 | 63 | 59 | 74 | 72 | 79 | 77 | 80 | 79 | 82 | 80 | 68 | 65 |
| 24.. | | | 53 | 51 | 46 | 46 | 44 | 44 | 54 | 54 | 55 | 52 | 63 | 79 | 74 | 82 | 78 | 82 | 80 | 82 | 78 | 67 | 65 | |
| 25.. | | | 53 | 52 | 46 | 44 | 47 | 44 | 59 | 57 | 56 | 66 | 65 | 80 | 76 | 81 | 79 | 82 | 80 | 80 | 78 | 67 | 65 | |
| 26.. | | | 52 | 50 | 44 | 42 | 51 | 47 | 57 | 54 | 56 | 54 | 67 | 65 | 80 | 76 | 81 | 78 | 80 | 79 | 79 | 78 | 66 | 65 |
| 27.. | | | 50 | 50 | 42 | 41 | 52 | 51 | 57 | 55 | 54 | 51 | 67 | 65 | 80 | 77 | 80 | 78 | 80 | 78 | 79 | 78 | 66 | 65 |
| 28.. | | | 51 | 50 | 44 | 42 | 52 | 48 | 60 | 57 | 54 | 52 | 67 | 65 | 80 | 76 | 79 | 77 | 79 | 76 | 79 | 76 | 66 | 65 |
| 29.. | | | 51 | 48 | 44 | 42 | 48 | 44 | -- | -- | 56 | 53 | 68 | 67 | 78 | 75 | 77 | 75 | 78 | 76 | 79 | 76 | 65 | 64 |
| 30.. | | | 48 | 46 | 42 | 39 | 45 | 43 | -- | -- | 57 | 56 | 69 | 68 | 78 | 75 | 77 | 73 | 79 | 78 | 79 | 76 | 64 | 62 |
| 31.. | | | -- | -- | 40 | 38 | 45 | 44 | -- | -- | 60 | 57 | -- | -- | 78 | 76 | -- | -- | 79 | 79 | 80 | 76 | -- | -- |
| Aver. | | | 57 | 56 | 48 | 46 | 42 | 40 | 48 | 46 | 52 | 50 | 62 | 60 | 73 | 70 | 76 | 74 | 79 | 77 | 79 | 77 | 74 | 72 |

| | | | | | | | | | | | | | | | | | |
|----------------------|-----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|------|----|----|-----|-----|-----|
| May 15-20, 1962..... | 6.1 | .04 | 6.3 | 1.6 | 15 | 1.5 | 27 | 7.2 | 19 | .2 | 0.9 | 77 | 22 | 0 | 118 | 6.8 | 80 |
| May 21-25..... | 3.5 | .02 | 6.5 | 2.3 | 20 | 1.9 | 30 | 8.6 | 27 | .2 | 1.7 | a86 | 26 | 1 | 156 | 6.3 | 70 |
| June 1-7..... | 3.8 | .22 | 8.5 | 1.4 | 19 | 1.9 | 33 | 8.8 | 24 | .2 | 1.2 | a86 | 26 | 0 | 156 | 7.8 | 100 |
| June 8-14..... | 5.4 | .19 | 4.3 | 1.3 | 12 | 1.4 | 28 | 7.2 | 12 | .3 | 3.2 | 79 | 18 | 2 | 187 | 6.7 | 120 |
| June 15-20..... | 5.4 | .19 | 4.3 | 1.3 | 12 | 1.4 | 28 | 7.2 | 12 | .3 | 3.2 | 79 | 18 | 2 | 187 | 6.7 | 120 |
| July 1-22..... | 6.9 | .25 | 3.8 | 1.7 | 5.2 | 1.3 | 13 | 8.4 | 7.5 | .3 | 2.6 | 70 | 16 | 6 | 65 | 6.1 | 120 |
| July 23-31..... | 7.8 | .32 | 6.1 | 1.4 | 9.4 | 2.1 | 18 | 8.0 | 12 | .2 | 1.3 | 84 | 21 | 6 | 92 | 6.5 | 140 |
| Aug. 1-15..... | 7.9 | .33 | 5.4 | 1.6 | 11 | 1.8 | 19 | 8.4 | 14 | .2 | 1.7 | 81 | 20 | 4 | 95 | 7.0 | 120 |
| Aug. 16-17..... | 7.1 | .80 | 5.6 | 2.3 | 20 | 2.5 | 19 | 11 | 29 | .2 | .4 | a88 | 24 | 8 | 155 | 7.0 | 120 |
| Aug. 18-20..... | 7.1 | .34 | 6.3 | 3.6 | 32 | 2.5 | 20 | 12 | 50 | .2 | .6 | a125 | 31 | 14 | 228 | 6.9 | 130 |
| Aug. 21-23..... | 6.2 | .52 | 5.9 | 2.0 | 15 | 3.1 | 24 | 11 | 18 | .2 | .7 | a75 | 22 | 3 | 126 | 6.9 | 100 |
| Sept. 20-22..... | 7.8 | .34 | 7.1 | 1.8 | 21 | 2.3 | 34 | 8.8 | 22 | .4 | 2.2 | 113 | 24 | 0 | 160 | 7.1 | 120 |
| Sept. 28-30..... | 6.2 | .30 | 6.4 | 1.4 | 19 | 2.4 | 24 | 10 | 23 | .3 | 1.6 | 104 | 22 | 2 | 140 | 7.1 | 120 |

a Calculated from determined constituents.

CAPE FEAR RIVER BASIN--Continued

2-1075.72. CAPE FEAR RIVER AT ROYSTER, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, November 1961 to September 1962

| Day | October | | November | | December | | January | |
|----------|-------------------------------------------|---------------|-------------------------------------------|---------------|-------------------------------------------|---------------|-------------------------------------------|---------------|
| | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) | Specific conductance (micro-mhos at 25°C) | Chloride (Cl) |
| 1 | | | -- | -- | 3,240 | 970 | 152 | |
| 2 | | | 11,100 | 3,500 | 2,250 | 630 | -- | 19 |
| 3 | | | 12,000 | 3,770 | 2,650 | 750 | 109 | |
| 4 | | | 8,390 | 2,570 | 4,500 | 1,380 | 110 | |
| 5 | | | 9,890 | 3,070 | 3,430 | 1,010 | 88 | |
| 6 | | | 13,100 | 4,380 | 2,310 | 635 | 89 | 10 |
| 7 | | | 11,100 | 3,570 | 4,390 | 1,320 | 78 | |
| 8 | | | 16,500 | 5,440 | 1,990 | 550 | 91 | |
| 9 | | | 13,300 | 4,350 | 4,320 | 1,300 | 83 | |
| 10 | | | 12,700 | 4,060 | 5,740 | 1,780 | 64 | |
| 11 | | | 11,800 | 3,770 | 1,800 | 466 | 63 | 6.0 |
| 12 | | | 10,800 | 3,380 | 8,870 | 2,870 | 56 | |
| 13 | | | 3,820 | 1,095 | 3,770 | 1,130 | 54 | |
| 14 | | | 12,200 | 3,900 | 526 | 113 | 57 | |
| 15 | | | 13,200 | 4,280 | 180 | | 58 | |
| 16 | | | 13,000 | 4,150 | 155 | 25 | 65 | 9.7 |
| 17 | | | 11,000 | 3,340 | 168 | | 89 | |
| 18 | | | 11,200 | 3,500 | 730 | 178 | 77 | |
| 19 | | | 12,500 | 4,000 | 225 | | 70 | |
| 20 | | | 10,600 | 3,250 | 197 | 27 | 74 | |
| 21 | | | 12,700 | 4,060 | 140 | | | 71 |
| 22 | | | 15,200 | 5,090 | 100 | | 71 | |
| 23 | | | 17,100 | 5,930 | 100 | | 80 | |
| 24 | | | 4,720 | 1,390 | 100 | | 80 | |
| 25 | | | 4,000 | 1,180 | 110 | | 82 | |
| 26 | | | 1,760 | 472 | 91 | 11 | 81 | |
| 27 | | | 4,300 | 1,370 | 84 | | 80 | |
| 28 | | | 5,300 | 1,550 | 79 | | 75 | |
| 29 | | | 4,200 | 1,260 | 81 | | 81 | |
| 30 | | | 3,810 | 1,090 | 76 | | 82 | |
| 31 | | | -- | -- | 73 | | 96 | |
| | | | | | | | | |
| February | | | March | | April | | May | |
| 1 | 77 | 9.0 | 69 | | 54 | 8.2 | -- | 12 |
| 2 | 69 | | 66 | | 87 | | 100 | |
| 3 | 65 | | 59 | | 82 | | 104 | |
| 4 | 65 | | 55 | | 69 | | 81 | |
| 5 | 70 | | 54 | | 58 | | 72 | |
| 6 | 74 | | 56 | | 60 | | 85 | |
| 7 | 68 | | 54 | | 69 | | 99 | |
| 8 | 73 | | 57 | | 73 | 6.9 | 103 | |
| 9 | 71 | | 85 | | 73 | | 103 | |
| 10 | 77 | | 81 | | 57 | | 100 | |
| 11 | 75 | | 58 | | 68 | | 83 | |
| 12 | 79 | | 59 | | 60 | | 82 | |
| 13 | 85 | | 75 | | 58 | | 120 | 16 |
| 14 | 82 | | 75 | | 52 | | 248 | |
| 15 | 66 | | 65 | | 56 | | 130 | 48 |
| 16 | 61 | | 59 | 7.1 | 54 | | 129 | |
| 17 | 63 | | 54 | | 52 | | 147 | 19 |
| 18 | 64 | | 54 | | 50 | 4.5 | 201 | |
| 19 | 71 | | 57 | | 48 | | 146 | |
| 20 | 120 | | 64 | 50 | 148 | | | |
| 21 | 97 | 12 | 70 | | 51 | | 197 | 27 |
| 22 | 84 | | 70 | | 74 | | 160 | |
| 23 | 88 | | 54 | | 88 | | 168 | |
| 24 | 81 | | 56 | | 72 | | 230 | |
| 25 | 67 | | 81 | | 59 | | 185 | |
| 26 | 63 | 7.5 | 70 | | 60 | 8.5 | 3,680 | 1,080 |
| 27 | 73 | | 80 | | 58 | | 1,180 | |
| 28 | 69 | | 66 | | 70 | | 208 | |
| 29 | -- | | 59 | | 88 | | 188 | |
| 30 | -- | -- | 61 | | 89 | | 4,260 | 1,275 |
| 31 | -- | -- | 64 | | -- | -- | 261 | |

CAPE FEAR RIVER BASIN--Continued

2-1075.72. CAPE FEAR RIVER AT ROYSTER, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per millior,
November 1961 to September 1962--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 | 252 | 52 | 91 | | 114 | | 1,350 | 350 |
| 2 | 1,290 | 335 | 69 | | 92 | | 1,300 | 325 |
| 3 | 290 | 61 | 67 | | 101 | | 1,100 | 275 |
| 4 | 190 | | 64 | | 96 | | 6,400 | 1,975 |
| 5 | 170 | 24 | 63 | | 107 | | 7,400 | 2,325 |
| 6 | 144 | | 64 | | 96 | | 6,600 | 2,050 |
| 7 | 134 | | 65 | | 97 | | 6,650 | 2,075 |
| 8 | 119 | | 56 | | 96 | 14 | 5,300 | 1,625 |
| 9 | 128 | | 55 | | 97 | | 4,600 | 1,375 |
| 10 | 127 | | 61 | | 89 | | 4,100 | 1,225 |
| 11 | 110 | | 57 | 7.5 | 85 | | 8,200 | 2,600 |
| 12 | 107 | 12 | 69 | | 86 | | 8,100 | 2,575 |
| 13 | 105 | | 64 | | 91 | | 1,200 | 300 |
| 14 | 103 | | 53 | | 94 | | 9,500 | 3,050 |
| 15 | 109 | | 68 | | 102 | | 3,400 | 1,000 |
| 16 | 102 | | 66 | | 141 | | 5,500 | 1,680 |
| 17 | 74 | | 64 | | 159 | 29 | 5,600 | 1,725 |
| 18 | 75 | | 66 | | 199 | | 1,650 | 450 |
| 19 | 73 | | 71 | | 292 | 50 | 1,400 | 375 |
| 20 | 89 | | 72 | | 188 | | 180 | |
| 21 | 92 | | 75 | | 130 | | 140 | 22 |
| 22 | 91 | | 69 | | 126 | 18 | 150 | |
| 23 | 90 | 9.0 | 82 | | 120 | | 4,700 | 1,425 |
| 24 | 95 | | 92 | | 463 | 109 | 4,100 | 1,225 |
| 25 | 100 | | 106 | | 3,800 | 1,125 | 2,800 | 800 |
| 26 | 104 | | 86 | 12 | 3,800 | 1,125 | 3,100 | 900 |
| 27 | 84 | | 98 | | 259 | 54 | 5,600 | 1,725 |
| 28 | 84 | | 99 | | 158 | 26 | 165 | |
| 29 | 85 | | 93 | | 1,590 | 423 | 140 | 23 |
| 30 | 83 | | 87 | | 1,600 | 425 | 140 | |
| 31 | -- | -- | 91 | | 1,230 | 312 | -- | -- |

Temperature °F of water, November 1961 to September 1962
(Once-daily measurement at approximately high tide)

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|---------|------|------|------|------|------|------|------|-----|------|------|------|-------|
| 1. | -- | 54 | -- | 46 | 56 | 59 | 70 | 82 | 76 | 84 | 85 | |
| 2. | 67 | 55 | -- | 46 | 51 | 60 | 72 | 83 | 75 | 84 | 85 | |
| 3. | 69 | 55 | 44 | 46 | 50 | 60 | 72 | 83 | 75 | 84 | 86 | |
| 4. | 66 | 55 | 44 | 46 | 50 | 60 | 72 | 83 | 75 | 84 | 84 | |
| 5. | 68 | 56 | 44 | 48 | 50 | 59 | 73 | 82 | 75 | 85 | 84 | |
| 6. | 68 | 55 | 44 | 49 | 48 | 60 | 74 | 83 | 75 | 85 | 82 | |
| 7. | 68 | 54 | 45 | 48 | 46 | 60 | 75 | 82 | 77 | 85 | 82 | |
| 8. | 68 | 55 | 44 | 46 | 45 | 62 | 76 | 81 | 78 | 86 | 82 | |
| 9. | 66 | 54 | 45 | 47 | 48 | 64 | 76 | 80 | 77 | 84 | 83 | |
| 10. | 65 | 54 | 45 | 45 | 49 | 66 | 74 | 80 | 78 | 84 | 83 | |
| 11. | 66 | 55 | 42 | 46 | 48 | 65 | 75 | 79 | 79 | 84 | 83 | |
| 12. | 66 | 56 | 47 | 46 | 50 | 64 | 74 | 79 | 79 | 84 | 82 | |
| 13. | 68 | 57 | 42 | 46 | 51 | 64 | 74 | 78 | 80 | 87 | 82 | |
| 14. | 68 | 55 | 42 | 46 | 52 | 62 | 75 | 77 | 77 | 83 | 82 | |
| 15. | 66 | 54 | 44 | 46 | 51 | 60 | 76 | 77 | 78 | 83 | 83 | |
| 16. | 66 | 50 | 44 | 45 | 51 | 58 | 75 | 78 | 82 | 83 | 83 | |
| 17. | 66 | 50 | 44 | 45 | 51 | 58 | 76 | 78 | 82 | 84 | 83 | |
| 18. | 66 | 51 | 44 | 46 | 50 | 59 | 76 | 78 | 82 | 84 | 83 | |
| 19. | 65 | 53 | 41 | 47 | 52 | 59 | 78 | 78 | 83 | 84 | 83 | |
| 20. | 62 | 53 | 41 | 49 | 53 | 60 | 78 | 78 | 83 | 84 | 79 | |
| 21. | 60 | 49 | 41 | 48 | 55 | 62 | 80 | 79 | 82 | 85 | 78 | |
| 22. | 58 | 50 | 43 | 50 | 51 | 62 | 81 | 80 | 83 | 85 | 77 | |
| 23. | 59 | 49 | 45 | 50 | 56 | 63 | 81 | 80 | 85 | 85 | 75 | |
| 24. | 60 | 48 | 44 | 52 | 55 | 63 | 81 | 81 | 85 | 84 | 74 | |
| 25. | 59 | 48 | 46 | 54 | 55 | 65 | 83 | 82 | 85 | 86 | 74 | |
| 26. | 58 | 48 | 48 | 50 | 57 | 64 | 82 | 83 | 85 | 86 | 73 | |
| 27. | 58 | 50 | 51 | 56 | 59 | 62 | 82 | 80 | 85 | 84 | 74 | |
| 28. | 58 | 48 | 50 | 59 | 59 | 65 | 84 | 79 | 83 | 84 | 71 | |
| 29. | 55 | -- | 50 | -- | 58 | 67 | 84 | 76 | 82 | 84 | 71 | |
| 30. | 56 | -- | 50 | -- | 59 | 70 | 82 | 75 | 83 | 85 | 71 | |
| 31. | -- | -- | 47 | -- | 60 | -- | 82 | -- | -- | 85 | -- | |
| Average | 64 | 53 | 45 | 48 | 52 | 62 | 77 | 80 | 80 | 84 | 80 | |

CAPE FEAR RIVER BASIN--Continued
2-1075.76. CAPE FEAR RIVER AT NAVASSA, N. C.

LOCATION.--At bridge, draw section on Atlantic Coast Line Railroad at Navassa, Brunswick County.
DRAINAGE AREA.--7,060 square miles.
RECORDS AVAILABLE.--Chemical analyses: October 1959 to September 1962.

Water temperatures: October 1959 to September 1962.

EXTREMES, 1961-62.--Chloride: Maximum, 8,800 ppm Oct. 24 (B); minimum, 5.0 ppm Apr. 8-20.

Specific conductance: Maximum daily, 22,000 micromhos Oct. 26 (B); minimum daily, 50 micromhos Jan. 13, Apr. 13, 20, (T).

Water temperatures: Maximum, 86°F Aug. 18, 21; minimum, 40°F Jan. 20.

EXTREMES, 1959-62.--Chloride: Maximum, 8,800 ppm Oct. 24 (B), 1961; minimum, 5.0 ppm on many days in February 1960 and April 1962.

Specific conductance: Maximum daily, 22,000 micromhos Oct. 26 (B), 1961; minimum daily, 40 micromhos Feb. 22, 26, 1960.

Water temperatures: Maximum, 87°F Aug. 1, 4, 1961; minimum, 39°F Feb. 12, 1961.

REMARKS.--Top (T) and bottom (B) samples were collected once daily at approximately high tide and were composited unless otherwise indicated.

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 daily samples available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, December 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Dec. 15-18, 1961.... | | -- | -- | 6.7 | 1.3 | -- | -- | 34 | -- | 26 | -- | -- | -- | 22 | 0 | 170 | 6.9 | -- |
| Dec. 22..... | | -- | -- | 5.0 | 1.7 | -- | -- | 18 | -- | 16 | -- | -- | -- | 20 | 4 | 112 | 6.9 | -- |
| Dec. 23-25..... | | -- | -- | 7.9 | 6.4 | -- | -- | 21 | -- | 93 | -- | -- | -- | 46 | 29 | 390 | 6.9 | -- |
| Dec. 26-27..... | | 10 | 0.20 | 6.3 | 2.6 | 22 | 2.4 | 19 | 14 | 35 | -- | 1.4 | a103 | 26 | 11 | 179 | 6.5 | 120 |
| Dec. 28-31..... | | 11 | .09 | 4.5 | 1.6 | 9.4 | 1.8 | 14 | 11 | 12 | .2 | 1.7 | a60 | 18 | 6 | 72 | 6.5 | -- |
| Jan. 9-10, 1962..... | | 9.4 | .12 | 3.8 | 1.7 | 7.2 | 1.6 | 16 | 9.6 | 8.5 | -- | .6 | a31 | 16 | 4 | 71 | 6.5 | 40 |
| Jan. 11-22..... | | 12 | .04 | 2.9 | 1.7 | 5.5 | 2.0 | 10 | 8.0 | 7.9 | .2 | 1.4 | 58 | 14 | 6 | 59 | 6.5 | 75 |
| Jan. 23-31..... | | 10 | .50 | 4.5 | 1.3 | 8.2 | 1.2 | 14 | 9.4 | 10 | .1 | .9 | 54 | 16 | 4 | 75 | 6.4 | 60 |
| Feb. 1-13..... | | 13 | 8.6 | 4.9 | 1.7 | 7.0 | 1.5 | 13 | 10 | 9.5 | .3 | 1.7 | 69 | 18 | 8 | 78 | 6.9 | 60 |
| Feb. 14-22..... | | 9.1 | .18 | 4.8 | 1.7 | 12 | 1.2 | 19 | 9.6 | 14 | -- | 1.8 | a64 | 19 | 4 | 102 | 7.2 | 70 |
| Feb. 23-28..... | | 8.4 | .17 | 4.0 | 1.9 | 6.6 | 1.2 | 15 | 7.2 | 7.5 | .2 | 2.1 | 62 | 18 | 6 | 71 | 7.0 | 45 |
| Mar. 1-7..... | | 8.3 | .04 | 3.2 | 1.7 | 6.1 | 1.4 | 13 | 7.2 | 6.5 | .2 | 1.1 | 54 | 15 | 4 | 63 | 6.6 | 50 |
| Mar. 10-22..... | | 8.0 | .05 | 3.4 | 1.7 | 7.8 | 1.2 | 14 | 7.6 | 9.3 | .2 | .9 | 58 | 16 | 4 | 74 | 6.7 | 55 |
| Mar. 23-24..... | | 7.6 | .09 | 3.1 | 1.2 | 5.0 | 1.1 | 10 | 6.0 | 5.5 | .3 | 1.1 | a36 | 13 | 5 | 55 | 6.5 | 55 |
| Mar. 25-28, 29(?)... | | 7.0 | .07 | 3.2 | 1.7 | 8.3 | 1.4 | 14 | 6.8 | 9.5 | .3 | 1.2 | a46 | 15 | 4 | 74 | 6.6 | 55 |
| Mar. 29(B), 30-31... | | 7.0 | .08 | 3.2 | 1.3 | 5.4 | 1.3 | 12 | 6.6 | 6.0 | .2 | 1.2 | a38 | 14 | 4 | 59 | 6.6 | 55 |
| Apr. 1-11..... | | 7.6 | .06 | 3.9 | 1.3 | 5.8 | .9 | 16 | 5.8 | 8.0 | .1 | 1.2 | 67 | 15 | 2 | 64 | 6.5 | 110 |
| Apr. 12-20..... | | 6.8 | .04 | 3.8 | 1.0 | 5.8 | 1.3 | 15 | 5.8 | 5.0 | .1 | .6 | 56 | 14 | 1 | 54 | 6.7 | 70 |

| | | | | | | | | | | | | | | | | | |
|----------------------|-----|-----|-----|-----|-----|-----|----|-----|-----|----|-----|------|----|----|-----|-----|-----|
| Apr. 21-27, 1962.... | 6.9 | .12 | 4.3 | 1.1 | 8.2 | 1.0 | 17 | 5.4 | 8.3 | .1 | 0.7 | 60 | 16 | 2 | 69 | 6.9 | 90 |
| Apr. 28-30..... | 6.8 | .11 | 4.2 | 1.1 | 8.4 | 1.1 | 18 | 4.8 | 9.0 | .1 | .5 | a45 | 15 | 0 | 74 | 7.1 | 90 |
| May 1-7..... | 7.6 | .08 | 5.5 | 1.7 | 13 | 1.8 | 24 | 8.6 | 18 | .2 | .8 | a69 | 21 | 2 | 123 | 6.8 | 80 |
| May 8-12..... | 7.4 | .06 | 5.0 | 1.6 | 12 | 1.4 | 22 | 8.4 | 16 | .2 | .7 | a64 | 19 | 1 | 105 | 7.0 | 80 |
| May 24-26..... | 3.5 | .08 | 6.7 | 1.4 | 16 | 1.8 | 30 | 8.4 | 20 | .1 | .7 | a74 | 22 | 0 | 137 | 6.7 | 80 |
| June 6-13..... | 5.9 | .16 | 6.0 | 2.1 | 17 | 1.9 | 30 | 8.2 | 18 | .2 | .8 | 84 | 24 | 0 | 129 | 7.3 | 80 |
| June 14-20..... | 8.5 | .16 | 4.4 | 2.1 | 10 | 1.5 | 22 | 8.4 | 12 | .3 | 3.2 | 80 | 20 | 2 | 96 | 6.6 | 100 |
| July 1-13..... | 8.0 | .07 | 3.6 | 1.6 | 6.9 | 1.4 | 14 | 6.0 | 7 | .1 | 1.4 | 68 | 16 | 4 | 63 | 6.0 | 90 |
| July 16-31..... | 7.7 | .22 | 4.8 | 1.5 | 9.8 | 1.4 | 16 | 8.2 | 12 | .2 | 1.1 | 80 | 18 | 5 | 83 | 6.6 | 130 |
| Aug. 1-9..... | 8.4 | .31 | 5.4 | 2.1 | 14 | 1.6 | 20 | 9.0 | 19 | .2 | .6 | 92 | 22 | 6 | 118 | 7.0 | 120 |
| Aug. 10-11..... | 6.6 | .31 | 5.0 | 1.2 | 11 | 1.4 | 18 | 7.4 | 12 | .1 | .6 | a55 | 18 | 2 | 87 | 7.0 | 120 |
| Aug. 18-20..... | 7.1 | -- | 8.1 | 5.8 | -- | -- | 24 | 16 | 88 | .3 | 1.0 | -- | 44 | 24 | 359 | 7.3 | 120 |
| Aug. 21-24..... | 7.1 | .30 | 6.6 | 2.4 | 24 | 2.0 | 28 | 10 | 34 | .2 | .8 | a101 | 26 | 4 | 178 | 6.9 | 100 |
| Sept. 29-30..... | 6.5 | .06 | 5.5 | 1.7 | 15 | 1.7 | 24 | 9.4 | 18 | .1 | 2.7 | a73 | 20 | 1 | 120 | 6.3 | 80 |

a Calculated from determined constituents.

CAPE FEAR RIVER BASIN--Continued

2-1075.76. CAPE FEAR RIVER AT NAVASSA, N. C.--Continued

Chloride, in parts per million, water year October 1961 to September 1962

| 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 | -- | -- | 2,530 | 3,650 | 416 | 1,360 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2 | -- | -- | 4,170 | 5,880 | -- | -- | 126 | 560 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 3 | 562 | 2,740 | 4,840 | 6,520 | -- | -- | 555 | 1,290 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4 | 240 | 1,550 | 5,140 | 6,380 | -- | -- | 278 | 655 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5 | 2,800 | 3,850 | -- | -- | 3,200 | 3,930 | 110 | 145 | -- | -- | -- | -- | 8.0 | 8.0 | 18 | 18 | 215 | 1,520 | -- | -- | 19 | 19 | 725 | 1,850 |
| 6 | 2,700 | 4,300 | -- | -- | 2,300 | 3,350 | 97 | 91 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 7 | 2,950 | 5,250 | 5,780 | 6,470 | 2,210 | 2,860 | -- | -- | 9.5 | 9.5 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 325 | 475 |
| 8 | 3,000 | 4,770 | 5,980 | 6,570 | 1,630 | 2,450 | -- | -- | -- | -- | 32 | 8 | -- | -- | -- | -- | -- | -- | 7.5 | 7.5 | -- | -- | 620 | 1,250 |
| 9 | -- | -- | 5,640 | 6,720 | 1,860 | 2,460 | 8.5 | 8 | -- | -- | 34 | 74 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 10 | 2,920 | 4,360 | 6,570 | 6,720 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 16 | 16 | 18 | -- | -- | -- | -- | -- | -- | -- |
| 11 | 3,260 | 4,510 | 5,930 | 6,870 | 1,930 | 2,940 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 18 | -- | -- | -- | 12 | 12 | 2,710 | 4,380 |
| 12 | 3,930 | 4,840 | -- | -- | 2,590 | 3,320 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 13 | 4,150 | 5,300 | -- | -- | 1,730 | 2,720 | -- | -- | -- | -- | -- | -- | 5.0 | 5.0 | -- | -- | -- | -- | -- | -- | -- | -- | 2,820 | 4,000 |
| 14 | 4,650 | 5,630 | 3,810 | 4,240 | 238 | 1,340 | -- | -- | 137 | -- | -- | -- | -- | -- | 325 | 1,420 | -- | -- | -- | -- | 195 | 870 | 2,950 | 4,380 |
| 15 | -- | -- | 3,960 | 4,370 | -- | -- | -- | -- | 16 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 323 | 715 | -- | -- |
| 16 | -- | -- | 2,120 | 3,130 | 26 | 26 | 7.9 | 8 | -- | 385 | 9.3 | 9.3 | -- | -- | 500 | 1,450 | -- | -- | -- | -- | 315 | 770 | -- | -- |
| 17 | 3,700 | 5,750 | 1,100 | 1,770 | -- | -- | -- | -- | 215 | 300 | -- | -- | -- | -- | 585 | 1,820 | -- | -- | -- | -- | 400 | 900 | -- | -- |
| 18 | 1,540 | 2,390 | 3,780 | 5,690 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 975 | 2,290 | -- | -- | -- | -- | -- | -- | 2,120 | 3,420 |
| 19 | 1,180 | 3,340 | -- | -- | 260 | 448 | -- | -- | -- | -- | -- | -- | -- | -- | 675 | 2,150 | -- | -- | -- | -- | 88 | 88 | 150 | 1,120 |
| 20 | 5,240 | 6,390 | -- | -- | 88 | 370 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1,250 | 2,600 |
| 21 | 5,040 | 6,280 | 4,810 | 5,140 | 49 | 46 | -- | -- | 14 | 14 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 375 | 400 |
| 22 | 5,260 | 5,110 | 5,340 | 6,380 | 16 | 16 | -- | -- | -- | -- | -- | -- | -- | -- | 550 | 560 | 12 | 12 | -- | -- | 34 | 34 | 325 | 400 |
| 23 | -- | -- | 6,230 | 6,820 | -- | -- | -- | -- | -- | -- | 5.5 | 5.5 | 8.3 | 8.3 | 1,380 | 1,940 | -- | -- | 12 | 12 | -- | -- | 375 | 650 |
| 24 | 7,350 | 8,800 | 3,860 | 5,740 | 93 | 93 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 525 | 525 |
| 25 | 7,100 | 8,350 | 3,800 | 4,530 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 20 | 20 | -- | -- | -- | -- | 650 | 1,390 | 2,500 | 5,130 |
| 26 | 6,150 | 7,800 | -- | -- | 35 | 35 | -- | -- | 7.5 | 7.5 | 9.5 | 9.5 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 27 | 5,500 | 7,150 | -- | -- | -- | -- | 10 | 10 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2,090 | 4,000 |
| 28 | 4,740 | 4,980 | 2,450 | 4,750 | -- | -- | -- | -- | -- | -- | 6.0 | 6.0 | 9.0 | 9.0 | -- | -- | -- | -- | -- | -- | -- | -- | 375 | 1,550 |
| 29 | -- | -- | 2,200 | 4,120 | 12 | 12 | -- | -- | -- | -- | -- | -- | -- | -- | 675 | 1,520 | -- | -- | -- | -- | 635 | 1,670 | 325 | 1,580 |
| 30 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 700 | 1,360 | -- | -- | -- | -- | 1,080 | 1,370 | 18 | 18 |
| 31 | 2,400 | 4,550 | -- | -- | -- | -- | -- | -- | -- | -- | 6.0 | 6.0 | -- | -- | 670 | 1,620 | -- | -- | -- | -- | 865 | 1,980 | -- | -- |

CAPE FEAR RIVER BASIN--Continued

2-1075. 76. CAPE FEAR RIVER AT NAVASSA, N. C.--Continued

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

Temperature °F of water, water year October 1961 to September 1962
 Top (T) and bottom (B) once-daily measurements at approximately high tide⁷

CAPE FEAR RIVER BASIN--Continued
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 Creek, and 1.2 miles west of Chinquapin, Duplin County.

DRAINAGE AREA.--600 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1950 to September 1951, October 1956 to September 1962 (discontinued).

Water temperatures: October 1950 to September 1951, October 1956 to September 1962 (discontinued).

EXTREMES, 1961-62.--Dissolved solids: Maximum, 129 ppm Oct. 1-31; minimum, 56 ppm Mar. 1-31.

Hardness: Maximum, 35 ppm May 1-31; minimum, 14 ppm Sept. 22-30.

Specific conductance: Maximum daily, 230 micromhos May 8; minimum daily, 56 micromhos Sept. 25.

Water temperatures: Maximum, 80°F Aug. 14; minimum, 38°F Jan. 14.

EXTREMES, 1950-51, 56-62.--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 on many days in March 1958 and 1961.

Specific conductance (1956-62): 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 on several days during winter months.

REMARKS: Specific conductance and daily samples from October 1956 to September 1962 and records of suspended matter of composite samples from October 1950 to September 1951, October 1956 to September 1960 available in district office at Raleigh, N. C.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-31, 1961..... | 116 | 9.7 | 0.42 | 7.5 | 1.8 | 30 | 2.4 | 24 | 4.0 | 51 | 0.1 | 1.2 | 129 | 26 | 6 | 219 | 7.0 | 75 |
| Nov. 1-30..... | 118 | 11 | .12 | 7.8 | 1.2 | 16 | 3.7 | 9 | 21 | 25 | .2 | 2.6 | 117 | 24 | 17 | 157 | 5.9 | 75 |
| Dec. 1-31..... | 269 | 10 | .34 | 5.9 | 1.5 | 9.7 | 1.7 | 16 | 6.6 | 15 | .1 | 1.6 | 69 | 21 | 8 | 100 | 6.9 | 40 |
| Jan. 1-31, 1962..... | 985 | 5.8 | .13 | 5.3 | 1.1 | 7.3 | 1.5 | 9 | 10 | 10 | .5 | 1.4 | 64 | 18 | 10 | 82 | 6.1 | 65 |
| Feb. 1-28..... | 902 | 6.7 | .21 | 4.2 | 1.1 | 6.6 | 1.5 | 8 | 7.2 | 9.4 | .2 | 1.6 | 62 | 15 | 8 | 68 | 6.3 | 110 |
| Mar. 1-31..... | 1,227 | 2.7 | .17 | 4.8 | .7 | 6.7 | 1.3 | 11 | 5.2 | 10 | .2 | 1.4 | 56 | 15 | 6 | 69 | 6.4 | 90 |
| Apr. 1-30..... | 972 | 3.7 | .25 | 3.8 | 1.7 | 7.5 | 2.2 | 12 | 5.2 | 11 | .3 | 3.2 | 62 | 16 | 6 | 80 | 6.9 | 90 |
| May 1-31..... | 143 | 6.1 | .48 | 11 | 1.8 | 25 | 2.3 | 34 | 4.4 | 40 | .2 | 2.0 | 125 | 35 | 7 | 222 | 7.0 | 75 |
| June 1-31..... | 159 | 7.0 | .08 | 7.9 | 1.3 | 13 | 1.5 | 14 | 14 | 22 | .1 | 2.3 | 94 | 24 | 13 | 190 | 6.7 | 55 |
| July 1-31..... | 139 | 7.1 | .22 | 9.5 | 2.3 | 12 | 2.4 | 12 | 12 | 37 | .1 | 4.1 | al | 21 | 21 | 177 | 6.7 | 55 |
| Aug. 1-31..... | 913 | 7.1 | .22 | 7.5 | .9 | 23 | 1.4 | 18 | 7.8 | 35 | .1 | 2.9 | 115 | 22 | 12 | 117 | 7.1 | 65 |
| Sept. 1-30..... | 218 | 7.8 | .33 | 7.6 | .9 | 23 | 1.4 | 18 | 7.8 | 35 | .1 | 2.9 | 115 | 22 | 12 | 117 | 7.1 | 65 |
| Oct. 1-31..... | 3,922 | 7.4 | .30 | 5.8 | 1.0 | 8.4 | 1.7 | 13 | 4.2 | 13 | .0 | 1.7 | 70 | 18 | 8 | 83 | 6.4 | 120 |
| Nov. 1-30..... | 848 | 8.2 | .27 | 5.2 | .9 | 11 | 1.6 | 10 | 6.0 | 17 | .0 | 1.7 | 74 | 17 | 9 | 92 | 5.9 | 110 |
| Dec. 1-31..... | 542 | 7.4 | .40 | 5.6 | .6 | 6.6 | 1.0 | 12 | 6.2 | 8.5 | .3 | 1.9 | 68 | 16 | 6 | 64 | 6.1 | 110 |
| Jan. 1-31..... | 365 | 7.5 | .32 | 5.3 | 1.5 | 7.6 | 1.6 | 14 | 8.2 | 11 | .2 | 1.4 | 61 | 19 | 8 | 78 | 6.7 | 90 |
| Feb. 1-21..... | 1,067 | 6.5 | .03 | 4.2 | .8 | 5.2 | 1.4 | 11 | 5.2 | 8.2 | .2 | .2 | 58 | 14 | 5 | 57 | 6.1 | 65 |
| Mar. 1-31..... | 1,067 | 6.5 | .03 | 4.2 | .8 | 5.2 | 1.4 | 11 | 5.2 | 8.2 | .2 | .2 | 58 | 14 | 5 | 57 | 6.1 | 65 |
| Time-weighted average..... | 867 | 7.1 | 0.27 | 6.2 | 1.3 | 13 | 1.9 | 15 | 7.7 | 20 | 0.2 | 1.9 | 82 | 21 | 9 | 115 | -- | 80 |

a Calculated from determined constituents.

CAPE FEAR RIVER BASIN--Continued

2-1080. NORTHEAST CAPE FEAR RIVER NEAR CHINQUAPIN, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962
/Once-daily measurement at approximately 0800/

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

CAPE FEAR RIVER BASIN--Continued

2-10866.22. 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 --1,999 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1954 to September 1962.

Water temperatures: October 1954 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 96 ppm Dec. 1-31; minimum, 50 ppm July 1-16.

Hardness: Maximum, 35 ppm Nov. 21; minimum, 15 ppm Apr. 1-18.

Specific conductance: Maximum daily, 203 micromhos Nov. 21; minimum daily, 40 micromhos July 11, 13.

Water temperatures: Maximum, 83°F June 10, 16, 19; minimum, 41°F on several days in January.

EXTREMES, 1954-62.--Dissolved solids: Maximum, 1,530 ppm Oct. 21-22, 25-27, 29, 1954; minimum, 42 ppm Mar. 1-31, 1960.

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, Mar. 13, 1960.

REMARKS.--Records of specific conductance of daily samples from October 1954 to September 1962 and records of suspended matter of composite samples from October 1954 to September 1957 available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-31, 1961..... | | 7.8 | 0.36 | 8.1 | 0.9 | 7.8 | 1.0 | 21 | 5.2 | 13 | 0.1 | 1.2 | 83 | 24 | 7 | 83 | 6.8 | 180 |
| Nov. 1-7..... | | 7.5 | .17 | 7.3 | 1.5 | 7.1 | .9 | 20 | 4.8 | 12 | .2 | .9 | 75 | 24 | 8 | 84 | 6.5 | 150 |
| Nov. 8..... | | -- | -- | 7.4 | 2.8 | -- | -- | 20 | -- | 31 | -- | -- | -- | 30 | 14 | 155 | 7.1 | -- |
| Nov. 9..... | | -- | -- | 7.2 | 1.6 | -- | -- | 20 | -- | 14 | -- | -- | -- | 24 | 8 | 95 | 7.2 | -- |
| Nov. 1-16..... | | 7.6 | .20 | 8.8 | 1.2 | 10 | 1.0 | 21 | 8.6 | 19 | .2 | .9 | 89 | 27 | 10 | 112 | 6.7 | 140 |
| Nov. 17-20..... | | 7.6 | .53 | 7.3 | 1.7 | 8.2 | 1.4 | 22 | 8.6 | 14 | .2 | .6 | a61 | 25 | 7 | 95 | 6.6 | -- |
| Nov. 21..... | | -- | -- | 9.3 | 2.9 | -- | -- | 23 | -- | 41 | -- | -- | -- | 35 | 16 | 203 | 7.1 | -- |
| Nov. 22-30..... | | 8.1 | .21 | 8.4 | 1.6 | 9.6 | 1.2 | 23 | 6.8 | 18 | .2 | 1.4 | 79 | 38 | 17 | 108 | 6.6 | 130 |
| Dec. 1-11..... | | 8.5 | .25 | 8.7 | 2.3 | 18.4 | 1.9 | 25 | 12.4 | 22 | .2 | .9 | 96 | 25 | 18 | 100 | 6.7 | 110 |
| Jan. 1-11, 1962..... | | 9.3 | .16 | 7.9 | 2.2 | 8.4 | 1.3 | 26 | 12 | 19 | .2 | 1.1 | 71 | 20 | 10 | 75 | 6.5 | 120 |
| Jan. 12-31..... | | 6.8 | .13 | 6.3 | 1.3 | 5.6 | .9 | 12 | 11 | 9.5 | .2 | .7 | 64 | 20 | 10 | 73 | 6.3 | 160 |
| Feb. 1-28..... | | 5.6 | .14 | 5.4 | 1.5 | 5.5 | .8 | 12 | 8.4 | 9.0 | .1 | .7 | -- | -- | -- | -- | -- | -- |
| Mar. 1-31..... | | 4.1 | .19 | 4.9 | 1.2 | 5.0 | .9 | 10 | 5.6 | 9.5 | .2 | 1.4 | b65 | 17 | 9 | 60 | 6.4 | 130 |
| Apr. 1-18..... | | .5 | .15 | 4.4 | .9 | 4.4 | .4 | 11 | 4.4 | 7.2 | .2 | 1.2 | -- | 15 | 6 | 54 | 6.1 | 130 |
| Apr. 19-30..... | | 3.5 | .13 | 5.1 | .8 | 6.6 | 1.1 | 17 | 4.6 | 8.1 | .1 | 1.8 | b68 | 16 | 6 | 64 | 6.6 | 180 |
| May 1-31..... | | 4.0 | .14 | 7.2 | 1.0 | 6.3 | 1.0 | 17 | 6.6 | 9.5 | .2 | 1.6 | b3 | 22 | 8 | 80 | 6.6 | 160 |
| June 1-11..... | | 4.8 | .14 | 7.0 | 1.4 | 7.3 | .6 | 22 | 6.6 | 10 | .1 | 2.8 | 79 | 24 | 6 | 89 | 7.0 | 160 |
| June 12-15..... | | 5.3 | .16 | 8.5 | 1.0 | 9.6 | 1.1 | 23 | 6.0 | 13 | .0 | .8 | a56 | 25 | 6 | 102 | 6.8 | 160 |

| | | | | | | | | | | | | | | | | | |
|-------------------------------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|
| June 16-30, 1962..... | 5.0 | .12 | 4.6 | 2.0 | 4.0 | .7 | 13 | 8.6 | 7.0 | .2 | 2.3 | 62 | 20 | 10 | 68 | 6.4 | 100 |
| July 1-16..... | 4.3 | .22 | 4.8 | 1.3 | 2.8 | .9 | 13 | 5.4 | 4.0 | .2 | 2.3 | 50 | 17 | 6 | 49 | 6.1 | 160 |
| July 17-31..... | 6.3 | .34 | 6.9 | .6 | 5.6 | 1.0 | 15 | 3.6 | 8.0 | .2 | .9 | 478 | 20 | 7 | 62 | 5.9 | 210 |
| Aug. 1-20..... | 6.9 | .18 | 5.1 | 1.4 | 6.1 | .9 | 15 | 5.2 | 9.0 | .2 | 1.1 | 66 | 18 | 6 | 65 | 6.5 | 160 |
| Aug. 21..... | -- | -- | 5.9 | 1.0 | -- | -- | 8 | -- | 8.3 | -- | 4.8 | -- | 19 | 12 | 103 | 6.6 | -- |
| Aug. 22-31..... | 6.8 | .33 | 5.9 | .9 | 6.8 | .8 | 14 | 4.6 | 9.9 | .0 | 1.2 | 72 | 18 | 7 | 67 | 6.7 | 160 |
| Sept. 1-21..... | 6.5 | .24 | 5.0 | 1.5 | 5.6 | .9 | 13 | 4.0 | 8.5 | .1 | 1.0 | e76 | 18 | 8 | 60 | 6.2 | 190 |
| Sept. 22-30..... | 6.9 | .34 | 5.9 | 1.1 | 7.4 | 1.2 | 14 | 5.2 | 11 | .3 | 3.9 | 76 | 20 | 8 | 74 | 6.4 | 220 |
| Time-weighted average..... | 5.9 | 0.21 | 6.4 | 1.3 | 6.8 | 1.0 | 16 | 6.6 | 11 | 0.2 | 1.3 | 72 | 21 | 8 | 79 | -- | 150 |

a Calculated from determined constituents.

b Organic matter present; sum of mineral constituents 38 parts per million.

c Organic matter present; sum of mineral constituents 29 parts per million.

d Organic matter present; sum of mineral constituents 40 parts per million.

e Organic matter present; sum of mineral constituents 39 parts per million.

QUALITY OF SURFACE WATERS, 1962

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 1961 to September 1962
 (Once-daily measurement at approximately 1800)

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

CAPE FEAR RIVER BASIN--Continued

2-1086.37. NORTHEAST CAPE FEAR RIVER NEAR CASTLE HAYNE, N. C.

LOCATION.--At end of county road, 1.0 mile east of U.S. Highway 421 at Cowpen Landing, and 5.5 miles west of Castle Hayne, New Hanover County.

DRAINAGE AREA.--1,691 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1959 to September 1962.

EXTREMES, 1961-62.--Chloride: Maximum, 1,360 ppm Nov. 10; minimum, 4.7 ppm July 5-12.

Specific conductance: Maximum daily, 4,600 microhmhos Nov. 10; minimum daily, 43 microhmhos July 12.

Water temperatures: Maximum, 84°F July 23; minimum, 37°F Jan. 18.

EXTREMES, 1959-62.--Chloride: Maximum, 1,360 ppm Nov. 10, 1961; minimum, 2.5 ppm June 22-30, 1961.

Specific conductance: Maximum daily, 4,600 microhmhos Nov. 10, 1961; minimum daily, 35 microhmhos June 22-30, 1961.

Water temperatures: Maximum, 84°F July 23, 1961; minimum, 37°F Jan. 18, 1960.

REMARKS.--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.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (microhmhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-16, 1961..... | | 7.5 | 0.37 | 7.9 | 0.9 | 6.7 | 1.0 | 20 | 4.4 | 12 | 0.1 | 1.0 | 82 | 24 | 7 | 78 | 6.7 | 180 |
| Dec. 1..... | | -- | -- | 11 | 7.7 | -- | -- | 22 | -- | 115 | -- | -- | -- | 58 | 40 | 482 | 7.1 | -- |
| Dec. 2-15..... | | 8.1 | .24 | 8.9 | 3.5 | 30 | 2.1 | 22 | 13 | 49 | .2 | 1.0 | 150 | 36 | 18 | 239 | 6.9 | 140 |
| Dec. 16..... | | -- | -- | 9.5 | 4.7 | -- | -- | 16 | -- | 82 | -- | -- | -- | 44 | 30 | 336 | 7.0 | -- |
| Dec. 17..... | | -- | -- | 8.3 | 2.1 | -- | -- | 23 | -- | 29 | -- | -- | -- | 30 | 11 | 161 | 6.8 | -- |
| Dec. 18-22..... | | 8.4 | .28 | 9.6 | 3.8 | 37 | 2.4 | 17 | 14 | 63 | .1 | 1.3 | a148 | 40 | 26 | 278 | 6.2 | 90 |
| Dec. 23-31..... | | 8.6 | .22 | 8.6 | 3.2 | 30 | 2.0 | 21 | 10 | 50 | .2 | .8 | 137 | 35 | 18 | 230 | 6.5 | 85 |
| Jan. 1..... | | 8.1 | .14 | 7.5 | 2.3 | 23 | 1.7 | 15 | 10 | 36 | .1 | .2 | 119 | 24 | 10 | 200 | 6.4 | 80 |
| Jan. 15-23..... | | 7.6 | .09 | 6.5 | 2.7 | 14 | 1.4 | 13 | 16.4 | 37 | .1 | .3 | 100 | 27 | 16 | 170 | 6.4 | 75 |
| Jan. 24-28..... | | 7.1 | .08 | 6.4 | 2.2 | 14 | 1.1 | 11 | 12 | 26 | -- | -- | a74 | 25 | 16 | 130 | 6.4 | 100 |
| Jan. 29..... | | -- | -- | 4.6 | 1.8 | -- | -- | 10 | -- | 8.6 | -- | -- | -- | 19 | 11 | 177 | 6.5 | -- |
| Jan. 30-31..... | | 7.5 | .14 | 6.7 | 2.3 | 19 | 1.1 | 12 | 9.4 | 36 | .0 | .3 | a68 | 26 | 16 | 170 | 6.5 | 60 |
| Feb. 1..... | | -- | -- | 6.3 | 2.1 | -- | -- | 12 | -- | 30 | -- | -- | -- | 24 | 14 | 142 | 6.3 | -- |
| Feb. 2-14..... | | 6.6 | .13 | 5.8 | 1.8 | 11 | 1.0 | 12 | 9.6 | 20 | .1 | .7 | 78 | 22 | 12 | 110 | 6.4 | 120 |
| Feb. 15..... | | -- | -- | 6.4 | .8 | -- | -- | 13 | -- | 12 | -- | -- | -- | 19 | 8 | 82 | 6.3 | -- |
| Feb. 16-25..... | | 5.9 | .12 | 5.3 | 2.0 | 14 | .9 | 14 | 9.8 | 23 | .1 | .6 | 82 | 21 | 10 | 119 | 6.5 | 120 |
| Feb. 26-28..... | | 4.9 | .18 | 5.8 | 1.5 | 7.6 | 1.0 | 17 | 7.6 | 13 | .1 | 2.3 | a52 | 20 | 6 | 86 | 6.6 | 130 |
| Mar. 1-3..... | | 5.7 | .23 | 5.0 | 1.8 | 12 | 1.2 | 15 | 6.4 | 19 | .2 | -- | a59 | 23 | 7 | 103 | 7.0 | 130 |

a Calculated from determined constituents.

CAPE FEAR RIVER BASIN--Continued
 2-1086.37. NORTHEAST CAPE FEAR RIVER NEAR CASTLE HAYNE, N. C.--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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Mar. 4-31, 1962..... | | 4.1 | 0.07 | 4.6 | 1.9 | 7.0 | 0.6 | 12 | 7.6 | 12 | 0.1 | 0.8 | 70 | 20 | 10 | 75 | 6.2 | 120 |
| Apr. 1..... | | -- | -- | 5.1 | 2.5 | -- | -- | 15 | -- | 32 | -- | -- | -- | 24 | 11 | 140 | 7.0 | -- |
| Apr. 2-16..... | | 1.6 | .08 | 4.7 | 1.3 | 8.4 | .6 | 14 | -- | 14 | .1 | .8 | 62 | 18 | 6 | 82 | 6.6 | 110 |
| Apr. 17-19..... | | 3.4 | .04 | 4.0 | 1.5 | 7.3 | .9 | 13 | 4.8 | 10 | .1 | 1.0 | a39 | 16 | 6 | 68 | 6.5 | 150 |
| Apr. 20-30..... | | 4.0 | .12 | 4.7 | 1.2 | 9.5 | .8 | 12 | 4.2 | 16 | .1 | .8 | 78 | 17 | 7 | 83 | 6.5 | 150 |
| May 1-18..... | | 4.3 | .13 | 6.0 | 1.0 | 7.5 | .8 | 15 | 5.2 | 12 | .2 | 1.2 | 61 | 19 | 6 | 83 | 6.3 | 180 |
| May 19-29..... | | 4.1 | .14 | 6.0 | 1.2 | 11 | .9 | 16 | 6.4 | 18 | .2 | 1.1 | 73 | 20 | 7 | 104 | 6.2 | 160 |
| May 30-31..... | | 4.9 | .25 | 5.8 | 2.7 | 17 | 1.3 | 19 | 6.8 | 30 | .2 | 2.1 | a80 | 26 | 10 | 128 | 6.4 | 170 |
| June 1-7..... | | 4.7 | .28 | 7.3 | 2.5 | 19 | 1.3 | 19 | 5.2 | 32 | .2 | 3.6 | 180 | 28 | 12 | 157 | 7.3 | 150 |
| June 8-14..... | | 5.6 | .18 | 7.1 | 1.8 | 17 | 1.0 | 14 | 7.0 | 17 | .1 | 1.2 | 72 | 24 | 7 | 104 | 7.0 | 120 |
| June 15-21..... | | 5.6 | .16 | 5.8 | 1.4 | 7.8 | 1.0 | 14 | 7.0 | 17 | .1 | 1.0 | 71 | 20 | 8 | 80 | 7.0 | 120 |
| July 1-4..... | | 5.6 | .20 | 5.9 | 1.2 | 7.8 | 1.2 | 19 | 5.2 | 9.8 | .2 | .9 | 73 | 20 | 4 | 79 | 6.2 | 140 |
| July 5-12..... | | 4.3 | .35 | 4.6 | 1.4 | 4.1 | 1.2 | 15 | 4.4 | 4.7 | .1 | 1.0 | b60 | 17 | 4 | 52 | 6.0 | 180 |
| July 13-31..... | | 5.0 | .43 | 4.5 | 1.6 | 5.2 | 1.0 | 14 | 5.2 | 6.5 | .2 | 2.4 | c70 | 18 | 6 | 63 | 5.7 | 180 |
| Aug. 1-31..... | | 6.5 | .20 | 5.0 | 1.6 | 8.3 | .9 | 15 | 5.0 | 12 | .2 | .9 | d63 | 19 | 6 | 76 | 6.4 | 160 |
| Sept. 1-30..... | | 6.6 | .15 | 5.0 | 2.2 | 7.6 | 1.0 | 15 | 4.0 | 13 | .2 | .6 | d80 | 22 | 9 | 74 | 6.3 | 150 |
| Time-weighted average..... | | 5.8 | 0.18 | 6.0 | 1.9 | 12 | 1.1 | 15 | 6.7 | 20 | 0.1 | 1.0 | 82 | 23 | 10 | 110 | -- | 140 |

a Calculated from determined constituents.

b Organic matter present; sum of mineral constituents 33 parts per million.

c Organic matter present; sum of mineral constituents 39 parts per million.

d Organic matter present; sum of mineral constituents 47 parts per million.

CAPE FEAR RIVER BASIN--Continued

2-1086.37. NORTHEAST CAPE FEAR RIVER NEAR CASTLE HAYNE, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1961 to September 1962

| 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 | 89 | | -- | -- | 482 | 115 | -- | |
| 2 | 70 | | 1,980 | 554 | 260 | | -- | |
| 3 | 75 | | -- | -- | 200 | | 251 | |
| 4 | 73 | | 1,900 | 526 | 210 | | 180 | |
| 5 | 74 | | 1,680 | 480 | 200 | | 200 | |
| 6 | 74 | | 2,180 | 650 | 298 | | 188 | |
| 7 | 73 | | 890 | 220 | 200 | | 193 | |
| 8 | 76 | | -- | -- | 231 | | 200 | 46 |
| 9 | 77 | 12 | -- | -- | 225 | 49 | 210 | |
| 10 | 79 | | 4,600 | 1,360 | 246 | | 192 | |
| 11 | 80 | | 1,300 | 354 | 190 | | 200 | |
| 12 | 77 | | 1,290 | 350 | 242 | | 210 | |
| 13 | 88 | | 2,300 | 675 | 282 | | 210 | |
| 14 | 93 | | 2,370 | 665 | 211 | | 211 | |
| 15 | 81 | | 1,300 | 374 | 292 | | 169 | |
| 16 | 89 | | 1,300 | 370 | 338 | 82 | 170 | |
| 17 | 335 | 79 | -- | -- | 161 | 29 | 166 | |
| 18 | 106 | 17 | 920 | 233 | 318 | | 200 | |
| 19 | 129 | 24 | 1,210 | 330 | 274 | | 147 | 37 |
| 20 | 265 | 60 | -- | -- | 267 | 63 | 159 | |
| 21 | 1,320 | 324 | -- | -- | 260 | | 168 | |
| 22 | 178 | 33 | 1,730 | 496 | 246 | | 164 | |
| 23 | 732 | 186 | 1,220 | 340 | 180 | | 180 | |
| 24 | 3,550 | 1,075 | 1,270 | 350 | 182 | | 132 | |
| 25 | 4,000 | 1,225 | -- | -- | 256 | | 121 | |
| 26 | 3,260 | 1,000 | 2,440 | 710 | 210 | 50 | 162 | 26 |
| 27 | 1,100 | 314 | -- | -- | 161 | | 141 | |
| 28 | 1,120 | 310 | -- | -- | 251 | | 100 | |
| 29 | 1,550 | 450 | -- | -- | 261 | | 77 | 8.6 |
| 30 | 879 | 221 | 470 | 102 | 273 | | 168 | |
| 31 | -- | -- | -- | -- | 298 | | 173 | 36 |
| | 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 | 142 | 30 | 110 | | 140 | 32 | -- | |
| 2 | 124 | | 108 | 19 | 67 | | 62 | |
| 3 | 121 | | 100 | | 64 | | 89 | |
| 4 | 121 | | 70 | | 93 | | 75 | |
| 5 | 108 | | 71 | | 91 | | 93 | |
| 6 | 100 | | 71 | | 86 | | 73 | |
| 7 | 89 | | 71 | | 87 | | 85 | |
| 8 | 104 | 20 | 71 | | 86 | | 70 | |
| 9 | 86 | | 68 | | 86 | 14 | 83 | |
| 10 | 98 | | 69 | | 84 | | 77 | 12 |
| 11 | 131 | | 78 | | 86 | | 75 | |
| 12 | 120 | | 66 | | 84 | | 75 | |
| 13 | 128 | | 66 | | 85 | | 83 | |
| 14 | 113 | | 97 | | 64 | | 98 | |
| 15 | 82 | 12 | 83 | | 77 | | 82 | |
| 16 | 135 | | 80 | | 86 | | 79 | |
| 17 | 125 | | 79 | 12 | 53 | | 93 | |
| 18 | 129 | | 84 | | 79 | 10 | 79 | |
| 19 | 113 | | 89 | | 75 | | 98 | |
| 20 | 135 | | 78 | | 85 | | 99 | |
| 21 | 92 | 23 | 65 | | 86 | | 95 | |
| 22 | 123 | | 75 | | 84 | | 100 | |
| 23 | 123 | | 69 | | 85 | | 96 | |
| 24 | 107 | | 70 | | 86 | | 100 | 18 |
| 25 | 127 | | 69 | | 78 | 16 | 101 | |
| 26 | 87 | | 90 | | 78 | | 99 | |
| 27 | 76 | 13 | 87 | | 85 | | 128 | |
| 28 | 97 | | 68 | | 69 | | 130 | |
| 29 | -- | -- | 69 | | 89 | | 129 | |
| 30 | -- | -- | 68 | | 89 | | 160 | |
| 31 | -- | -- | 67 | | -- | -- | 160 | 30 |

CAPE FEAR RIVER BASIN--Continued

2-1086.37. NORTHEAST CAPE FEAR RIVER NEAR CASTLE HAYNE, N. C.--Continued

Specific conductance (micromhos at 25°C) and chloride, in parts per million, water year October 1961 to September 1962--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 | 32 | 95 | 9.8 | 71 | | 83 | |
| 2 | 171 | | 71 | | 82 | | -- | |
| 3 | -- | | 72 | | 87 | | -- | |
| 4 | 160 | | 81 | | 78 | | -- | |
| 5 | 158 | | 54 | | 80 | | 83 | |
| 6 | 158 | | 52 | 4.7 | 72 | | 79 | |
| 7 | 139 | | 67 | | 78 | | 78 | |
| 8 | 116 | | 57 | | 86 | | 74 | |
| 9 | 119 | | 50 | | 88 | | 74 | |
| 10 | 118 | | 56 | | 83 | | 76 | |
| 11 | 109 | 17 | 55 | | 84 | 12 | 68 | 13 |
| 12 | 99 | | 43 | | 71 | | 70 | |
| 13 | 94 | | 50 | | 69 | | 72 | |
| 14 | 98 | | 53 | | 76 | | 74 | |
| 15 | 130 | | 61 | | 75 | | 73 | |
| 16 | 110 | | 55 | 6.5 | 76 | | 77 | |
| 17 | 99 | | 56 | | 91 | | 79 | |
| 18 | 92 | | 63 | | 61 | | 84 | |
| 19 | 97 | | 59 | | 62 | | 85 | |
| 20 | 98 | | 60 | | 63 | | 71 | |
| 21 | 110 | | 59 | | 72 | | 65 | |
| 22 | 79 | | 65 | | 76 | | 69 | |
| 23 | 87 | | 63 | | 98 | | 68 | |
| 24 | 87 | | 71 | | -- | | 66 | |
| 25 | 75 | | 81 | | 79 | | 75 | |
| 26 | 76 | 11 | 67 | | 85 | | 74 | |
| 27 | 85 | | 66 | | 70 | | 76 | |
| 28 | 96 | | 66 | | 72 | | 85 | |
| 29 | 82 | | 64 | | 82 | | 77 | |
| 30 | 81 | | 71 | | 79 | | 80 | |
| 31 | -- | -- | 71 | | 75 | | -- | -- |

Temperature °F of water, water year October 1961 to September 1962

/Once-daily measurement at approximately high tide/

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

WACCAMAW RIVER BASIN

2-1095. WACCAMAW RIVER AT FREELAND, N. C.

LOCATION.--At gaging station, 150 feet downstream from New Britton Bridge on State Highway 130, 1 mile southwest of Freeland, Brunswick County, 7 miles downstream from Juniper Creek, and 117 miles upstream from mouth in Winyah Bay.

DRAINAGE AREA.--706 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1950 to September 1951, October 1956 to September 1962 (discontinued).

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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) | Phosphate (PO ₄) | Dissolved solids | | Hardness as CaCO ₃ | | Specific conductance (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|------------------------------|------------------|------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Residue at 180°C | Calculated | Calcium-magnesium | Non-carbonate | | | |
| Oct. 16, 1961. | 44 | 8.2 | 0.40 | 3.5 | 1.5 | 4.7 | 0.4 | 10 | 2.8 | 10 | 0.2 | 1.1 | 0.00 | 81 | 38 | 15 | 7 | 55 | 5.8 | 260 |
| Nov. 13..... | 16 | 6.6 | .23 | 3.4 | 1.9 | 4.7 | .5 | 10 | 2.6 | 10 | .1 | 1.2 | .00 | 78 | 36 | 16 | 8 | 54 | 6.1 | 240 |
| Dec. 16..... | 56 | 7.9 | .26 | 2.9 | 1.5 | 5.5 | .7 | 5 | 6.0 | 11 | .1 | .6 | .00 | 73 | 38 | 13 | 9 | 62 | 5.4 | 130 |
| Jan. 15, 1962. | 302 | 8.3 | .21 | 2.8 | 1.7 | 5.0 | .7 | 2 | 11 | 8.5 | .1 | 1.6 | .00 | 73 | 41 | 14 | 12 | 62 | 5.4 | 120 |
| Feb. 14..... | 405 | 7.2 | .13 | 4.0 | 1.4 | 4.7 | .6 | 4 | 7.6 | 8.2 | .1 | 3.1 | .00 | -- | a39 | 16 | 12 | 63 | 5.5 | 120 |
| Feb. 16..... | 405 | 7.5 | .12 | 3.0 | 1.5 | 5.0 | .9 | 5 | 7.6 | 7.7 | .1 | 2.4 | .00 | 75 | 38 | 14 | 10 | 61 | 5.7 | 110 |
| Mar. 16..... | 2,280 | 3.7 | .05 | 3.4 | .8 | 4.0 | .7 | 4 | 5.6 | 6.0 | .1 | 1.4 | .00 | 62 | 28 | 12 | 8 | 50 | 5.2 | 140 |
| Apr. 14..... | 1,480 | -- | .23 | 3.3 | .3 | 3.8 | 1.1 | 7 | 2.6 | 6.1 | .3 | 2.3 | .00 | 63 | -- | 10 | 4 | 42 | 5.7 | 200 |
| May 14..... | 197 | 3.1 | .12 | 4.0 | .6 | 4.7 | .6 | 9 | 1.2 | 6.9 | .2 | 1.3 | .00 | 65 | 27 | 11 | 4 | 43 | 6.4 | 180 |
| June 13..... | 197 | 3.1 | .12 | 4.0 | .6 | 4.7 | .6 | 9 | 1.2 | 6.9 | .2 | 1.3 | .00 | 65 | 27 | 11 | 4 | 43 | 6.4 | 180 |
| July 17..... | 810 | 6.3 | .24 | 3.7 | 1.7 | 4.1 | 1.1 | 11 | 4.8 | 7.3 | .2 | 1.9 | .00 | 87 | 32 | 14 | 6 | 51 | 6.9 | 280 |
| Aug. 7..... | 316 | 6.5 | .16 | 4.2 | 1.0 | 3.6 | .8 | 12 | 4.8 | 4.5 | .2 | 1.7 | .00 | -- | a32 | 14 | 4 | 47 | 6.3 | 180 |
| Aug. 17..... | 197 | 7.1 | .37 | 4.2 | 1.2 | 4.8 | .9 | 13 | .8 | 6.5 | .2 | 1.7 | .00 | 77 | 34 | 16 | 5 | 49 | 6.6 | 180 |
| Sept. 17..... | 234 | 6.9 | .02 | 2.2 | 1.6 | 4.0 | .6 | 5 | 5.4 | 6.8 | .2 | 2.1 | .00 | 79 | 32 | 12 | 8 | 46 | 5.5 | 160 |

a Calculated from determined constituents.

PEE DEE RIVER BASIN

2-1120. YADKIN RIVER AT WILKESBORO, N. C.

LOCATION.--At gaging station, 150 feet upstream from bridge on U.S. Highway 421 between North Wilkesboro and Wilkesboro, 150 feet downstream from Reddies River, and 0.5 mile northeast of Wilkesboro, Wilkes County.
 DRAINAGE AREA.--493 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1947 to September 1948, October 1961 to September 1962 (discontinued).
 Water temperatures: October 1947 to September 1948, October 1957 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 77°F July 17, 18, Aug. 20, 21; minimum, freezing point Jan. 12-14.
 EXTREMES, 1947-48, 1957-62.--Water temperatures: Maximum, 83°F June 24, 25, 1948; minimum, freezing point on several days in 1958, 1960, 1962.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 13, 1961..... | 414 | 13 | 0.04 | 2.7 | 0.9 | 2.2 | 0.9 | 18 | 1.2 | 1.5 | 0.0 | 0.5 | 32 | 10 | 0 | 33 | 6.8 | 15 |
| Nov. 15..... | 720 | 13 | .01 | 2.3 | .5 | 2.2 | 1.6 | 15 | 1.4 | 1.9 | .2 | .2 | 37 | 8 | 0 | 31 | 6.9 | 10 |
| Dec. 16..... | 1,040 | 11 | .00 | 2.4 | .6 | 1.6 | .9 | 12 | 2.0 | 1.5 | .0 | .1 | 27 | 8 | 0 | 28 | 6.4 | 5 |
| Jan. 2, 1962..... | 789 | 12 | .04 | 2.4 | .7 | 2.2 | .8 | 14 | 1.6 | 2.8 | .0 | .7 | a30 | 9 | 0 | 33 | 6.5 | 6 |
| Jan. 16..... | 1,130 | 12 | .00 | 2.1 | .5 | 2.0 | .7 | 13 | 1.0 | 2.4 | .0 | .7 | a27 | 7 | 0 | 28 | 6.6 | 3 |
| Feb. 15..... | 722 | 14 | .04 | 2.2 | .8 | 2.2 | .9 | 14 | 2.0 | 2.0 | .1 | .8 | 32 | 9 | 0 | 31 | 6.9 | 9 |
| Mar. 19..... | 1,000 | 12 | .01 | 2.2 | .6 | 1.8 | .7 | 13 | 1.4 | 2.0 | .0 | .4 | a27 | 8 | 0 | 27 | 6.8 | 4 |
| Apr. 16..... | 1,380 | 11 | .07 | 2.2 | .6 | 1.8 | 1.3 | 14 | .8 | 1.6 | .1 | .5 | a27 | 8 | 0 | 28 | 6.6 | 10 |
| May 15..... | 1,254 | 12 | .06 | 2.5 | 1.2 | 1.9 | .9 | 13 | 1.2 | 2.0 | .0 | .4 | 26 | 7 | 0 | 29 | 6.5 | 4 |
| June 15..... | 1,294 | 11 | .02 | 2.5 | 1.5 | 2.1 | 1.1 | 14 | 1.6 | 2.8 | .0 | .4 | 33 | 10 | 0 | 28 | 6.3 | 20 |
| June 28..... | 1,460 | 11 | .08 | 2.9 | .5 | 2.1 | 1.1 | 14 | 1.6 | 2.8 | .0 | 1.0 | a28 | 9 | 0 | 30 | 6.7 | 28 |
| July 8..... | 1,000 | 12 | .04 | 2.2 | .7 | 2.2 | 1.0 | 15 | .4 | 2.0 | .0 | .1 | 29 | 8 | 0 | 29 | 6.4 | 12 |
| Aug. 15..... | 547 | 11 | .03 | 2.3 | 1.0 | 2.6 | 1.0 | 15 | .4 | 1.5 | .1 | .1 | 28 | 10 | 0 | 29 | 6.5 | 7 |
| Sept. 27..... | 528 | 13 | .05 | 3.0 | .7 | 2.6 | 1.5 | 20 | .4 | 2.2 | .2 | .1 | a34 | 10 | 0 | 36 | 6.4 | 10 |

a Calculated from determined constituents.

PEE DEE RIVER BASIN--Continued
2-1155. FORBUSH CREEK NEAR YADKINVILLE, N. C.

LOCATION.--At gaging station, 900 feet upstream from highway bridge, 0.8 mile north of Forbush Church, 2.8 miles upstream from Logan Creek, 3.5 miles upstream from mouth, and 6 miles east of Yadkinville, Yadkin County.
DRAINAGE AREA.--21.7 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1962.

Chemical analyses, in parts per million, October 1961 to August 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 11, 1961..... | 9.6 | 14 | 0.15 | 3.3 | 1.2 | 2.4 | 1.0 | 21 | 0.2 | 2.8 | 0.0 | 0.4 | 41 | 13 | 0 | 40 | 7.1 | 35 |
| Nov. 25..... | 12 | 14 | .13 | 3.9 | 1.3 | 2.7 | 1.3 | 20 | 1.8 | 3.4 | .1 | .2 | a39 | 14 | 0 | 40 | 6.6 | 23 |
| Dec. 22..... | 14 | 14 | .13 | 3.9 | 1.3 | 2.7 | 1.3 | 20 | 2.0 | 3.4 | .1 | .2 | 43 | 14 | 0 | 43 | 6.6 | 23 |
| Jan. 30, 1962..... | 70 | 9.6 | .00 | 3.0 | 1.5 | 1.8 | 1.4 | 15 | 3.2 | 2.5 | .0 | .9 | 34 | 14 | 1 | 41 | 6.6 | 4 |
| Feb. 24..... | 110 | 8.8 | .00 | 3.2 | 1.2 | 1.5 | 1.6 | 11 | 5.4 | 2.0 | .0 | .7 | 31 | 13 | 4 | 40 | 6.2 | 5 |
| Mar. 31..... | 52 | 11 | .06 | 2.6 | 1.3 | 2.2 | 1.7 | 18 | 2.4 | 1.0 | .2 | .3 | 32 | 12 | 0 | 37 | 6.6 | 5 |
| Apr. 28..... | 22 | 12 | .05 | 3.3 | 1.0 | 2.3 | 1.1 | 20 | 1.6 | 1.8 | .1 | .3 | a34 | 12 | 0 | 39 | 6.7 | 14 |
| June 5..... | 19 | 13 | .06 | 3.0 | 1.7 | 3.0 | 1.3 | 22 | 2.0 | 2.7 | .2 | .4 | 43 | 14 | 0 | 44 | 6.8 | 10 |
| June 28..... | 22 | 13 | .06 | 3.4 | 1.2 | 2.5 | 1.5 | 21 | 3.0 | 2.0 | .2 | .7 | 38 | 14 | 0 | 40 | 6.5 | 30 |
| July 26..... | 14 | 13 | .05 | 2.9 | 1.5 | 2.9 | 1.3 | 22 | .4 | 3.3 | .1 | .2 | 42 | 13 | 0 | 39 | 7.3 | 6 |
| Aug. 29..... | 8.9 | 13 | .01 | 2.6 | 1.8 | 2.7 | 1.2 | 21 | 2.2 | 2.0 | .0 | .4 | 39 | 14 | 0 | 40 | 6.7 | 5 |

^a Calculated from determined constituents.

FEE DEE RIVER BASIN--Continued

2-1165. YADKIN RIVER AT YADKIN COLLEGE, N. C.

LOCATION.--At gaging station at bridge on U.S. Highway 64, 1.5 miles south of Yadkin College, Davidson County, and 6.2 miles downstream from Reedy Creek.

DRAINAGE AREA.--280 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: October 1943 to September 1944, October 1950 to September 1951, October 1955 to September 1962.

Water temperatures: October 1943 to September 1944, October 1950 to September 1951, October 1955 to September 1962.

Sediment records: January 1951 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 51 ppm Sept. 1-16; minimum, 35 ppm Sept. 17-20.

Hardness: Maximum, 16 ppm Sept. 1-16, 21-30; minimum, 9 ppm July 13.

Specific conductance: Maximum daily, 74 micromhos Sept. 27; minimum daily, 35 micromhos June 25.

Water temperatures: Maximum, 76°F Aug. 21; minimum, freezing point on several days during year.

Sediment concentrations: Maximum daily, 2,100 ppm May 29; minimum daily, 15 ppm Oct. 29.

Sediment loads: Maximum daily, 91,100 tons June 13; minimum daily, 51 tons Oct. 29.

EXTREMES, 1943-44, 1950-51.--Dissolved solids (1943-44, 1950-51, 1955-62): Maximum, 85 ppm Nov. 1-10, 1950; minimum, 32 ppm Mar. 21-31, 1944.

Hardness (1943-44, 1950-51, 1955-62): Maximum, 26 ppm Mar. 6, 1959; minimum, 9 ppm July 13, 1962.

Specific conductance (1943-44, 1950-51, 1955-62): Maximum, 136 micromhos Aug. 17, 1956; minimum, 48 micromhos Apr. 29, 1958.

Water temperatures (1943-44, 1950-51, 1955-62): Maximum, 88°F Aug. 24, 1956; minimum, freezing point on many days during winter months.

Sediment concentrations (1943-44, 1950-51, 1955-62): Maximum, 21,970 ppm May 29, 1952; minimum daily, 1 ppm Dec. 1953.

Sediment loads (1943-44, 1950-51, 1955-62): Maximum daily, 98,000 tons May 29, 1952; minimum daily, 23,195 tons Dec. 31, 1953.

REMARKS--Records of specific conductance and hardness of daily samples from October 1955 to September 1962 available in district office at Raleigh, N. C. from October 1943 to September 1944, October 1950 to September 1951 available in district office at Raleigh, N. C.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Oct. 1-31, 1961..... | 1,367 | 14 | 0.02 | 4.2 | 1.0 | 4.7 | 2.0 | 24 | 2.6 | 3.5 | 0.1 | 1.6 | 48 | 14 | 0 | 56 | 6.8 | 5 |
| Nov. 1-30..... | 1,890 | 14 | .09 | 3.5 | 1.0 | 3.3 | 2.0 | 27 | 3.8 | 2.0 | .1 | 2.5 | 59 | 13 | 0 | 57 | 6.9 | 5 |
| Dec. 1-31..... | 1,898 | 14 | .01 | 2.9 | 1.4 | 3.6 | 1.7 | 17 | 3.2 | 4.0 | .0 | 1.2 | 340 | 12 | 0 | 50 | 6.9 | 6 |
| Jan. 1-31, 1962..... | 4,316 | 14 | .01 | 2.9 | 1.4 | 3.2 | 1.4 | 18 | 3.4 | 1.9 | .0 | 1.6 | 41 | 12 | 0 | 50 | 7.0 | 5 |
| Feb. 1-28..... | 4,675 | 12 | .01 | 2.9 | 1.4 | 3.2 | 1.4 | 18 | 3.4 | 1.9 | .0 | 1.6 | 41 | 12 | 0 | 50 | 7.0 | 5 |
| Mar. 1-31..... | 4,229 | 12 | .01 | 3.4 | 1.0 | 3.1 | 1.0 | 17 | 3.2 | 2.4 | .0 | 1.6 | a36 | 12 | 0 | 45 | 7.2 | 10 |
| Apr. 1-30..... | 5,787 | 12 | .02 | 3.3 | 1.0 | 3.2 | 1.2 | 16 | 2.8 | 2.2 | .0 | 1.5 | 41 | 12 | 0 | 45 | 7.3 | 15 |
| May 1-31..... | 3,088 | 14 | .05 | 3.4 | .9 | 3.7 | 1.4 | 18 | 2.4 | 3.8 | .1 | 1.7 | 45 | 12 | 0 | 48 | 6.4 | 17 |
| June 1-30..... | 4,941 | 14 | .07 | 2.7 | 1.1 | 4.1 | 1.7 | 15 | 2.8 | 2.8 | .2 | 1.1 | 43 | 12 | 0 | 42 | 7.0 | 12 |
| July 1-12..... | 3,315 | 13 | .06 | 3.6 | .9 | 3.5 | 1.4 | 18 | 2.8 | 3.8 | .2 | 1.5 | 44 | 13 | 0 | 48 | 6.5 | 23 |
| July 13..... | 3,180 | -- | -- | -- | -- | -- | -- | 25 | -- | 3.3 | -- | -- | -- | 9 | 0 | 72 | 7.5 | -- |
| July 14-31..... | 2,273 | 13 | .03 | 3.4 | 1.3 | 4.8 | 1.5 | 22 | 2.8 | 3.5 | .0 | 1.8 | 44 | 14 | 0 | 53 | 7.2 | 20 |
| Aug. 1-31..... | 1,940 | 14 | .04 | 4.6 | .5 | 4.1 | 1.7 | 20 | 2.4 | 4.0 | .2 | 1.8 | 48 | 14 | 0 | 51 | 7.0 | 14 |
| Sept. 1-16..... | 1,205 | 13 | .06 | 5.3 | .8 | 5.3 | 1.8 | 24 | 3.4 | 4.0 | .1 | 2.2 | 51 | 13 | 0 | 32 | 6.2 | 7 |
| Sept. 17-20..... | 4,088 | 9.4 | .01 | 3.3 | .6 | 3.2 | 2.1 | 16 | 3.2 | 3.3 | .0 | 1.7 | 35 | 10 | 0 | 42 | 6.6 | 15 |
| Sept. 21-30..... | 1,757 | 13 | .09 | 4.6 | 1.1 | 4.5 | 1.9 | 23 | 3.4 | 3.5 | .1 | 1.8 | 50 | 16 | 0 | 57 | 7.1 | 15 |
| Time-weighted average..... | 3,462 | 13 | 0.04 | 3.6 | 1.0 | 3.9 | 1.6 | 19 | 3.0 | 3.1 | 0.1 | 1.7 | 44 | 13 | 0 | 50 | -- | 11 |

a Calculated from determined constituents.

QUALITY OF SURFACE WATERS, 1962

PEE DEE RIVER BASIN--Continued

2-1165. YADKIN RIVER AT YADKIN COLLEGE, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962
 (Once-daily measurement between 0545 and 1530)

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

PEE DEE RIVER BASIN--Continued

2-1165. YADKIN RIVER AT YADKIN COLLEGE, N. C.--Continued

Suspended sediment, water year October 1961 to September 1962

| 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.. | 1300 | 30 | 105 | 1300 | 24 | 84 | 1730 | 23 | 154 |
| 2.. | 1380 | 40 | 149 | 1300 | 23 | 81 | 1680 | 27 | 122 |
| 3.. | 1340 | 38 | 137 | 1300 | 24 | 84 | 1680 | 25 | 113 |
| 4.. | 1550 | 63 | 264 | 1300 | 29 | 102 | 1730 | 25 | 117 |
| 5.. | 2000 | 73 | 394 | 1340 | 23 | 83 | 1680 | 37 | 168 |
| 6.. | 1680 | 67 | 304 | 1380 | 30 | 112 | 1640 | 39 | 173 |
| 7.. | 1420 | 47 | 180 | 1460 | 40 | 158 | 1600 | 36 | 156 |
| 8.. | 1380 | 37 | 138 | 1680 | 46 | 209 | 1500 | 28 | 113 |
| 9.. | 1380 | 41 | 153 | 1460 | 34 | 134 | 1500 | 22 | 89 |
| 10.. | 1340 | 36 | 130 | 1340 | 22 | 80 | 2040 | 75 | 413 |
| 11.. | 1300 | 33 | 116 | 1300 | 17 | 60 | 4600 | 481 S | 6250 |
| 12.. | 1300 | 34 | 119 | 1340 | 20 | 72 | 15500 | 1040 S | 46400 |
| 13.. | 1260 | 33 | 112 | 1460 | 26 | 102 | 23100 | 1090 S | 68600 |
| 14.. | 1260 | 30 | 102 | 1420 | 35 | 134 | 10800 | 521 S | 15900 |
| 15.. | 1260 | 26 | 88 | 2000 | 78 | 421 | 6360 | 268 | 4600 |
| 16.. | 1260 | 22 | 75 | 2450 | 115 | 761 | 4490 | 140 | 1700 |
| 17.. | 1180 | 26 | 83 | 2000 | 70 | 378 | 4380 | 438 S | 5340 |
| 18.. | 1220 | 21 | 69 | 2360 | 80 | 510 | 10600 | 551 S | 13300 |
| 19.. | 1220 | 25 | 82 | 1960 | 51 | 270 | 12800 | 345 | 11900 |
| 20.. | 1300 | 29 | 102 | 1730 | 26 | 121 | 7040 | 305 | 5800 |
| 21.. | 1460 | 35 | 138 | 1600 | 31 | 134 | 4930 | 165 | 2200 |
| 22.. | 1640 | 39 | 173 | 1500 | 23 | 93 | 3850 | 115 | 1200 |
| 23.. | 1500 | 30 | 122 | 1550 | 29 | 121 | 3370 | 106 | 964 |
| 24.. | 1420 | 29 | 111 | 1820 | 340 S | 5610 | 3370 | 82 | 746 |
| 25.. | 1340 | 25 | 90 | 6360 | 690 S | 12400 | 3180 | 81 | 695 |
| 26.. | 1300 | 27 | 95 | 3460 | 280 | 2620 | 2810 | 59 | 448 |
| 27.. | 1260 | 25 | 85 | 2540 | 142 | 974 | 2630 | 84 | 596 |
| 28.. | 1220 | 19 | 63 | 2220 | 88 | 527 | 2810 | 85 | 645 |
| 29.. | 1260 | 15 | 51 | 2000 | 56 | 302 | 3090 | 73 | 609 |
| 30.. | 1340 | 20 | 72 | 1860 | 44 | 221 | 2810 | 64 | 486 |
| 31.. | 1300 | 25 | 88 | -- | -- | -- | 2540 | 54 | 370 |
| Total | 42370 | -- | 3990 | 58790 | -- | 26958 | 151840 | -- | 190367 |
| | | | | | | | | | |
| Day | JANUARY | | | FEBRUARY | | | MARCH | | |
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 2630 | 52 | 369 | 5150 | 204 | 2840 | 5260 | 235 | 3340 |
| 2.. | 3090 | 131 | 1090 | 4160 | 118 | 1330 | 4380 | 190 | 2250 |
| 3.. | 3000 | 84 | 842 | 3650 | 124 | 1220 | 3850 | 122 | 1270 |
| 4.. | 2810 | 59 | 448 | 3550 | 141 | 1350 | 3550 | 125 | 1200 |
| 5.. | 2810 | 55 | 417 | 3370 | 86 | 783 | 3550 | 140 | 1340 |
| 6.. | 7020 | 622 S | 17900 | 3180 | 91 | 781 | 3750 | 120 | 1220 |
| 7.. | 17100 | 836 S | 38700 | 3000 | 59 | 478 | 3460 | 88 | 822 |
| 8.. | 8890 | 361 S | 8900 | 2720 | 47 | 345 | 3270 | 80 | 706 |
| 9.. | 5370 | 210 | 3040 | 2720 | 57 | 419 | 3270 | 125 | 1100 |
| 10.. | 4270 | 85 | 980 | 3090 | 62 | 517 | 3550 | 110 | 1050 |
| 11.. | 3550 | 52 | 498 | 2900 | 48 | 376 | 4050 | 160 | 1750 |
| 12.. | 3090 | 42 | 350 | 2720 | 36 | 264 | 8260 | 451 S | 10600 |
| 13.. | 2900 | 22 | 172 | 2630 | 30 | 213 | 10000 | 415 | 11200 |
| 14.. | 2810 | 16 | 121 | 2540 | 39 | 267 | 6580 | 330 | 5860 |
| 15.. | 2900 | 105 | 822 | 2540 | 45 | 309 | 5040 | 240 | 3270 |
| 16.. | 3950 | 226 | 2410 | 2450 | 45 | 298 | 4270 | 150 | 1730 |
| 17.. | 3850 | 150 | 1560 | 2630 | 40 | 284 | 3850 | 115 | 1200 |
| 18.. | 3180 | 124 | 1060 | 2540 | 30 | 206 | 3550 | 100 | 959 |
| 19.. | 2900 | 88 | 689 | 1750 | 178 S | 2070 | 3460 | 83 | 775 |
| 20.. | 2810 | 64 | 486 | 1750 | 153 | 1550 | 3370 | 80 | 728 |
| 21.. | 2720 | 53 | 389 | 3180 | 103 | 884 | 3950 | 153 | 1630 |
| 22.. | 2720 | 40 | 294 | 3950 | 175 | 1870 | 4600 | 181 | 2250 |
| 23.. | 2720 | 56 | 411 | 9040 | 888 S | 24400 | 4160 | 138 | 1550 |
| 24.. | 2720 | 80 | 588 | 13800 | 746 S | 28300 | 3550 | 92 | 882 |
| 25.. | 3000 | 128 | 1040 | 10800 | 475 | 13900 | 3370 | 85 | 773 |
| 26.. | 3000 | 102 | 826 | 11300 | 500 | 15300 | 3460 | 92 | 859 |
| 27.. | 3090 | 85 | 709 | 9440 | 360 | 9180 | 3460 | 90 | 841 |
| 28.. | 5810 | 287 S | 4600 | 6360 | 255 | 4380 | 3850 | 103 | 1070 |
| 29.. | 6580 | 258 | 4580 | -- | -- | -- | 3550 | 82 | 786 |
| 30.. | 6140 | 230 | 3810 | -- | -- | -- | 3270 | 73 | 645 |
| 31.. | 6360 | 161 | 2760 | -- | -- | -- | 3550 | 80 | 767 |
| Total | 133790 | -- | 100861 | 130910 | -- | 114114 | 131090 | -- | 64423 |

S Computed by subdividing day.

PEE DEE RIVER BASIN--Continued

2-1165. YADKIN RIVER AT YADKIN COLLEGE, N. C.--Continued

Suspended sediment, water year October 1961 to September 1962--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.. | 10300 | 526 S | 16500 | 3270 | 83 | 733 | 3370 | 365 | 3320 |
| 2.. | 11100 | 598 S | 18900 | 3090 | 71 | 592 | 3270 | 240 | 2120 |
| 3.. | 6580 | 282 | 5010 | 3090 | 75 | 626 | 4600 | 706 S | 9570 |
| 4.. | 5040 | 193 | 2630 | 2900 | 63 | 493 | 3950 | 880 S | 9750 |
| 5.. | 4380 | 153 | 1810 | 2810 | 64 | 486 | 3270 | 485 | 4280 |
| 6.. | 4050 | 143 | 1560 | 2810 | 55 | 417 | 3460 | 405 | 3780 |
| 7.. | 4490 | 187 | 2270 | 2810 | 56 | 425 | 4530 | 784 S | 10000 |
| 8.. | 12400 | 563 S | 20300 | 2720 | 57 | 419 | 3550 | 490 | 4700 |
| 9.. | 17200 | 591 S | 29000 | 2720 | 57 | 419 | 3650 | 300 | 2960 |
| 10.. | 9040 | 360 | 8790 | 2810 | 57 | 432 | 2900 | 220 | 1720 |
| 11.. | 7160 | 341 | 6590 | 2900 | 62 | 485 | 2720 | 155 | 1140 |
| 12.. | 6690 | 265 | 4790 | 2810 | 80 | 607 | 2770 | 176 S | 1400 |
| 13.. | 7520 | 309 | 6270 | 2810 | 63 | 478 | 15800 | 1900 S | 91100 |
| 14.. | 6360 | 231 | 3970 | 2810 | 54 | 410 | 12600 | 993 S | 36000 |
| 15.. | 5480 | 169 | 2500 | 2810 | 60 | 455 | 7280 | 981 S | 17700 |
| 16.. | 4930 | 130 | 1730 | 2900 | 70 | 548 | 4710 | 610 | 7760 |
| 17.. | 4490 | 114 | 1380 | 3180 | 181 S | 1660 | 3550 | 310 | 2970 |
| 18.. | 4270 | 120 | 1380 | 3460 | 250 | 2340 | 3180 | 190 | 1630 |
| 19.. | 4050 | 87 | 951 | 3000 | 266 | 2150 | 2900 | 155 | 1210 |
| 20.. | 3850 | 89 | 925 | 2810 | 167 | 1270 | 2810 | 190 | 1440 |
| 21.. | 3750 | 87 | 881 | 3090 | 194 | 1620 | 3370 | 290 S | 2790 |
| 22.. | 3550 | 143 | 1370 | 2720 | 236 | 1730 | 3750 | 475 S | 5040 |
| 23.. | 3550 | 87 | 834 | 2450 | 182 | 1200 | 5390 | 809 S | 13600 |
| 24.. | 3460 | 75 | 701 | 2450 | 101 | 668 | 8130 | 1200 S | 26800 |
| 25.. | 3370 | 65 | 591 | 2450 | 89 | 589 | 8000 | 1130 S | 24100 |
| 26.. | 3370 | 62 | 564 | 2630 | 89 | 632 | 5590 | 894 S | 13900 |
| 27.. | 3370 | 68 | 619 | 2900 | 151 | 1180 | 6690 | 1180 | 21300 |
| 28.. | 3370 | 52 | 473 | 3750 | 1020 S | 12500 | 4930 | 902 S | 12200 |
| 29.. | 3180 | 75 | 644 | 7160 | 2100 S | 41700 | 3950 | 360 | 3840 |
| 30.. | 3270 | 84 | 742 | 4160 | 871 S | 10000 | 3550 | 190 | 1820 |
| 31.. | -- | -- | -- | 3460 | 330 | 3080 | -- | -- | -- |
| Total | 173620 | -- | 144675 | 95740 | -- | 90344 | 148220 | -- | 339940 |
| 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.. | 3270 | 150 | 1320 | 2450 | 463 | 3060 | 1040 | 33 | 93 |
| 2.. | 3000 | 140 | 1130 | 2090 | 152 | 858 | 1070 | 29 | 84 |
| 3.. | 2810 | 125 | 948 | 2090 | 151 | 852 | 1100 | 29 | 86 |
| 4.. | 5700 | 1240 S | 20100 | 2900 | 265 | 2070 | 1070 | 32 | 92 |
| 5.. | 4930 | 929 S | 12800 | 2630 | 194 | 1380 | 1260 | 43 | 146 |
| 6.. | 3370 | 310 | 2820 | 2450 | 150 | 992 | 1340 | 43 | 156 |
| 7.. | 3000 | 140 | 1130 | 2900 | 295 | 2310 | 1140 | 38 | 117 |
| 8.. | 2900 | 115 | 900 | 3180 | 420 | 3610 | 1100 | 35 | 104 |
| 9.. | 3000 | 125 | 1010 | 2450 | 314 | 2080 | 1070 | 22 | 64 |
| 10.. | 2810 | 150 | 1140 | 2180 | 212 | 1250 | 1300 | 43 | 151 |
| 11.. | 2540 | 115 | 789 | 1960 | 110 | 582 | 1340 | 38 | 137 |
| 12.. | 2450 | 105 | 695 | 1820 | 105 | 516 | 1380 | 38 | 142 |
| 13.. | 3180 | 351 S | 3130 | 1820 | 82 | 403 | 1220 | 32 | 105 |
| 14.. | 2540 | 245 | 1680 | 1780 | 90 | 433 | 1000 | 27 | 73 |
| 15.. | 2270 | 115 | 705 | 2000 | 107 | 578 | 1040 | 30 | 84 |
| 16.. | 2270 | 75 | 460 | 1820 | 140 | 688 | 1810 | 150 S | 1060 |
| 17.. | 2360 | 103 | 656 | 2000 | 172 | 929 | 6800 | 788 S | 14500 |
| 18.. | 2360 | 132 | 841 | 2140 | 147 | 849 | 4380 | 516 S | 6460 |
| 19.. | 2360 | 120 | 765 | 1860 | 82 | 412 | 2900 | 245 | 1920 |
| 20.. | 2450 | 133 | 880 | 1730 | 70 | 327 | 2270 | 172 | 1050 |
| 21.. | 2220 | 95 | 569 | 1600 | 71 | 307 | 1820 | 112 | 550 |
| 22.. | 2090 | 105 | 593 | 1680 | 69 | 313 | 1730 | 79 | 369 |
| 23.. | 2000 | 95 | 513 | 2090 | 104 | 587 | 1640 | 57 | 252 |
| 24.. | 2270 | 105 | 644 | 1730 | 120 | 561 | 1680 | 48 | 218 |
| 25.. | 2180 | 133 | 783 | 1420 | 71 | 272 | 1640 | 60 | 266 |
| 26.. | 2180 | 90 | 530 | 1340 | 55 | 199 | 1550 | 52 | 218 |
| 27.. | 2180 | 87 | 512 | 1380 | 52 | 194 | 2090 | 128 | 722 |
| 28.. | 2000 | 64 | 346 | 1220 | 52 | 171 | 2000 | 115 | 621 |
| 29.. | 1910 | 75 | 284 | 1220 | 48 | 158 | 1780 | 61 | 293 |
| 30.. | 2270 | 75 | 460 | 1180 | 35 | 112 | 1640 | 48 | 213 |
| 31.. | 3000 | 545 S | 4780 | 1040 | 30 | 84 | -- | -- | -- |
| Total | 83870 | -- | 63913 | 60150 | -- | 27137 | 53200 | -- | 30346 |
| Total discharge for year (cfs-days)..... | | | | | | | | | 1263590 |
| Total load for year (tons)..... | | | | | | | | | 1197068 |

S Computed by subdividing day.

PEE DEE RIVER BASIN--Continued

2-1165. YADKIN RIVER AT YADKIN COLLEGE, N. C.--Continued

Particle-size analyses of suspended sediment, water year October 1961 to September 1962
 (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) | Water tem- per- ature (°F) | Discharge (cfs) | Sediment con- centration (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. 21, 1961..... | 1700 | | 19,400 | 1,240 | | 16 | 22 | 31 | 41 | 51 | 62 | 82 | 96 | 100 | 100 | SBWC |
| Sept. 17, 1962..... | 1625 | | 8,130 | 713 | | 29 | 36 | 49 | 61 | 73 | 83 | 94 | 98 | 100 | 100 | SBWC |

PEE DEE RIVER BASIN--Continued

2-1180. SOUTH YAKIN RIVER NEAR MOCKSVILLE, N. C.

LOCATION.--At gaging station at 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:

Water temperatures: October 1960 to September 1962.

Sediment records: January 1958 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 52 ppm Nov. 1-30; minimum, 35 ppm Mar. 1-31.

Hardness: Maximum, 18 ppm Oct. 1-31, Nov. 1-30; minimum, 12 ppm Mar. 1-31.

Specific conductance: Maximum daily, 67 micromhos Oct. 6; minimum daily, 36 micromhos June 13.

Water temperature: Maximum, 76°F on several days in July; minimum, 33°F Jan. 12-14.

Sediment concentrations: Maximum daily, 1,040 ppm June 14; minimum daily, 7 ppm Oct. 21.

EXTREMES, 1959-62.--Dissolved solids: Maximum, 550 tons Dec. 12; minimum daily, 3 tons Oct. 21.

Hardness: Maximum daily, 180-82 ppm, 138 ppm Dec. 12; minimum, 12 ppm Mar. 1-31, 1961.

Specific conductance (1960-62): Maximum daily, 239 micromhos June 7, 1961; minimum daily, 36 micromhos June 13, 1962.

Water temperatures (1960-62): Maximum, 78°F Aug. 15, Sept. 9-12, 1961; minimum, freezing point Feb. 3, 1961.

Sediment concentrations: Maximum daily, 1,500 ppm Aug. 5, 1959; minimum daily, 5 ppm Mar. 23, 1958.

Sediment loads: Maximum daily, 8,600 tons Apr. 29, 1958; minimum daily, 2 tons Nov. 23, 1958.

REMARKS.--Records of specific conductance of daily samples from October 1960 to September 1962 available in district office at Raleigh, N. C.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 | Non-magnesium | | | |
| Oct. 1-31, 1961..... | 157 | 17 | 0.04 | 5.0 | 1.3 | 2.5 | 1.6 | 27 | 1.0 | 2.3 | 0.1 | 0.9 | 46 | 18 | 0 | 52 | 6.9 | 8 |
| Nov. 1-31, 1961..... | 204 | 17 | 0.04 | 3.2 | 1.2 | 2.5 | 1.7 | 26 | 1.4 | 2.2 | 0.1 | 0.8 | 52 | 18 | 0 | 52 | 7.3 | 14 |
| Dec. 1-31, 1961..... | 738 | 14 | 0.01 | 3.5 | 1.6 | 2.5 | 1.6 | 22 | 1.8 | 2.8 | 0.1 | 1.7 | 44 | 16 | 0 | 49 | 6.9 | 0 |
| Jan. 1-31, 1962..... | 642 | 13 | 0.01 | 3.8 | 1.4 | 2.4 | 1.3 | 20 | 1.4 | 2.2 | 0.1 | 1.3 | 37 | 15 | 0 | 49 | 6.7 | 5 |
| Feb. 1-28, 1962..... | 685 | 14 | 0.02 | 3.3 | 1.5 | 2.5 | 1.3 | 20 | 2.4 | 2.3 | 0.1 | 0.8 | 39 | 14 | 0 | 47 | 7.0 | 0 |
| Mar. 1-31, 1962..... | 530 | 13 | 0.00 | 3.6 | 1.6 | 2.5 | 1.0 | 19 | 1.4 | 1.7 | 0.0 | 0.8 | 35 | 12 | 0 | 44 | 7.3 | 7 |
| Apr. 1-30, 1962..... | 685 | 13 | 0.03 | 3.8 | 1.2 | 2.9 | 1.1 | 20 | 2.0 | 1.8 | 0.0 | 1.2 | 40 | 14 | 0 | 45 | 7.1 | 6 |
| May 1-31, 1962..... | 338 | 16 | 0.02 | 4.6 | 1.0 | 3.4 | 1.4 | 24 | 3.4 | 2.3 | 0.0 | 1.2 | 48 | 16 | 0 | 50 | 7.0 | 8 |
| June 1-12, 1962..... | 430 | 15 | 0.09 | 4.3 | 1.2 | 3.3 | 1.8 | 22 | 2.0 | 2.7 | 0.2 | 1.2 | 43 | 16 | 0 | 46 | 7.3 | 10 |
| June 13-30, 1962..... | 457 | 17 | 0.06 | 3.5 | 1.3 | 3.9 | 1.4 | 22 | 1.8 | 2.7 | 0.1 | 1.0 | 48 | 14 | 0 | 43 | 7.1 | 5 |
| July 1-31, 1962..... | 237 | 15 | 0.03 | 4.3 | 1.6 | 3.0 | 1.1 | 25 | 1.4 | 1.9 | 0.0 | 1.5 | 44 | 18 | 0 | 50 | 6.8 | 8 |
| Aug. 1-31, 1962..... | 204 | 16 | 0.05 | 3.7 | 1.7 | 3.9 | 1.5 | 26 | 2.0 | 2.7 | 0.0 | 1.3 | 46 | 16 | 0 | 54 | 6.9 | 25 |
| Sept. 1-30, 1962..... | 184 | 16 | 0.01 | 5.1 | 1.2 | 3.3 | 1.3 | 26 | 2.0 | 2.6 | 0.0 | 0.7 | 47 | 18 | 0 | 51 | 7.0 | 5 |
| Time-weighted average..... | 419 | 15 | 0.03 | 4.1 | 1.3 | 2.9 | 1.4 | 23 | 1.8 | 2.3 | 0.0 | 1.1 | 44 | 16 | 0 | 49 | -- | 8 |

a Calculated from determined constituents.

2-1180. SOUTH YADKIN RIVER NEAR MOCKSVILLE; N. C.--Continued

Suspended sediment, water year October 1961 to September 1962

| Day | OCTOBER | | | NOVEMBER | | | DECEMBER | | |
|-------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|--------------|
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 150 | 32 | 13 | 164 | 15 | 7 | 188 | 10 | 5 |
| 2.. | 152 | 30 | 12 | 164 | 13 | 6 | 186 | 12 | 6 |
| 3.. | 157 | 29 | 12 | 164 | 13 | 6 | 186 | 10 | 5 |
| 4.. | 183 | 23 | 11 | 164 | 12 | 5 | 186 | 12 | 6 |
| 5.. | 193 | 22 | 11 | 166 | 15 | 7 | 183 | 15 | 7 |
| 6.. | 166 | 20 | 9 | 168 | 16 | 7 | 186 | 15 | 8 |
| 7.. | 159 | 19 | 8 | 188 | 24 | 12 | 183 | 14 | 7 |
| 8.. | 157 | 20 | 8 | 193 | 31 | 16 | 178 | 14 | 7 |
| 9.. | 152 | 19 | 8 | 176 | 15 | 7 | 176 | 16 | 8 |
| 10.. | 150 | 18 | 7 | 168 | 15 | 7 | 281 | 151 S | 142 |
| 11.. | 148 | 18 | 7 | 168 | 14 | 6 | 661 | 393 S | 717 |
| 12.. | 146 | 16 | 6 | 171 | 12 | 6 | 2180 | 607 K | 3530 |
| 13.. | 146 | 21 | 8 | 186 | 14 | 7 | 3390 | 338 S | 3100 |
| 14.. | 146 | 19 | 7 | 196 | 21 | 11 | 2740 | 155 S | 1220 |
| 15.. | 146 | 18 | 7 | 279 | 51 | 38 | 715 | 100 | 193 |
| 16.. | 144 | 10 | 4 | 234 | 21 | 13 | 525 | 74 | 105 |
| 17.. | 144 | 10 | 4 | 214 | 18 | 10 | 685 | 81 | 150 |
| 18.. | 146 | 9 | 4 | 209 | 17 | 10 | 1710 | 246 S | 1220 |
| 19.. | 146 | 10 | 4 | 188 | 16 | 8 | 2210 | 282 S | 1660 |
| 20.. | 157 | 10 | 4 | 180 | 17 | 8 | 1450 | 134 S | 575 |
| 21.. | 171 | 7 | 3 | 178 | 14 | 7 | 635 | 45 | 77 |
| 22.. | 166 | 9 | 4 | 176 | 14 | 7 | 510 | 19 | 26 |
| 23.. | 162 | 9 | 4 | 190 | 14 | 7 | 465 | 21 | 26 |
| 24.. | 159 | 10 | 4 | 418 | 12 | 14 | 465 | 24 | 30 |
| 25.. | 159 | 10 | 4 | 348 | 14 | 13 | 405 | 21 | 23 |
| 26.. | 157 | 11 | 5 | 243 | 15 | 10 | 366 | 30 | 30 |
| 27.. | 157 | 10 | 4 | 217 | 16 | 9 | 348 | 28 | 26 |
| 28.. | 157 | 12 | 5 | 209 | 16 | 9 | 405 | 20 | 22 |
| 29.. | 162 | 12 | 5 | 198 | 10 | 5 | 405 | 21 | 23 |
| 30.. | 164 | 12 | 5 | 190 | 10 | 5 | 357 | 24 | 23 |
| 31.. | 166 | 11 | 5 | --- | --- | --- | 333 | 31 | 28 |
| Total | 4868 | -- | 202 | 6107 | -- | 283 | 22893 | -- | 13005 |
| | | | | | | | | | |
| Day | JANUARY | | | FEBRUARY | | | MARCH | | |
| | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day | Mean discharge (cfs) | Mean concentration (ppm) | Tons per day |
| 1.. | 369 | 40 | 40 | 620 | 24 | 40 | 775 | 120 | 251 |
| 2.. | 495 | 35 | 47 | 542 | 28 | 41 | 635 | 82 | 141 |
| 3.. | 435 | 30 | 35 | 480 | 23 | 30 | 560 | 50 | 76 |
| 4.. | 420 | 29 | 33 | 450 | 30 | 36 | 510 | 41 | 56 |
| 5.. | 450 | 32 | 39 | 420 | 34 | 39 | 510 | 40 | 55 |
| 6.. | 1520 | 508 S | 2490 | 420 | 26 | 29 | 525 | 39 | 55 |
| 7.. | 2480 | 471 | 3150 | 375 | 26 | 26 | 480 | 31 | 40 |
| 8.. | 1900 | 239 S | 1360 | 360 | 25 | 24 | 450 | 39 | 47 |
| 9.. | 760 | 57 | 117 | 375 | 25 | 25 | 450 | 43 | 52 |
| 10.. | 605 | 38 | 62 | 405 | 22 | 24 | 510 | 39 | 54 |
| 11.. | 510 | 38 | 52 | 363 | 19 | 19 | 560 | 39 | 59 |
| 12.. | 450 | 33 | 40 | 348 | 19 | 18 | 995 | 138 S | 398 |
| 13.. | 420 | 30 | 34 | 342 | 21 | 19 | 995 | 224 S | 624 |
| 14.. | 390 | 27 | 28 | 333 | 21 | 19 | 685 | 69 | 128 |
| 15.. | 450 | 67 | 81 | 327 | 21 | 19 | 575 | 49 | 76 |
| 16.. | 560 | 130 | 197 | 330 | 18 | 16 | 525 | 48 | 68 |
| 17.. | 450 | 50 | 61 | 342 | 18 B | 17 | 480 | 40 | 52 |
| 18.. | 405 | 38 | 42 | 321 | 19 B | 16 | 450 | 35 | 43 |
| 19.. | 390 | 29 | 31 | 510 | 152 S | 225 | 435 | 30 | 35 |
| 20.. | 390 | 21 | 22 | 510 | 78 B | 107 | 420 | 32 | 36 |
| 21.. | 366 | 30 | 30 | 420 | 41 | 46 | 542 | 60 | 88 |
| 22.. | 357 | 30 | 29 | 745 | 188 S | 431 | 542 | 47 | 69 |
| 23.. | 390 | 43 | 45 | 1460 | 785 S | 3240 | 465 | 43 | 54 |
| 24.. | 390 | 49 | 52 | 1970 | 538 S | 2820 | 435 | 48 | 56 |
| 25.. | 390 | 42 | 44 | 1670 | 248 S | 1160 | 420 | 38 | 43 |
| 26.. | 375 | 41 | 42 | 1710 | 480 S | 2280 | 435 | 26 B | 31 |
| 27.. | 390 | 68 | 72 | 1890 | 214 | 1090 | 435 | 32 B | 38 |
| 28.. | 885 | 269 S | 620 | 1130 | 150 | 458 | 405 | 39 B | 43 |
| 29.. | 885 | 135 | 323 | --- | --- | --- | 390 | 41 B | 43 |
| 30.. | 870 | 90 | 211 | --- | --- | --- | 390 | 55 | 58 |
| 31.. | 760 | 41 | 84 | --- | --- | --- | 436 | 99 K | 125 |
| Total | 19907 | -- | 9513 | 19168 | -- | 12314 | 16420 | -- | 2994 |

S Computed by subdividing day.

B Computed from estimated-concentration graph.

K Computed from estimated-concentration graph and subdividing day.

PEE DEE RIVER BASIN--Continued

2-1180. SOUTH YADKIN RIVER NEAR MOCKSVILLE, N. C.--Continued

Suspended sediment, water year October 1961 to September 1962--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.. | 1240 | 314 | S 1010 | 375 | 46 | 47 | 405 | 250 | 273 |
| 2.. | 1480 | 208 | 831 | 372 | 47 | 47 | 339 | 183 | 168 |
| 3.. | 785 | 117 | 248 | 360 | 45 | 44 | 542 | 336 | K 497 |
| 4.. | 605 | 68 | 111 | 345 | 43 | 40 | 792 | 517 | K 1110 |
| 5.. | 542 | 65 | 95 | 339 | 43 | 39 | 450 | 315 | K 383 |
| 6.. | 510 | 68 | 94 | 333 | 43 | 39 | 420 | 255 | 289 |
| 7.. | 605 | 120 | B 196 | 327 | 51 | 45 | 420 | 250 | 284 |
| 8.. | 1200 | 427 | S 1510 | 321 | 47 | 41 | 390 | 154 | 162 |
| 9.. | 1850 | 361 | S 1780 | 324 | 43 | 38 | 333 | 122 | 110 |
| 10.. | 1310 | 163 | S 618 | 330 | 45 | 40 | 306 | 142 | 117 |
| 11.. | 792 | 113 | 242 | 330 | 49 | 44 | 288 | 199 | B 155 |
| 12.. | 870 | 173 | 406 | 330 | 40 | 36 | 474 | 481 | S 712 |
| 13.. | 900 | 166 | 403 | 324 | 45 | 39 | 1100 | 1040 | S 3019 |
| 14.. | 715 | 78 | 151 | 324 | 49 | 43 | 1130 | 675 | 2060 |
| 15.. | 620 | 45 | 75 | 315 | 49 | 42 | 668 | 255 | 460 |
| 16.. | 560 | 51 | 77 | 345 | 65 | 61 | 465 | 160 | B 201 |
| 17.. | 510 | 41 | 56 | 324 | 87 | 76 | 390 | 135 | 142 |
| 18.. | 495 | 46 | 61 | 303 | 75 | 61 | 351 | 102 | 97 |
| 19.. | 480 | 35 | 45 | 288 | 65 | B 51 | 324 | 85 | 74 |
| 20.. | 450 | 40 | 49 | 300 | 64 | B 52 | 309 | 80 | 67 |
| 21.. | 435 | 42 | 49 | 279 | 70 | 53 | 318 | 80 | 69 |
| 22.. | 420 | 42 | 48 | 267 | 58 | 42 | 309 | 73 | 61 |
| 23.. | 420 | 48 | 54 | 258 | 47 | B 33 | 300 | 128 | 104 |
| 24.. | 405 | 45 | 49 | 258 | 44 | B 31 | 437 | 304 | S 421 |
| 25.. | 405 | 39 | 43 | 255 | 42 | B 29 | 450 | 286 | S 345 |
| 26.. | 390 | 41 | 43 | 255 | 40 | B 28 | 321 | 203 | 176 |
| 27.. | 405 | 43 | 47 | 264 | 40 | B 29 | 303 | 162 | 133 |
| 28.. | 390 | 42 | 44 | 542 | 417 | K 758 | 390 | 148 | 156 |
| 29.. | 390 | 41 | 43 | 605 | 637 | K 1090 | 351 | 140 | 133 |
| 30.. | 375 | 40 | 40 | 360 | 29 | B 28 | 303 | 92 | 75 |
| 31.. | -- | -- | -- | 528 | 368 | K 577 | -- | -- | -- |
| Total | 20554 | -- | 8518 | 10480 | -- | 3623 | 13378 | -- | 12044 |
| | | | | | | | | | |
| 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.. | 285 | 84 | 65 | 201 | 53 | 29 | 133 | 45 | 16 |
| 2.. | 270 | 78 | 57 | 190 | 57 | 29 | 129 | 48 | 17 |
| 3.. | 261 | 75 | 53 | 246 | 109 | S 85 | 129 | 50 | 17 |
| 4.. | 300 | 101 | 82 | 510 | 234 | S 353 | 188 | 89 | 45 |
| 5.. | 297 | 66 | 53 | 276 | 100 | S 75 | 209 | 70 | 40 |
| 6.. | 270 | 63 | 46 | 258 | 95 | 66 | 166 | 72 | 32 |
| 7.. | 261 | 55 | 39 | 303 | 212 | 173 | 150 | 63 | 26 |
| 8.. | 258 | 59 | 41 | 267 | 166 | 120 | 150 | 55 | 22 |
| 9.. | 270 | 60 | 44 | 228 | 147 | 90 | 148 | 55 | 22 |
| 10.. | 240 | 63 | 41 | 201 | 110 | 60 | 157 | 52 | 22 |
| 11.. | 225 | 52 | 32 | 186 | 75 | 38 | 159 | 51 | 22 |
| 12.. | 225 | 49 | 30 | 183 | 60 | 30 | 146 | 58 | 23 |
| 13.. | 450 | 442 | S 587 | 180 | 55 | B 27 | 133 | 51 | 18 |
| 14.. | 267 | 252 | 182 | 178 | 51 | B 25 | 129 | 51 | 18 |
| 15.. | 225 | 93 | 56 | 190 | 44 | B 23 | 129 | 50 | 17 |
| 16.. | 212 | 71 | 41 | 186 | 50 | B 25 | 267 | 276 | S 239 |
| 17.. | 212 | 72 | 41 | 206 | 97 | B 54 | 450 | 242 | 294 |
| 18.. | 225 | 72 | 44 | 180 | 84 | B 41 | 312 | 142 | 120 |
| 19.. | 228 | 71 | 44 | 171 | 75 | 35 | 217 | 86 | 50 |
| 20.. | 217 | 71 | 42 | 164 | 62 | 27 | 186 | 66 | 33 |
| 21.. | 201 | 80 | 43 | 157 | 110 | 47 | 171 | 40 | 18 |
| 22.. | 193 | 71 | 37 | 190 | 170 | 87 | 166 | 35 | 16 |
| 23.. | 186 | 67 | 34 | 231 | 159 | 99 | 166 | 32 | 14 |
| 24.. | 183 | 60 | 30 | 176 | 88 | 42 | 166 | 30 | 13 |
| 25.. | 186 | 63 | 32 | 164 | 72 | 32 | 164 | 30 | 13 |
| 26.. | 214 | 64 | 37 | 162 | 69 | 30 | 168 | 53 | 24 |
| 27.. | 201 | 45 | 24 | 157 | 60 | 25 | 240 | 95 | 62 |
| 28.. | 178 | 31 | 15 | 150 | 60 | 24 | 228 | 82 | 50 |
| 29.. | 180 | 43 | 21 | 146 | 65 | 26 | 186 | 36 | 18 |
| 30.. | 206 | 62 | 34 | 140 | 54 | 20 | 171 | 35 | 16 |
| 31.. | 206 | 60 | 33 | 133 | 49 | 18 | -- | -- | -- |
| Total | 7332 | -- | 1960 | 6310 | -- | 1855 | 5513 | -- | 1337 |

S Computed by subdividing day.

B Computed from estimated-concentration graph.

K Computed from estimated-concentration graph and 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 1961 to September 1962
 (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) | Samp- ling point | Water tem- per- ature (°F) | Discharge (cfs) | Sediment con- cen- tration (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 |
| Mar. 12, 1962..... | 1700 | | | 1,060 | 154 | | 29 | 33 | 46 | 57 | 64 | 74 | 89 | 97 | 100 | SBWC |

PEE DEE RIVER BASIN--Continued

2-1256.81. ROCKY RIVER AT GADDY, NEAR NORWOOD, N. C.

LOCATION.--At bridge on county road, 2 miles upstream from gaging station, 0.5 mile downstream from Cribbs Creek, and 5.5 miles southwest of Norwood, Stanly County.

DRAINAGE AREA.--1,231 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1955 to September 1962.

Water temperatures: October 1955 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 460 ppm Nov. 1-16; minimum, 50 ppm Jan. 27-31, Apr. 1-3.

Hardness: Maximum, 59 ppm Oct. 1-31; minimum, 17 ppm Apr. 8-11, Aug. 1.

Specific conductance: Maximum daily, 898 micromhos Nov. 1; minimum daily, 49 micromhos Apr. 11.

Water temperatures: Maximum, 90°F July 24; minimum, 35°F Jan. 13, 14.

EXTREMES, 1955-62.--Dissolved solids: Maximum, 506 ppm Sept. 6-8, 1957; minimum, 42 ppm July 8, 10, 1958.

Hardness: Maximum, 60 ppm July 17-18, 1957; minimum, 12 ppm Jan. 31, 1960.

Specific conductance: Maximum daily, 1,000 micromhos Sept. 7, 1957; minimum daily, 38 micromhos Jan. 31, 1960.

Water temperatures: Maximum, 90°F July 24, 1962; minimum, freezing point, Dec. 17, 18, 22, 1955.

REMARKS.--Daily temperature and specific conductance records from October 1955 to September 1962 and records of suspended matter of composite sample from October 1955 to September 1960 available in district office at Raleigh, N. C. No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-31, 1961..... | | 21 | 0.06 | 16 | 4.8 | 144 | 9.8 | 246 | 29 | 97 | 0.5 | 3.8 | 449 | 59 | 0 | 745 | 7.8 | 30 |
| Nov. 1-16..... | | 26 | .06 | 14 | 3.4 | 140 | 9.7 | 249 | 31 | 84 | .5 | 5.3 | 460 | 50 | 0 | 633 | 8.3 | 34 |
| Nov. 17-16..... | | 13 | .03 | 13 | 4.2 | 135 | 6.0 | 198 | 24 | 93 | .2 | 3.3 | 423 | 46 | 0 | 394 | 7.4 | 20 |
| Dec. 1-3..... | | 20 | .11 | 12 | 4.8 | 76 | 6.6 | 155 | 25 | 50 | .1 | 4.2 | 427 | 50 | 0 | 480 | 7.4 | 35 |
| Dec. 4-10..... | | 24 | .08 | 12 | 5.1 | 116 | 8.1 | 205 | 32 | 70 | .4 | 2.7 | 391 | 51 | 0 | 660 | 7.4 | 30 |
| Dec. 11-12..... | | 10 | .04 | 7.1 | 2.8 | 17 | 4.4 | 31 | 17 | 12 | .1 | 8.6 | a95 | 30 | 4 | 158 | 6.6 | 25 |
| Dec. 13-15..... | | 10 | .03 | 6.7 | 2.5 | 11 | 3.1 | 21 | 14 | 11 | .0 | 5.9 | a74 | 28 | 10 | 123 | 7.1 | 23 |
| Dec. 16..... | | -- | -- | 12 | 1.8 | -- | -- | 49 | -- | 24 | -- | -- | -- | 38 | 0 | 198 | 7.7 | -- |
| Dec. 17-18..... | | 9.1 | .02 | 5.7 | 2.5 | 7.9 | 3.5 | 19 | 11 | 7.6 | .0 | 5.1 | a62 | 24 | 9 | 105 | 6.5 | 30 |
| Dec. 19-20..... | | -- | -- | 5.9 | 2.6 | 8.5 | 2.6 | 23 | 13 | 8.4 | .0 | 3.7 | -- | 25 | 6 | 100 | 7.1 | -- |
| Dec. 21-31..... | | 15 | .06 | 7.7 | 3.4 | 21 | 2.7 | 49 | 16 | 17 | .2 | 4.0 | 114 | 33 | 0 | 178 | 7.2 | 15 |
| Jan. 1, 1962..... | | -- | -- | 8.8 | 3.6 | -- | -- | 68 | -- | 22 | -- | -- | -- | 37 | 0 | 215 | 7.9 | -- |
| Jan. 2-5..... | | 13 | .02 | 6.3 | 2.7 | 12 | 2.2 | 30 | 10 | 11 | .1 | 3.4 | a76 | 27 | 2 | 129 | 7.3 | 22 |
| Jan. 6-9..... | | 7.6 | .00 | 5.4 | 4.0 | 4.1 | 2.0 | 15 | 8.4 | 5.8 | .2 | 2.8 | 58 | 18 | 5 | 68 | 7.0 | 50 |
| Jan. 10-12..... | | 13 | .03 | 5.9 | 2.4 | 13 | 2.5 | 29 | 11 | 11 | .1 | 5.7 | a77 | 23 | 2 | 125 | 7.2 | 38 |
| Jan. 13-26..... | | 14 | .03 | 5.3 | 3.0 | 14 | 2.1 | 37 | 14 | 14 | .1 | 4.7 | a77 | 23 | 0 | 125 | 6.2 | 38 |
| Jan. 27-31..... | | 9.1 | .08 | 5.1 | 2.2 | 5.1 | 2.1 | 17 | 7.8 | 5.3 | .2 | 4.9 | a50 | 22 | 8 | 80 | 6.7 | 45 |

a Calculated from determined constituents.

PEE DEE RIVER BASIN--Continued
 2-1256.81. ROCKY RIVER AT GAUDY, NEAR NORWOOD, N. C.--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--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 (micro-mhos at 25°C) | pH | Color |
|---------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Feb. 1-6, 1962..... | | 12 | 0.03 | 4.8 | 2.7 | 12 | 1.6 | 33 | 10 | 11 | 0.1 | 0.7 | 75 | 23 | 0 | 117 | 7.2 | 8 |
| Feb. 7-15..... | | 14 | .03 | 5.8 | 3.4 | 18 | 1.7 | 45 | 12 | 15 | .2 | .2 | 95 | 28 | 0 | 158 | 7.0 | 10 |
| Feb. 16-18..... | | 15 | .18 | 6.3 | 3.3 | 24 | 2.1 | 60 | 13 | 15 | .1 | .4 | a109 | 30 | 0 | 196 | 7.4 | 12 |
| Feb. 19-21..... | | 10 | .03 | 4.8 | 3.0 | 12 | 1.5 | 32 | 10 | 11 | .3 | .6 | a69 | 24 | 0 | 118 | 7.3 | 10 |
| Feb. 22-28..... | 8.5 | | .02 | 4.0 | 1.9 | 6.4 | 1.5 | 21 | 8.0 | 6.3 | .2 | .4 | 58 | 18 | 1 | 79 | 7.1 | 65 |
| Mar. 1-2..... | | 15 | .22 | 5.3 | 2.0 | 11 | 1.6 | 26 | 10 | 8.6 | .2 | 2.4 | a70 | 22 | 0 | 102 | 7.1 | 60 |
| Mar. 3-10..... | | 17 | .06 | 5.5 | 3.2 | 15 | 1.5 | 36 | 11 | 12 | .4 | 1.9 | 115 | 26 | 0 | 133 | 7.2 | 28 |
| Mar. 11-14..... | | 11 | .04 | 5.1 | 1.5 | 6.1 | 1.6 | 15 | 8.0 | 6.2 | .2 | 2.2 | 98 | 29 | 6 | 176 | 6.5 | 18 |
| Mar. 15-23..... | | 14 | .14 | 4.5 | 2.7 | 13 | 1.5 | 35 | 10 | 10 | .1 | 2.6 | 101 | 22 | 0 | 149 | 7.2 | 38 |
| Mar. 22-23..... | | 12 | .01 | 6.1 | 1.6 | 8.0 | 1.6 | 23 | 9.2 | 11.4 | .2 | 2.1 | a58 | 22 | 2 | 190 | 7.0 | 12 |
| Mar. 24-31..... | | 13 | .02 | 5.8 | 1.8 | 13 | 1.6 | 33 | 9.6 | 11.4 | .2 | 1.8 | a36 | 22 | 2 | 173 | 7.2 | 13 |
| Apr. 1-3..... | | 13 | .03 | 5.6 | 1.3 | 5.2 | 1.4 | 16 | 8.0 | 4.4 | .2 | 2.6 | a50 | 19 | 6 | 72 | 6.8 | 13 |
| Apr. 4-7..... | | 14 | .09 | 5.1 | 2.5 | 13 | 1.5 | 32 | 8.8 | 10 | .1 | 1.7 | 81 | 24 | 0 | 116 | 6.7 | 32 |
| Apr. 8-11..... | | 8.5 | .09 | 4.6 | 1.4 | 4.7 | 1.7 | 16 | 6.8 | 3.0 | .2 | 2.3 | 57 | 17 | 4 | 63 | 6.5 | 40 |
| Apr. 12-18..... | | 14 | .02 | 5.8 | 2.0 | 12 | 1.4 | 30 | 8.0 | 8.0 | .2 | 1.8 | 67 | 23 | 0 | 98 | 7.2 | 60 |
| Apr. 19-24..... | | 15 | .10 | 7.2 | 1.8 | 19 | 1.8 | 45 | 10 | 13 | .1 | 1.3 | 94 | 26 | 0 | 150 | 7.4 | 22 |
| Apr. 25-30..... | | 14 | .08 | 8.2 | 2.7 | 27 | 2.4 | 60 | 12 | 21 | .2 | 1.3 | 119 | 32 | 0 | 202 | 7.6 | 15 |
| May 1-5..... | | 13 | .17 | 8.5 | 3.7 | 32 | 2.8 | 80 | 13 | 22 | .1 | .2 | 135 | 36 | 0 | 222 | 7.4 | 15 |
| May 6-17..... | | 17 | .02 | 10 | 3.8 | 50 | 3.8 | 103 | 17 | 31 | .2 | 4.0 | 191 | 42 | 0 | 332 | 7.8 | 15 |
| May 18-27..... | | 18 | .02 | 11 | 4.3 | 66 | 4.4 | 131 | 21 | 40 | .0 | 4.3 | 236 | 44 | 0 | 385 | 7.7 | 18 |
| May 28-31..... | | 10 | .07 | 5.8 | 2.3 | 18 | 2.9 | 41 | 11 | 14 | .2 | 1.0 | a85 | 24 | 0 | 143 | 7.4 | 10 |
| June 1..... | -- | 16 | .06 | 6.0 | 2.5 | 16 | -- | 70 | -- | 16 | -- | -- | -- | 36 | 0 | 203 | 7.5 | -- |
| June 2-9..... | | 19 | .11 | 11 | 2.7 | 43 | 3.8 | 82 | 17 | 31 | .2 | 3.8 | a172 | 38 | 0 | 262 | 6.8 | -- |
| June 10-13..... | | | | | | | | | | | | | | | | | | |
| June 14-16..... | | 14 | .07 | 5.7 | 2.4 | 16 | 2.7 | 37 | 12 | 12 | .2 | 1.5 | a85 | 24 | 0 | 119 | 7.5 | 90 |
| June 17-18..... | | 15 | .06 | 7.7 | 2.7 | 25 | 3.0 | 56 | 13 | 17 | .1 | 2.4 | a114 | 30 | 0 | 178 | 7.9 | 37 |
| June 19-21..... | | 13 | .07 | 7.4 | 3.1 | 30 | 3.1 | 56 | 14 | 24 | .2 | 3.0 | 135 | 32 | 0 | 204 | 7.7 | 38 |
| June 22-23..... | | 15 | .02 | 8.7 | 3.9 | 47 | 3.9 | 99 | 19 | 29 | .2 | 2.1 | a178 | 38 | 0 | 285 | 7.7 | 55 |
| June 24-25..... | | 12 | .04 | 6.7 | 2.5 | 22 | 2.8 | 48 | 12 | 15 | .2 | 3.7 | a101 | 28 | 0 | 158 | 7.1 | 32 |
| June 26-27..... | | 12 | .00 | 6.1 | 2.9 | 16 | 2.5 | 36 | 11 | 14 | .1 | 4.1 | a87 | 27 | 0 | 134 | 7.3 | 55 |

QUALITY OF SURFACE WATERS, 1962

PEE DEE RIVER BASIN--Continued

2-1256.81. ROCKY RIVER AT GADDY, NEAR NORWOOD, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962

/Once-daily measurement at approximately 1700/

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|---------|------|------|------|------|------|------|------|-----|------|------|------|-------|
| 1.. | 75 | 65 | 44 | 36 | 45 | 54 | 60 | 80 | 79 | 78 | 87 | 84 |
| 2.. | 75 | 79 | 47 | 38 | 43 | 46 | 57 | 78 | 75 | 80 | 84 | 86 |
| 3.. | 71 | 70 | 50 | 38 | 45 | 45 | 55 | 75 | 76 | 80 | 80 | 85 |
| 4.. | 68 | 72 | 54 | 40 | 50 | 44 | 55 | 74 | 76 | 76 | 86 | 85 |
| 5.. | 66 | 72 | 53 | 41 | 51 | 45 | 55 | 74 | 74 | 79 | 85 | 86 |
| 6.. | 66 | 67 | 50 | 41 | 48 | 43 | 60 | 74 | 75 | 79 | 83 | 74 |
| 7.. | 67 | 70 | 51 | 48 | 44 | 44 | 61 | 75 | 78 | 80 | 85 | 74 |
| 8.. | 66 | 62 | 48 | 45 | 42 | 45 | 61 | 77 | 77 | 80 | 86 | 80 |
| 9.. | 65 | 55 | 44 | 42 | 40 | 45 | 63 | 76 | 78 | 84 | 85 | 80 |
| 10.. | 64 | 55 | 44 | 40 | 43 | 47 | 58 | 70 | 80 | 85 | 84 | 82 |
| 11.. | 78 | 55 | 50 | 36 | 42 | 52 | 59 | 72 | 80 | 84 | 84 | 84 |
| 12.. | 70 | 62 | 50 | 36 | 44 | 50 | 55 | 70 | 81 | 82 | 82 | 84 |
| 13.. | 70 | 62 | 51 | 35 | 43 | 51 | 56 | 73 | 74 | 82 | 82 | 83 |
| 14.. | 65 | 62 | 47 | 35 | 50 | 52 | -- | 76 | 75 | 86 | 86 | 83 |
| 15.. | 62 | 65 | 48 | 43 | 47 | 50 | 54 | 80 | 78 | 88 | 79 | 85 |
| 16.. | 64 | 65 | 43 | 40 | 45 | 51 | 55 | 82 | 78 | 84 | 84 | 74 |
| 17.. | 63 | 62 | 49 | 38 | 48 | 52 | 54 | 81 | 81 | 85 | 86 | 73 |
| 18.. | 64 | 56 | 52 | 38 | 45 | 43 | 56 | 84 | 82 | 84 | 84 | 73 |
| 19.. | 65 | 52 | -- | 37 | 50 | 50 | 60 | 84 | 83 | 84 | 84 | 74 |
| 20.. | 66 | 52 | -- | 37 | 48 | 55 | 58 | 84 | 76 | 88 | 86 | 73 |
| 21.. | 58 | 48 | 44 | 38 | 45 | 64 | 62 | 84 | 78 | 89 | 87 | 70 |
| 22.. | 62 | 48 | 44 | 45 | 51 | 55 | 62 | 83 | 83 | 89 | 85 | 68 |
| 23.. | 61 | 54 | 43 | 50 | 55 | 55 | 64 | 82 | 82 | 87 | 84 | 68 |
| 24.. | 63 | 53 | 42 | 47 | 58 | 58 | 64 | 83 | 79 | 90 | 80 | 70 |
| 25.. | 63 | -- | 41 | 51 | 50 | 56 | 66 | 84 | 80 | 83 | 82 | 70 |
| 26.. | 63 | 50 | 40 | 56 | 47 | 52 | 69 | 85 | 80 | 83 | 84 | 70 |
| 27.. | 57 | 50 | 40 | 44 | 53 | 53 | 73 | 85 | 75 | 80 | 80 | 73 |
| 28.. | 57 | 50 | 42 | 43 | 57 | 58 | 73 | 74 | 73 | 82 | 83 | 71 |
| 29.. | 58 | 45 | 40 | 42 | -- | -- | 74 | 73 | 78 | 83 | 83 | 70 |
| 30.. | 66 | 45 | 37 | 45 | -- | -- | 77 | 78 | 76 | 83 | 83 | 70 |
| 31.. | 62 | -- | 36 | 42 | -- | -- | -- | 77 | -- | 81 | 84 | -- |
| Average | 65 | 59 | 46 | 42 | 47 | 51 | 61 | 78 | 78 | 83 | 84 | 77 |

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, 6 miles west of Rockingham, Richmond County, and 192 miles upstream from mouth in Wingham Bay.

DRAINAGE AREA.--6,870 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: October 1946 to September 1948, October 1957 to September 1962.

EXTREMES.--Maximum dissolved solids: 1946, 22 ppm; 1947, 22 ppm; 1948, 22 ppm; 1957, 22 ppm; 1962, 22 ppm.

Hardness: Maximum, 22 ppm; 1946, 22 ppm; 1947, 22 ppm; 1948, 22 ppm; 1957, 22 ppm; 1962, 22 ppm.

Specific conductance: Maximum, 110 microhmhos Sept. 1, 1962; minimum, 45 microhmhos Mar. 1-31.

Water temperatures: Maximum, 85°F Sept. 1, 1962; minimum, freezing point on many days during year, 4, 5, 10, 14, 18.

EXTREMES, 1946-48, 1957-62.--Dissolved solids: Maximum, 72 ppm Nov. 1-30, 1961; minimum, 38 ppm Mar. 1-10, 1948.

Hardness: Maximum, 24 ppm on several days in March 1948 and November 1959; minimum, 11 ppm Feb. 1-10, 1958.

Specific conductance (1957-62): Maximum daily, 152 microhmhos Nov. 17, 1959; minimum daily, 46 microhmhos Feb. 17-19, 1960.

Water temperatures: Maximum, 85°F Sept. 1, 2, 1962; minimum, freezing point on many days in 1961-62.

REMARKS.--Records of specific conductance of daily samples from October 1957 to September 1962 and records of suspended matter of composite samples from October 1946 to September 1948, October 1957 to September 1958 available in district office at Raleigh, N. C.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (microhmhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Oct. 1-31, 1961..... | 1,687 | 13 | 0.00 | 5.2 | 1.6 | 10 | 2.2 | 35 | 4.4 | 6.3 | 0.1 | 1.8 | ag2 | 20 | 0 | 89 | 7.2 | 5 |
| Nov. 1-30..... | 2,397 | 13 | .00 | 5.2 | 1.6 | 12 | 2.3 | 37 | 5.0 | 9.0 | .2 | 1.8 | 72 | 20 | 0 | 100 | 7.1 | 5 |
| Dec. 1-31..... | 6,976 | 12 | .01 | 4.9 | 1.7 | 8.8 | 2.3 | 34 | 4.8 | 7.0 | .2 | 2.0 | 63 | 19 | 0 | 91 | 7.0 | 0 |
| Jan. 1-31, 1962..... | 17,340 | 11 | .02 | 5.1 | 1.5 | 7.3 | 2.0 | 28 | 4.8 | 5.5 | .1 | 1.3 | 57 | 19 | 0 | 80 | 7.2 | 22 |
| Feb. 1-28..... | 15,030 | 11 | .04 | 4.5 | 1.5 | 5.5 | 1.6 | 22 | 7.0 | 4.5 | .1 | 1.5 | 52 | 17 | 0 | 69 | 7.2 | 27 |
| Mar. 1-31..... | 14,680 | 8.5 | .05 | 4.3 | 1.3 | 4.0 | 1.3 | 17 | 5.8 | 3.9 | .1 | 1.7 | 45 | 16 | 2 | 59 | 7.1 | 35 |
| Apr. 1-30..... | 17,140 | 9.8 | .02 | 4.8 | 1.6 | 5.2 | 1.4 | 21 | 5.2 | 2.4 | .1 | 1.8 | 47 | 18 | 2 | 64 | 7.3 | 12 |
| May 1-31..... | 5,042 | 11 | .00 | 4.6 | 1.6 | 7.0 | 1.5 | 27 | 6.4 | 5.0 | .0 | 1.8 | ag2 | 18 | 0 | 73 | 7.4 | 15 |
| June 1-30..... | 10,090 | 11 | .08 | 4.6 | 1.4 | 6.8 | 1.7 | 28 | 4.0 | 4.5 | .1 | 1.6 | 60 | 18 | 0 | 66 | 7.1 | 9 |
| July 1-31..... | 5,599 | 12 | .06 | 5.4 | 1.0 | 6.1 | 1.7 | 27 | 4.6 | 4.6 | .2 | 1.8 | 57 | 18 | 0 | 71 | 6.9 | 23 |
| Aug. 1-31..... | 3,217 | 12 | .04 | 4.9 | 1.7 | 7.9 | 2.0 | 31 | 4.6 | 6.8 | .2 | 1.8 | 61 | 19 | 0 | 78 | 7.4 | 18 |
| Sept. 1-30..... | 3,677 | 11 | .02 | 5.2 | 2.1 | 8.8 | 2.1 | 33 | 4.8 | 5.9 | .2 | 1.9 | 62 | 22 | 0 | 84 | 7.2 | 22 |
| Time-weighted average..... | 8,522 | 11 | 0.03 | 4.9 | 1.5 | 7.5 | 1.8 | 28 | 5.1 | 5.4 | 0.1 | 1.7 | 57 | 19 | 0 | 77 | -- | 16 |

a Calculated from determined constituents.

QUALITY OF SURFACE WATERS, 1962

PEE DEE RIVER BASIN--Continued

2-1290. PEE DEE RIVER NEAR ROCKINGHAM, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962

(Once-daily measurement at approximately 0700)

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|---------|------|------|------|------|------|------|------|-----|------|------|------|-------|
| 1.. | 55 | 44 | 35 | 32 | 32 | 36 | 45 | 64 | 70 | 70 | 74 | 85 |
| 2.. | 54 | 43 | 35 | 32 | 32 | 36 | 46 | 64 | 70 | 70 | 75 | 85 |
| 3.. | 54 | 43 | 35 | 32 | 32 | 36 | 46 | 65 | 71 | 70 | 75 | -- |
| 4.. | 53 | 44 | 34 | 32 | 32 | 36 | 48 | 65 | 71 | 71 | 75 | 73 |
| 5.. | 53 | 43 | 34 | 32 | 32 | 35 | 49 | 65 | 71 | 71 | 75 | 75 |
| 6.. | 52 | 43 | 34 | 32 | -- | 36 | 49 | 64 | 72 | 71 | 75 | 73 |
| 7.. | 52 | 43 | 33 | 32 | 32 | 37 | 49 | 65 | 72 | 71 | 75 | 75 |
| 8.. | 52 | 43 | 33 | 32 | 32 | 37 | 50 | 66 | 72 | 71 | 75 | 75 |
| 9.. | 52 | 42 | 33 | 32 | 32 | 37 | 50 | 67 | 72 | 71 | 75 | 76 |
| 10.. | 52 | 42 | 33 | 32 | 32 | 37 | 51 | 67 | 73 | 71 | 75 | 78 |
| 11.. | 52 | 41 | 33 | 32 | 32 | 38 | 51 | 67 | 73 | 71 | 75 | 75 |
| 12.. | 51 | 42 | 33 | 32 | 32 | 38 | 52 | 66 | 73 | 71 | 75 | 78 |
| 13.. | 51 | 42 | 33 | 32 | 32 | 39 | 52 | 66 | 74 | 71 | 75 | 79 |
| 14.. | 51 | 42 | 33 | 32 | 32 | 39 | 52 | 67 | 74 | 71 | 75 | 77 |
| 15.. | 51 | 42 | 33 | 32 | 32 | 40 | 52 | 67 | 74 | 72 | 76 | 78 |
| 16.. | 50 | 42 | 32 | 32 | 32 | 40 | 53 | 67 | 74 | 72 | 77 | 76 |
| 17.. | 49 | 41 | 32 | 32 | 32 | 40 | 53 | 68 | 73 | 72 | 77 | 78 |
| 18.. | 49 | 40 | 32 | 32 | 32 | 40 | 54 | -- | 73 | 72 | 78 | 76 |
| 19.. | 49 | 40 | 32 | 32 | 32 | 41 | 54 | 59 | 73 | 73 | 79 | 73 |
| 20.. | 50 | 40 | 32 | 32 | 34 | 41 | 56 | 59 | 72 | 73 | 79 | 72 |
| 21.. | 49 | 39 | 32 | 32 | 34 | 41 | 57 | 60 | 72 | 73 | 79 | 73 |
| 22.. | 48 | 39 | 32 | 32 | 34 | 41 | 58 | 61 | 72 | 73 | 79 | 73 |
| 23.. | 48 | 38 | 32 | 32 | 34 | 42 | 59 | 62 | 71 | 73 | 81 | 71 |
| 24.. | 47 | 38 | 32 | 32 | 34 | 42 | 58 | 63 | 71 | 73 | 81 | 72 |
| 25.. | 46 | 38 | 32 | 32 | 34 | 42 | 59 | 64 | 71 | 74 | 82 | 73 |
| 26.. | 45 | 37 | 32 | 32 | 35 | 43 | 60 | 65 | 70 | 74 | 82 | 71 |
| 27.. | 45 | 37 | 32 | 32 | 35 | 43 | 60 | 66 | 70 | 74 | 82 | 72 |
| 28.. | 45 | 36 | 32 | 32 | 35 | 43 | 60 | 67 | 70 | 74 | 83 | 71 |
| 29.. | 44 | 36 | 32 | 32 | -- | 44 | 61 | 68 | 70 | 74 | 84 | 70 |
| 30.. | 44 | 36 | 32 | 32 | -- | 44 | 62 | 68 | 70 | 74 | 84 | 70 |
| 31.. | 44 | -- | 32 | 32 | -- | 45 | -- | 69 | -- | 74 | 84 | -- |
| Average | 50 | 41 | 33 | 32 | 33 | 40 | 54 | 65 | 72 | 72 | 78 | 75 |

PEE DEE RIVER BASIN--Continued

2-1310. PEE DEE RIVER AT PEEDEE, S. C.

LOCATION.--At gaging station at bridge on U.S. Highway 76 at Peedee, Marion County, 0.2 mile downstream from Atlantic Coast Line Railroad bridge, and 8.5 miles downstream from Black Creek, approximately.
 DRAINAGE AREA (revised).--8,830 square miles, approximately.
 RECORDS AVAILABLE.--Chemical analyses: October 1948 to September 1949, October 1961 to August 1962.

Chemical analyses, in parts per million, October 1961 to August 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium, magnesium | Non-carbonate | | | |
| Oct. 19, 1961..... | 2,080 | 8.0 | 0.03 | 3.7 | 1.0 | 12 | 2.0 | 36 | 5.2 | 6.1 | 0.2 | 0.7 | 67 | 13 | 0 | 93 | 7.1 | 15 |
| Dec. 1..... | 4,200 | 8.7 | .00 | 3.2 | 1.7 | 12 | 2.1 | 32 | 5.0 | 9.8 | .1 | .2 | 62 | 15 | 0 | 93 | 6.5 | 10 |
| Jan. 4, 1962..... | 9,200 | 11 | .07 | 3.2 | 1.6 | 7.4 | 1.9 | 22 | 5.6 | 6.0 | .1 | 1.0 | 58 | 14 | 0 | 67 | 6.5 | 65 |
| Feb. 1..... | 19,200 | 9.9 | .04 | 3.5 | 1.7 | 5.6 | 1.7 | 16 | 6.4 | 4.5 | .1 | 1.1 | 46 | 16 | 3 | 59 | 6.4 | 22 |
| Mar. 21..... | 22,000 | 8.4 | .05 | 3.4 | 1.3 | 5.2 | 1.2 | 17 | 5.0 | 5.0 | .2 | .2 | 45 | 14 | 0 | 54 | 6.2 | 35 |
| Mar. 30..... | 15,400 | 9.1 | .02 | 3.1 | 1.5 | 5.6 | 1.3 | 20 | 5.2 | 5.0 | .2 | .7 | 50 | 14 | 0 | 58 | 6.5 | 18 |
| May 9..... | 7,260 | 9.3 | .06 | 3.9 | 1.3 | 6.0 | 1.5 | 24 | 4.6 | 5.0 | .2 | 1.2 | 45 | 16 | 0 | 63 | 7.1 | 5 |
| July 12..... | 7,340 | 8.6 | .04 | 4.2 | 1.2 | 5.5 | 1.9 | 23 | 4.2 | 4.6 | .1 | 2.0 | 45 | 16 | 0 | 61 | 6.9 | 30 |
| Aug. 2..... | 5,620 | 8.5 | .06 | 3.8 | 1.5 | 8.8 | 1.8 | 28 | 6.0 | 6.5 | .2 | 1.5 | a53 | 16 | 0 | 74 | 6.5 | 8 |
| Aug. 30..... | 4,640 | 8.9 | .01 | 4.1 | 2.5 | 9.7 | 2.0 | 31 | 5.8 | 8.0 | .1 | .8 | 57 | 20 | 0 | 85 | 7.0 | 20 |

a Calculated from determined constituents.

PEE DEE RIVER BASIN--Continued

2-1320. LYNCHES RIVER AT EFFINGHAM, S. C.

LOCATION.--At gaging station at bridge on U.S. Highway 52, 75 feet upstream from Atlantic Coast Lane Railroad bridge, and 1 mile south of Effingham, Florence County.

DRAINAGE AREA.--1,030 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1962, October 1960 to August 1962.

Water temperatures: October 1961 to September 1962: Maximum, 88°F; July 23, 24; minimum, 35°F Jan. 13.

EXTREMES, 1961-62.--Water temperatures: Maximum, 88°F Aug. 10, 13, 1960, July 30, 31, 1961; minimum, 33°F Mar. 12, 1960.

EXTREMES, 1954-62.--Water temperatures: Maximum, 89°F Aug. 10, 13, 1960, July 30, 31, 1961; minimum, 33°F Mar. 12, 1960.

Chemical analyses, in parts per million, October 1961 to August 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Oct. 19, 1961..... | 291 | 7.5 | 0.10 | 1.4 | 0.5 | 8.4 | 1.0 | 21 | 2.0 | 4.4 | 0.1 | 0.9 | 43 | 6 | 0 | 57 | 6.4 | 25 |
| Oct. 31..... | 284 | 7.4 | .11 | 1.5 | .5 | 9.7 | .9 | 20 | 3.4 | 6.6 | .1 | .6 | a41 | 6 | 0 | 64 | 6.5 | 28 |
| Dec. 1..... | 676 | 9.5 | .14 | 1.9 | 1.0 | 5.0 | 1.3 | 7 | 6.0 | 9.0 | .0 | .5 | 44 | 9 | 4 | 51 | 5.9 | 43 |
| Jan. 4, 1962..... | 720 | 8.9 | .20 | 2.2 | .5 | 6.9 | .7 | 12 | 6.4 | 6.9 | .1 | .2 | a39 | 8 | 0 | 49 | 6.3 | 80 |
| Feb. 1..... | 1,250 | 7.6 | .18 | 2.0 | 1.1 | 5.6 | 1.0 | 11 | 4.4 | 7.5 | .2 | .7 | 42 | 10 | 0 | 53 | 6.6 | 55 |
| Feb. 28..... | 3,200 | 5.6 | .19 | 2.9 | 1.2 | 4.1 | 1.1 | 8 | 6.4 | 5.4 | .1 | .6 | 46 | 12 | 6 | 47 | 6.0 | 110 |
| Mar. 30..... | 1,790 | 3.8 | .10 | 1.9 | 1.2 | 5.2 | .8 | 12 | 3.6 | 6.5 | .2 | .5 | 41 | 10 | 0 | 46 | 6.2 | 65 |
| Apr. 30..... | 765 | 6.0 | .14 | 2.6 | .6 | 7.1 | 1.0 | 17 | 2.8 | 8.0 | .1 | .7 | 38 | 10 | 0 | 56 | 7.1 | 27 |
| May 31..... | 284 | 6.9 | .10 | 2.2 | .7 | 8.3 | 1.0 | 22 | 3.2 | 5.5 | .2 | .9 | a40 | 8 | 0 | 50 | 7.2 | 25 |
| June 29..... | 788 | 6.6 | .10 | 2.2 | .7 | 8.4 | 1.1 | 13 | 3.4 | 5.8 | .2 | 1.5 | 46 | 8 | 0 | 50 | 6.5 | 55 |
| July 31..... | 356 | 6.6 | .10 | 2.1 | .8 | 9.7 | 1.1 | 18 | 4.2 | 8.0 | .1 | 1.2 | 50 | 8 | 0 | 65 | 7.0 | 50 |
| Aug. 30..... | 256 | 7.0 | .13 | 2.1 | 1.1 | 12 | 1.0 | 21 | 5.8 | 10 | .1 | .5 | 53 | 10 | 0 | 78 | 6.4 | 40 |

^a Calculated from determined constituents.

PEE DEE RIVER BASIN--Continued
 2-1320. LYNCHES RIVER AT EFFINGHAM, S. C.--Continued

| 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.. 71 | 69 | 64 | 61 | 46 | 44 | 40 | 40 | 40 | 49 | 46 | 61 | 57 | 68 | 64 | 76 | 70 | 81 | 78 | 77 | 70 | 85 | 79 | 81 | 75 |
| 2.. 70 | 69 | 66 | 62 | 48 | 45 | 40 | 40 | 50 | 47 | 57 | 49 | 66 | 62 | 76 | 72 | 79 | 76 | 78 | 74 | 86 | 80 | 81 | 75 | 75 |
| 3.. 70 | 68 | 66 | 64 | 51 | 48 | 41 | 39 | 50 | 48 | 49 | 47 | 62 | 57 | 75 | 70 | 78 | 75 | 79 | 75 | 84 | 81 | 81 | 76 | 76 |
| 4.. 68 | 65 | 65 | 51 | 48 | 42 | 40 | 52 | 48 | 47 | 45 | 60 | 56 | 72 | 68 | 75 | 73 | 78 | 76 | 82 | 79 | 83 | 77 | 83 | 77 |
| 5.. 66 | 62 | 67 | 66 | 52 | 50 | 44 | 41 | 52 | 51 | 48 | 46 | 59 | 56 | 71 | 66 | 77 | 78 | 76 | 85 | 78 | 81 | 78 | 81 | 78 |
| 6.. 65 | 61 | 68 | 66 | 52 | 52 | 49 | 44 | 53 | 52 | 48 | 45 | 59 | 58 | 73 | 66 | 78 | 73 | 79 | 75 | 85 | 80 | 78 | 73 | 73 |
| 7.. 65 | 60 | 68 | 63 | 53 | 49 | 47 | 47 | 52 | 47 | 44 | 46 | 62 | 57 | 75 | 68 | 78 | 74 | 80 | 75 | 84 | 78 | 73 | 71 | 71 |
| 8.. 65 | 60 | 63 | 53 | 49 | 47 | 47 | 44 | 46 | 44 | 46 | 46 | 58 | 54 | 75 | 72 | 75 | 72 | 84 | 78 | 80 | 77 | 76 | 73 | 73 |
| 9.. 65 | 60 | 63 | 58 | 49 | 47 | 48 | 45 | 48 | 44 | 46 | 46 | 58 | 54 | 75 | 72 | 75 | 72 | 84 | 78 | 80 | 77 | 76 | 73 | 73 |
| 10.. 66 | 61 | 59 | 55 | 50 | 48 | 46 | 42 | 48 | 46 | 49 | 46 | 68 | 65 | 73 | 69 | 76 | 71 | 85 | 79 | 79 | 75 | 79 | 75 | 75 |
| 11.. 66 | 62 | 57 | 55 | 51 | 50 | 42 | 39 | 47 | 44 | 49 | 48 | 68 | 66 | 73 | 68 | 76 | 71 | 86 | 80 | 79 | 75 | 81 | 77 | 77 |
| 12.. 67 | 62 | 59 | 57 | 54 | 51 | 39 | 37 | 48 | 44 | 55 | 48 | 67 | 66 | 74 | 69 | 75 | 74 | 85 | 78 | 79 | 74 | 83 | 78 | 78 |
| 13.. 67 | 63 | 61 | 58 | 56 | 54 | 38 | 35 | 47 | 44 | 56 | 53 | 67 | 65 | 73 | 69 | 75 | 73 | 82 | 77 | 78 | 72 | 82 | 78 | 78 |
| 14.. 66 | 63 | 61 | 61 | 55 | 52 | 38 | 37 | 49 | 46 | 56 | 54 | 65 | 60 | 74 | 70 | 79 | 73 | 85 | 79 | 78 | 75 | 83 | 77 | 77 |
| 15.. 63 | 60 | 64 | 61 | 52 | 51 | 41 | 38 | 49 | 47 | 55 | 54 | 60 | 58 | 78 | 71 | 78 | 74 | 87 | 81 | 78 | 75 | 82 | 78 | 78 |
| 16.. 62 | 58 | 64 | 63 | 51 | 49 | 42 | 40 | 49 | 47 | 55 | 53 | 58 | 54 | 78 | 73 | 80 | 75 | 87 | 84 | 79 | 75 | 81 | 77 | 77 |
| 17.. 63 | 58 | 63 | 62 | 59 | 48 | 43 | 40 | 49 | 44 | 54 | 52 | 56 | 53 | 79 | 73 | 81 | 72 | 85 | 77 | 82 | 77 | 81 | 78 | 78 |
| 18.. 64 | 59 | 63 | 63 | 53 | 48 | 42 | 40 | 47 | 44 | 54 | 51 | 59 | 52 | 80 | 73 | 82 | 76 | 84 | 79 | 81 | 75 | 81 | 78 | 78 |
| 19.. 63 | 59 | 62 | 63 | 56 | 53 | 43 | 41 | 50 | 47 | 54 | 51 | 59 | 52 | 80 | 73 | 82 | 76 | 84 | 79 | 81 | 75 | 81 | 78 | 78 |
| 20.. 63 | 59 | 64 | 63 | 56 | 53 | 42 | 41 | 53 | 49 | 57 | 53 | 61 | 57 | 81 | 73 | 81 | 77 | 84 | 80 | 82 | 77 | 78 | 73 | 73 |
| 21.. 59 | 57 | 53 | 50 | 53 | 49 | 43 | 40 | 52 | 49 | 61 | 57 | 60 | 55 | 80 | 76 | 82 | 77 | 85 | 80 | 82 | 78 | 73 | 68 | 65 |
| 22.. 61 | 57 | 52 | 49 | 49 | 46 | 47 | 42 | 54 | 49 | 61 | 50 | 62 | 56 | 81 | 75 | 81 | 78 | 87 | 80 | 82 | 79 | 68 | 65 | 65 |
| 23.. 61 | 57 | 53 | 51 | 48 | 46 | 49 | 47 | 59 | 54 | 61 | 59 | 65 | 59 | 80 | 76 | 82 | 76 | 88 | 82 | 81 | 78 | 67 | 64 | 64 |
| 24.. 60 | 57 | 55 | 53 | 48 | 46 | 51 | 49 | 64 | 59 | 61 | 57 | 67 | 63 | 83 | 76 | 84 | 79 | 88 | 84 | 81 | 76 | 67 | 64 | 64 |
| 25.. 61 | 57 | 54 | 51 | 46 | 43 | 55 | 51 | 64 | 58 | 61 | 58 | 66 | 63 | 84 | 77 | 84 | 79 | 87 | 82 | 81 | 77 | 66 | 62 | 62 |
| 26.. 62 | 59 | 52 | 49 | 44 | 41 | 58 | 55 | 58 | 56 | 61 | 56 | 68 | 63 | 85 | 78 | 83 | 80 | 86 | 81 | 80 | 77 | 66 | 64 | 64 |
| 27.. 60 | 56 | 53 | 51 | 44 | 41 | 59 | 57 | 59 | 55 | 59 | 54 | 68 | 65 | 85 | 79 | 80 | 76 | 85 | 79 | 77 | 75 | 68 | 64 | 64 |
| 28.. 58 | 54 | 53 | 51 | 45 | 44 | 59 | 52 | 61 | 59 | 60 | 56 | 70 | 66 | 83 | 79 | 76 | 74 | 83 | 77 | 80 | 74 | 68 | 64 | 64 |
| 29.. 60 | 56 | 51 | 48 | 45 | 42 | 52 | 49 | -- | -- | 62 | 57 | 73 | 68 | 82 | 78 | 76 | 72 | 82 | 78 | 82 | 76 | 66 | 63 | 63 |
| 30.. 61 | 57 | 48 | 45 | 42 | 39 | 51 | 48 | -- | -- | 63 | 60 | 74 | 70 | 83 | 75 | 72 | 80 | 77 | 81 | 76 | 66 | 62 | 62 | 62 |
| 31.. 63 | 60 | -- | -- | -- | 40 | 38 | 51 | 49 | -- | -- | 63 | 62 | -- | -- | 83 | 78 | -- | 83 | 79 | 80 | 76 | -- | -- | -- |
| Aver. 64 | 60 | 60 | 57 | 50 | 47 | 46 | 44 | 52 | 49 | 55 | 52 | 64 | 61 | 78 | 73 | 79 | 75 | 83 | 78 | 81 | 77 | 76 | 72 | 72 |

Temperature °F of water, water year October 1961 to September 1962
 Continuous ethyl alcohol-actuated thermograph

PEE DEE RIVER BASIN--Continued

2-1335. DROWNING CREEK NEAR HOFFMAN, N. C.

LOCATION.--Temperature recorder at gaging station, 10 feet downstream from bridge on U.S. Highway 1, 0.8 mile downstream from Deep Creek, 1 mile upstream from Seaward and Line Railroad 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 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 76°F July 15-17; minimum, 35°F Jan. 12-15.
EXTREMES, 1953-62.--Water temperatures: Maximum, 77°F Aug. 21, 1955; Aug. 1, 2, 1958, July 31, 1961; minimum, 33°F on several days in March 1960.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Mar. 2, 1962..... | 363 | 4.4 | 0.05 | 0.8 | 0.6 | 1.8 | 0.4 | 3 | 4.4 | 2.4 | 0.0 | 0.7 | 17 | 4 | 2 | 23 | 5.5 | 50 |
| Aug. 16..... | 93.8 | 5.2 | .29 | .7 | .4 | 1.8 | .2 | 4 | .4 | 2.6 | .1 | 1.5 | 15 | 4 | 0 | 22 | 5.8 | 45 |

PEE DEE RIVER BASIN--Continued

2-1335. DROWNING CREEK NEAR HOFFMAN, N. C.--Continued
 Temperature °F of water, water year October 1961 to September 1962
 Continuous ethyl alcohol radiated thermometer

| 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 | 61 | 59 | 44 | 43 | 39 | 38 | 43 | 40 | 57 | 51 | 63 | 59 | 70 | 66 | 70 | 69 | 68 | 66 | 73 | 71 | 72 | 70 |
| 2.. | 66 | 64 | 60 | 45 | 43 | 40 | 39 | 43 | 42 | 51 | 45 | 60 | 55 | 70 | 67 | 70 | 69 | 68 | 67 | 72 | 71 | 72 | 71 | |
| 3.. | 66 | 64 | 62 | 47 | 45 | 40 | 39 | 44 | 42 | 45 | 42 | 55 | 50 | 70 | 67 | 70 | 69 | 68 | 67 | 72 | 71 | 73 | 72 | |
| 4.. | 66 | 60 | 66 | 64 | 48 | 47 | 41 | 39 | 46 | 43 | 43 | 42 | 54 | 49 | 67 | 64 | 70 | 69 | 70 | 69 | 73 | 71 | 74 | |
| 5.. | 63 | 60 | 66 | 65 | 49 | 48 | 41 | 41 | 48 | 46 | 43 | 42 | 54 | 49 | 65 | 62 | 70 | 69 | 70 | 69 | 73 | 71 | 74 | |
| 6.. | 58 | 58 | 64 | 65 | 49 | 49 | 49 | 49 | 43 | 48 | 46 | 43 | 42 | 54 | 53 | 65 | 62 | 70 | 68 | 70 | 68 | 73 | 72 | |
| 7.. | 59 | 57 | 66 | 64 | 49 | 48 | 49 | 47 | 46 | 43 | 44 | 41 | 58 | 54 | 65 | 63 | 70 | 69 | 70 | 70 | 73 | 72 | 74 | |
| 8.. | 59 | 57 | 64 | 60 | 48 | 45 | 47 | 46 | 43 | 41 | 44 | 41 | 52 | 58 | 67 | 64 | 70 | 68 | 71 | 70 | 74 | 72 | 68 | |
| 9.. | 60 | 57 | 60 | 55 | 45 | 44 | 46 | 44 | 42 | 41 | 44 | 43 | 65 | 58 | 67 | 66 | 69 | 67 | 73 | 71 | 74 | 72 | 68 | |
| 10.. | 60 | 58 | 55 | 52 | 45 | 44 | 44 | 40 | 43 | 41 | 47 | 43 | 63 | 59 | 66 | 64 | 68 | 66 | 72 | 71 | 72 | 71 | 70 | |
| 11.. | 61 | 59 | 52 | 51 | 47 | 45 | 40 | 36 | 42 | 39 | 47 | 45 | 62 | 61 | 64 | 63 | 68 | 65 | 72 | 71 | 72 | 70 | 73 | |
| 12.. | 61 | 59 | 54 | 52 | 50 | 47 | 36 | 35 | 42 | 40 | 51 | 45 | 62 | 60 | 65 | 63 | 69 | 68 | 71 | 71 | 70 | 68 | 74 | |
| 13.. | 61 | 59 | 56 | 54 | 52 | 50 | 36 | 35 | 42 | 41 | 51 | 48 | 64 | 60 | 65 | 64 | 69 | 68 | 73 | 71 | 70 | 68 | 73 | |
| 14.. | 61 | 60 | 58 | 56 | 51 | 47 | 36 | 35 | 45 | 42 | 50 | 48 | 60 | 56 | 67 | 64 | 69 | 68 | 74 | 72 | 70 | 68 | 72 | |
| 15.. | 60 | 58 | 60 | 58 | 47 | 47 | 39 | 38 | 45 | 44 | 50 | 49 | 58 | 56 | 69 | 67 | 69 | 68 | 76 | 73 | 70 | 70 | 72 | |
| 16.. | 58 | 56 | 62 | 60 | 47 | 45 | 39 | 38 | 45 | 44 | 50 | 47 | 57 | 51 | 69 | 68 | 69 | 68 | 76 | 74 | 72 | 69 | 72 | |
| 17.. | 57 | 56 | 62 | 60 | 46 | 45 | 39 | 37 | 45 | 43 | 50 | 46 | 55 | 51 | 70 | 68 | 69 | 67 | 76 | 73 | 72 | 71 | 70 | |
| 18.. | 57 | 55 | 60 | 57 | 51 | 45 | 39 | 38 | 45 | 42 | 49 | 45 | 56 | 51 | 70 | 68 | 71 | 68 | 73 | 71 | 73 | 72 | 70 | |
| 19.. | 58 | 56 | 57 | 53 | 51 | 49 | 40 | 38 | 47 | 44 | 48 | 44 | 58 | 53 | 71 | 68 | 72 | 70 | 73 | 72 | 74 | 72 | 69 | |
| 20.. | 58 | 56 | 53 | 50 | 51 | 49 | 40 | 38 | 48 | 46 | 52 | 47 | 58 | 54 | 71 | 69 | 72 | 71 | 73 | 72 | 74 | 72 | 67 | |
| 21.. | 56 | 55 | 50 | 48 | 48 | 44 | 40 | 39 | 48 | 45 | 57 | 52 | 58 | 54 | 72 | 71 | 72 | 70 | 73 | 72 | 75 | 73 | 65 | |
| 22.. | 56 | 55 | 48 | 46 | 44 | 42 | 44 | 40 | 48 | 45 | 57 | 53 | 60 | 55 | 71 | 70 | 72 | 70 | 74 | 72 | 75 | 74 | 63 | |
| 23.. | 58 | 56 | 49 | 47 | 42 | 42 | 46 | 44 | 51 | 48 | 55 | 52 | 62 | 58 | 71 | 69 | 72 | 70 | 74 | 72 | 75 | 74 | 62 | |
| 24.. | 58 | 56 | 52 | 49 | 42 | 42 | 46 | 45 | 58 | 53 | 55 | 50 | 63 | 60 | 72 | 69 | 73 | 70 | 75 | 73 | 74 | 72 | 62 | |
| 25.. | 58 | 56 | 52 | 49 | 42 | 41 | 49 | 46 | 57 | 52 | 54 | 51 | 61 | 60 | 72 | 70 | 73 | 71 | 75 | 74 | 73 | 71 | 62 | |
| 26.. | 58 | 57 | 49 | 47 | 42 | 40 | 52 | 49 | 52 | 50 | 54 | 51 | 65 | 62 | 73 | 70 | 72 | 71 | 74 | 73 | 73 | 71 | 62 | |
| 27.. | 57 | 54 | 49 | 48 | 41 | 40 | 53 | 52 | 53 | 50 | 54 | 48 | 65 | 63 | 73 | 71 | 70 | 74 | 71 | 72 | 72 | 72 | 61 | |
| 28.. | 57 | 54 | 48 | 45 | 43 | 41 | 46 | 42 | 50 | 47 | 56 | 50 | 67 | 65 | 70 | 69 | 71 | 68 | 74 | 71 | 72 | 74 | 62 | |
| 29.. | 54 | 52 | 49 | 48 | 43 | 41 | 46 | 41 | 50 | 47 | 56 | 50 | 67 | 65 | 70 | 69 | 69 | 67 | 70 | 68 | 73 | 71 | 60 | |
| 30.. | 56 | 54 | 48 | 43 | 41 | 40 | 46 | 41 | 50 | 47 | 56 | 50 | 67 | 65 | 70 | 69 | 69 | 67 | 70 | 68 | 73 | 71 | 60 | |
| 31.. | 59 | 56 | 51 | 49 | 46 | 44 | 43 | 41 | 50 | 47 | 56 | 50 | 67 | 65 | 70 | 69 | 69 | 67 | 72 | 70 | 72 | 71 | 60 | |
| Aver. | 56 | 57 | 56 | 54 | 46 | 44 | 43 | 41 | 47 | 44 | 51 | 47 | 61 | 57 | 69 | 67 | 70 | 69 | 72 | 71 | 73 | 71 | 69 | |

SANTÉE RIVER BASIN

2-1424.41. CATAWBA RIVER AT LOOKOUT SHOALS DAM, N. C.

LOCATION.--At Lookout Shoals Dam, 4.5 miles north of Catawba, Catawba County.

DRAINAGE AREA.--1,452 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1962.

Water temperatures: October 1961 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 44 ppm Nov. 8-30; minimum, 35 ppm Apr. 1-30, May 1-31, June 1-30.

Hardness: Maximum, 16 ppm Nov. 7; minimum, 10 ppm Jan. 1-31, Mar. 1-31.

Specific conductance: Maximum daily, 108 micromhos Nov. 7; minimum daily, 39 micromhos Mar. 22, 25, 26, 31, Apr. 1.

Water temperatures: Maximum, 79°F July 23; minimum, 35°F Dec. 29.

REMARKS.--Records of specific conductance of daily samples available in district office at Raleigh, N. C. Records of discharge are given for Catawba River at Catawba. No appreciable inflow between sampling point and gaging station except during periods of heavy local runoff.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| Date of collection | Mean discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Calcium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conductance (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|--------------------------|-------------|-------------------------|--------------------------------------|----------------------------|---------------|-------------------|---------------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-31, 1961..... | 1,306 | 11 | 0.00 | 2.9 | 1.2 | 4.7 | 1.4 | 19 | 2.0 | 4.1 | 0.0 | 0.4 | 39 | 12 | 0 | 48 | 6.7 | 6 |
| Nov. 1-6..... | 1,427 | 11 | .00 | 3.3 | 1.0 | 4.5 | 1.4 | 21 | 3.0 | 3.4 | 0 | .9 | a38 | 12 | 0 | 51 | 6.7 | 5 |
| Nov. 7..... | 1,840 | -- | -- | 4.5 | 1.3 | -- | -- | 23 | -- | 17 | -- | -- | -- | 16 | 0 | 108 | 7.3 | -- |
| Nov. 8-30..... | 2,123 | 11 | .01 | 3.1 | 1.1 | 5.1 | 1.3 | 22 | 3.0 | 3.9 | 1 | 1.1 | 44 | 12 | 0 | 55 | 7.1 | 5 |
| Dec. 1-31..... | 3,552 | 10 | .02 | 3.8 | 1.1 | 4.2 | 1.6 | 19 | 3.2 | 3.8 | 1 | 1.1 | 39 | 14 | 0 | 51 | 7.1 | 28 |
| Jan. 1-31, 1962..... | 3,099 | 9.0 | .03 | 3.2 | .6 | 3.4 | 1.5 | 14 | 2.6 | 3.5 | 1.1 | 1.9 | 38 | 10 | 0 | 46 | 6.6 | 20 |
| Feb. 1-28..... | 3,047 | 11 | .02 | 2.8 | 1.3 | 3.9 | 1.2 | 16 | 2.8 | 4.4 | 1 | 1.1 | a37 | 12 | 0 | 48 | 7.0 | 0 |
| Mar. 1-31..... | 3,839 | 9.7 | .01 | 3.2 | .6 | 3.6 | 1.1 | 15 | 2.4 | 3.3 | 0 | 1.5 | 36 | 10 | 0 | 45 | 7.3 | 10 |
| Apr. 1-30..... | 5,349 | 9.5 | .02 | 3.3 | .9 | 3.7 | 1.0 | 16 | 2.2 | 2.9 | 0 | 1.5 | 35 | 12 | 0 | 44 | 7.0 | 5 |
| May 1-31..... | 2,379 | 9.1 | .00 | 3.4 | 1.0 | 4.0 | .8 | 17 | 2.6 | 3.0 | 0 | 3.3 | a35 | 12 | 0 | 43 | 7.0 | 4 |
| June 1-30..... | 2,645 | 9.8 | .01 | 3.0 | 1.8 | 4.0 | 1.0 | 18 | 1.8 | 3.4 | 0.3 | 3.4 | 35 | 11 | 0 | 40 | 6.9 | 18 |
| July 1-31..... | 2,216 | 11 | .00 | 3.5 | 1.1 | 4.2 | 1.1 | 19 | 2.0 | 3.0 | 0 | 2.8 | 39 | 14 | 0 | 48 | 7.2 | 10 |
| Aug. 1-31..... | 2,058 | 11 | .00 | 3.5 | 1.4 | 4.4 | 1.0 | 20 | 2.2 | 3.0 | 0 | 2.3 | 40 | 15 | 0 | 46 | 7.1 | 10 |
| Sept. 1-30..... | 1,810 | 11 | .01 | 3.8 | .9 | 4.2 | 1.1 | 20 | 2.4 | 4.0 | 0 | 1.6 | 41 | 13 | 0 | 49 | 7.1 | 3 |
| Time-weighted average..... | 2,768 | 10 | 0.01 | 3.3 | 1.0 | 4.1 | 1.2 | 18 | 2.4 | 3.5 | 0.1 | 1.6 | 38 | 12 | 0 | 47 | -- | 10 |

a Calculated from determined constituents.

SANTEE RIVER BASIN--Continued

2-1424.41. CATAWBA RIVER AT LOOKOUT SHOALS DAM, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962
(Once-daily measurement between 0700 and 0900)

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

SANTÉE RIVER BASIN--Continued

2-1435. INDIAN CREEK NEAR LABORATORY, N. C.

LOCATION.--Temperature recorder at gaging station, 250 feet upstream from remains of Rudisill Mill dam, 0.5 mile upstream from highway bridge, 1.5 miles upstream from mouth, 1.5 miles south of Laboratory, Lincoln County, and 3.5 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 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 78°F Aug. 1, 2, 5, 1953; minimum, 33°F Jan. 14.

EXTREMES, 1953-62.--Water temperatures: Maximum, 84°F Aug. 1, 2, 5, 1953; minimum, 33°F on several days in 1954, 1958-59, 1962.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| Date of collection | Mean discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Calcium (Ca) | Magnesium (Mg) | Sodium (Na) | Potassium (K) | Sulfate (SO ₄) | Chloride (Cl) | Fluoride (F) | Nitrate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conductance (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Feb. 12, 1962..... | 90 | 13 | 0.02 | 3.2 | 1.9 | 2.2 | 1.4 | 2.4 | 3.1 | 0.1 | 1.2 | 37 | 16 | 1 | 46 | 6.6 | 0 |
| June 27,..... | 90.7 | 8.8 | .02 | 3.8 | 1.0 | 1.6 | 2.0 | 3.0 | 1.2 | .1 | 2.4 | 32 | 14 | 0 | 46 | 6.3 | 20 |

SANTÉE RIVER BASIN--Continued
2-1435. INDIAN CREEK NEAR LABORATORY, N. C.--Continued

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

Temperature °F of water, water year October 1961 to September 1962

/Continuous ethyl alcohol-actuated thermograph/

SANTÉE RIVER BASIN--Continued

2-1439.08. SOUTH FORK CATAWBA RIVER NEAR STANLEY, N. C.
 LOCATION.--At bridge on State Highway 275, 0.1 mile below Hoyle Creek, 3 miles southwest of Stanley, Gaston County.
 DRAINAGE AREA.--599 square miles.
 RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1962.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 13, 1961..... | 315 | 14 | 0.17 | 3.8 | 1.6 | 8.5 | 1.8 | 26 | 0.4 | 11 | 0.1 | 1.5 | 60 | 16 | 0 | 83 | 6.8 | 30 |
| Nov. 14..... | 348 | 15 | .19 | 3.4 | 2.2 | 4.0 | 1.7 | 24 | 3.0 | 4.9 | .1 | .8 | 52 | 18 | 0 | 60 | 7.2 | 20 |
| Dec. 13..... | 1,380 | 18.6 | .06 | 2.1 | 1.7 | 2.1 | 1.2 | 12 | 3.2 | 3.9 | .0 | .8 | 39 | 10 | 0 | 41 | 6.2 | 110 |
| Jan. 13, 1962..... | 1,850 | 13 | .03 | 2.1 | 1.7 | 2.7 | 1.2 | 15 | 3.6 | 3.5 | .0 | 1.9 | 43 | 11 | 0 | 58 | 6.8 | 110 |
| Feb. 13..... | 685 | 13 | .02 | 2.4 | 1.8 | 4.9 | 1.8 | 20 | 2.8 | 3.8 | .1 | .8 | 49 | 13 | 0 | 58 | 6.6 | 23 |
| Mar. 13..... | 1,250 | 11 | .07 | 3.2 | .9 | 3.3 | 1.1 | 16 | 2.8 | 3.8 | .0 | .8 | 38 | 12 | 0 | 44 | 6.5 | 16 |
| Apr. 15..... | 1,540 | 10 | .05 | 2.6 | 1.5 | 2.3 | 1.6 | 16 | 2.4 | 3.5 | .1 | .4 | 32 | 12 | 0 | 39 | 6.8 | 5 |
| May 15..... | 661 | 12 | .01 | 3.1 | 1.6 | 4.0 | 1.4 | 20 | 2.4 | 4.4 | .2 | .5 | 40 | 14 | 0 | 48 | 6.6 | 5 |
| June 13..... | 7,090 | 6.0 | .00 | 3.4 | .9 | 1.6 | 2.6 | 14 | 3.8 | 3.5 | .2 | .5 | 35 | 12 | 1 | 43 | 6.1 | 6 |
| July 19..... | 1,030 | 12 | .01 | 3.6 | 1.2 | 3.5 | 1.6 | 22 | 1.2 | 4.5 | .2 | .0 | 40 | 14 | 0 | 48 | 6.4 | 5 |
| Aug. 18..... | 481 | 10 | .01 | 3.5 | 1.8 | 5.4 | 1.7 | 24 | 2.8 | 5.6 | .0 | .1 | 49 | 16 | 0 | 60 | 6.5 | 5 |
| Sept. 17..... | 1,000 | 9.3 | .03 | 3.4 | 1.3 | 3.8 | 2.7 | 18 | 4.0 | 5.5 | .1 | .9 | 40 | 14 | 0 | 59 | 6.1 | 10 |

a Calculated from determined constituents.

SANTÉE RIVER BASIN--Continued

2-1460. CATAMBA RIVER NEAR ROCK HILL, S. C.

LOCATION.--At gaging station at bridge on U.S. Highway 21, 3.5 miles downstream from Lake Wylie Dam, 5 miles northeast of Rock Hill, York County, and 7.5 miles upstream from Sugar Creek.

DRAINAGE AREA.--3,050 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1962 (discontinued).

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 17, 1961..... | 1,850 | 11 | 0.01 | 5.0 | 0.9 | 6.8 | 1.5 | 26 | 6.0 | 5.5 | 0.2 | 0.2 | 57 | 16 | 0 | 71 | 6.8 | 15 |
| Nov. 17..... | 3,440 | 11 | .03 | 4.6 | 1.2 | 8.2 | 1.2 | 27 | 8.2 | 7.2 | .1 | .1 | 60 | 16 | 0 | 82 | 6.9 | 5 |
| Dec. 15..... | 10,000 | 11 | .00 | 4.0 | 1.4 | 8.0 | 1.6 | 23 | 7.4 | 8.2 | .1 | .2 | 61 | 16 | 0 | 77 | 6.6 | 5 |
| Jan. 17, 1962..... | 7,800 | 11 | .01 | 3.5 | 1.3 | 5.2 | 1.8 | 17 | 6.4 | 4.2 | .1 | .9 | 50 | 14 | 0 | 59 | 6.5 | 4 |
| Feb. 18..... | 1,870 | 11 | .02 | 3.2 | 1.4 | 4.8 | 2.0 | 20 | 6.2 | 3.5 | .2 | .1 | 45 | 15 | 0 | 52 | 6.7 | 8 |
| Mar. 18..... | 9,840 | 11 | .02 | 3.7 | 1.5 | 4.7 | 1.4 | 19 | 6.2 | 3.5 | .0 | .5 | 44 | 15 | 0 | 58 | 6.5 | 5 |
| Apr. 15..... | 10,000 | 9.0 | .01 | 3.0 | 1.5 | 4.2 | 1.4 | 17 | 6.0 | 4.0 | .2 | .3 | 42 | 14 | 0 | 50 | 6.6 | 3 |
| May 16..... | 4,610 | 8.1 | .02 | 3.8 | 1.2 | 4.8 | 1.4 | 20 | 6.4 | 4.0 | .1 | .9 | 44 | 14 | 0 | 56 | 7.0 | 6 |
| June 15..... | 11,500 | 9.1 | .06 | 4.2 | 1.4 | 6.9 | 1.7 | 23 | 7.2 | 5.5 | .2 | 1.3 | 49 | 16 | 0 | 69 | 6.6 | 5 |
| July 17..... | 884 | 9.9 | .03 | 5.0 | 1.5 | 6.0 | 1.8 | 24 | 7.2 | 5.3 | .0 | 1.0 | 450 | 18 | 2 | 69 | 6.5 | 25 |
| Aug. 16..... | 1,970 | 11 | .09 | 5.0 | 1.6 | 6.9 | 1.7 | 27 | 7.2 | 5.0 | .3 | 1.2 | 453 | 19 | 0 | 75 | 6.8 | 17 |
| Sept. 16..... | 1,380 | 9.6 | .00 | 4.6 | 1.7 | 6.8 | 1.8 | 23 | 8.4 | 5.3 | .1 | 1.2 | 52 | 18 | 0 | 73 | 6.5 | 10 |

a Calculated from determined constituents.

SANTÉE RIVER BASIN--Continued

2-1515. BROAD RIVER NEAR BOILING SPRINGS, N. C.

LOCATION.--At gaging station, 0.5 mile upstream from Sandy Run Creek, 3 miles downstream from Second Broad River, and 3.5 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 1962.

Water temperatures: October 1945 to September 1946, October 1956 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 87 ppm; minimum, 26 ppm Mar. 1-10.

Specific conductance: Maximum, 220 micromhos Mar. 1-10; minimum, 110 micromhos Apr. 11.

Water temperatures: Maximum, 80°F July 17, Aug. 1; minimum, 33°F Jan. 13, 14.

EXTREMES, 1948-46, 1956-62.--Dissolved solids: Maximum, 57 ppm June 1-10, 1957; minimum, 26 ppm Apr. 21-30, 1958, Mar. 1-10, 1962.

Hardness: Maximum, 22 ppm Mar. 11, 1962, minimum, 8 ppm on many days in 1946; 1957-58, 1960-62.

Specific conductance (1956-62): Maximum daily, 1,000 micromhos Mar. 12, 1962; minimum daily, 28 micromhos Mar. 30, 1960.

Water temperatures: Maximum, 85°F Aug. 7, 1958; minimum, freezing point Feb. 3, 4, 1946, Feb. 18, 19, 1958, Mar. 3, 1960.

REMARKS.--Records of specific conductance of daily samples from October 1956 to September 1962 and records of suspended matter of composite samples from October 1945 to September 1946, October 1956 to September 1958 available in district office at Raleigh, N. C.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-31, 1961..... | 854 | 15 | 0.01 | 3.5 | 0.6 | 2.9 | 1.0 | 18 | 2.8 | 2.1 | 0.1 | 1.5 | a39 | 12 | 0 | 40 | 6.8 | 5 |
| Nov. 1-30..... | 1,108 | 14 | .01 | 3.0 | 1.2 | 3.0 | 1.3 | 18 | 3.0 | 2.9 | 0 | 1.2 | a39 | 12 | 0 | 41 | 6.5 | 0 |
| Dec. 1-31..... | 3,071 | 11 | .05 | 2.1 | 1.9 | 2.5 | 1.6 | 14 | 2.0 | 2.2 | .1 | .9 | 31 | 8 | 0 | 35 | 7.1 | 33 |
| Dec. 24..... | 2,240 | -- | -- | 3.7 | 1.7 | -- | -- | 17 | -- | 10 | -- | -- | -- | 16 | 2 | 62 | 7.2 | -- |
| Dec. 25-31..... | 1,933 | 12 | .00 | 2.6 | 1.0 | 2.1 | 1.0 | 14 | 3.6 | 2.0 | .0 | 2.3 | 34 | 10 | 0 | 33 | 6.7 | 0 |
| Jan. 1-31, 1962..... | 2,106 | 13 | .01 | 2.8 | .4 | 2.1 | .8 | 14 | 1.4 | .5 | .0 | 1.2 | 33 | 9 | 0 | 36 | 6.8 | 12 |
| Feb. 1-14..... | 1,595 | 13 | .03 | 2.5 | 1.1 | 2.7 | .9 | 16 | 1.6 | 2.6 | .1 | .6 | a33 | 10 | 0 | 39 | 7.1 | 0 |
| Feb. 15..... | 1,540 | -- | -- | 5.0 | 1.2 | -- | -- | 22 | -- | 9.6 | -- | -- | -- | 18 | 0 | 62 | 7.4 | -- |
| Feb. 16-28..... | 2,272 | 12 | .02 | 2.2 | 1.3 | 2.4 | 1.0 | 16 | 1.6 | 2.0 | .0 | .8 | 32 | 10 | 0 | 36 | 6.9 | 0 |
| Mar. 1-10..... | 1,998 | 9.5 | .00 | 2.6 | .5 | 2.4 | .8 | 12 | 2.2 | 2.8 | .0 | 1.2 | 26 | 8 | 0 | 33 | 6.9 | 10 |
| Mar. 11..... | 2,350 | -- | -- | 6.1 | .4 | -- | -- | 3 | -- | 57 | -- | -- | -- | 22 | 20 | 540 | 4.8 | -- |
| Mar. 12..... | 4,370 | -- | -- | 8.3 | 1.4 | -- | -- | 17 | -- | 95 | -- | -- | -- | 21 | 7 | 1,000 | 5.6 | -- |
| Mar. 13..... | 3,440 | -- | -- | 4.6 | 1.9 | -- | -- | 15 | -- | 5.4 | -- | -- | -- | 20 | 7 | 55 | 7.1 | -- |
| Mar. 14-31..... | 2,571 | 11 | .00 | 2.6 | 1.0 | 2.1 | .6 | 16 | 1.8 | 1.0 | .0 | .6 | 29 | 10 | 0 | 32 | 7.1 | 5 |
| Apr. 1-30..... | 3,141 | 12 | .02 | 2.6 | .8 | 2.6 | .8 | 14 | 1.2 | 2.3 | .0 | .9 | 35 | 10 | 0 | 34 | 6.7 | 5 |
| May 1-31..... | 1,522 | 14 | .00 | 3.1 | 1.1 | 3.3 | .7 | 17 | 1.8 | 2.4 | .0 | 3.2 | a38 | 12 | 0 | 39 | 6.5 | 7 |
| June 1-30..... | 2,001 | 13 | .05 | 2.4 | 1.1 | 3.0 | 1.4 | 17 | 2.2 | 2.2 | .2 | .9 | 35 | 10 | 0 | 34 | 6.9 | 12 |
| July 1-31..... | 1,345 | 14 | .02 | 3.4 | 1.1 | 3.3 | .8 | 19 | 3.4 | 2.1 | .0 | .5 | 42 | 13 | 0 | 42 | 7.1 | 10 |
| Aug. 1-31..... | 1,185 | 15 | .01 | 3.4 | 1.0 | 4.1 | .8 | 20 | 2.0 | 2.3 | .0 | 1.4 | 41 | 12 | 0 | 42 | 6.9 | 8 |
| Sept. 1-15..... | .780 | 16 | .04 | 4.3 | .8 | 4.1 | 1.1 | 22 | 2.8 | 2.8 | .0 | 1.9 | 47 | 14 | 0 | 50 | 7.2 | 5 |
| Sept. 16-30..... | 1,009 | 14 | .03 | 2.9 | 1.0 | 3.0 | 1.1 | 19 | 1.6 | 2.7 | .0 | 1.0 | 41 | 11 | 0 | 41 | 6.9 | 8 |
| Time-weighted average..... | 1,775 | 13 | 0.02 | 3.0 | 0.9 | 2.9 | 1.0 | 17 | 2.2 | 2.6 | 0.0 | 1.3 | 37 | 11 | 0 | 42 | -- | 8 |

a Calculated from determined constituents.

SANTÉE RIVER BASIN--Continued

2-1515. BROAD RIVER NEAR BOILING SPRINGS, N. C.--Continued

Temperature °F of water, water year October 1961 to September 1962
(Once-daily measurement at approximately 0700)

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

SANTEE RIVER BASIN--Continued
2-1555. PACOLET RIVER NEAR FINGERVILLE, S. C.

LOCATION.--At gaging station, 100 feet upstream from highway bridge, 0.2 mile downstream from confluence of North Pacolet and South Pacolet Rivers, and 24.18 miles southeast of Fingerville, Spartanburg County.
 DATE.--October 1952 to September 1962.
 RECORDS AVAILABLE.--Chemical analyses: October 1952 to September 1953, November 1958 to September 1962 (discontinued).

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 16, 1961..... | 161 | 13 | 0.05 | 2.5 | 2.3 | 4.5 | 1.3 | 27 | 1.6 | 2.6 | 0.0 | 0.2 | 48 | 16 | 0 | 50 | 6.9 | 20 |
| Nov. 16..... | 256 | 12 | .07 | 2.9 | 1.2 | 6.6 | 1.2 | 29 | 2.6 | 4.3 | .0 | .2 | 45 | 12 | 0 | 60 | 6.9 | 14 |
| Dec. 13..... | 670 | 11 | .07 | 2.6 | .8 | 5.0 | 1.5 | 17 | 3.2 | 4.0 | .1 | .9 | 37 | 11 | 0 | 44 | 6.8 | 48 |
| Jan. 15, 1962..... | 535 | 11 | .00 | 2.8 | 1.3 | 3.0 | 1.3 | 28 | 2.4 | 2.6 | .1 | .2 | 30 | 10 | 0 | 52 | 6.7 | 3 |
| Feb. 16..... | 358 | 12 | .01 | 2.6 | 1.0 | 6.8 | 1.3 | 22 | 2.4 | 2.6 | .1 | .2 | 30 | 10 | 0 | 52 | 6.7 | 7 |
| Mar. 17..... | 446 | 12 | .03 | 2.2 | .9 | 5.8 | 1.0 | 22 | 2.2 | 2.5 | .0 | .3 | 49 | 9 | 0 | 47 | 6.7 | 33 |
| Apr. 14..... | 930 | 10 | .00 | 2.4 | .9 | 5.4 | 1.0 | 19 | 2.8 | 3.0 | .1 | .4 | 39 | 10 | 0 | 44 | 7.0 | 3 |
| May 15..... | 381 | 11 | .07 | 2.1 | 1.0 | 7.2 | 1.5 | 26 | 1.8 | 3.5 | .1 | .8 | 32 | 9 | 0 | 51 | 6.6 | 6 |
| June 14..... | 791 | 8.8 | .03 | 2.7 | .9 | 4.4 | 1.4 | 21 | 2.4 | 2.9 | .1 | .4 | 35 | 11 | 0 | 43 | 6.5 | 25 |
| July 16..... | 316 | 9.9 | .00 | 3.2 | 1.2 | 3.0 | 1.2 | 20 | 1.6 | 3.2 | .1 | .7 | 34 | 13 | 0 | 43 | 6.5 | 10 |
| Aug. 15..... | 202 | 12 | .06 | 3.5 | 1.4 | 10 | 1.7 | 28 | 1.4 | 8.0 | .3 | 1.2 | 57 | 14 | 0 | 82 | 7.2 | -- |
| Sept. 15..... | 194 | 12 | .00 | 3.9 | 1.1 | 5.8 | 1.3 | 28 | 2.0 | 3.6 | .1 | .7 | 34 | 14 | 0 | 56 | 7.0 | 10 |

a Calculated from determined constituents.

SANTÉE RIVER BASIN--Continued
2-1690. SALUDA RIVER NEAR COLUMBIA, S. C.

LOCATION.--At gaging station, 0.4 mile upstream from site of old Saluda Mill, 1.6 miles upstream from confluence with Broad River, and 3.3 miles west of State Capitol in Columbia, Richland County.
DRAINAGE AREA.--2,510 square miles, approximately.
RECORDS AVAILABLE.--Chemical analyses: November 1960 to September 1962.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|---------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 29, 1961..... | 416 | 8.8 | 0.04 | 3.4 | 1.4 | 6.2 | 1.7 | 25 | 4.4 | 3.6 | 0.1 | 0.7 | 45 | 14 | 0 | 63 | 6.9 | 15 |
| Nov. 15, 1961..... | 2,960 | 9.2 | .03 | 3.0 | 1.4 | 6.9 | 1.2 | 19 | 4.8 | 7.1 | .1 | .7 | a44 | 14 | 0 | 66 | 6.9 | 7 |
| Dec. 5, 1961..... | 3,330 | 9.0 | .00 | 3.7 | 1.3 | 6.7 | 1.6 | 23 | 4.0 | 6.3 | .1 | .2 | 45 | 14 | 0 | 62 | 6.7 | 5 |
| Jan. 8, 1962..... | 7,310 | 9.2 | .01 | 2.7 | 1.7 | 6.2 | 1.9 | 25 | 3.2 | 4.5 | .1 | .1 | 45 | 14 | 0 | 63 | 6.8 | 10 |
| Feb. 14, 1962..... | 6,090 | 8.9 | .02 | 3.8 | 1.6 | 6.4 | 2.0 | 24 | 3.0 | 3.5 | .1 | .4 | 46 | 12 | 0 | 63 | 6.6 | 8 |
| Mar. 14, 1962..... | 12,300 | 8.7 | .05 | 3.1 | 1.1 | 6.1 | 1.8 | 23 | 3.4 | 4.1 | .1 | .1 | 46 | 12 | 0 | 59 | 6.8 | 25 |
| Apr. 10, 1962..... | 5,150 | 8.4 | .07 | 3.2 | 1.6 | 6.9 | 1.7 | 22 | 4.0 | 4.5 | .2 | .5 | 50 | 14 | 0 | 58 | 6.9 | 35 |
| May 8, 1962..... | 2,400 | 8.2 | .12 | 3.3 | 1.0 | 6.3 | 1.9 | 22 | 3.6 | 5.0 | .3 | 1.3 | 49 | 12 | 0 | 58 | 7.2 | 38 |
| June 19, 1962..... | 3,370 | 8.3 | .13 | 3.2 | 1.1 | 6.2 | 1.6 | 23 | 3.8 | 4.0 | .0 | 1.4 | 45 | 12 | 0 | 57 | 7.0 | 45 |
| July 23, 1962..... | 4,290 | 8.4 | .06 | 3.0 | 1.1 | 6.4 | 2.0 | 22 | 3.4 | 4.5 | .2 | 1.6 | 47 | 12 | 0 | 57 | 6.7 | 12 |
| Aug. 23, 1962..... | 4,090 | 8.7 | .00 | 3.4 | 1.3 | 6.2 | 1.6 | 23 | 4.2 | 4.5 | .1 | .8 | 44 | 14 | 0 | 56 | 6.7 | 20 |
| Sept. 27, 1962..... | 2,510 | 9.1 | .00 | 3.4 | 1.4 | 6.2 | 1.7 | 23 | 4.4 | 4.7 | .1 | 1.0 | 46 | 14 | 0 | 58 | 6.8 | 20 |

a Calculated from determined constituents.

EDISTO RIVER BASIN

2-1730. SOUTH FORK EDISTO RIVER NEAR DENMARK, S. C.

LOCATION.--At gaging station at 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 1962.

Water temperatures: November 1956 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 79°F July 23-27; minimum, 37°F Jan. 13-15.

EXTREMES, 1956-62.--Water temperatures: Maximum, 79°F on many days in 1957, 1958, 1961, 1962; minimum, 34°F Feb. 19-21, 1958.

Chemical analyses, in parts per million, October 1961 to August 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Oct. 20, 1961..... | 398 | 6.7 | 0.11 | 1.2 | 0.4 | 1.8 | 0.2 | 7 | 1.6 | 2.4 | 0.1 | 0.5 | 29 | 5 | 0 | 22 | 6.2 | 25 |
| Nov. 17..... | 478 | 8.0 | .24 | 1.5 | .6 | 2.1 | .6 | 8 | 1.4 | 2.8 | .1 | .6 | 28 | 6 | 0 | 25 | 6.1 | 45 |
| Jan. 9, 1962..... | 1,060 | 6.9 | .21 | 1.1 | .7 | 2.4 | .6 | 6 | 1.4 | 3.6 | .0 | .8 | 32 | 6 | 1 | 24 | 6.2 | 60 |
| Jan. 30..... | 1,440 | 5.6 | .25 | 1.4 | .7 | 2.3 | .6 | 6 | 1.8 | 3.5 | .1 | 1.1 | 34 | 6 | 2 | 28 | 6.2 | 85 |
| Feb. 26..... | 2,320 | 3.2 | .27 | 2.1 | .2 | 2.0 | .6 | 7 | 1.4 | 2.6 | .0 | .5 | a37 | 6 | 0 | 27 | 5.9 | 120 |
| Apr. 4..... | 1,300 | 2.2 | .21 | 1.4 | .6 | 2.8 | .4 | 7 | 1.0 | 3.5 | .2 | .5 | a32 | 6 | 0 | 27 | 6.0 | 110 |
| May 1..... | 672 | 3.4 | .18 | 1.6 | .8 | 2.5 | .5 | 9 | 1.6 | 4.0 | .1 | 1.1 | 25 | 7 | 0 | 28 | 6.0 | 45 |
| June 4..... | 1,080 | 5.4 | .18 | 1.4 | .6 | 2.2 | .4 | 8 | 1.8 | 2.5 | .2 | 1.1 | 31 | 6 | 0 | 27 | 5.8 | 55 |
| July 20..... | 478 | 6.1 | .28 | 1.2 | .5 | 2.0 | .6 | 6 | .8 | 3.5 | .3 | .9 | 26 | 5 | 0 | 24 | 6.3 | 55 |
| Aug. 28..... | 506 | 7.7 | .29 | 1.9 | .4 | 2.0 | .5 | 8 | .4 | 4.4 | .0 | .6 | 30 | 6 | 0 | 24 | 6.0 | 53 |

a Organic matter present; sum of mineral constituents 16 parts per million.

EDISTO RIVER BASIN--Continued

2-1730. SOUTH FORK EDISTO RIVER NEAR DENMARK, S. C.--Continued

Temperature °F of water, water year October 1961 to September 1962

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

EDISTO RIVER BASIN--Continued

2-1740. EDISTO RIVER NEAR BRANCHVILLE, S. C.

LOCATION.--At gaging station 400 feet downstream from bridge on U.S. Highway 21, 4.7 miles downstream from Brier Branch, and 5.2 miles south of Branchville, Orangeburg County.

DRAINAGE AREA.--1,720 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: October 1949 to September 1950, October 1961 to August 1962 (discontinued).

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| | | | | | | | | | | | | | | magnesium | sum | | | |
| Oct. 19, 1961..... | 970 | 7.0 | 0.12 | 1.9 | 0.5 | 2.5 | 0.4 | 8 | 1.4 | 4.2 | 0.1 | 0.7 | 33 | 7 | 0 | 30 | 5.9 | 30 |
| Nov. 17..... | 1,140 | 7.8 | .12 | 2.1 | .5 | 2.6 | 1.0 | 9 | 2.4 | 3.3 | .1 | .8 | 31 | 7 | 0 | 32 | 6.3 | 40 |
| Jan. 9, 1962..... | 2,770 | 6.2 | .17 | 1.9 | .8 | 2.7 | .7 | 7 | 2.0 | 4.9 | .1 | .7 | 31 | 8 | 2 | 31 | 6.1 | 55 |
| Jan. 30..... | 3,120 | 4.4 | .21 | 2.4 | .8 | 3.0 | .8 | 8 | 2.0 | 5.7 | .1 | 1.1 | 35 | 9 | 2 | 37 | 6.4 | 65 |
| Feb. 26..... | 6,010 | 3.0 | .20 | 3.0 | .6 | 2.6 | 1.0 | 8 | 2.6 | 3.7 | .1 | 1.0 | 39 | 10 | 4 | 36 | 5.9 | 110 |
| Apr. 4..... | 3,220 | 1.4 | .17 | 2.2 | 1.0 | 3.3 | 1.5 | 10 | .8 | 4.5 | .2 | .6 | 35 | 10 | 2 | 35 | 6.1 | 90 |
| May 2..... | 1,950 | 2.8 | .21 | 2.2 | .6 | 3.1 | .3 | 11 | .4 | 4.5 | .3 | 1.2 | 30 | 8 | 0 | 32 | 6.2 | 65 |
| May 4..... | 1,770 | 5.1 | .08 | 2.7 | .4 | 3.0 | .7 | 9 | 2.4 | 5.3 | .0 | .4 | 34 | 8 | 2 | 32 | 6.1 | 45 |
| July 20..... | 1,660 | 6.8 | .24 | 1.9 | .6 | 2.5 | .6 | 8 | 2.0 | 1.5 | .1 | 1.3 | 34 | 8 | 1 | 32 | 5.9 | 65 |
| Aug. 28..... | 1,140 | 6.4 | .13 | 1.9 | .5 | 2.4 | .6 | 8 | 1.6 | 4.4 | .0 | .6 | 29 | 7 | 0 | 29 | 5.9 | 40 |

Chemical analyses, in parts per million, October 1961 to August 1962

EDISTO RIVER BASIN--Continued

2-1750.3. EDISTO RIVER NEAR (UPPER STATION) JACKSONBORO, S. C.

LOCATION.--At County landing, 4.8 miles downstream from U.S. Highway 17, and 4.5 miles south of Jacksonboro, Colleton County.
DRAINAGE AREA.--2,860 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: January 1958 to September 1962 (discontinued).

Water temperatures: October 1958 to September 1962 (discontinued).

EXTREMES, 1961-62.--Dissolved solids: Maximum, 57 ppm July 1-31; minimum, 37 ppm Apr. 1-30.

Hardness: Maximum, 16 ppm Feb. 1-28, Apr. 1-30, and July 1-31; minimum, 10 ppm Nov. 1-30.

Specific conductance: Maximum, 71 micromhos Feb. 5; minimum daily, 40°F, Feb. 8.

Temperature: Maximum, 83°F, Aug. 23, 24; minimum, 60°F, Feb. 8.

EXTREMES 1958-62.--Dissolved solids: Maximum, 71 ppm Oct. 1-31, 1959; minimum, 28 ppm on many days in November 1958.

Hardness: Maximum, 46 ppm July 30, 1960; minimum, 9 ppm Dec. 1-31, 1960.

Specific conductance: Maximum daily, 259 micromhos June 14, 1960; minimum daily, 25 micromhos Nov. 2, 1958.

Water temperatures: Maximum, 87°F Aug. 22, 1961; minimum, freezing point Jan. 14, 1959.

REMARKS.--Records of specific conductance of daily samples available in district office at Raleigh, N. C. Records of discharge are given for Edisto River near Givhans. No appreciable inflow between sampling point and gaging station except during periods of heavy local runoff.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-31, 1961..... | 998 | 8.4 | 0.16 | 3.4 | 1.1 | 3.3 | 0.5 | 12 | 5.2 | 4.5 | 0.1 | 1.0 | 43 | 13 | 3 | 40 | 6.5 | 45 |
| Nov. 1-30..... | 978 | 7.8 | 0.22 | 2.8 | 0.7 | 3.5 | 0.7 | 11 | 4.0 | 5.5 | 0.1 | 1.1 | 40 | 10 | 1 | 38 | 6.6 | 45 |
| Dec. 1-31..... | 1,864 | 8.0 | 0.17 | 3.8 | 0.4 | 3.7 | 0.9 | 10 | 4.8 | 6.0 | 0.1 | 1.7 | 42 | 12 | 4 | 47 | 6.7 | 60 |
| Jan. 1-31, 1962..... | 2,843 | 7.3 | 0.11 | 4.0 | 0.6 | 3.3 | 0.8 | 11 | 4.2 | 6.0 | 0.0 | 1.9 | 39 | 12 | 4 | 45 | 6.5 | 65 |
| Feb. 1-28..... | 3,580 | 3.8 | 0.12 | 4.7 | 0.9 | 3.9 | 0.7 | 13 | 3.2 | 7.0 | 0.2 | 1.1 | 50 | 16 | 6 | 52 | 6.4 | 70 |
| Mar. 1-31..... | 7,069 | 4.0 | 0.08 | 4.8 | 0.5 | 4.1 | 0.7 | 13 | 3.6 | 6.4 | 0.0 | 0.9 | 47 | 14 | 4 | 51 | 6.8 | 110 |
| Apr. 1-30..... | 4,584 | 2.8 | 0.14 | 5.1 | 0.7 | 4.0 | 0.6 | 17 | 1.2 | 5.2 | 0.1 | 0.9 | 37 | 16 | 2 | 53 | 7.0 | 110 |
| May 1-31..... | 1,593 | 4.8 | 0.13 | 4.5 | 0.7 | 3.6 | 0.5 | 14 | 4.0 | 5.5 | 0.0 | 1.4 | 45 | 14 | 2 | 51 | 6.4 | 80 |
| June 1-30..... | 2,250 | 6.0 | 0.13 | 5.0 | 0.5 | 3.1 | 0.5 | 14 | 1.6 | 4.5 | 0.0 | 1.3 | as2 | 14 | 3 | 43 | 6.6 | 100 |
| July 1-31..... | 1,470 | 6.8 | 0.13 | 5.1 | 0.8 | 3.3 | 0.5 | 16 | 2.4 | 5.0 | 0.0 | 1.1 | b57 | 16 | 3 | 50 | 6.7 | 80 |
| Aug. 1-31..... | 1,689 | 7.4 | 0.26 | 5.0 | 0.6 | 3.5 | 0.5 | 16 | 3.4 | 4.8 | 0.0 | 1.3 | 47 | 15 | 2 | 48 | 7.0 | 65 |
| Sept. 1-30..... | 1,029 | 7.1 | 0.23 | 4.2 | 0.3 | 2.8 | 0.3 | 12 | 1.8 | 4.7 | 0.0 | 1.6 | 41 | 12 | 2 | 40 | 6.3 | 55 |
| Time-weighted average..... | 2,481 | 6.2 | 0.16 | 4.4 | 0.6 | 3.5 | 0.6 | 13 | 3.3 | 5.4 | 0.0 | 1.2 | 45 | 14 | 3 | 46 | -- | 75 |

a Organic matter present; sum of mineral constituents 30 parts per million.

b 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 1961 to September 1962

/Once-daily measurement at approximately high tide/

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

EDISTO RIVER BASIN--Continued

2-1750.4. EDISTO RIVER NEAR (LOWER STATION) JACKSONBORO, S. C.

LOCATION.--At Hill's Fishing Camp, 8.8 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 1962 (discontinued).

Water temperatures: January 1958 to September 1962 (discontinued).

EXTREMES, 1961-62.--Chloride: Maximum, 2,370 ppm Oct. 24; minimum, 3.0 ppm June 28-30.

Specific conductance: Maximum, 190 micromhos Oct. 24; minimum, 11, 45 micromhos Aug. 12.

EXTREMES, 1958-62.--Chloride: Maximum, 1,720 micromhos Oct. 24; minimum, 13, 45 micromhos Aug. 12.

Specific conductance: Maximum, 3,500 ppm Oct. 13, 1958; minimum, 5.0 ppm on many days in 1960, June 1962.

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 discharge are given for Edisto River near Givhans. No appreciable inflow between sampling point and gaging station except during periods of heavy local runoff.

Chemical analyses, in parts per million, November 1961 to September 1962

| Date of collection | Mean discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Calcium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|--------------------------|-------------|-------------------------|--------------------------------------|----------------------------|---------------|-------------------|---------------------------------|-------------------------------------|-------------------------------|----------------------------------|----------------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non- magne- carbon- ate | | | |
| | | | | | | | | | | | | | | | | | | |
| Nov. 24-30, 1961.... | 1,207 | 8.2 | 0.26 | 5.3 | 7.2 | 56 | 3.2 | 14 | 12 | 96 | 0.1 | 1.2 | 229 | 42 | 31 | 408 | 6.8 | 55 |
| Dec. 2-4..... | 1,440 | 8.5 | .18 | 3.8 | 1.5 | 7.2 | 1.3 | 12 | 5.6 | 14 | .2 | .6 | 108 | 16 | 6 | 178 | 6.6 | 60 |
| Dec. 13-23..... | 1,885 | 7.9 | .33 | 4.0 | 3.2 | 23 | 1.7 | 14 | 8.4 | 41 | .2 | .7 | 108 | 25 | 14 | 191 | 6.7 | 70 |
| Dec. 24-27..... | 2,655 | 8.5 | .24 | 4.0 | 2.9 | 3.6 | 7 | 16 | 3.8 | 7.0 | .2 | .7 | 335 | 19 | 6 | 111 | 6.9 | -- |
| Dec. 28..... | 2,670 | -- | -- | 4.0 | 2.1 | -- | -- | 16 | -- | 21 | -- | -- | 19 | 19 | 6 | 111 | 6.9 | -- |
| Dec. 29-31..... | 2,457 | 8.2 | .19 | 4.2 | 2.0 | 6.5 | .7 | 12 | 4.8 | 12 | .1 | .7 | 344 | 14 | 4 | 72 | 6.6 | 60 |
| Jan. 1-2, 1962..... | 2,190 | -- | .22 | 3.4 | .7 | -- | -- | 10 | 4.0 | 7.0 | -- | 2.4 | -- | 12 | 4 | 50 | 6.7 | -- |
| Jan. 4-5..... | 2,060 | -- | .17 | 4.6 | 1.6 | -- | -- | 14 | 8.0 | 29 | -- | 2.1 | -- | 18 | 6 | 140 | 6.8 | -- |
| Jan. 7..... | 2,220 | -- | .37 | -- | -- | -- | -- | 11 | -- | 6.5 | -- | -- | -- | 12 | 4 | 50 | 7.0 | -- |
| Jan. 8-9..... | 2,525 | -- | .17 | 4.5 | 2.2 | -- | -- | 12 | 7.2 | 30 | -- | 2.5 | -- | 20 | 10 | 140 | 6.7 | -- |
| Jan. 10-31..... | 3,100 | 7.0 | 1.2 | 4.2 | 1.0 | 4.8 | .9 | 11 | 5.2 | 8.5 | .1 | 2.3 | 50 | 14 | 6 | 56 | 6.3 | 70 |
| Feb. 1..... | 3,620 | -- | -- | 7.2 | 2.0 | -- | -- | 142 | -- | -- | -- | -- | -- | 26 | 0 | 854 | 7.3 | -- |
| Feb. 2-9..... | 3,955 | 5.3 | .08 | 4.8 | 1.2 | 5.8 | 2.0 | 13 | 5.2 | 10 | .1 | .8 | 62 | 17 | 6 | 68 | 6.7 | 70 |
| Feb. 10-18..... | 3,419 | 3.6 | .10 | 4.8 | 1.1 | 4.5 | .6 | 13 | 4.4 | 7.5 | .2 | .9 | 48 | 16 | 6 | 56 | 6.5 | 70 |
| Mar. 1-29..... | 7,248 | 3.9 | .10 | 4.6 | 1.7 | 4.2 | .7 | 13 | 2.4 | 6.5 | .1 | .9 | 50 | 14 | 4 | 52 | 6.3 | 90 |
| Mar. 30..... | 4,520 | -- | .30 | 6.3 | 1.0 | -- | -- | 16 | -- | 19 | -- | -- | -- | 20 | 6 | 93 | 7.2 | -- |
| Mar. 31..... | 4,410 | -- | -- | 4.6 | 1.4 | -- | -- | 17 | -- | 8.0 | -- | -- | -- | 18 | 4 | 57 | 7.2 | -- |
| Apr. 1-11..... | 4,058 | 2.4 | .14 | 5.3 | .7 | 5.3 | .6 | 17 | 1.6 | 7.3 | .0 | .9 | b57 | 16 | 2 | 62 | 6.4 | 90 |

a Calculated from determined constituents.

b Organic matter present; sum of mineral constituents 32 parts per million.

EDISTO RIVER BASIN--Continued
2-1750.4. EDISTO RIVER NEAR (LOWER STATION) JACKSONBORO, S. C.--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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| | | | | | | | | | | | | | | | | | | |
| Apr. 12-30, 1962.... | 4.888 | 3.4 | 0.17 | 5.1 | 0.8 | 4.5 | 0.7 | 17 | 5.6 | 5.9 | 0.1 | 1.5 | 52 | 16 | 2 | 55 | 7.0 | 110 |
| May 1-16..... | 1,783 | 4.5 | .10 | 3.7 | 2.0 | 4.5 | .3 | 16 | 3.6 | 7.5 | .0 | 3.1 | 43 | 17 | 4 | 57 | 6.3 | 50 |
| May 17..... | 1,460 | -- | -- | 4.4 | 1.8 | -- | -- | 19 | -- | 17 | -- | -- | -- | 18 | 3 | 102 | 7.2 | -- |
| May 18..... | 1,460 | -- | -- | 5.2 | 3.9 | -- | -- | 20 | -- | 44 | -- | -- | -- | 29 | 12 | 210 | 7.2 | -- |
| May 19..... | 1,420 | -- | -- | 4.2 | 2.6 | -- | -- | 18 | -- | 24 | -- | -- | -- | 22 | 6 | 130 | 7.1 | -- |
| May 20-21..... | 1,420 | 5.0 | .15 | 4.2 | 1.1 | 5.7 | .6 | 12 | 7.0 | 7.2 | .0 | .5 | a37 | 15 | 5 | 57 | 6.6 | 65 |
| May 22..... | 1,420 | -- | -- | 7.3 | 2.6 | -- | -- | 29 | -- | 15 | -- | -- | -- | 29 | 5 | 104 | 7.2 | -- |
| May 23-26..... | 1,420 | 5.3 | .06 | 5.0 | .6 | 8.1 | .7 | 16 | 2.4 | 11 | .1 | 1.1 | a42 | 15 | 2 | 173 | 6.7 | 33 |
| May 27..... | 1,360 | -- | -- | 4.0 | 2.6 | -- | -- | 18 | -- | 20 | -- | -- | -- | 21 | 6 | 110 | 6.6 | -- |
| May 28-29..... | 1,340 | 5.7 | .23 | 4.0 | 1.3 | 5.3 | .6 | 14 | 4.2 | 7.0 | .0 | .6 | a36 | 13 | 4 | 35 | 6.3 | 80 |
| May 30-31..... | 1,250 | 9.3 | .17 | 6.3 | 4.3 | 36 | 1.3 | 16 | 10 | 62 | .1 | .9 | a135 | 34 | 20 | 280 | 6.4 | -- |
| June 1-2..... | 1,230 | 7.0 | .17 | 5.0 | 1.3 | 9.6 | .7 | 15 | 3.6 | 15 | .0 | .3 | a50 | 18 | 5 | 84 | 6.4 | -- |
| June 3-4..... | 1,250 | 6.7 | .22 | 5.0 | 3.0 | 23 | 1.3 | 16 | 11 | 41 | .0 | 1.4 | a101 | 25 | 12 | 178 | 6.5 | -- |
| June 5-27..... | 2,415 | 6.3 | .15 | 5.6 | 1.1 | 5.4 | .7 | 18 | 2.8 | 8.5 | .0 | 1.8 | 62 | 18 | 4 | 62 | 6.4 | 80 |
| June 28-30..... | 2,330 | 5.7 | .18 | 4.8 | 1.0 | 3.4 | .5 | 15 | 3.2 | 5.0 | .0 | .3 | a32 | 16 | 4 | 48 | 6.4 | -- |
| July 2-9..... | 1,746 | 6.8 | .16 | 5.1 | .9 | 4.7 | .5 | 18 | 1.4 | 6.5 | .0 | .3 | c64 | 16 | 2 | 56 | 6.8 | 100 |
| July 10-17..... | 1,028 | 7.6 | .19 | 5.9 | .7 | 6.4 | .5 | 19 | 1.2 | 10 | .0 | .4 | 61 | 18 | 2 | 69 | 6.5 | 70 |
| July 25-28..... | 1,685 | 7.0 | .17 | 4.6 | 2.4 | 15 | 1.0 | 15 | 2.8 | 27 | .0 | .3 | a67 | 22 | 9 | 137 | 6.5 | 80 |
| July 29-31..... | 1,793 | 6.0 | .17 | 5.2 | .9 | 3.5 | .5 | 14 | 3.8 | 6.0 | .0 | .5 | a34 | 17 | 6 | 52 | 6.6 | -- |
| Aug. 1-4..... | 1,500 | 7.3 | -- | 6.4 | .6 | 4.8 | .3 | 16 | 4.6 | 6.8 | .1 | 1.3 | a40 | 18 | 6 | 59 | 6.6 | -- |
| Aug. 5..... | 1,780 | -- | -- | 38 | 1.2 | -- | -- | 8 | -- | 7.8 | -- | -- | -- | 101 | 94 | 124 | 6.2 | -- |
| Aug. 6-20..... | 2,093 | 7.2 | .21 | 5.6 | .5 | 4.8 | .3 | 17 | 3.4 | 7.1 | .1 | 1.4 | 50 | 16 | 2 | 55 | 7.0 | 70 |
| Aug. 21-23..... | 1,297 | 7.8 | .17 | 5.5 | 1.8 | 14 | 1.2 | 19 | 5.2 | 20 | .2 | 3.6 | a68 | 20 | 5 | 114 | 6.6 | 80 |
| Aug. 24-28..... | 1,112 | 6.8 | .16 | 4.5 | 1.6 | 5.2 | .8 | 17 | 2.8 | 5.6 | .1 | 4.2 | 44 | 18 | 4 | 51 | 6.9 | 75 |
| Aug. 31..... | 1,120 | -- | -- | 4.5 | 2.1 | -- | -- | 17 | -- | 19 | -- | -- | -- | 20 | 6 | 99 | 7.0 | -- |
| Sept. 1-8..... | 1,024 | 7.3 | .14 | 3.6 | 2.3 | 9.2 | .6 | 14 | 6.6 | 16 | .1 | 3.2 | 62 | 18 | 7 | 87 | 6.6 | 50 |
| Time-weighted average..... | 3,000 | 5.7 | 0.15 | 5.0 | 1.4 | 8.0 | 0.8 | 15 | 4.3 | 13 | 0.1 | 1.5 | 60 | 18 | 6 | 84 | -- | 75 |

a. Calculated from determined constituents.
c. Organic matter present; sum of mineral constituents 35 parts per million.

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 1961 to September 1962

| 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 | 362 | 81 | -- | -- | 225 | 52 | 47 | 7.0 |
| 2 | 720 | 181 | 669 | 169 | 79 | | 51 | |
| 3 | 306 | 71 | 675 | 170 | 75 | 14 | -- | -- |
| 4 | 365 | 86 | 296 | 50 | 81 | | 136 | |
| 5 | 450 | 111 | -- | -- | 315 | 76 | 140 | 29 |
| 6 | 435 | 104 | 212 | 52 | 315 | 75 | -- | -- |
| 7 | 348 | 80 | 3,100 | 900 | 225 | 52 | 50 | 6.5 |
| 8 | 468 | 115 | 2,780 | 795 | 307 | 72 | 136 | |
| 9 | 640 | 157 | 2,740 | 800 | 473 | 118 | 140 | 30 |
| 10 | 690 | 171 | 2,780 | 795 | 500 | 122 | 69 | |
| 11 | 678 | 175 | 2,880 | 835 | 480 | 121 | 66 | |
| 12 | 745 | 194 | 2,120 | 605 | 441 | 108 | 56 | |
| 13 | 890 | 228 | 2,820 | 835 | 148 | | 52 | |
| 14 | 709 | 175 | 2,300 | 650 | 151 | | 50 | |
| 15 | 592 | 149 | 934 | 242 | 150 | | 49 | |
| 16 | 687 | 175 | 932 | 241 | 172 | | 49 | |
| 17 | 1,220 | 340 | 270 | 66 | 168 | 41 | 49 | |
| 18 | 1,170 | 326 | 262 | 65 | 215 | | 59 | |
| 19 | 928 | 235 | 181 | 43 | 209 | | 59 | 8.5 |
| 20 | 268 | 65 | 1,000 | 282 | 120 | | 57 | |
| 21 | 100 | 22 | 1,800 | 508 | 213 | | 73 | |
| 22 | 343 | 82 | 1,760 | 502 | 229 | | 53 | |
| 23 | 518 | 132 | 2,220 | 632 | 232 | | 53 | |
| 24 | 7,790 | 2,370 | 462 | | 58 | 7.0 | 58 | |
| 25 | 5,740 | 1,730 | -- | | 52 | | 58 | |
| 26 | 3,190 | 935 | 422 | 96 | 52 | | 59 | |
| 27 | 468 | 112 | 430 | | 53 | | 57 | |
| 28 | 387 | 92 | 420 | | 111 | 21 | 61 | |
| 29 | 372 | 90 | 372 | | 98 | | 57 | |
| 30 | 355 | 86 | 362 | | 66 | 12 | 62 | |
| 31 | -- | -- | -- | -- | 49 | | 65 | |
| 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 | 854 | -- | 56 | | 60 | | 56 | |
| 2 | 92 | | 53 | | 58 | | 53 | |
| 3 | 73 | | 50 | | 57 | | 61 | |
| 4 | 69 | | 57 | | 61 | | 70 | |
| 5 | 81 | | 57 | | 61 | | 84 | |
| 6 | 59 | 10 | 62 | | 65 | 7.3 | 64 | |
| 7 | 59 | | 52 | | 83 | | 58 | |
| 8 | 62 | | 53 | | 62 | | 64 | |
| 9 | 66 | | 47 | | 60 | | 61 | 7.5 |
| 10 | 57 | | 47 | | 62 | | 51 | |
| 11 | 64 | | 50 | | 59 | | 55 | |
| 12 | 51 | | 49 | | 54 | | 56 | |
| 13 | 51 | | 53 | | 57 | | 56 | |
| 14 | 53 | | 53 | | 54 | | 58 | |
| 15 | 53 | | 51 | 6.5 | 52 | | 57 | |
| 16 | 57 | | 54 | | 51 | | 55 | |
| 17 | 56 | | 52 | | 54 | | 102 | 17 |
| 18 | 56 | | 53 | | 55 | | 210 | 44 |
| 19 | 57 | 7.5 | 52 | | 55 | | 130 | 24 |
| 20 | 57 | | 52 | | 78 | | 51 | 7.2 |
| 21 | 57 | | 51 | | 53 | 5.9 | 76 | |
| 22 | 65 | | 53 | | 54 | | 104 | 15 |
| 23 | 58 | | 51 | | 53 | | 94 | -- |
| 24 | 59 | | 57 | | 53 | | 85 | -- |
| 25 | 58 | | 56 | | 62 | | 75 | -- |
| 26 | 63 | | 49 | | 53 | | 62 | -- |
| 27 | -- | | 54 | | 55 | | 110 | 20 |
| 28 | 56 | | 52 | | 53 | | 62 | 7.0 |
| 29 | -- | -- | 55 | | 54 | | 59 | |
| 30 | -- | -- | 93 | 19 | 54 | | 274 | 62 |
| 31 | -- | -- | 57 | 8.0 | -- | -- | 274 | |

QUALITY OF SURFACE WATERS, 1962

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 1961 to September 1962--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 | 77 | 15 | 224 | 44 | -- | -- | 93 | -- |
| 2 | 83 | | 63 | | -- | | 87 | |
| 3 | 182 | 41 | 53 | | 61 | 6.8 | 83 | |
| 4 | 172 | | 63 | | 59 | | 68 | |
| 5 | 74 | | 59 | 6.5 | 124 | 7.8 | 85 | 16 |
| 6 | 71 | | -- | | 76 | | 83 | |
| 7 | 67 | | -- | | 56 | | -- | |
| 8 | 70 | | -- | | 53 | | -- | |
| 9 | 60 | | 59 | | -- | | 140 | 21 |
| 10 | -- | | 67 | | 46 | | 440 | 102 |
| 11 | 91 | | 63 | | -- | | 650 | 150 |
| 12 | 64 | | 64 | | 45 | | 700 | 167 |
| 13 | -- | | 69 | 10 | -- | 7.1 | 740 | 170 |
| 14 | -- | | 66 | | -- | | 680 | 160 |
| 15 | 55 | | 65 | | -- | | 1,400 | 375 |
| 16 | -- | 8.5 | -- | | 70 | | 1,500 | 400 |
| 17 | 57 | | 89 | | 64 | | 61 | 27 |
| 18 | -- | | 295 | 63 | -- | | 440 | 102 |
| 19 | 56 | | 311 | 67 | -- | | 630 | 140 |
| 20 | 51 | | 350 | 78 | 55 | | 640 | 145 |
| 21 | 65 | | 290 | 61 | 82 | | 970 | 225 |
| 22 | 83 | | 242 | 49 | -- | 20 | 950 | 220 |
| 23 | -- | | 238 | 47 | 114 | | 1,500 | 400 |
| 24 | 73 | | -- | -- | 47 | | 60 | 27 |
| 25 | 54 | | 127 | | 54 | | 1,400 | 375 |
| 26 | 55 | | 159 | 27 | 62 | 5.6 | 450 | 108 |
| 27 | 63 | | 118 | | -- | | 290 | 61 |
| 28 | 48 | | 112 | | 49 | | 230 | 61 |
| 29 | 47 | 5.0 | 52 | | -- | -- | 200 | 38 |
| 30 | 51 | | 56 | 6.0 | -- | -- | 200 | 38 |
| 31 | -- | -- | -- | | 99 | 19 | -- | -- |

Temperature °F of water, water year October 1961 to September 1962
(Once-daily measurement at approximately high tide)

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|---------|------|------|------|------|------|------|------|-----|------|------|------|-------|
| 1.. | 78 | 68 | 53 | 42 | 52 | 63 | 62 | 70 | 84 | 82 | -- | 86 |
| 2.. | 78 | 69 | 52 | 42 | 53 | 60 | 60 | 72 | 84 | 82 | -- | 86 |
| 3.. | 76 | 70 | 52 | -- | 54 | 50 | 60 | 72 | 83 | 82 | 85 | 86 |
| 4.. | 75 | 71 | 54 | 44 | 54 | 50 | 60 | 72 | 82 | 82 | 86 | 86 |
| 5.. | 75 | 72 | 54 | 45 | 55 | 51 | 60 | 72 | 82 | 82 | 86 | 85 |
| 6.. | 72 | 72 | 54 | -- | 55 | 49 | 59 | 72 | 81 | 82 | 87 | 85 |
| 7.. | 71 | 72 | 54 | 49 | 54 | 48 | 59 | 72 | 80 | 82 | 87 | 84 |
| 8.. | 71 | 72 | 55 | 50 | 52 | 49 | 60 | 73 | 80 | 83 | 87 | 84 |
| 9.. | 71 | 70 | 56 | 50 | 52 | 50 | 63 | 73 | 80 | 84 | -- | 85 |
| 10.. | 71 | 66 | 57 | 50 | 52 | 51 | 63 | 74 | -- | 85 | 86 | 85 |
| 11.. | 71 | 64 | 58 | 46 | 51 | 53 | 64 | 74 | 80 | 86 | -- | 85 |
| 12.. | 71 | 64 | 58 | 41 | 50 | 55 | 65 | 74 | 79 | 86 | 85 | 85 |
| 13.. | 71 | 64 | 58 | 41 | 51 | 56 | 65 | 74 | -- | 86 | -- | 86 |
| 14.. | 71 | 65 | 57 | 42 | 52 | 56 | 64 | 74 | -- | 86 | -- | 87 |
| 15.. | 70 | 66 | 57 | 43 | 52 | 56 | 61 | 74 | 78 | 86 | -- | 87 |
| 16.. | 69 | 67 | 56 | 43 | 52 | 56 | 60 | 74 | -- | 86 | 83 | 87 |
| 17.. | 69 | 66 | 56 | 43 | 53 | 56 | 60 | 76 | 80 | 86 | 83 | 87 |
| 18.. | 69 | 64 | 56 | 42 | 54 | 56 | 60 | 78 | -- | 87 | -- | 85 |
| 19.. | 69 | 60 | 56 | 42 | 55 | 55 | 59 | 81 | 84 | 87 | -- | 83 |
| 20.. | 66 | 60 | 55 | 42 | 55 | 57 | 59 | 82 | 84 | 88 | 85 | 83 |
| 21.. | 66 | 59 | 54 | 42 | 56 | 60 | 60 | 82 | 84 | 87 | 85 | 81 |
| 22.. | 66 | 57 | 52 | 44 | 58 | 59 | 60 | 82 | 84 | 87 | -- | 79 |
| 23.. | 66 | 57 | 51 | 47 | 58 | 59 | 62 | 82 | -- | 87 | 84 | 78 |
| 24.. | 66 | 57 | 50 | 47 | 59 | 60 | 62 | 82 | 83 | 88 | 84 | 78 |
| 25.. | 66 | 57 | 48 | 47 | 61 | 61 | 62 | 82 | 82 | 88 | 84 | 78 |
| 26.. | 66 | 57 | 47 | 47 | 62 | 62 | 62 | 83 | 82 | 88 | 84 | 77 |
| 27.. | 64 | 57 | 46 | 48 | -- | 62 | 62 | 82 | 82 | 87 | -- | 76 |
| 28.. | 64 | 56 | 46 | 50 | 62 | 62 | 63 | 84 | 82 | 86 | 83 | 74 |
| 29.. | 65 | 55 | 46 | 53 | -- | 63 | 66 | 84 | 82 | 85 | -- | 73 |
| 30.. | 66 | 54 | 45 | 53 | -- | 64 | 68 | 84 | 78 | 84 | -- | 72 |
| 31.. | 66 | -- | 43 | 52 | -- | 64 | -- | 84 | -- | 84 | 83 | -- |
| Average | 70 | 64 | 53 | 46 | 55 | 57 | 62 | 77 | -- | 85 | -- | 82 |

SAVANNAH RIVER BASIN

2-1850. GEOWEE RIVER NEAR JOCASSEE, S.C.

LOCATION.--Temperature recorder at gaging station 0.6 mile downstream from bridge on State Highway 11, 1.8 miles southeast of Jocassee, Oconee County, and 2.6 miles upstream from Eastatoe Creek.
DRAINAGE AREA.--148 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1961 to September 1962.
EXTREMES, 1961-62.--Water temperatures: Maximum, 82°F July 24; minimum, 37°F on several days in December and January.

Temperature °F of water, water year October 1961 to September 1962
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.. | -- | -- | 60 | 57 | 44 | 43 | 41 | 40 | 45 | 42 | 56 | 52 | 53 | 51 | 67 | 62 | 72 | 68 | 72 | 67 | 80 | 73 | 77 | 72 |
| 2.. | -- | -- | 61 | 58 | 46 | 44 | 41 | 41 | 46 | 45 | 52 | 48 | 53 | 46 | 67 | 63 | 72 | 68 | 74 | 69 | 79 | 75 | 77 | 72 |
| 3.. | -- | -- | 62 | 60 | 49 | 44 | 41 | 39 | 46 | 45 | 48 | 46 | 49 | 46 | 66 | 59 | 73 | 69 | 73 | 70 | 77 | 71 | 77 | 73 |
| 4.. | -- | -- | 63 | 61 | 52 | 49 | 42 | 41 | 48 | 46 | 45 | 49 | 44 | 62 | 58 | 71 | 66 | 76 | 70 | 75 | 71 | 78 | 73 | 74 |
| 5.. | -- | -- | 64 | 62 | 53 | 52 | 43 | 42 | 49 | 48 | 47 | 46 | 49 | 47 | 60 | 58 | 69 | 67 | 76 | 72 | 77 | 73 | 78 | 74 |
| 6.. | -- | -- | 63 | 62 | 53 | 51 | 47 | 43 | 49 | 43 | 46 | 42 | 50 | 47 | 63 | 58 | 69 | 66 | 72 | 69 | 79 | 73 | 78 | 74 |
| 7.. | -- | -- | 60 | 60 | 51 | 46 | 43 | 42 | 43 | 40 | 45 | 45 | 50 | 44 | 60 | 54 | 68 | 65 | 74 | 71 | 79 | 73 | 75 | 68 |
| 8.. | -- | -- | 56 | 56 | 46 | 44 | 42 | 41 | 43 | 43 | 45 | 42 | 56 | 51 | 68 | 65 | 67 | 65 | 77 | 71 | 76 | 70 | 70 | 68 |
| 9.. | -- | -- | 54 | 47 | 46 | 44 | 42 | 41 | 43 | 43 | 45 | 42 | 55 | 51 | 66 | 62 | 69 | 66 | 76 | 71 | 77 | 71 | 76 | 70 |
| 10.. | -- | -- | 49 | 47 | 50 | 44 | 41 | 40 | 46 | 43 | 46 | 42 | 55 | 51 | 66 | 62 | 69 | 66 | 76 | 71 | 77 | 71 | 76 | 70 |
| 11.. | 62 | 58 | 51 | 48 | 51 | 50 | 40 | 37 | 45 | 42 | 46 | 46 | 54 | 52 | -- | -- | 69 | 67 | 77 | 72 | 77 | 72 | 78 | 73 |
| 12.. | 63 | 60 | 54 | 51 | 53 | 51 | 37 | 37 | 44 | 41 | 50 | 46 | 54 | 52 | -- | -- | 67 | 65 | 76 | 73 | 77 | 73 | 80 | 74 |
| 13.. | 64 | 60 | 55 | 54 | 53 | 49 | 37 | 37 | 47 | 44 | 50 | 46 | 54 | 49 | -- | -- | 67 | 64 | 78 | 72 | 75 | 72 | 78 | 74 |
| 14.. | 63 | 60 | 57 | 55 | 49 | 46 | 39 | 37 | 46 | 44 | 48 | 46 | 50 | 45 | -- | -- | 67 | 65 | 80 | 73 | 77 | 71 | 78 | 74 |
| 15.. | 60 | 56 | 58 | 57 | 50 | 47 | 43 | 39 | 47 | 46 | 48 | 47 | 52 | 49 | 71 | 66 | 65 | 81 | 74 | 78 | 73 | 77 | 74 | 74 |
| 16.. | 56 | 53 | 58 | 58 | 50 | 47 | 43 | 41 | 48 | 47 | 47 | 45 | 49 | 45 | 70 | 66 | 69 | 65 | 81 | 76 | 77 | 70 | 77 | 70 |
| 17.. | 58 | 54 | 54 | 51 | 47 | 41 | 40 | 48 | 45 | 47 | 44 | 49 | 45 | 68 | 62 | 70 | 66 | 90 | 76 | 77 | 70 | 70 | 67 | 67 |
| 18.. | 59 | 55 | 54 | 50 | 54 | 51 | 40 | 40 | 47 | 46 | 43 | 52 | 46 | 59 | 66 | 72 | 68 | 78 | 75 | 77 | 72 | 71 | 68 | 68 |
| 19.. | 56 | 53 | 56 | 50 | 48 | 44 | 40 | 50 | 47 | 48 | 47 | 54 | 50 | 71 | 68 | 73 | 69 | 74 | 76 | 71 | 72 | 71 | 66 | 65 |
| 20.. | 58 | 53 | 48 | 46 | 50 | 46 | 41 | 40 | 50 | 47 | 49 | 47 | 54 | 50 | 71 | 68 | 73 | 69 | 74 | 78 | 72 | 66 | 68 | 65 |
| 21.. | 54 | 51 | 46 | 45 | 46 | 44 | 42 | 41 | 48 | 46 | 54 | 49 | 53 | 48 | 71 | 67 | 81 | 75 | 77 | 74 | 74 | 68 | 62 | 62 |
| 22.. | 54 | 51 | 46 | 44 | 45 | 44 | 44 | 42 | 51 | 46 | 53 | 49 | 55 | 49 | 70 | 67 | 72 | 68 | 81 | 75 | 76 | 72 | 65 | 61 |
| 23.. | 55 | 52 | 51 | 45 | 44 | 43 | 48 | 44 | -- | -- | 52 | 50 | 57 | 53 | 71 | 67 | 74 | 70 | 81 | 74 | 75 | 72 | 66 | 61 |
| 24.. | 55 | 52 | 51 | 50 | 44 | 42 | 48 | 47 | -- | -- | 53 | 50 | 59 | 55 | 72 | 67 | 75 | 70 | 82 | 75 | 74 | 72 | 66 | 64 |
| 25.. | 56 | 53 | 50 | 46 | 42 | 40 | 50 | 47 | 54 | 49 | 53 | 50 | 50 | 55 | 73 | 67 | 75 | 70 | 81 | 75 | 74 | 70 | 65 | 62 |
| 26.. | 56 | 53 | 47 | 46 | 41 | 40 | 52 | 50 | 51 | 49 | 50 | 49 | 62 | 57 | 74 | 69 | 74 | 70 | 79 | 73 | 78 | 72 | 65 | 64 |
| 27.. | 53 | 50 | 47 | 43 | 41 | 52 | 52 | 56 | 51 | 51 | 47 | 62 | 59 | 74 | 69 | 72 | 68 | 78 | 72 | 79 | 74 | 66 | 63 | 63 |
| 28.. | 50 | 47 | 49 | 44 | 43 | 41 | 52 | 46 | 56 | 55 | 51 | 48 | 61 | 59 | 73 | 70 | 68 | 66 | 76 | 70 | 74 | 64 | 60 | 60 |
| 29.. | 52 | 48 | 44 | 44 | 41 | 38 | 46 | 44 | -- | -- | 52 | 48 | 64 | 59 | 72 | 68 | 70 | 66 | 75 | 71 | 78 | 73 | 62 | 57 |
| 30.. | 54 | 52 | 44 | 42 | 38 | 37 | 47 | 44 | -- | -- | 53 | 52 | 65 | 60 | 71 | 69 | 72 | 66 | 76 | 71 | 78 | 72 | 62 | 57 |
| 31.. | 57 | 55 | -- | -- | 40 | 37 | 47 | 44 | -- | -- | 53 | 53 | -- | -- | 70 | 68 | -- | -- | 80 | 72 | 77 | 72 | -- | -- |
| Aver. | -- | -- | 54 | 52 | 47 | 45 | 44 | 42 | 48 | 45 | 49 | 47 | 55 | 51 | 69 | 60 | 71 | 67 | 78 | 72 | 77 | 72 | 72 | 68 |

SAVANNAH RIVER BASIN--Continued

2-1975, SAVANNAH RIVER AT BURTONS FERRY BRIDGE, NEAR MILLHAVEN, GA.

LOCATION.--Temperature recorder at gaging station at bridge on U.S. Highway 301, 2 miles downstream from Rocky Creek and 9 miles east of Millhaven, Screven County.

DRAINAGE AREA.--8,650 square miles, approximately.

RECORDS AVAILABLE.--Water temperatures: January 1956 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 82°F July 19, 26, 27; minimum, 42°F Jan. 14-16.

EXTREMES, 1956-62.--Water temperatures: Maximum, 86°F Aug. 23, 1959; minimum, 39°F Feb. 19, 20, 1958.

Temperature °F of water, water year October 1961 to September 1962
/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 | 72 | 70 | 61 | 60 | 47 | 47 | 50 | 49 | 57 | 57 | 60 | 59 | 67 | 75 | 81 | 80 | 79 | 81 | 80 | 80 | 79 | |
| 2.. | 75 | 74 | 73 | 72 | 60 | 60 | 47 | 47 | 49 | 49 | 54 | 54 | 60 | 58 | 69 | 77 | 76 | 78 | 77 | 81 | 80 | 80 | 79 | |
| 3.. | 75 | 74 | 73 | 73 | 60 | 60 | 47 | 47 | 50 | 49 | 54 | 54 | 60 | 58 | 69 | 77 | 76 | 78 | 77 | 81 | 80 | 80 | 79 | |
| 4.. | 74 | 73 | 73 | 73 | 61 | 60 | 47 | 47 | 51 | 50 | 51 | 49 | 59 | 58 | 68 | 67 | 76 | 79 | 78 | 80 | 80 | 81 | 80 | |
| 5.. | 74 | 72 | 74 | 73 | 61 | 60 | 47 | 47 | 53 | 51 | 49 | 49 | 58 | 56 | 67 | 66 | 76 | 79 | 79 | 80 | 79 | 81 | 81 | |
| 6.. | 72 | 70 | 74 | 74 | 61 | 61 | 47 | 47 | 53 | 53 | 49 | 49 | 56 | 55 | 66 | 66 | 76 | 75 | 79 | 78 | 80 | 79 | 81 | |
| 7.. | 70 | 69 | 74 | 74 | 61 | 61 | 47 | 47 | 53 | 51 | 49 | 49 | 57 | 56 | 68 | 66 | 77 | 76 | 79 | 79 | 81 | 78 | 78 | |
| 8.. | 69 | 69 | 74 | 73 | 61 | 60 | 47 | 47 | 51 | 50 | 51 | 49 | 59 | 57 | 70 | 67 | 77 | 75 | 78 | 79 | 78 | 78 | 77 | |
| 9.. | 69 | 69 | 73 | 69 | 60 | 59 | 47 | 47 | 50 | 49 | 51 | 51 | 60 | 59 | 71 | 69 | 75 | 74 | 78 | 77 | 79 | 78 | 77 | |
| 10.. | 70 | 69 | 60 | 65 | 60 | 59 | 47 | 47 | 50 | 49 | 52 | 51 | 61 | 60 | 71 | 70 | 74 | 73 | 79 | 78 | 79 | 78 | 78 | |
| 11.. | 70 | 69 | 65 | 64 | 60 | 60 | 47 | 46 | 50 | 50 | 53 | 52 | 62 | 61 | 70 | 69 | 75 | 73 | 79 | 79 | 79 | 78 | 78 | |
| 12.. | 71 | 70 | 66 | 64 | 61 | 60 | 46 | 44 | 50 | 50 | 55 | 53 | 62 | 62 | 69 | 67 | 75 | 73 | 79 | 79 | 79 | 78 | 79 | |
| 13.. | 71 | 70 | 66 | 64 | 61 | 60 | 44 | 43 | 51 | 50 | 55 | 54 | 62 | 62 | 69 | 67 | 75 | 72 | 80 | 79 | 78 | 79 | 79 | |
| 14.. | 71 | 71 | 68 | 66 | 61 | 60 | 43 | 42 | 52 | 51 | 54 | 54 | 62 | 60 | 70 | 69 | 72 | 70 | 80 | 79 | 78 | 80 | 79 | |
| 15.. | 71 | 69 | 68 | 67 | 60 | 58 | 43 | 42 | 53 | 52 | 54 | 54 | 60 | 60 | 72 | 70 | 70 | 67 | 80 | 79 | 78 | 80 | 79 | |
| 16.. | 69 | 67 | 69 | 68 | 58 | 57 | 43 | 42 | 53 | 53 | 55 | 54 | 60 | 60 | 73 | 72 | 69 | 67 | 80 | 79 | 78 | 77 | 79 | |
| 17.. | 68 | 67 | 68 | 68 | 57 | 56 | 44 | 43 | 53 | 53 | 55 | 54 | 60 | 59 | 75 | 73 | 71 | 68 | 80 | 77 | 79 | 79 | 78 | |
| 18.. | 68 | 67 | 68 | 66 | 57 | 56 | 44 | 43 | 54 | 53 | 55 | 54 | 60 | 59 | 75 | 74 | 71 | 81 | 80 | 77 | 76 | 78 | 77 | |
| 19.. | 68 | 67 | 66 | 64 | 56 | 56 | 44 | 44 | 54 | 54 | 55 | 54 | 60 | 59 | 75 | 74 | 76 | 73 | 82 | 81 | 78 | 76 | 78 | |
| 20.. | 68 | 67 | 64 | 62 | 56 | 56 | 44 | 44 | 55 | 54 | 56 | 55 | 60 | 60 | 76 | 75 | 76 | 81 | 80 | 79 | 78 | 76 | 77 | |
| 21.. | 67 | 65 | 62 | 61 | 57 | 56 | 44 | 44 | 55 | 54 | 57 | 56 | 61 | 59 | 76 | 75 | 76 | 74 | 81 | 80 | 80 | 79 | 77 | |
| 22.. | 66 | 65 | 62 | 60 | 56 | 55 | 44 | 44 | 56 | 54 | 57 | 57 | 62 | 61 | 70 | 76 | 73 | 80 | 80 | 80 | 80 | 75 | 72 | |
| 23.. | 66 | 65 | 60 | 60 | 55 | 54 | 44 | 44 | 57 | 56 | 57 | 57 | 62 | 61 | 77 | 76 | 73 | 82 | 81 | 80 | 80 | 75 | 72 | |
| 24.. | 66 | 65 | 61 | 60 | 55 | 54 | 48 | 46 | 56 | 56 | 55 | 56 | 63 | 62 | 77 | 76 | 76 | 83 | 81 | 81 | 80 | 78 | 72 | |
| 25.. | 67 | 66 | 61 | 60 | 53 | 51 | 50 | 48 | 57 | 55 | 58 | 56 | 63 | 63 | 77 | 75 | 78 | 76 | 81 | 81 | 78 | 78 | 72 | |
| 26.. | 68 | 67 | 60 | 60 | 51 | 50 | 51 | 50 | 57 | 57 | 59 | 58 | 63 | 63 | 77 | 76 | 79 | 77 | 82 | 81 | 78 | 77 | 72 | |
| 27.. | 68 | 67 | 61 | 60 | 50 | 49 | 52 | 51 | 58 | 57 | 59 | 59 | 63 | 62 | 78 | 77 | 79 | 80 | 82 | 80 | 78 | 77 | 73 | |
| 28.. | 67 | 66 | 61 | 61 | 49 | 49 | 52 | 52 | 58 | 57 | 59 | 63 | 63 | 78 | 77 | 79 | 77 | 90 | 79 | 78 | 77 | 73 | 72 | |
| 29.. | 67 | 66 | 61 | 61 | 49 | 49 | 52 | 52 | -- | 59 | 57 | 64 | 63 | 78 | 76 | 79 | 76 | 80 | 78 | 80 | 78 | 70 | 70 | |
| 30.. | 68 | 67 | 61 | 60 | 48 | 49 | 52 | 51 | -- | 59 | 57 | 67 | 64 | 78 | 77 | 76 | 81 | 80 | 80 | 80 | 80 | 80 | -- | |
| 31.. | 70 | 69 | 67 | 66 | 57 | 56 | 47 | 46 | 53 | 52 | 55 | 54 | 61 | 60 | 73 | 72 | 75 | 74 | 80 | 79 | 79 | 78 | 77 | |

SAVANNAH RIVER BASIN--Continued
2-1980. BRIER CREEK AT MILLHAVEN, GA.

LOCATION.--At highway bridge at Millhaven, Screven County, 8.5 miles upstream from Beaver Dam Creek.

DRAINAGE AREA.--646 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1962 (discontinued).

Water temperatures: October 1961 to September 1962 (discontinued).

EXTREMES, 1961-62.--Dissolved solids: Maximum, 65 ppm June 1-10; minimum, 30 ppm Mar. 1-8, 10.

Hardness: Maximum, 32 ppm June 1-10; minimum, 9 ppm Jan. 11-20.

Specific conductance: Maximum daily, 73 micromhos Apr. 29; minimum daily, 31 micromhos Jan. 13, Feb. 21, 22, 25.

Water temperatures: Maximum, 84°F Aug. 24; minimum, 40°F Jan. 15.

REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Oct. 1-10, 1961..... | 253 | 12 | 0.02 | 3.8 | 1.2 | 4.5 | 2.0 | 24 | 3.2 | 3.0 | 0.1 | 0.2 | 48 | 14 | 0 | 56 | 7.0 | 10 |
| Oct. 11-20..... | 224 | 12 | .02 | 3.8 | 1.5 | 5.0 | 2.0 | 26 | 3.6 | 4.0 | .1 | .4 | 45 | 16 | 0 | 61 | 7.5 | 10 |
| Oct. 21-31..... | 251 | 11 | .02 | 4.2 | 1.3 | 5.3 | 2.0 | 27 | 3.6 | 3.5 | .2 | .4 | 45 | 16 | 0 | 65 | 7.4 | 8 |
| Nov. 1-5, 7-10..... | 253 | 11 | .14 | 7.0 | .5 | 2.6 | 1.1 | 26 | 3.2 | 2.8 | .1 | .2 | 42 | 20 | 0 | 55 | 7.5 | 15 |
| Nov. 11-20..... | 292 | 12 | .19 | 6.6 | .7 | 2.5 | 1.1 | 22 | 3.2 | 3.0 | .1 | .2 | 43 | 20 | 2 | 53 | 7.5 | 20 |
| Nov. 21-30..... | 391 | 12 | .13 | 6.0 | .5 | 2.7 | 1.5 | 17 | 5.6 | 3.8 | .1 | .2 | 46 | 17 | 3 | 55 | 7.2 | 20 |
| Dec. 1-4, 6, 7..... | 394 | 12 | .14 | 6.2 | .5 | 2.7 | .9 | 21 | 8.8 | 4.5 | .1 | .0 | 46 | 18 | 0 | 50 | 7.3 | 25 |
| Dec. 8-10..... | 268 | 11 | -- | -- | -- | 1.6 | .6 | 9 | -- | -- | -- | -- | -- | 11 | 4 | 36 | 6.9 | -- |
| Dec. 11-20..... | 807 | 11 | .18 | 4.4 | .2 | 2.7 | 1.0 | 12 | .8 | 4.2 | .1 | .0 | 43 | 12 | 2 | 49 | 7.3 | 30 |
| Dec. 21-31..... | 807 | 11 | .23 | 4.6 | .4 | 3.2 | .8 | 12 | 1.0 | 4.5 | .1 | .0 | 35 | 13 | 2 | 41 | 7.3 | 30 |
| Jan. 1-10, 1962..... | 704 | 9.7 | .15 | 3.2 | .7 | 3.3 | .6 | 12 | 2.0 | 5.0 | .1 | .0 | 35 | 11 | 1 | 35 | 7.1 | 30 |
| Jan. 11-20..... | 1,320 | 9.5 | .07 | 3.2 | .2 | 2.7 | .7 | 12 | 1.8 | 5.0 | .2 | .3 | 33 | 9 | 0 | 39 | 6.8 | 40 |
| Jan. 21-31..... | 1,150 | 10 | .09 | 4.0 | .5 | 3.5 | .7 | 15 | 1.6 | 5.0 | .3 | .3 | 36 | 12 | 0 | 38 | 7.4 | 25 |
| Feb. 1-10..... | 1,150 | 9.5 | .15 | 4.0 | .5 | 3.0 | .7 | 14 | 2.4 | 6.0 | .1 | .4 | 34 | 12 | 0 | 38 | 7.3 | 40 |
| Feb. 11-20..... | 743 | 9.8 | .10 | 4.0 | .7 | 2.8 | .7 | 15 | 2.4 | 6.0 | .2 | .4 | 34 | 13 | 0 | 39 | 7.1 | 40 |
| Feb. 21-28..... | 1,880 | 8.4 | .12 | 4.0 | .2 | 2.5 | .8 | 14 | 2.0 | 5.0 | .2 | .5 | 35 | 11 | 0 | 34 | 7.0 | 60 |
| Mar. 1-8, 10..... | 1,830 | 8.7 | .28 | 2.8 | 1.1 | 2.7 | .6 | 13 | 3.0 | 4.0 | .3 | .0 | 30 | 12 | 1 | 48 | 7.1 | 40 |
| Mar. 9..... | 1,420 | -- | -- | -- | -- | 1.7 | .6 | 24 | -- | -- | -- | -- | -- | 22 | 2 | 54 | 7.4 | -- |

^a Calculated from determined constituents.

SAVANNAH RIVER BASIN--Continued
2-1980. BRIER CREEK AT MILLHAVEN, GA.--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Mar. 11-20, 1962.... | 2,440 | 8.0 | 0.11 | 5.7 | 0.1 | 2.7 | 0.8 | 15 | 3.4 | 4.5 | 0.1 | 0.0 | 833 | 15 | 2 | 42 | 6.9 | 45 |
| Mar. 21-23, 25-29, 31 | 1,410 | 6.5 | 0.23 | 5.4 | 0.4 | 2.7 | 0.8 | 20 | 2.0 | 4.5 | 0.1 | 0.0 | 832 | 15 | 0 | 45 | 7.0 | 50 |
| Mar. 24, 30..... | 1,290 | -- | -- | -- | -- | 2.2 | 0.5 | 34 | -- | -- | -- | -- | -- | 29 | 1 | 68 | 7.7 | -- |
| Apr. 1, 26..... | 1,380 | -- | -- | -- | -- | 2.0 | 0.5 | 31 | -- | -- | -- | -- | -- | 26 | 0 | 58 | 7.5 | -- |
| Apr. 2-10..... | 1,840 | 8.3 | 0.27 | 4.4 | 0.7 | 2.5 | 0.8 | 16 | 2.0 | 4.0 | 0.0 | 0.0 | 54 | 14 | 1 | 41 | 7.1 | 60 |
| Apr. 11-19..... | 2,500 | 7.8 | 0.30 | 4.0 | 1.9 | 2.4 | 0.8 | 16 | 4.4 | 4.0 | 0.0 | 0.0 | 51 | 18 | 5 | 37 | 7.4 | 60 |
| Apr. 20-24, 27-28, 30 | 1,170 | 7.9 | 0.51 | 5.2 | 1.0 | 2.4 | 0.7 | 20 | 0.8 | 3.5 | -- | 0.0 | 58 | 17 | 0 | 45 | 7.4 | 60 |
| May 1-10..... | 862 | 8.4 | 0.23 | 7.1 | 0.1 | 2.3 | 0.6 | 22 | 4.4 | 2.8 | 0.1 | 0.3 | 54 | 18 | 0 | 50 | 7.2 | 50 |
| May 11-15, 17-20..... | 596 | 8.8 | 0.24 | 7.2 | 0.1 | 2.2 | 0.6 | 22 | 0.0 | 3.0 | 0.1 | 0.0 | 53 | 18 | 0 | 51 | 7.2 | 45 |
| May 16..... | 591 | -- | -- | -- | -- | 2.6 | 4.3 | 18 | -- | -- | -- | -- | -- | 21 | 6 | 70 | 6.9 | -- |
| May 21-31..... | 409 | 9.7 | 0.16 | 6.7 | 0.6 | 2.3 | 0.6 | 37 | 0.0 | 5.2 | 0.2 | 0.0 | 58 | 19 | 2 | 53 | 7.1 | 40 |
| June 1-10..... | 468 | 10 | 0.08 | 12 | 0.5 | 2.8 | 0.6 | 37 | 4.0 | 4.0 | 0.0 | 0.1 | 58 | 32 | 2 | 73 | 7.6 | 45 |
| June 11-20..... | 707 | 10 | 0.15 | 7.2 | 0.5 | 1.9 | 0.2 | 22 | 0.0 | 4.0 | 0.1 | 0.0 | 38 | 20 | 2 | 50 | 7.2 | 35 |
| June 21-26, 28-30..... | 435 | 10 | 0.06 | 6.2 | 0.8 | 2.4 | 0.5 | 22 | 4.4 | 3.8 | 0.2 | 0.0 | 32 | 19 | 0 | 40 | 7.2 | 40 |
| July 1-10..... | 356 | 10 | 0.08 | 6.2 | 0.9 | 2.6 | 0.5 | 24 | 4.4 | 4.0 | 0.2 | 0.0 | 837 | 19 | 0 | 51 | 7.2 | 20 |
| July 11-20..... | 386 | 10 | 0.17 | 5.2 | 0.7 | 2.4 | 0.5 | 18 | 8.8 | 3.6 | 0.3 | 0.0 | 48 | 16 | 1 | 45 | 6.9 | 45 |
| July 21-31..... | 336 | 10 | 0.03 | 5.6 | 1.0 | 2.3 | 0.5 | 20 | 4.4 | 2.5 | 0.0 | 0.2 | 32 | 18 | 0 | 48 | 7.3 | 20 |
| Aug. 1-10..... | | | | | | | | | | | | | | | | | | |
| Aug. 11-20..... | 263 | 9.9 | 0.05 | 6.4 | 0.5 | 2.1 | 0.5 | 22 | 4.4 | 2.5 | 0.1 | 0.2 | 834 | 18 | 0 | 49 | 7.2 | 20 |
| Aug. 21-31..... | 325 | 11 | 0.07 | 5.6 | 0.7 | 2.0 | 0.5 | 19 | 0.0 | 3.0 | 0.1 | 0.6 | 37 | 17 | 2 | 49 | 7.4 | 30 |
| Sept. 1-10..... | 260 | 11 | 0.05 | 6.0 | 0.6 | 2.4 | 0.3 | 21 | 4.4 | 0.8 | 0.1 | 0.1 | 47 | 18 | 0 | 55 | 7.3 | 10 |
| Sept. 11-20..... | 264 | 11 | 0.04 | 6.4 | 0.2 | 2.1 | 0.4 | 20 | 1.2 | 2.8 | 0.1 | 0.1 | 42 | 17 | 0 | 56 | 7.1 | 15 |
| Sept. 21-30..... | 435 | 11 | 0.07 | 5.0 | 0.5 | 2.0 | 0.4 | 10 | 5.2 | 3.0 | 0.1 | 0.1 | 44 | 14 | 6 | 45 | 7.0 | 25 |
| Time-weighted average..... | 764 | 10 | 0.14 | 5.4 | 0.6 | 2.7 | 0.8 | 19 | 1.9 | 3.8 | 0.1 | 0.2 | 43 | 16 | 1 | 200 | -- | 33 |

a Calculated from determined constituents.

SAVANNAH RIVER BASIN--Continued

2-1980. BRIER CREEK AT MILLHAVEN, GA.--Continued

Temperature °F of water, water year October 1961 to September 1962

| 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..... | 70 | 70 | 65 | 63 | 63 | 63 | 63 | 63 | 62 | 63 | 63 | 64 | 65 | 62 | 59 | 59 | 58 | 61 | 61 | 60 | 60 | 60 | 60 | 60 | 59 | 57 | 57 | 60 | 60 | 59 | 62 | |
| November.... | 67 | 67 | 68 | 68 | -- | -- | 69 | 70 | 60 | 58 | 59 | 60 | 61 | 64 | 63 | 63 | 61 | 60 | 58 | 56 | 56 | 55 | 56 | 55 | 54 | 54 | -- | 61 | -- | 61 | | |
| December.. | 53 | 53 | 53 | 54 | -- | 54 | 54 | 53 | 52 | 52 | 53 | 60 | 52 | 52 | 53 | 53 | 52 | 52 | 52 | 52 | 51 | 51 | 51 | 51 | 50 | 50 | 48 | 46 | 48 | 52 | | |
| January..... | 49 | 49 | 48 | 48 | 48 | 48 | 48 | 46 | 46 | 44 | 42 | 42 | 42 | 40 | 47 | 42 | 44 | 44 | 44 | 46 | 48 | 50 | 52 | 56 | 56 | 56 | 55 | 55 | 56 | 48 | | |
| February.... | 56 | 56 | 56 | 58 | 58 | 56 | 54 | 58 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 55 | 55 | 55 | 56 | 56 | 56 | 58 | 58 | 58 | 58 | 58 | 58 | -- | -- | 56 | | |
| March..... | 54 | 52 | 52 | 52 | 50 | 50 | 50 | 50 | 52 | 52 | 54 | 54 | 56 | 56 | 58 | 58 | 58 | 58 | 58 | 60 | 60 | 60 | 62 | 62 | 62 | 64 | 64 | 64 | 64 | 57 | | |
| April..... | 60 | 60 | 62 | 62 | 62 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 60 | 60 | 58 | 58 | 60 | 62 | 62 | 62 | 64 | 64 | 68 | 68 | 68 | 64 | 64 | -- | 63 | |
| May..... | 66 | 66 | 62 | 68 | 68 | 68 | 68 | 68 | 70 | 70 | 70 | 70 | 70 | 70 | 72 | 72 | 72 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 76 | 76 | 76 | 74 | 74 | 71 | | |
| June..... | 74 | 74 | 72 | 72 | 72 | 72 | 72 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 74 | 75 | 75 | 75 | 75 | 75 | 76 | 76 | 76 | 74 | 74 | 74 | 72 | 72 | -- | 74 | |
| July..... | 64 | 64 | 76 | 74 | 76 | 76 | 76 | 76 | 76 | 76 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 76 | 76 | 76 | 76 | 76 | 66 | 76 | | |
| August..... | 78 | 76 | 78 | 76 | 78 | 78 | 78 | 78 | 76 | 76 | 74 | 74 | 74 | 74 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | |
| September.. | 78 | 78 | 78 | 78 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 78 | 78 | 78 | 75 | 75 | 75 | 70 | 69 | 65 | 65 | 65 | 65 | 65 | 66 | 66 | -- | -- | 74 | |

ALTAHAMA RIVER BASIN

2-2255. OHOOPPE RIVER NEAR REIDSVILLE, GA.

LOCATION.--At center span of State Highway 56 bridge, 0.5 mile downstream from Brazells Creek, 1.5 miles downstream from Rocky Creek, 3.5 miles west of Reidsville, Tattnall County, 6 miles downstream from Pendleton Creek, and 14 miles upstream from mouth.

DRAINAGE AREA.--1,110 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: October 1961 to May 1962 (discontinued).

Water temperatures: October 1961 to May 1962 (discontinued).

EXTREMES, October 1961 to May 1962.--Dissolved solids: Maximum, 65 ppm Dec. 21-31; minimum, 29 ppm Mar. 1-31.

Hardness: Maximum, 37 ppm Feb. 5, 6, 12, May 2; minimum, 8 ppm Jan. 11-17, 19-31, Feb. 11, 13-20, and Mar. 11-20.

Specific conductance: Maximum daily, 192 micromhos Oct. 1; minimum daily, 26 micromhos Apr. 5, 16.

Water temperatures: Maximum, 93°F May 29; minimum, 35°F Mar. 26.

REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla.

Chemical analyses, in parts per million, October 1961 to May 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|-----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1, 1961..... | 215 | -- | -- | 4.8 | 1.0 | -- | -- | 16 | -- | 40 | -- | -- | -- | 16 | 3 | 192 | 7.5 | -- |
| Oct. 2-10..... | 145 | 14 | 0.17 | 4.4 | .7 | 3.9 | 0.6 | 18 | 2.0 | 5.0 | 0.0 | 0.8 | 41 | 14 | 0 | 47 | 7.3 | 35 |
| Oct. 11-20..... | 86 | 12 | .11 | 4.6 | .9 | 3.9 | .6 | 19 | 1.6 | 6.0 | 0 | .7 | a40 | 15 | 0 | 48 | 7.0 | 25 |
| Oct. 21-31..... | 68 | 11 | .08 | 4.8 | 1.0 | 4.2 | .6 | 21 | 2.0 | 4.5 | 0 | .6 | a39 | 16 | 0 | 52 | 6.8 | 15 |
| Nov. 1-6, 8-10..... | 55 | 10 | .06 | 4.4 | .5 | 2.5 | .8 | 16 | 1.0 | 2.8 | .2 | .3 | 35 | 13 | 0 | 40 | 7.3 | 10 |
| Nov. 11-14, 16-20... | 63 | 9.8 | .06 | 5.2 | .5 | 2.5 | .8 | 18 | .8 | 3.5 | .1 | .0 | 36 | 15 | 0 | 44 | 7.0 | 20 |
| Nov. 15..... | 64 | -- | -- | -- | -- | 5.4 | 1.0 | 47 | -- | -- | -- | -- | -- | 31 | 0 | -- | 7.8 | -- |
| Nov. 21-24, 26-30... | 111 | 9.9 | .10 | 6.2 | .4 | 2.7 | 1.1 | 21 | .2 | 4.1 | .1 | .0 | 44 | 17 | 0 | 49 | 7.3 | 35 |
| Dec. 1-10..... | 593 | 11 | .10 | 7.2 | .6 | 3.3 | 1.1 | 24 | .8 | 4.4 | .1 | .0 | 54 | 20 | 1 | 58 | 7.3 | 30 |
| Dec. 11-20..... | 586 | 11 | .11 | 4.6 | .6 | 3.3 | 1.3 | 12 | 4.8 | 8.4 | .2 | .0 | 56 | 12 | 6 | 47 | 6.9 | 30 |
| Dec. 21-31..... | 691 | 11 | .11 | 4.3 | .3 | 4.3 | .6 | 6 | 4.8 | 7.0 | .1 | .0 | 46 | 9 | 4 | 47 | 6.9 | 30 |
| Jan. 1, 3-10, 1962... | 782 | 14 | .09 | 2.2 | .3 | 4.3 | .6 | 6 | 4.8 | 7.0 | .1 | .0 | 46 | 9 | 4 | 37 | 6.6 | 35 |
| Jan. 11-17, 19, 20... | 1,120 | 14 | .12 | 2.0 | .7 | 4.2 | .6 | 6 | 2.8 | 7.0 | .1 | .0 | 47 | 8 | 3 | 35 | 6.4 | 45 |
| Jan. 21-31..... | 1,350 | 13 | .14 | 1.8 | 1.0 | 3.9 | .7 | 5 | 3.2 | 7.0 | .1 | .1 | 48 | 8 | 4 | 33 | 6.7 | 60 |
| Feb. 1-4, 7-10..... | 2,050 | 13 | .09 | 2.4 | .5 | 3.8 | .7 | 7 | 2.8 | 7.0 | .2 | .6 | 45 | 8 | 2 | 36 | 6.7 | 60 |
| Feb. 5-6, 12..... | 1,840 | -- | -- | -- | -- | 10 | 1.1 | 62 | -- | -- | -- | -- | -- | 37 | 0 | 107 | 7.9 | -- |
| Feb. 11, 13-20..... | 1,170 | 12 | .10 | 2.8 | .2 | 3.8 | .7 | 8 | 1.2 | 7.0 | .2 | .6 | 42 | 8 | 2 | 35 | 6.6 | 65 |
| Feb. 21-28..... | 2,200 | 12 | .10 | 4.4 | .2 | 3.5 | .7 | 12 | 2.4 | 7.0 | .2 | .7 | 46 | 12 | 2 | 42 | 7.0 | 70 |

| | | | | | | | | | | | | | | | | | | |
|----------------------------|-------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|---|-----|-----|----|
| Mar. 1-10, 1962..... | 3,550 | 12 | .08 | 2.1 | 1.0 | 3.1 | .5 | 7 | 1.2 | 5.0 | .2 | 0 | a29 | 9 | 4 | 34 | 6.5 | 55 |
| Mar. 11-20..... | 4,860 | 11 | .09 | 1.9 | .8 | 3.9 | .6 | 7 | 2.0 | 5.0 | .1 | 0 | a29 | 8 | 2 | 32 | 6.7 | 55 |
| Mar. 21-31..... | 2,450 | 9.6 | .07 | 2.4 | .7 | 3.1 | .8 | 10 | 1.6 | 5.2 | .1 | .4 | a29 | 9 | 1 | 34 | 6.8 | 60 |
| Apr. 1, 3, 5-9, 11-15 | 3,660 | 8.6 | .25 | 2.4 | .7 | 2.4 | .8 | 10 | .8 | 4.2 | .0 | .1 | 52 | 9 | 1 | 32 | 6.7 | 80 |
| Apr. 2, 10, 25..... | 2,790 | -- | -- | -- | -- | 2.3 | .5 | 21 | -- | -- | -- | -- | -- | 19 | 2 | 48 | 7.3 | -- |
| Apr. 16-17, 19-24, | | | | | | | | | | | | | | | | | | |
| 26, 28-30..... | 2,720 | 8.7 | .24 | 2.8 | .7 | 2.4 | .8 | 10 | .8 | 4.8 | .0 | .1 | 63 | 10 | 2 | 31 | 6.7 | 80 |
| Apr. 27..... | 1,340 | -- | -- | -- | -- | 2.6 | .4 | 40 | -- | -- | -- | -- | -- | 35 | 2 | 80 | 7.6 | -- |
| May 1, 3-10..... | 1,310 | 9.9 | .33 | 4.0 | .6 | 3.3 | .6 | 14 | 1.6 | 5.0 | .0 | .2 | 56 | 12 | 1 | 39 | 6.6 | 55 |
| May 2..... | 1,830 | -- | -- | -- | -- | 8.1 | 1.1 | 60 | -- | -- | -- | -- | -- | 37 | 0 | 111 | 7.8 | -- |
| May 11-14, 16-20.... | 334 | 7.7 | .05 | 4.4 | .6 | 3.1 | .6 | 13 | 2.0 | 5.0 | .0 | .2 | 46 | 16 | 8 | 136 | 7.0 | 40 |
| May 15..... | 339 | -- | -- | -- | -- | 1.1 | .6 | 14 | -- | -- | -- | -- | -- | 16 | 8 | 136 | 7.0 | -- |
| May 21-31..... | 162 | 8.8 | .10 | 4.2 | .4 | 3.0 | .6 | 14 | 2.4 | 5.0 | .0 | .0 | 46 | 12 | 0 | 40 | 6.7 | 45 |
| Time-weighted average..... | 961 | 11 | 0.12 | 3.6 | 0.7 | 3.5 | 0.7 | 13 | 1.9 | 5.5 | 0.1 | 0.2 | 45 | 12 | 2 | 43 | -- | 48 |

a Calculated from determined constituents.

Temperature °F of water, October 1961 to May 1962

| 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 | 79 | 75 | 66 | 62 | 60 | 68 | 76 | 70 | 69 | 64 | 67 | 65 | 71 | 58 | 53 | 63 | 62 | 60 | 63 | 50 | 61 | 59 | 62 | 59 | 63 | 55 | 53 | 68 | 68 | 64 | 69 | 64 |
| November .. | 70 | 71 | 73 | 74 | 73 | 73 | 68 | 53 | 64 | 62 | 64 | 64 | 60 | 62 | 69 | 64 | 67 | 62 | 55 | 59 | 57 | 58 | 54 | 59 | 55 | 57 | 62 | 58 | 54 | 50 | -- | 62 |
| December .. | -- | -- | -- | -- | -- | -- | 57 | 60 | 61 | 59 | 60 | 64 | 60 | 64 | 50 | 54 | 50 | 54 | 55 | 54 | 50 | 50 | 54 | 50 | 44 | 49 | 45 | 43 | 41 | 40 | 41 | 52 |
| January | 40 | 43 | 41 | 42 | 45 | 50 | 49 | 46 | 40 | 43 | 40 | 48 | 50 | 50 | 41 | 44 | 41 | 43 | 52 | 48 | 50 | 49 | 53 | 54 | 56 | 64 | 70 | 43 | 50 | 55 | 55 | 48 |
| February | 52 | 52 | 44 | 46 | 49 | 54 | 42 | 44 | 44 | 40 | 45 | 51 | 49 | 52 | 55 | 56 | 67 | 65 | 57 | 54 | 55 | 63 | 63 | 58 | 54 | 54 | 52 | 63 | -- | -- | -- | 53 |
| March | 55 | 50 | 55 | 48 | 55 | 53 | 48 | 49 | 56 | 69 | 65 | 63 | 56 | 48 | 55 | 52 | 52 | 49 | 54 | 46 | 48 | 49 | 46 | 41 | 40 | 33 | 62 | 66 | 61 | 60 | 60 | 53 |
| April | 60 | 64 | 52 | -- | 52 | 54 | 54 | 58 | 62 | 64 | 66 | 62 | 60 | 54 | 58 | 60 | 53 | -- | 60 | 63 | 64 | 68 | 69 | 70 | 64 | 66 | 68 | 68 | 66 | 66 | -- | 61 |
| May | 58 | 58 | 64 | 49 | 60 | 55 | 68 | 70 | 74 | 72 | 76 | 76 | 75 | 81 | 81 | 83 | 83 | 82 | 88 | 90 | 92 | 88 | 84 | 74 | 81 | 78 | 83 | 84 | 93 | 92 | 78 | 76 |
| June | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| July | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| August | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| September .. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

ST. JOHNS RIVER BASIN

2-2324. ST. JOHNS RIVER NEAR COCOA, FLA.

LOCATION.--Conductance recorder at gaging station on downstream side of bridge on State Highway 520, 0.7 mile downstream from outlet of Lake Poinsett, and 8.8 miles west of Cocoa, Brevard County.

DRAINAGE AREA.--1,237 square miles.

Specific conductance: October 1953 to September 1960.

RECORDS AVAILABLE.--Chemical analyses: October 1953 to September 1960.

Water temperatures: October 1953 to September 1960.

EXTREMES, 1953-62.--Specific conductance: Maximum daily, 3,500 micromhos June 27, 30, July 2; minimum daily, 410 micromhos Sept. 25-27.

EXTREMES, 1953-62.--Dissolved solids (residue at 180°C): Maximum daily, 1,710 mg/l. July 2, 1956; minimum daily, 103 ppm Oct. 21-31, 1953.

Hardness (1953-60): Maximum daily, 350 mg/l. June 11-20, 1956; minimum daily, 30 mg/l. Oct. 21-31, 1953.

Specific conductance: Maximum daily, 3,500 micromhos June 27, 30, July 2, 1962; minimum daily, 107 micromhos Oct. 10, 1953.

Water temperatures (1953-60): Maximum, 95°F Aug. 9, 1956; minimum, 46°F Jan. 9-12, 1956.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| May 11, 1962..... | 32 | 0.5 | 0.01 | 124 | 51 | 380 | 9.8 | 136 | 142 | 720 | 0.5 | 3.3 | 1,710 | 520 | 408 | 2,650 | 7.2 | 30 |
| May 24..... | 26 | 7 | .04 | 128 | 51 | 400 | 12 | 92 | 156 | 800 | -- | 5.6 | 1,600 | 530 | 454 | 3,090 | 7.0 | 50 |
| June 6..... | 16 | 5.2 | .02 | 136 | 56 | 454 | 12 | 92 | 150 | 900 | .5 | 4.5 | 2,320 | 570 | 494 | 3,210 | 7.2 | 45 |
| July 7..... | 57 | 7.6 | .05 | 110 | 44 | 358 | 8.5 | 92 | 110 | 715 | .2 | 1.1 | 1,850 | 456 | 380 | 2,540 | 7.0 | 100 |
| Aug. 16..... | 587 | 6.7 | .07 | 82 | 32 | 208 | 6.1 | 94 | 94 | 400 | .5 | 1.1 | 1,080 | 336 | 259 | 1,620 | 7.2 | 70 |

^a Calculated from determined constituents.

ST. JOHNS RIVER BASIN--Continued

2-2324. ST. JOHNS RIVER NEAR COCOA, FLA.--Continued

Specific conductance, in micromhos, water year October 1961 to September 1962

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 782 | 1,350 | 1,070 | 1,380 | 1,680 | 1,880 | 2,100 | 2,400 | -- | 3,400 | 1,870 | 650 |
| 2 | 813 | 1,350 | 1,330 | 1,410 | 1,810 | 1,800 | 2,080 | 2,350 | -- | 3,500 | 1,810 | 645 |
| 3 | 842 | 1,350 | 1,220 | 1,500 | 1,810 | 1,680 | 2,000 | 2,300 | -- | 3,200 | 1,540 | 630 |
| 4 | 838 | 1,350 | 1,400 | 1,700 | 1,820 | 1,750 | 2,100 | 2,250 | -- | 2,400 | 1,870 | 615 |
| 5 | 802 | 1,350 | 1,750 | 1,600 | 1,860 | 1,780 | 2,200 | 2,250 | -- | 2,220 | 1,820 | 600 |
| 6 | 830 | 1,350 | 1,840 | 1,600 | 1,600 | 1,950 | 2,150 | 2,300 | -- | 2,040 | 1,750 | 600 |
| 7 | 874 | 1,350 | 1,780 | 1,600 | 1,520 | 1,810 | 2,150 | 2,300 | -- | 2,420 | 1,830 | 600 |
| 8 | 828 | 1,350 | 1,100 | 1,600 | 1,620 | 1,850 | 2,220 | 2,300 | -- | 2,700 | 1,830 | 600 |
| 9 | 824 | 1,350 | 1,050 | 1,600 | 1,850 | 2,120 | 2,600 | 2,300 | -- | 2,950 | 1,830 | 600 |
| 10 | 884 | 1,350 | 1,180 | 1,490 | 2,560 | 2,800 | 2,650 | 2,300 | -- | 3,380 | 1,900 | 600 |
| 11 | 828 | 1,350 | 1,130 | 1,240 | 1,880 | 2,650 | 2,450 | 2,380 | -- | 3,300 | 1,900 | 590 |
| 12 | 1,030 | 1,350 | 1,120 | 1,240 | 1,720 | 2,000 | 2,250 | 2,450 | -- | 2,450 | 1,820 | 580 |
| 13 | 1,500 | 1,350 | 1,090 | 1,420 | 1,840 | 2,110 | 2,100 | 2,500 | -- | 1,150 | 1,730 | 580 |
| 14 | 1,000 | 1,700 | 1,160 | 1,640 | 2,190 | 2,200 | 2,000 | 2,500 | -- | 975 | 1,630 | 565 |
| 15 | 889 | 2,380 | 1,280 | 2,130 | 2,220 | 2,260 | 2,100 | 2,580 | 3,000 | 750 | 1,550 | 550 |
| 16 | 950 | 2,660 | 1,310 | 2,340 | 2,200 | 2,120 | 2,020 | 2,600 | -- | 700 | 1,590 | 550 |
| 17 | 1,120 | 2,700 | 1,100 | 1,930 | 2,030 | 2,200 | 2,050 | 2,580 | -- | 1,250 | 1,500 | 545 |
| 18 | 942 | 1,940 | 1,080 | 1,740 | 2,120 | 2,210 | 2,100 | 2,500 | 3,000 | 2,090 | 1,460 | 520 |
| 19 | 915 | 1,600 | 1,070 | 1,720 | 1,940 | 2,240 | 2,200 | 2,550 | 2,880 | 1,700 | 1,400 | 495 |
| 20 | 896 | 1,380 | 1,110 | 1,800 | 1,910 | 2,240 | 2,150 | 2,600 | 2,900 | 2,300 | 1,240 | 490 |
| 21 | 880 | 1,710 | 1,000 | 1,490 | 1,680 | 2,090 | 2,150 | 2,600 | -- | 2,100 | 1,110 | 500 |
| 22 | 1,000 | 1,680 | 1,050 | 1,540 | 1,700 | 2,050 | 2,150 | 2,600 | -- | 1,400 | 1,040 | 495 |
| 23 | 1,190 | 1,620 | 1,200 | 1,800 | 1,680 | 1,950 | 2,280 | 2,600 | 3,300 | 1,440 | 1,000 | 485 |
| 24 | 1,280 | 1,780 | 1,080 | 1,870 | 1,780 | 2,090 | 2,300 | -- | 3,100 | 1,590 | 1,000 | 450 |
| 25 | 1,260 | 1,620 | 1,070 | 1,850 | 1,980 | 2,050 | 2,320 | -- | 3,200 | 1,120 | 975 | 410 |
| 26 | 1,180 | 1,470 | 1,120 | 1,860 | 1,940 | 1,910 | 2,150 | -- | 3,300 | 1,110 | 875 | 410 |
| 27 | 1,120 | 1,380 | 1,240 | 1,500 | 1,900 | 1,880 | 2,200 | -- | 3,500 | 1,360 | 792 | 410 |
| 28 | 1,180 | 1,280 | 1,170 | 1,480 | 1,780 | 1,900 | 2,250 | -- | 3,400 | 1,220 | 748 | 430 |
| 29 | 1,350 | 1,140 | 1,130 | 1,490 | -- | 1,950 | 2,220 | -- | 3,300 | 1,350 | 715 | 420 |
| 30 | 1,350 | 1,000 | 1,140 | 1,500 | -- | 2,090 | 2,300 | -- | 3,500 | 1,720 | 680 | 445 |
| 31 | 1,350 | -- | 1,240 | 1,500 | -- | 2,250 | -- | -- | -- | 2,500 | 670 | -- |

ST. JOHNS RIVER BASIN--Continued
2-2325. ST. JOHNS RIVER NEAR CHRISTMAS, FLA.

LOCATION.--Conductance recorder at gaging station about 15 feet downstream from bridge on State Highway 50, 2 miles upstream from Lake Cone and Tootoosahatchee Creek, and 4.5 miles east of Christmas, Orange County.

DRAINAGE AREA.--1,418 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1954 to September 1958.

Specific conductance (continuous): June to September 1962.

EXTREMES, June to September 1962.--Specific conductance: Maximum daily, 4,800 micromhos July 1; minimum daily, 690 micromhos Sept. 30.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| May 11, 1962..... | 30 | 0.5 | 0.03 | 140 | 66 | 530 | 13 | 130 | 196 | 1,000 | 0.4 | 0.5 | 2,250 | 621 | 514 | 3,480 | 7.1 | 45 |
| May 24..... | 16 | 1.4 | .01 | 144 | 68 | 520 | 13 | 138 | 190 | 1,000 | .5 | 1.9 | 2,260 | 639 | 526 | 3,550 | 7.0 | 50 |
| May 29a..... | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1,020 | -- | -- | -- | -- | -- | 3,610 | -- | -- |
| May 29b..... | 18 | -- | -- | -- | -- | -- | -- | -- | -- | 1,050 | -- | -- | -- | -- | -- | 3,650 | -- | -- |
| May 29c..... | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1,050 | -- | -- | -- | -- | -- | 3,650 | -- | -- |
| June 7..... | 20 | 2.2 | .00 | 160 | 77 | 606 | 15 | 106 | 248 | 1,150 | .5 | 2.8 | 2,550 | 716 | 628 | 4,060 | 7.1 | 55 |
| July 7..... | 106 | 5.1 | .03 | 162 | 77 | 594 | 13 | 60 | 364 | 1,100 | .2 | 1.5 | 2,830 | 720 | 672 | 4,000 | 6.8 | 70 |
| Aug. 16..... | 840 | 11 | .27 | 80 | 38 | 262 | 8.3 | 78 | 112 | 500 | .4 | .6 | 1,310 | 356 | 292 | 1,730 | 6.9 | 200 |
| Sept. 1..... | 1,640 | 8.7 | .35 | 42 | 14 | 108 | 5.8 | 64 | 44 | 200 | .5 | 2.2 | 1,638 | 162 | 110 | 870 | 7.0 | 200 |

a Top sample.

b Bottom sample.

c Integrated sample.

ST. JOHNS RIVER BASIN--Continued

2-2325. ST. JOHNS RIVER NEAR CHRISTMAS, FLA.--Continued

Specific conductance, in micromhos, June to September 1962

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|------|------|------|------|------|------|------|-----|-------|-------|-------|-------|
| 1 | | | | | | | | | -- | 4,800 | 1,800 | 980 |
| 2 | | | | | | | | | -- | 4,750 | 1,900 | 950 |
| 3 | | | | | | | | | -- | 4,650 | 2,080 | 900 |
| 4 | | | | | | | | | -- | 4,600 | 2,350 | 900 |
| 5 | | | | | | | | | -- | 4,600 | 2,400 | 880 |
| 6 | | | | | | | | | -- | 4,700 | 2,320 | 890 |
| 7 | | | | | | | | | -- | 4,700 | 2,220 | 900 |
| 8 | | | | | | | | | -- | -- | 1,860 | 880 |
| 9 | | | | | | | | | -- | -- | 1,500 | 830 |
| 10 | | | | | | | | | -- | -- | 1,500 | 825 |
| 11 | | | | | | | | | -- | -- | 1,530 | 820 |
| 12 | | | | | | | | | -- | -- | 1,620 | 820 |
| 13 | | | | | | | | | -- | -- | 1,750 | 820 |
| 14 | | | | | | | | | -- | 2,800 | 1,850 | 825 |
| 15 | | | | | | | | | -- | 2,450 | 1,900 | 830 |
| 16 | | | | | | | | | -- | 2,200 | 1,960 | 830 |
| 17 | | | | | | | | | -- | 2,200 | 1,840 | 810 |
| 18 | | | | | | | | | 4,570 | 2,160 | 1,800 | 780 |
| 19 | | | | | | | | | 4,540 | 1,480 | 1,800 | 770 |
| 20 | | | | | | | | | 4,600 | 1,400 | 1,730 | 770 |
| 21 | | | | | | | | | 4,700 | 1,400 | 1,650 | 780 |
| 22 | | | | | | | | | 4,700 | 1,350 | 1,550 | 780 |
| 23 | | | | | | | | | 4,700 | 1,350 | 1,400 | 770 |
| 24 | | | | | | | | | 4,660 | 1,400 | 1,300 | 750 |
| 25 | | | | | | | | | 4,600 | 1,540 | 1,300 | 740 |
| 26 | | | | | | | | | 4,550 | 1,690 | 1,250 | 740 |
| 27 | | | | | | | | | 4,500 | 1,800 | 1,110 | 740 |
| 28 | | | | | | | | | 4,450 | 1,900 | 1,100 | 740 |
| 29 | | | | | | | | | 4,550 | 1,880 | 1,000 | 720 |
| 30 | | | | | | | | | 4,710 | 1,800 | 1,050 | 690 |
| 31 | | | | | | | | | -- | 1,750 | 1,020 | -- |

ST. JOHNS RIVER BASIN--Continued

2-2331. ECONLOCKHATCHEE RIVER NEAR BITHLO, FLA.

LOCATION.--Conductance recorder at bridge on State Highway 50, 300 feet upstream from Small Tributary, 3.0 miles northwest of Bithlo, Orange County, and 8 miles above Little Econlockhatchee River.

DRAINAGE AREA.--119 square miles.

RECORDS AVAILABLE.--Specific conductance: October 1959 to May 1962 (discontinued).

EXTREMES, October 1961 to May 1962.--Specific conductance: Maximum daily, 190 micromhos May 23, 24, 1962; minimum daily, 67 micromhos Oct. 1.

EXTREMES, October 1959 to May 1962.--Specific conductance: Maximum daily, 190 micromhos May 23, 24, 1962; minimum daily, 24 micromhos Mar. 24, 1960.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Oct. 24, 1961..... | -- | 2.6 | 0.18 | 9.6 | 1.2 | 7.2 | 0.4 | 22 | 3.2 | 12 | 0.3 | 0.0 | 106 | 29 | 11 | 94 | 6.4 | 220 |
| Dec. 1..... | 1.2 | 6.7 | .08 | 14 | 1.3 | 10 | .6 | 35 | 3.2 | 17 | .1 | .1 | 114 | 41 | 12 | 135 | 7.2 | 140 |
| Jan. 15, 1962..... | -- | 8.1 | .08 | 15 | 1.3 | 15 | .6 | 49 | 5.8 | 20 | .2 | .0 | 122 | 48 | 14 | 143 | 7.4 | 120 |
| Feb. 28..... | -- | 5.7 | .06 | 17 | 2.3 | 15 | .8 | 47 | 4.8 | 23 | .2 | .0 | 135 | 52 | 14 | 158 | 7.0 | 130 |
| Apr. 11..... | -- | 5.9 | .07 | 14 | 2.7 | 14 | .8 | 38 | 5.2 | 23 | .2 | .3 | 125 | 46 | 15 | 147 | 7.2 | 120 |
| May 11..... | -- | 5.7 | .04 | 26 | 2.2 | 11 | 1.6 | 81 | 5.2 | 16 | .3 | .3 | 130 | 74 | 8 | 195 | 7.0 | 60 |
| May 24..... | -- | 3.6 | .07 | 26 | 2.2 | 12 | 1.4 | 83 | 4.8 | 16 | .1 | .3 | 121 | 74 | 6 | 197 | 7.1 | 50 |
| Aug. 8..... | 12.8 | 5.0 | .21 | 5.2 | 1.2 | 4.8 | .8 | 9 | 5.6 | 8.0 | .8 | .2 | 101 | 18 | 10 | 63 | 5.7 | 240 |

ST. JOHNS RIVER BASIN--Continued

2-2331. ENCONLOCKHATCHEE RIVER NEAR BITHLO, FLA.--Continued

Specific conductance, in micromhos, October 1961 to May 1962

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|------|------|------|------|------|------|------|-----|------|------|------|-------|
| 1 | 67 | 92 | 128 | 140 | 160 | 163 | -- | 185 | | | | |
| 2 | 79 | 93 | 129 | 140 | 160 | 168 | 158 | 184 | | | | |
| 3 | 79 | 93 | 130 | 140 | 162 | 172 | 155 | 178 | | | | |
| 4 | 79 | 93 | 134 | 141 | 165 | 177 | 154 | 175 | | | | |
| 5 | 80 | 92 | 136 | 141 | 168 | 179 | 156 | 175 | | | | |
| 6 | 80 | 92 | 138 | 148 | 162 | -- | 160 | 174 | | | | |
| 7 | 80 | 92 | 140 | 150 | 152 | -- | 162 | 172 | | | | |
| 8 | 80 | 92 | 144 | 150 | 153 | -- | 163 | 172 | | | | |
| 9 | 82 | 92 | 142 | 150 | -- | -- | 161 | 175 | | | | |
| 10 | 83 | 92 | 142 | 148 | -- | -- | 160 | 180 | | | | |
| 11 | 85 | 92 | 148 | 147 | -- | -- | 160 | 180 | | | | |
| 12 | 91 | 92 | 156 | 147 | -- | -- | 160 | 183 | | | | |
| 13 | 92 | 93 | 159 | -- | -- | -- | 160 | 181 | | | | |
| 14 | 92 | 95 | 163 | -- | -- | -- | 154 | 180 | | | | |
| 15 | 91 | -- | 159 | -- | -- | -- | 160 | 180 | | | | |
| 16 | 90 | -- | 149 | -- | -- | -- | 210 | 181 | | | | |
| 17 | 90 | 110 | 152 | -- | 150 | -- | 210 | 184 | | | | |
| 18 | -- | 110 | 150 | -- | 150 | -- | 163 | 185 | | | | |
| 19 | -- | 110 | 152 | -- | 150 | 157 | 165 | 186 | | | | |
| 20 | 90 | 110 | 131 | -- | 150 | 159 | 168 | 186 | | | | |
| 21 | 90 | 111 | 130 | -- | 150 | 158 | 170 | 188 | | | | |
| 22 | 90 | 113 | 130 | -- | 150 | 158 | 177 | 188 | | | | |
| 23 | 90 | 115 | 135 | -- | 150 | 154 | 174 | 190 | | | | |
| 24 | 90 | 116 | 139 | -- | 152 | 148 | 174 | 190 | | | | |
| 25 | 90 | 118 | 139 | -- | 156 | 150 | 173 | -- | | | | |
| 26 | 90 | 120 | 139 | -- | 160 | 150 | 173 | -- | | | | |
| 27 | 90 | 120 | 138 | -- | 160 | 150 | 178 | -- | | | | |
| 28 | 90 | 123 | 138 | -- | 164 | -- | 182 | -- | | | | |
| 29 | 91 | 122 | 138 | -- | -- | -- | 162 | -- | | | | |
| 30 | 91 | 122 | 139 | 160 | -- | -- | 163 | -- | | | | |
| 31 | 91 | -- | 140 | 160 | -- | -- | -- | -- | | | | |

LAKE OKEECHOBEE AND THE EVERGLADES

2-2730. KISSIMEE 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 1962.

Water temperatures: October 1953 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 347 ppm June 11, 13-15; minimum, 39 ppm Sept. 25-27.

Hardness: Maximum, 230 ppm June 11, 13-15; minimum, 24 ppm Oct. 1, 2, 4-10, 21, 23-31, Nov. 1-6, 9-30, and Sept. 1, 2, 4, 6, 8-11, 13-17, 19-20, 25-27.

Specific conductance: Maximum daily, 581 micromhos June 14; minimum daily, 64 micromhos Sept. 27.

Water temperatures: Maximum, 91°F Oct. 7, 15; minimum, 40°F Dec. 27-31.

EXTREMES, 1940-41, 1953-62.--Dissolved solids: Maximum, 347 ppm June 11, 13-15, 1962; minimum, 39 ppm Apr. 1-10, 1960, Sept. 25-27, 1962.

Hardness: Maximum, 230 ppm June 11, 13-15, 1962; minimum, 12 ppm Oct. 11-20, 1953.

Specific conductance: Maximum daily, 581 micromhos June 14, 1962; minimum daily, 36 micromhos Oct. 19, 1956.

Water temperatures (1953-62): Maximum, 94°F July 6, 1961; minimum, 40°F Dec. 27-31, 1961.

REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-2, 4-10, 1961 | 597 | 2.3 | 0.04 | 6.6 | 1.9 | 7.8 | 1.4 | 19 | 6.4 | 14 | 0.1 | 1.1 | 81 | 24 | 9 | 98 | 7.0 | 45 |
| Oct. 3, 22 | 568 | -- | .04 | 8.8 | 1.9 | 9.2 | 1.3 | 28 | -- | -- | .3 | -- | -- | 30 | 7 | 110 | 7.3 | 45 |
| Oct. 11-20 | 541 | 2.3 | .05 | 6.6 | 2.1 | 7.2 | 1.2 | 20 | 7.2 | 14 | .1 | .3 | 80 | 25 | 8 | 94 | 7.0 | 42 |
| Oct. 21, 23-31 | 472 | 3.1 | .05 | 6.2 | 1.9 | 6.8 | 1.2 | 16 | 7.2 | 14 | .1 | .3 | 78 | 24 | 10 | 91 | 7.0 | 40 |
| Nov. 1-6, 9-10 | 422 | 1.2 | .03 | 6.4 | 2.1 | 7.3 | 1.8 | 18 | 9.8 | 12 | .2 | .0 | 75 | 24 | 10 | 95 | 6.7 | 35 |
| Nov. 11-20 | 373 | 1.4 | .03 | 6.6 | 1.9 | 7.9 | 1.7 | 18 | 10 | 12 | .2 | .0 | 75 | 24 | 10 | 96 | 7.1 | 40 |
| Nov. 21-30 | 342 | 1.5 | .03 | 6.8 | 1.8 | 7.7 | 1.7 | 18 | 7.2 | 12 | .2 | .0 | 74 | 24 | 10 | 96 | 7.1 | 35 |
| Dec. 1-3, 5-10 | 315 | 1.4 | .03 | 6.0 | 3.2 | 8.5 | 1.3 | 20 | 9.6 | 15 | .2 | .0 | 69 | 28 | 12 | 100 | 7.0 | 40 |
| Dec. 4 | 314 | -- | -- | -- | -- | -- | -- | 36 | -- | 14 | -- | -- | -- | -- | -- | 130 | 7.5 | -- |
| Dec. 11-20 | 284 | 1.6 | .03 | 6.4 | 2.4 | 8.9 | 1.3 | 18 | 8.4 | 14 | .2 | .1 | 67 | 26 | 11 | 95 | 6.9 | 30 |
| Dec. 21-31 | 253 | 1.6 | .03 | 6.4 | 2.7 | 8.5 | 1.2 | 20 | 9.2 | 14 | .2 | .0 | 69 | 27 | 10 | 100 | 7.0 | 40 |
| Jan. 4-10, 1962 | 222 | 1.2 | .03 | 7.2 | 2.9 | 9.2 | 1.6 | 22 | 9.6 | 14 | .2 | .6 | 74 | 30 | 12 | 100 | 7.1 | 45 |
| Jan. 11-20 | 227 | 1.3 | .03 | 4.0 | 4.6 | 9.1 | 1.6 | 21 | 10 | 14 | .2 | .1 | 61 | 29 | 12 | 100 | 7.0 | 40 |
| Jan. 21-31 | 199 | 3.0 | .03 | 2.4 | 5.8 | 9.0 | 1.5 | 22 | 11 | 14 | .2 | .0 | 74 | 30 | 12 | 100 | 7.1 | 30 |
| Feb. 1-10 | 187 | 2.4 | .03 | 8.8 | 2.4 | 9.4 | 1.6 | 24 | 11 | 16 | .2 | .8 | 77 | 32 | 12 | 112 | 7.0 | 40 |
| Feb. 11-14, 16-20 | 176 | 6.2 | .04 | 9.2 | 2.7 | 9.8 | 2.0 | 26 | 12 | 16 | .2 | .7 | 82 | 34 | 12 | 121 | 7.0 | 45 |
| Feb. 15 | 187 | -- | -- | -- | -- | -- | -- | 24 | -- | 15 | -- | -- | -- | -- | -- | 115 | 7.5 | -- |
| Feb. 21-28 | 143 | 3.0 | .04 | 10 | 3.2 | 10 | 2.0 | 29 | 12 | 16 | .3 | .9 | 85 | 38 | 14 | 128 | 7.1 | 45 |

[illegible]

QUALITY OF SURFACE WATERS, 1962

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

2-2827.5. MIDDLE RIVER CANAL AT FORT LAUDERDALE, FLA. (ABOVE CONTROL)

LOCATION.--Conductance recorder at bridge on N. W. 31st Street and intersection of Seaboard Airline Railroad.

RECORDS AVAILABLE.--Specific conductance (continuous): May to September 1962.

EXTREMES, May to September 1962.--Specific conductance: Maximum daily, 26,700 micromhos June 4; minimum daily, 680 micromhos Sept. 2, 3.

Specific conductance, in micromhos, May to September 1962

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|------|------|------|------|------|------|------|--------|--------|-------|--------|-------|
| 1 | | | | | | | | -- | 25,100 | 2,710 | 2,300 | 700 |
| 2 | | | | | | | | -- | 25,900 | 2,290 | 2,600 | 680 |
| 3 | | | | | | | | -- | 26,100 | 1,000 | 2,600 | 680 |
| 4 | | | | | | | | -- | 26,700 | 1,360 | 2,600 | 710 |
| 5 | | | | | | | | -- | 26,100 | 1,600 | 2,800 | 825 |
| 6 | | | | | | | | -- | 26,200 | 2,000 | 22,700 | 900 |
| 7 | | | | | | | | -- | 25,600 | 2,390 | 2,600 | 900 |
| 8 | | | | | | | | -- | 26,100 | 2,500 | 2,500 | 975 |
| 9 | | | | | | | | -- | 25,700 | 2,400 | 2,550 | 1,000 |
| 10 | | | | | | | | -- | 25,600 | 2,500 | 2,300 | 1,050 |
| 11 | | | | | | | | -- | 24,900 | 2,450 | 2,200 | 1,280 |
| 12 | | | | | | | | -- | 24,600 | 2,180 | 2,200 | 1,750 |
| 13 | | | | | | | | -- | 22,100 | 1,510 | 2,300 | 1,850 |
| 14 | | | | | | | | -- | 21,600 | 1,490 | 2,450 | 2,700 |
| 15 | | | | | | | | -- | 19,000 | 1,250 | 2,400 | 3,400 |
| 16 | | | | | | | | -- | 16,500 | 1,560 | 2,400 | 3,850 |
| 17 | | | | | | | | -- | 14,400 | 1,410 | 2,500 | 4,000 |
| 18 | | | | | | | | -- | 12,700 | 1,320 | 2,700 | 3,700 |
| 19 | | | | | | | | -- | 11,400 | 1,240 | 2,900 | 3,600 |
| 20 | | | | | | | | -- | 10,200 | 1,220 | 2,900 | 3,040 |
| 21 | | | | | | | | -- | 9,000 | 1,150 | 2,700 | 950 |
| 22 | | | | | | | | -- | 6,430 | 1,100 | 2,700 | 1,000 |
| 23 | | | | | | | | -- | 3,820 | 1,200 | 2,700 | 1,180 |
| 24 | | | | | | | | 20,500 | 2,150 | 1,400 | 2,600 | 1,050 |
| 25 | | | | | | | | 20,500 | 1,830 | 1,450 | 2,400 | 850 |
| 26 | | | | | | | | 21,000 | 2,080 | 1,600 | 2,400 | 780 |
| 27 | | | | | | | | 21,000 | 2,300 | 1,700 | 2,300 | 780 |
| 28 | | | | | | | | 22,100 | 2,470 | 1,800 | 2,000 | 850 |
| 29 | | | | | | | | 22,600 | 2,510 | 1,780 | 812 | 950 |
| 30 | | | | | | | | 23,600 | 2,510 | 1,950 | 700 | 1,050 |
| 31 | | | | | | | | 24,600 | -- | 2,200 | 700 | -- |

2-2851. NORTH NEW RIVER CANAL NEAR FORT LAUDERDALE, FLA.

LOCATION.--At State Road 7 and U.S. Highway 441 about 2 miles west of Fort Lauderdale, Broward County.

RECORDS AVAILABLE.--Specific conductance (continuous): July to September 1962.

Specific conductance, in micromhos, July to September 1962

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|------|------|------|------|------|------|------|-----|------|------|------|-------|
| 1 | | | | | | | | | | -- | 740 | 635 |
| 2 | | | | | | | | | | -- | 700 | 640 |
| 3 | | | | | | | | | | -- | 700 | 649 |
| 4 | | | | | | | | | | -- | 700 | 650 |
| 5 | | | | | | | | | | -- | 700 | 645 |
| 6 | | | | | | | | | | -- | 700 | 640 |
| 7 | | | | | | | | | | -- | 750 | 615 |
| 8 | | | | | | | | | | -- | 700 | 648 |
| 9 | | | | | | | | | | -- | 690 | 650 |
| 10 | | | | | | | | | | -- | 690 | 655 |
| 11 | | | | | | | | | | -- | 715 | 660 |
| 12 | | | | | | | | | | -- | 720 | 655 |
| 13 | | | | | | | | | | -- | 715 | 650 |
| 14 | | | | | | | | | | -- | 705 | 655 |
| 15 | | | | | | | | | | -- | 680 | 660 |
| 16 | | | | | | | | | | -- | 655 | 655 |
| 17 | | | | | | | | | | -- | 663 | 660 |
| 18 | | | | | | | | | | -- | 675 | 665 |
| 19 | | | | | | | | | | -- | 675 | 650 |
| 20 | | | | | | | | | | -- | 660 | 650 |
| 21 | | | | | | | | | | -- | 650 | 635 |
| 22 | | | | | | | | | | -- | 650 | 635 |
| 23 | | | | | | | | | | -- | 650 | 640 |
| 24 | | | | | | | | | | -- | 655 | 645 |
| 25 | | | | | | | | | | -- | 660 | 650 |
| 26 | | | | | | | | | | 625 | 675 | 650 |
| 27 | | | | | | | | | | 677 | 670 | 650 |
| 28 | | | | | | | | | | 750 | 650 | 655 |
| 29 | | | | | | | | | | 750 | 645 | 650 |
| 30 | | | | | | | | | | 773 | 650 | 650 |
| 31 | | | | | | | | | | 765 | 650 | -- |

LAKE OKECHOBEE AND THE EVERGLADES--Continued
2-2872. MIAMI CANAL EAST OF LEVEE 30, NEAR MIAMI, FLA.

LOCATION.--Approximately 200 feet downstream from Levee 30, 100 feet downstream from control structure 32, 0.5 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 1962.

Water temperatures: November 1958 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 396 ppm May 21-31; minimum, 282 ppm Jan. 22-31.

Hardness: Maximum, 266 ppm Feb. 22, 24, 27-28; minimum, 204 ppm Nov. 2-6, 8-10, Jan. 1-10.

Specific conductance: Maximum daily, 669 micromhos May 5; minimum daily, 426 micromhos, Mar. 5.

Water temperatures: Maximum, 89°F Sept. 19, 20.

EXTREMES, 1958-62.--Dissolved solids: Maximum, 469 ppm Jan. 21-31, 1961; minimum, 250 ppm July 1-10, 1959.

Surdness: Maximum, 266 ppm Feb. 22, 24, 27-28, 1962; minimum, 162 ppm Mar. 16, 1961.

Specific conductance: Maximum, 669 micromhos May 5, 1962; minimum daily, 393 micromhos Feb. 4, 1959.

Water temperatures: Maximum, 89°F Sept. 19, 20.

Water temperatures: Maximum, 91°F Sept. 26, 1961; minimum, 60°F Jan. 30, 1961.

REMARKS.--Records of daily samples available in district office at Ocala, Fla.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-10, 1961..... | 113 | 7.1 | 0.04 | 78 | 7.2 | 25 | 1.2 | 272 | 5.6 | 36 | 0.2 | 0.5 | 320 | 224 | 1 | 519 | 7.9 | 55 |
| Oct. 11-13, 15-20.... | 77 | 13 | .04 | 77 | 8.8 | 24 | 1.0 | 276 | 5.6 | 37 | .2 | .7 | 320 | 228 | 2 | 520 | 8.1 | 55 |
| Oct. 21, 23-30..... | 78 | 7.2 | .04 | 78 | 9.1 | 23 | 1.0 | 277 | 5.2 | 36 | .2 | 1.0 | 324 | 232 | 5 | 522 | 8.1 | 55 |
| Nov. 2-6, 8-10..... | 116 | 7.2 | .04 | 70 | 7.2 | 26 | 1.2 | 242 | 5.6 | 34 | .3 | .7 | 304 | 204 | 0 | 488 | 8.3 | 50 |
| Nov. 11-16, 18-20.... | 105 | 6.8 | .05 | 73 | 8.3 | 26 | 1.3 | 252 | 5.2 | 35 | .3 | 1.2 | 316 | 216 | 3 | 505 | 8.4 | 50 |
| Nov. 21-23, 25-30.... | 97 | 6.5 | .06 | 75 | 7.1 | 26 | 1.3 | 250 | 4.8 | 34 | .3 | 1.0 | 321 | 216 | 0 | 510 | 8.4 | 50 |
| Dec. 1-8, 10..... | 107 | 6.4 | .04 | 75 | 10 | 26 | 1.1 | 258 | 5.6 | 37 | .3 | .9 | 327 | 228 | 16 | 480 | 8.4 | 55 |
| Dec. 11-12, 14-20.... | 103 | 7.4 | .04 | 80 | 10 | 29 | 1.1 | 296 | 6.0 | 42 | .3 | .3 | 357 | 240 | 0 | 530 | 7.8 | 60 |
| Dec. 21-22, 25-31.... | 108 | 7.0 | .04 | 83 | 8.8 | 30 | 1.1 | 304 | 6.4 | 45 | .3 | .4 | 366 | 248 | 0 | 540 | 8.2 | 60 |
| Jan. 1-10, 1962..... | 126 | 8.0 | .03 | 64 | 11 | 29 | 1.0 | 250 | 4.4 | 41 | 3.3 | .0 | 294 | 204 | 0 | 410 | 8.5 | 55 |
| Jan. 11-20..... | 121 | 8.2 | .03 | 78 | 12 | 32 | 1.2 | 284 | 5.4 | 42 | .2 | .0 | 340 | 244 | 12 | 510 | 8.5 | 60 |
| Jan. 22-31..... | 86 | 8.0 | .03 | 67 | 3.6 | 31 | 1.0 | 268 | 4.4 | 41 | .2 | 1.0 | a297 | 232 | 12 | 540 | 8.5 | 60 |
| Feb. 1-10..... | 68 | 7.5 | .04 | 86 | 9.6 | 27 | 1.3 | 304 | 6.0 | 43 | .4 | 1.4 | 366 | 254 | 5 | 560 | 8.0 | 50 |
| Feb. 11-13..... | 62 | 8.0 | .03 | 84 | 11 | 30 | 1.3 | 308 | 4.8 | 46 | .4 | 1.5 | 372 | 254 | 2 | 585 | 8.2 | 55 |
| Feb. 22, 24, 27-28.... | 76 | 9.6 | .03 | 85 | 13 | 31 | 1.3 | 296 | 4.8 | 47 | .4 | 1.4 | a348 | 266 | 10 | 575 | 8.4 | 70 |
| Mar. 1-4, 6-10..... | 99 | 9.9 | .05 | 75 | 11 | 30 | 1.3 | 272 | 4.8 | 44 | .5 | .6 | 337 | 232 | 0 | 545 | 8.3 | 50 |
| Mar. 5..... | 105 | -- | -- | -- | -- | -- | -- | 164 | -- | 36 | -- | -- | -- | -- | -- | 370 | -- | -- |
| Mar. 11-20..... | 104 | 7.7 | .04 | 81 | 10 | 31 | 1.3 | 296 | 4.4 | 42 | .2 | .4 | -- | 243 | 0 | 579 | 8.2 | 50 |

a Calculated from determined constituents.

LAKE OKECHOBEE AND THE EVERGLADES--Continued
 2-2872. MIAMI CANAL EAST OF LEVEE 30, NEAR MIAMI, FLA.--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--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 (micro-mhos at 25°C) | pH | Color |
|----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Mar. 21-31, 1962.... | 103 | 9.2 | 0.04 | 83 | 8.0 | 29 | 1.3 | 284 | 4.0 | 41 | 0.2 | 0.1 | 379 | 240 | 0 | 580 | 8.3 | 50 |
| Apr. 1-6..... | 105 | 7.0 | .01 | 81 | 8.3 | 33 | 1.2 | 274 | 2.4 | 44 | .3 | .7 | 374 | 236 | 0 | 557 | 8.5 | 60 |
| Apr. 12, 15-20..... | 83 | 7.3 | .00 | 89 | 4.9 | 34 | 1.3 | 274 | 2.4 | 42 | .3 | .9 | 379 | 242 | 0 | 574 | 8.4 | 60 |
| Apr. 21, 24-26, 27-30 | 79 | 7.1 | .00 | 86 | 9.1 | 33 | 1.2 | 283 | 2.8 | 43 | .4 | .4 | 387 | 252 | 0 | 580 | 8.5 | 65 |
| May 1, 16, 18-20.... | 80 | 6.5 | .03 | 89 | 8.3 | 34 | 1.3 | 302 | 4.0 | 44 | .3 | 1.3 | 395 | 256 | 2 | 598 | 8.3 | 65 |
| May 2, 4, 6, 8, 10... | 84 | 6.5 | .02 | 86 | 6.2 | 32 | 1.4 | 284 | 4.0 | 40 | .4 | 1.4 | 371 | 240 | 2 | 565 | 8.3 | 60 |
| May 6..... | 87 | -- | -- | -- | -- | -- | -- | 178 | -- | 65 | -- | -- | -- | -- | -- | 480 | 8.4 | -- |
| May 14..... | 84 | -- | -- | -- | -- | -- | -- | 174 | -- | 46 | -- | -- | -- | -- | -- | 400 | 8.3 | -- |
| May 21-31..... | 88 | 6.7 | .00 | 91 | 7.5 | 32 | 1.3 | 302 | 2.8 | 41 | .2 | .8 | 366 | 258 | 4 | 566 | 8.1 | 55 |
| June 1-6, 8-10..... | 86 | 6.9 | .00 | 86 | 8.6 | 28 | 1.0 | 302 | 5.2 | 37 | .2 | 1.4 | 333 | 250 | 2 | 564 | 8.0 | 65 |
| June 7-10..... | 121 | -- | -- | -- | -- | -- | -- | 204 | -- | 31 | -- | -- | -- | -- | -- | 410 | 8.4 | -- |
| June 11-20..... | 80 | 6.4 | .03 | 86 | 8.6 | 27 | 1.0 | 302 | 6.0 | 36 | .6 | 1.5 | a322 | 250 | 2 | 561 | 8.1 | 55 |
| June 21-30..... | 88 | 6.3 | .02 | 86 | 8.6 | 27 | 1.0 | 296 | 10 | 36 | .3 | .5 | 347 | 250 | 8 | 557 | 7.9 | 55 |
| July 1-10..... | 130 | 6.4 | .02 | 84 | 7.4 | 25 | 1.1 | 278 | 10 | 34 | .3 | .7 | 334 | 240 | 12 | 526 | 8.2 | 60 |
| July 11-20..... | 179 | 6.2 | .02 | 80 | 7.9 | 24 | 1.3 | 258 | 17 | 38 | .3 | .6 | 320 | 232 | 20 | 517 | 7.9 | 60 |
| July 21-30..... | 144 | 6.8 | .03 | 82 | 8.6 | 24 | 1.1 | 268 | 14 | 34 | .3 | .8 | 338 | 240 | 20 | 522 | 8.0 | 60 |
| Aug. 1-7, 9-10..... | 97 | 6.3 | .03 | 83 | 8.0 | 24 | 1.1 | 278 | 9.2 | 35 | .3 | .6 | 332 | 240 | 12 | 518 | 8.2 | 60 |
| Aug. 13, 15-20..... | 121 | 6.5 | .03 | 84 | 7.9 | 25 | 1.0 | 278 | 9.2 | 34 | .3 | .7 | 338 | 242 | 14 | 529 | 8.0 | 60 |
| Aug. 21-31..... | 182 | 6.4 | .03 | 85 | 7.8 | 25 | 1.1 | 272 | 8.4 | 34 | .3 | .0 | 338 | 244 | 8 | 519 | 8.3 | 60 |
| Sept. 10..... | 243 | 6.2 | .10 | 80 | 8.9 | 22 | .9 | 272 | 9.6 | 29 | .2 | .2 | 314 | 236 | 13 | 491 | 8.2 | 90 |
| Sept. 11-20..... | 283 | 6.1 | .05 | 76 | 7.9 | 20 | .9 | 256 | 10 | 26 | .2 | .8 | 310 | 222 | 12 | 463 | 7.8 | 90 |
| Sept. 21-30..... | 315 | 6.0 | .05 | 73 | 7.8 | 19 | .9 | 248 | 6.8 | 26 | .2 | .2 | 288 | 214 | 11 | 447 | 8.0 | 90 |
| Time-weighted average..... | 117 | 7.3 | 0.03 | 80 | 8.5 | 27 | 1.1 | 276 | 6.4 | 38 | 0.4 | 0.7 | 340 | 236 | 6 | 529 | -- | 60 |

a Calculated from determined constituents.

LAKE OKEECHOBEE AND THE EVERGLADES--Continued
 2-2872. MIAMI CANAL EAST OF LEVEE 30, NEAR MIAMI, FLA.--Continued
 Temperature °F of water, January to September 1962

| 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 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| November | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| December | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| January | 69 | 68 | 70 | 69 | 74 | 75 | 75 | 75 | 80 | 74 | 75 | 67 | 66 | 74 | 69 | 79 | 75 | 70 | 76 | 75 | -- | 76 | 76 | 75 | 87 | 74 | 75 | 75 | 74 | 78 | 78 | 74 |
| February | 75 | 76 | 75 | 74 | 74 | 72 | 76 | 75 | 85 | 76 | 64 | 68 | 70 | -- | 70 | 68 | 72 | 72 | 76 | 76 | -- | 78 | -- | -- | -- | -- | -- | 78 | 78 | -- | -- | -- |
| March | 76 | 78 | 79 | 75 | 72 | 68 | 70 | 70 | 74 | 74 | 76 | 76 | 76 | 74 | 76 | 72 | 67 | 65 | 65 | 74 | 80 | 81 | 81 | 80 | 78 | 76 | 76 | 70 | 75 | 77 | 74 | 74 |
| April | -- | 74 | 72 | 74 | 70 | 70 | -- | 66 | 74 | -- | -- | 74 | -- | 74 | 74 | 74 | 73 | 75 | -- | 76 | 74 | -- | -- | 76 | 76 | -- | 76 | -- | 76 | 77 | -- | -- |
| May | -- | 76 | 77 | 77 | 74 | 77 | 76 | 77 | 78 | 78 | -- | 82 | 76 | 77 | 77 | 76 | -- | 78 | 78 | 78 | 84 | 93 | 78 | 78 | 78 | 78 | 77 | 80 | 80 | 80 | 80 | 78 |
| June | 78 | 78 | 78 | 78 | 80 | 78 | 78 | 76 | 78 | 78 | 78 | 78 | 78 | 79 | 79 | 80 | 82 | 79 | 78 | 78 | 78 | 77 | 78 | 78 | 82 | 84 | 80 | 80 | 85 | 82 | -- | 79 |
| July | 84 | 82 | 79 | 82 | 83 | 85 | 88 | 80 | 78 | 79 | 88 | 78 | 78 | 79 | 79 | 80 | 78 | 78 | 92 | 80 | 86 | 84 | 80 | 80 | 80 | 86 | 80 | 84 | 82 | 80 | -- | 82 |
| August | 80 | 82 | 80 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 |
| September .. | 79 | 85 | 88 | 85 | 80 | 80 | 82 | 82 | 82 | 80 | 80 | 81 | 80 | 80 | 84 | 82 | 81 | 80 | 89 | 89 | 78 | 81 | 80 | 81 | 80 | 80 | 85 | 81 | 80 | 80 | 79 | -- |

QUALITY OF SURFACE WATERS, 1962

LAKE OKEECHOBEE AND THE EVERGLADES--Continued

2-2886. MIAMI CANAL AT N. W. 36th STREET, MIAMI, FLA. (BELOW CONTROL)

LOCATION.--Conductance recorder 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 1959 to September 1962.

EXTREMES, 1961-62.--Specific conductance: Maximum daily, 42,800 micromhos June 10; minimum daily, 430 micromhos Sept. 29.

EXTREMES, 1959-62.--Specific conductance: Maximum daily, 42,800 micromhos June 10, 1962; minimum daily, 395 micromhos June 30, 1959.

REMARKS.--Canal is tidal at low flow.

Specific conductance, in micromhos, water year October 1961 to September 1962

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|------|-------|
| 1 | 7,180 | 17,800 | 21,900 | 22,200 | 22,600 | 25,000 | 33,500 | -- | 41,000 | 1,700 | | -- |
| 2 | 7,740 | 14,100 | 23,700 | 21,600 | 22,400 | 25,000 | 30,900 | 35,200 | 39,500 | 1,650 | | -- |
| 3 | 7,080 | 14,400 | 24,400 | 20,800 | 20,200 | 26,200 | 30,500 | 35,200 | 38,800 | 1,630 | | -- |
| 4 | 6,250 | 14,600 | 27,800 | 19,900 | 20,200 | 25,900 | 30,500 | 35,400 | 37,300 | 1,600 | | -- |
| 5 | 7,800 | 16,600 | 29,000 | 20,200 | 20,800 | 23,800 | 31,100 | 36,000 | 36,500 | 1,600 | | -- |
| 6 | 8,180 | 17,100 | 28,000 | 20,100 | 20,000 | 22,200 | 31,250 | 37,100 | 36,300 | 1,600 | | -- |
| 7 | 8,340 | 14,100 | 27,100 | 20,200 | 19,400 | 23,400 | 31,500 | 38,000 | 37,750 | 1,600 | | -- |
| 8 | 7,720 | 13,200 | 27,300 | 19,200 | 18,400 | 25,000 | 30,900 | 38,000 | 38,000 | 1,570 | | -- |
| 9 | 11,900 | 16,600 | 25,600 | 19,800 | 19,000 | 25,300 | 30,200 | 38,200 | 40,000 | 1,550 | | -- |
| 10 | 10,800 | 19,100 | 23,800 | 20,000 | 20,200 | 25,800 | 29,500 | 38,900 | 42,800 | 1,500 | | -- |
| 11 | 11,800 | 15,800 | 22,700 | 20,800 | 22,200 | 26,200 | 30,500 | 39,000 | 42,500 | 1,500 | | -- |
| 12 | 14,400 | 10,400 | 21,100 | 20,500 | 24,200 | 25,500 | 31,500 | 39,000 | 41,800 | -- | | -- |
| 13 | 10,200 | 9,500 | 19,600 | 22,200 | 24,700 | 23,200 | 33,800 | 39,000 | 39,900 | -- | | -- |
| 14 | 5,250 | 12,800 | 19,600 | 23,100 | 25,400 | 22,500 | 35,200 | 39,000 | 37,800 | -- | | -- |
| 15 | 4,690 | 15,000 | 19,400 | 20,500 | 23,600 | 22,400 | 36,200 | 39,600 | 33,500 | -- | | -- |
| 16 | 4,820 | 17,800 | 18,800 | 19,400 | 22,600 | 21,000 | 36,200 | 40,700 | 14,500 | -- | | -- |
| 17 | 7,070 | 18,100 | 17,900 | 19,600 | 21,600 | 21,400 | 36,500 | 41,500 | 6,350 | -- | | -- |
| 18 | 8,100 | 16,400 | 18,700 | 21,800 | 21,000 | 22,400 | 37,000 | 41,900 | 6,310 | -- | | -- |
| 19 | 12,500 | 16,600 | 17,700 | 21,400 | 19,100 | 21,400 | 38,000 | 41,100 | 6,810 | -- | | -- |
| 20 | 22,800 | 17,400 | 18,100 | 20,400 | 18,900 | 21,600 | 37,200 | 40,000 | 4,400 | -- | | -- |
| 21 | 23,300 | 18,200 | 19,400 | 18,800 | 19,600 | 22,600 | 36,000 | 40,000 | 1,830 | -- | | -- |
| 22 | 19,500 | 19,900 | 21,800 | 17,000 | 22,200 | 28,800 | 36,200 | 39,200 | 1,780 | -- | | -- |
| 23 | 17,000 | 20,100 | 24,600 | 17,400 | 19,600 | 36,800 | 35,200 | 39,500 | 1,700 | -- | | -- |
| 24 | 12,400 | 21,100 | 23,200 | 18,600 | 19,200 | 38,200 | 35,000 | 39,500 | 1,700 | -- | | -- |
| 25 | 12,800 | 20,700 | 20,600 | 19,400 | 21,400 | 39,000 | 35,800 | 39,100 | 1,650 | -- | | -- |
| 26 | 13,700 | 18,400 | 18,900 | 20,000 | 22,200 | 37,200 | -- | 38,500 | 1,650 | -- | | -- |
| 27 | 18,100 | 20,900 | 20,000 | 21,400 | 23,500 | 36,800 | -- | 39,800 | 1,700 | -- | | 445 |
| 28 | 23,000 | 23,100 | 24,800 | 21,800 | 23,800 | 36,200 | -- | 41,000 | 1,700 | -- | | 440 |
| 29 | 23,100 | 21,500 | 22,200 | 22,600 | -- | 35,800 | -- | 41,000 | 1,700 | -- | | 440 |
| 30 | 22,800 | 20,200 | 21,500 | 22,800 | -- | 35,000 | -- | 41,000 | 1,700 | -- | | 430 |
| 31 | 23,600 | -- | 21,400 | 23,000 | -- | 34,500 | -- | 41,000 | -- | -- | | -- |

LAKE OKECHOBEE AND THE EVERGLADES--Continued

2-2908. TAYLOR SLOUGH NEAR HOMESTEAD, FLA.

LOCATION.--Temperature recorder at gaging station at upstream (north) side of bridge on State Highway 27, in Everglades National Park, 1.5 miles north of Ocala Palmetto Station, miles southwest of Homestead, Dade County, and 12 miles north of indefinite mouth at Florida Bay.

RECORDS AVAILABLE.--Water temperatures: Maximum, 98°F July 26, 1961; Minimum, 98°F July 26, 1961.

EXTREMES, 1961-62.--Water temperatures: Maximum, 104°F July 22, 23, 1961; Minimum, 62°F Jan. 21, 23, 1961.

EXTREMES, 1961-62.--Water temperatures: Maximum, 104°F July 22, 23, 1961; Minimum, 62°F Jan. 21, 23, 1961.

REMARKS.--No flow Oct. 26, 1961 to June 15, 1962.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| June 22, 1962..... | 156 | 8.8 | 0.03 | 62 | 3.8 | 8.6 | 1.1 | 178 | 14 | 15 | 0.2 | 0.7 | 224 | 170 | 24 | 350 | 7.6 | 50 |
| Aug. 24..... | 125 | 4.5 | .02 | 44 | 2.4 | 8.5 | .7 | 146 | .4 | 12 | .1 | .0 | 160 | 120 | 0 | 270 | 7.2 | 30 |
| Sept. 18..... | 53 | 3.4 | .01 | 42 | 3.6 | 7.9 | .4 | 132 | .0 | 12 | .0 | .0 | 140 | 120 | 12 | 235 | 7.6 | 5 |

Temperature °F of water, water year October 1961 to September 1962

| Compendium of the 1997-1998 Season | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Average |
|------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|
| 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 | | |
| October | 75 | 79 | 77 | 83 | 80 | 80 | 79 | 77 | 79 | 82 | 82 | 84 | 86 | 85 | 81 | 77 | 76 | 78 | 80 | 79 | 75 | 72 | 72 | 72 | 73 | --- | --- | --- | --- | --- | --- | --- |
| | 69 | 71 | 73 | 72 | 75 | 73 | 72 | 72 | 72 | 72 | 74 | 76 | 76 | 77 | 77 | 73 | 72 | 73 | 75 | 75 | 70 | 68 | 69 | 70 | 70 | --- | --- | --- | --- | --- | --- | --- |
| June | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| July | 90 | 90 | 90 | 92 | 92 | 91 | 96 | 95 | 94 | 90 | 87 | 86 | 86 | --- | --- | --- | 93 | 93 | 96 | 94 | 92 | 94 | 93 | 94 | 96 | 94 | 90 | 92 | --- | --- | --- | |
| | 86 | 85 | 86 | 86 | 88 | 87 | 88 | 90 | 90 | 84 | 83 | 82 | 83 | --- | --- | --- | 84 | 87 | 90 | 90 | 89 | 87 | 89 | 90 | 89 | 87 | 86 | 86 | 86 | --- | --- | --- |
| August | 94 | 94 | 96 | 96 | 96 | 92 | 89 | 90 | 87 | 84 | 88 | 87 | 86 | 92 | 92 | 89 | 89 | 88 | 91 | 92 | 90 | 93 | 91 | 92 | 92 | 91 | 90 | 88 | 88 | 88 | --- | --- |
| | 86 | 85 | 85 | 88 | 88 | 86 | 84 | 81 | 83 | 80 | 81 | 81 | 83 | 84 | 85 | 84 | 83 | 82 | 84 | 87 | 84 | 88 | 85 | 85 | 88 | 88 | 87 | 84 | 84 | 84 | --- | --- |
| September | 88 | 88 | 90 | 92 | 91 | 93 | 93 | 92 | 91 | 90 | 89 | 88 | 88 | 88 | 86 | 87 | 90 | 90 | 85 | 82 | 82 | 83 | 87 | 87 | 87 | 87 | 81 | 88 | 86 | --- | --- | --- |
| | 87 | 85 | 86 | 88 | 88 | 87 | 87 | 88 | 88 | 85 | 87 | 86 | 86 | 86 | 82 | 82 | 84 | 85 | 82 | 82 | 81 | 82 | 83 | 84 | 87 | 88 | 87 | 86 | 84 | --- | --- | --- |

LAKE OKEECHOBEE AND THE EVERGLADES--Continued
2-2908.2. EVERGLADES P-33 NEAR HOMESTEAD, FLA.

LOCATION.--Temperature recorder at sec. 11, T. 56S., R. 36 E., in Everglades National Park, 13 miles southeast of 40 mile bond on U.S. Highway 41, and 16 miles northwest of Homestead, Dade County.
RECORDS AVAILABLE.--Water temperatures: April 1960 to September 1962.
EXTREMES, 1961-62.--Water temperatures: Maximum, 108°F July 18, Aug. 5, 7; minimum, 60°F Mar. 8.
EXTREMES, 1960-62.--Water temperatures: Maximum, 108°F July 18, Aug. 5, 7, 1962; minimum, 55°F Dec. 23, 1960.
REMARKS.--No discharge records available.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Feb. 14, 1962..... | | 45 | 0.11 | 140 | 9.8 | 37 | 6.1 | 300 | -- | 50 | 0.6 | -- | 544 | 390 | 144 | 1,160 | 8.0 | 45 |
| Mar. 27..... | | 6.1 | .06 | 130 | 5.7 | 14 | .5 | 394 | 9.2 | 22 | .4 | 17 | 446 | 348 | 25 | 687 | 7.4 | 35 |
| May 15..... | | 1.6 | .01 | 83 | 4.1 | 18 | .2 | 96 | 77 | 36 | .5 | 30 | 442 | 224 | 146 | 538 | 7.3 | 50 |

LAKE OKEECHOBEE AND THE EVERGLADES--Continued
2-2909.4. EVERGLADES P-35 NEAR HOMESTEAD, FLA.

LOCATION.--Temperature recorder in SE 1/4 sec., T 57 E, in Everglades National Park, 100 feet from Rookery Branch, 8 miles upstream from Shark River, 17 miles northeast of Royal Palm station, and 24 miles west of Homestead, Dade County.

RECORDS AVAILABLE.--Water temperatures: March 1960 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 102°F June 6, 7; minimum, 61°F Dec. 25, 26.

EXTREMES, 1960-62.--Water temperatures: Maximum, 102°F June 6, 7, 1962; minimum, 60°F on several days in April and December 1960, January 1961.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|---------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Mar. 30, 1962a..... | | 2.1 | 0.05 | 298 | 258 | 2,450 | 83 | 237 | 560 | 4,400 | 0.6 | 5.3 | 9,190 | 1,800 | 1,560 | 13,300 | 7.3 | 80 |
| Mar. 30b..... | | 5.9 | .01 | 272 | 240 | 2,220 | 77 | 306 | 535 | 4,020 | .6 | 1.5 | 8,330 | 1,670 | 1,410 | 12,400 | 7.4 | 45 |
| June 21..... | 2.1 | 6.7 | .03 | 64 | 8.6 | 52 | 2.5 | 160 | 42 | 81 | .3 | 6.1 | 424 | 195 | 64 | 609 | 7.5 | 90 |

a Collected at 1200.

b Collected at 1205.

LAKE OKEECHOBEE AND THE EVERGLADES--Continued
2-2909.4, EVERGLADES P-35 NEAR HOMESTEAD, FLA.--Continued

Temperature °F of water, water year October 1961 to September 1962

| 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 | 87 | 90 | 87 | 89 | 88 | 86 | 83 | 81 | 82 | 82 | 81 | 85 | 89 | 88 | 82 | 78 | 76 | 79 | 85 | 84 | 80 | 78 | 79 | 77 | 76 | 77 | 75 | 74 | 78 | 76 | 78 |
| | Minimum | 72 | 72 | 79 | 76 | 82 | 80 | 76 | 74 | 72 | 74 | 74 | 74 | 73 | 74 | 72 | 68 | 70 | 72 | 74 | 68 | 65 | 64 | 64 | 66 | 68 | 67 | 66 | 70 | 71 | 73 | 71 |
| | Mean | 79.5 | 80.5 | 83 | 82.5 | 85 | 84 | 79.5 | 78.5 | 77 | 77 | 77 | 79.5 | 81.5 | 81 | 78 | 74 | 74 | 75.5 | 79.5 | 76 | 72.5 | 72 | 73 | 73 | 72 | 72 | 72.5 | 74 | 74.5 | 74.5 | 74.5 |
| November | Maximum | 82 | 82 | 81 | 76 | 80 | 83 | 78 | 82 | 77 | 75 | 74 | 74 | 79 | 77 | 74 | 74 | 78 | 77 | 76 | 78 | 76 | 76 | 76 | 76 | 76 | 72 | 72 | 71 | 70 | 69 | -- |
| | Minimum | 70 | 66 | 69 | 68 | 69 | 66 | 70 | 71 | 68 | 69 | 66 | 66 | 67 | 68 | 68 | 68 | 68 | 65 | 68 | 65 | 68 | 65 | 70 | 66 | 63 | 66 | 65 | 64 | 66 | -- | |
| | Mean | 76 | 66.5 | 74.5 | 73.5 | 74.5 | 74.5 | 74 | 74.5 | 69.5 | 71.5 | 70 | 70 | 72.5 | 72.5 | 71 | 71 | 73 | 72.5 | 72 | 72 | 72 | 73 | 73 | 73 | 73 | 72 | 71.5 | 70.5 | 67.5 | -- | |
| December | Maximum | 69 | 68 | 70 | 70 | 71 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 73 | 73 | 72 | 71 | 73 | 73 | 73 | 73 | 67 | 69 | 69 | 66 | 64 | -- | -- | -- | -- | -- | 71 |
| | Minimum | 55 | 55 | 64 | 65 | 66 | 64 | 62 | 63 | 66 | 68 | 68 | 67 | 68 | 68 | 68 | 68 | 67 | 69 | 68 | 68 | 56 | 65 | 66 | 66 | 61 | 61 | -- | -- | -- | -- | 66 |
| | Mean | 62 | 61.5 | 67 | 67.5 | 69 | 68 | 67 | 67 | 71 | 72 | 72 | 72 | 72.5 | 72.5 | 72 | 70 | 71 | 73 | 72.5 | 71 | 62 | 67 | 67.5 | 66.5 | 62.5 | 63.5 | 63.5 | 63.5 | 63.5 | 63.5 | 63.5 |
| January | Maximum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 70 | 74 | 70 | 66 | 66 |
| | Minimum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 68 | 68 | 63 | 62 | 62 |
| | Mean | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 69 | 71 | 66.5 | 64 | 64 |
| February | Maximum | 67 | 67 | 69 | 70 | 70 | 75 | 74 | 74 | 77 | 78 | 68 | 68 | 69 | 72 | 74 | 74 | 78 | 76 | 73 | 74 | 74 | 75 | 76 | 76 | 74 | 76 | 74 | 76 | -- | -- | 73 |
| | Minimum | 62 | 62 | 63 | 64 | 64 | 66 | 66 | 68 | 68 | 68 | 62 | 62 | 62 | 64 | 64 | 64 | 68 | 68 | 67 | 68 | 67 | 68 | 72 | 70 | 70 | 68 | 67 | -- | -- | -- | 66 |
| | Mean | 64.5 | 64.5 | 66 | 67.5 | 67.5 | 70.5 | 70 | 71 | 72.5 | 73 | 73 | 75 | 75 | 68 | 69 | 69 | 73 | 72 | 70.5 | 70.5 | 70.5 | 71.5 | 73.5 | 73 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| March | Maximum | 73 | 76 | 75 | 78 | 78 | 70 | 68 | 72 | 72 | 77 | 77 | 78 | 79 | 82 | 80 | 76 | 77 | 72 | 73 | 78 | 92 | 82 | 82 | 78 | 82 | 81 | 81 | 76 | 86 | 92 | 78 |
| | Minimum | 67 | 67 | 68 | 69 | 70 | 64 | 64 | 63 | 62 | 67 | 69 | 72 | 74 | 70 | 72 | 70 | 65 | 62 | 62 | 66 | 69 | 72 | 72 | 69 | 70 | 70 | 70 | 66 | 66 | 76 | 68 |
| | Mean | 70 | 71.5 | 71.5 | 74 | 74 | 66.5 | 66 | 67.5 | 69.5 | 72.5 | 73 | 74.5 | 76.5 | 75.5 | 76 | 68.5 | 71.5 | 69.5 | 69.5 | 82 | 79 | 79 | 79.5 | 78.5 | 79.5 | 78.5 | 78.5 | 78.5 | 78.5 | 78.5 | 78.5 |
| April | Maximum | 82 | 88 | 86 | 78 | 78 | 82 | 90 | 94 | 95 | 94 | 90 | 88 | 87 | 85 | 82 | 82 | 81 | 79 | 82 | 84 | 84 | 79 | 79 | 81 | 82 | 86 | 89 | 86 | 87 | -- | 85 |
| | Minimum | 80 | 78 | 75 | 74 | 74 | 75 | 79 | 82 | 84 | 84 | 82 | 79 | 79 | 75 | 75 | 74 | 71 | 74 | 76 | 75 | 76 | 75 | 74 | 74 | 76 | 76 | 78 | 80 | 78 | 79 | 77 |
| | Mean | 81 | 82 | 81.5 | 76.5 | 76.5 | 78.5 | 82 | 86.5 | 89.5 | 89.5 | 86 | 89 | 88.5 | 87 | 85 | 83.5 | 80 | 76.5 | 80.5 | 80 | 80 | 81.5 | 82 | 82.5 | 84.5 | 87 | 88.5 | 88 | 88.5 | 88.5 | 88.5 |
| May | Maximum | 86 | 90 | 94 | 93 | 90 | 89 | 90 | 91 | 92 | 95 | 92 | 90 | 86 | 81 | 82 | 84 | 85 | 84 | 88 | 92 | 95 | 94 | 97 | 96 | 96 | 96 | 98 | 98 | 97 | 91 | -- |
| | Minimum | 78 | 78 | 80 | 81 | 81 | 76 | 73 | 74 | 76 | 80 | 80 | 80 | 80 | 80 | 78 | 76 | 80 | 78 | 76 | 78 | 80 | 83 | 84 | 83 | 84 | 82 | 82 | 80 | 82 | 81 | 80 |
| | Mean | 82 | 84 | 87 | 87 | 85.5 | 82.5 | 81.5 | 82.5 | 90.5 | 92.5 | 92.5 | 90.5 | 88 | 83.5 | 86.5 | 87 | 82.5 | 82 | 82.5 | 85 | 86 | 86.5 | 87.5 | 87.5 | 87.5 | 87 | 88 | 88 | 88.5 | 88.5 | 88.5 |
| June | Maximum | 95 | 94 | 94 | 99 | 99 | 102 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 82 | 81 | 80 | 79 | 82 | 82 | 81 | 80 | -- |
| | Minimum | 85 | 82 | 85 | 85 | 86 | 86 | 84 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 80 | 77 | 78 | 77 | 76 | 79 | 79 | 78 | 77 | -- |
| | Mean | 90 | 88 | 89.5 | 97 | 97.5 | 100 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | 93 | |
| July | Maximum | 82 | 93 | 84 | 85 | 86 | 88 | 88 | 84 | 85 | 85 | 83 | 83 | 90 | 94 | 94 | 94 | 88 | 83 | 81 | 84 | 86 | 86 | 90 | 95 | 95 | 92 | 89 | 90 | 86 | 84 | 87 |
| | Minimum | 77 | 77 | 78 | 80 | 80 | 81 | 80 | 82 | 82 | 80 | 79 | 76 | 77 | 76 | 78 | 78 | 79 | 80 | 76 | 78 | 77 | 78 | 80 | 80 | 82 | 80 | 77 | 76 | 76 | 76 | 79 |
| | Mean | 79.5 | 85 | 81 | 82.5 | 83 | 84 | 84 | 83 | 83.5 | 82.5 | 81 | 79.5 | 83.5 | 86 | 86 | 86 | 86.5 | 84 | 79.5 | 80.5 | 80.5 | 81.5 | 83 | 85 | 86 | 86 | 88.5 | 88.5 | 88.5 | 88.5 | 88.5 |
| August | Maximum | 87 | 90 | 90 | 89 | 90 | 90 | 91 | 87 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | Minimum | 79 | 79 | 79 | 80 | 79 | 78 | 78 | 77 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | Mean | 83 | 84.5 | 84.5 | 84.5 | 84.5 | 84.5 | 84 | 82 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | |
| September | Maximum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | Minimum | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | Mean | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

PEACE RIVER BASIN

2-2970. PEACE RIVER AT ARCADIA, FLA.

LOCATION.--At gaging station 500 feet (revised) upstream from bridge on State Highway 70, 1.0 mile west of post office in Arcadia, De Soto County, and 6.1 miles upstream from Joshua Creek.

DRAINAGE AREA.--1,370 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1962.

Water temperatures: February to September 1962.

EXTRUSSES, 1961-62.--Dissolved solids: Maximum, 216 ppm Nov. 30; minimum, 64 ppm Sept. 20-28.

Hardness: Maximum, 216 ppm Nov. 30; minimum, 64 ppm Sept. 20-28.

Specific conductance: Maximum, 484 micromhos/cm Feb. 6; minimum daily, 45 micromhos Sept. 23.

Water temperatures (February to September 1962): Maximum, 91°F July 30.

REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Oct. 16, 1961..... | 222 | 11 | 0.03 | 54 | 12 | 25 | -- | 54 | -- | 20 | -- | -- | -- | -- | -- | 500 | 7.5 | -- |
| Nov. 30..... | 102 | 9.0 | -- | 50 | 12 | 23 | 1.9 | 72 | 127 | 19 | 3.1 | 1.2 | 316 | 184 | 125 | 472 | 7.3 | 5 |
| Jan. 20, 1962..... | 159 | 11 | 0.03 | 50 | 14 | 23 | 2.2 | 80 | 112 | 17 | 3.5 | 1.7 | 288 | 174 | 109 | 452 | 7.3 | 10 |
| Feb. 11..... | 169 | 11 | 0.03 | 50 | 13 | 23 | 2.3 | 70 | 111 | 18 | 5.2 | .3 | 268 | 172 | 135 | 455 | 7.3 | 13 |
| Feb. 11-20..... | 154 | 11 | 0.03 | 50 | 13 | 23 | 2.3 | 70 | 111 | 18 | 5.2 | .3 | 268 | 172 | 135 | 455 | 7.3 | 13 |
| Feb. 21-28..... | 154 | 12 | .01 | 46 | 11 | 22 | 2.1 | 58 | 94 | 17 | 4.9 | .3 | 272 | 160 | 112 | 420 | 7.5 | 18 |
| Mar. 1-10..... | 117 | 17 | .01 | 41 | 14 | 24 | 2.3 | 79 | 101 | 19 | 3.2 | .7 | 298 | 160 | 96 | 430 | 7.1 | 10 |
| Mar. 11-25..... | 136 | 17 | .01 | 46 | 13 | 24 | 2.2 | 63 | 120 | 18 | 3.3 | .5 | 300 | 168 | 117 | 435 | 7.2 | 8 |
| Mar. 26-31..... | 374 | 10 | .05 | 34 | 9.0 | 17 | 2.3 | 51 | 72 | 18 | 3.0 | .6 | 222 | 122 | 80 | 338 | 7.0 | 50 |
| Apr. 1-8..... | 340 | 19 | .05 | 42 | 11 | 22 | 2.0 | 69 | 91 | 20 | 2.2 | .0 | 294 | 150 | 94 | 392 | 7.2 | 45 |
| Apr. 9-18..... | 478 | 11 | .10 | 26 | 7.5 | 16 | 2.7 | 46 | 42 | 20 | 1.2 | .0 | 198 | 96 | 58 | 260 | 6.9 | 100 |
| Apr. 19-30..... | 133 | 14 | .05 | 34 | 10 | 18 | 2.0 | 51 | 68 | 18 | 2.2 | .0 | 246 | 126 | 84 | 334 | 7.0 | 50 |
| May 1-6..... | 214 | 12 | .05 | 47 | 9.4 | 22 | 2.0 | 58 | 100 | 18 | 2.5 | .3 | 270 | 156 | 108 | 404 | 7.5 | 20 |
| May 7-8..... | 300 | -- | -- | -- | -- | 12 | 2.2 | 33 | -- | -- | 1.1 | -- | -- | 72 | 45 | 196 | 7.6 | -- |
| May 9-20..... | 95 | 11 | .01 | 36 | 11 | 18 | 1.8 | 68 | 60 | 18 | 1.9 | .2 | 220 | 135 | 80 | 338 | 7.8 | 50 |
| May 21-31..... | 99 | 12 | .01 | 40 | 13 | 21 | 1.8 | 79 | 76 | 19 | 2.4 | .2 | 246 | 154 | 89 | 388 | 7.4 | 25 |
| June 1-2..... | 171 | -- | -- | -- | -- | 22 | 1.9 | 80 | -- | 17 | 3.6 | -- | -- | 88 | 57 | 430 | 7.7 | 15 |
| June 3-5, 7-9..... | 376 | 7.4 | .08 | 24 | 6.8 | 13 | 1.8 | 38 | 44 | 151 | 1.3 | .2 | 158 | -- | -- | 233 | 7.5 | 90 |

| | | | | | | | | | | | | | | | | | | |
|----------------------------|-------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|
| Time 11-29, 1962.... | 2,040 | 8.2 | .20 | 16 | 3.9 | 8.3 | 2.0 | 26 | 26 | 12 | 1.0 | .1 | 138 | 56 | 34 | 155 | 6.9 | 200 |
| July 4-7, 12, 16.... | 2,240 | 8.1 | .21 | 14 | 3.4 | 7.8 | 1.0 | 22 | 21 | 9.5 | 1.1 | .2 | 128 | 49 | 31 | 135 | 7.0 | 210 |
| July 4-7, 12, 16.... | 1,180 | 9.5 | .28 | 16 | 4.4 | 9.9 | 1.0 | 23 | 28 | 11 | 1.3 | .3 | 158 | 58 | 39 | 163 | 6.9 | 220 |
| July 17-23..... | 1,589 | 13 | .22 | 24 | 5.1 | 14 | 1.0 | 31 | 45 | 12 | 1.5 | .7 | 188 | 81 | 56 | 219 | 6.9 | 180 |
| July 24-30..... | 843 | 10 | .14 | 20 | 5.6 | 13 | 1.0 | 31 | 39 | 10 | 1.4 | .2 | 170 | 73 | 48 | 200 | 7.1 | 150 |
| Aug. 1-10..... | | | | | | | | | | | | | | | | | | |
| Aug. 11-19, 20..... | 1,500 | 8.2 | .17 | 15 | 4.3 | 9.6 | .8 | 17 | 27 | 42 | 1.2 | .1 | 180 | 55 | 41 | 166 | 6.2 | 160 |
| Aug. 21-31..... | 2,310 | 7.8 | .28 | 12 | 3.6 | 7.8 | .8 | 20 | 19 | 9.0 | 1.1 | .1 | 130 | 45 | 28 | 127 | 6.8 | 180 |
| Sept. 1-11, 28-30.... | 4,480 | 6.7 | .02 | 9.2 | 3.4 | 5.9 | 1.0 | 20 | 12 | 8.5 | .9 | .1 | 94 | 37 | 20 | 98 | 7.2 | 220 |
| Sept. 12-19..... | 2,450 | 7.8 | .01 | 12 | 3.6 | 7.5 | .8 | 24 | 16 | 9.5 | 1.1 | .1 | 118 | 45 | 26 | 114 | 7.3 | 200 |
| Sept. 20-28..... | 8,970 | 4.3 | .02 | 4.8 | 2.2 | 3.7 | 1.2 | 13 | 5.6 | 5.0 | .5 | .1 | 64 | 21 | 10 | 58 | 6.9 | 150 |
| Time-weighted average..... | 910 | 11 | 0.09 | 28 | 7.9 | 15 | 1.7 | 44 | 57 | 19 | 2.0 | 0.3 | 203 | 103 | 67 | 273 | -- | 110 |

Temperature °F of water, February to September 1962

| 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 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| November .. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| December .. | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| January | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| February | 66 | 65 | 67 | 68 | 67 | 68 | 72 | 70 | -- | 65 | 69 | 70 | 72 | 72 | 68 | 74 | 76 | 75 | 76 | 76 | 77 | 76 | 72 | 68 | 76 | 78 | -- | 80 | -- | -- | -- | -- |
| March | 76 | 78 | 79 | 75 | 68 | 65 | 68 | 64 | 67 | 74 | 75 | 74 | 72 | 69 | 74 | 70 | 70 | 74 | 68 | 72 | 73 | 75 | 77 | 76 | 72 | 68 | 72 | 73 | 72 | 75 | 70 | 72 |
| April | 73 | 74 | 66 | 70 | 73 | 76 | 70 | 72 | 74 | 79 | 82 | 78 | 83 | 74 | 75 | 74 | 75 | 75 | 76 | 72 | 76 | 76 | 78 | 80 | 80 | 78 | 84 | 81 | 80 | -- | -- | 76 |
| May | 84 | -- | 86 | 84 | -- | 78 | 76 | 82 | 80 | -- | 84 | 84 | 85 | 82 | 82 | 80 | 81 | 80 | 85 | 85 | 86 | 86 | 84 | 87 | -- | 85 | 84 | 86 | 84 | 86 | 83 | 76 |
| June | 80 | 81 | 88 | 84 | 86 | -- | 84 | 82 | 80 | -- | 80 | 81 | 82 | 79 | 77 | 80 | 78 | 84 | 79 | 81 | 85 | 84 | 86 | 82 | 86 | 80 | 82 | 82 | 80 | 81 | -- | 82 |
| July | 81 | 84 | 84 | 84 | 89 | 85 | 88 | 87 | 85 | 88 | 86 | 84 | 86 | 87 | 86 | 86 | 88 | 88 | 88 | 85 | 87 | 86 | 87 | 87 | 88 | 88 | 90 | 90 | 90 | 91 | -- | 87 |
| August | 85 | 87 | 86 | 88 | 87 | 85 | 86 | 85 | 82 | 84 | 84 | 87 | 84 | 80 | 86 | 84 | 86 | -- | 89 | 83 | 75 | 78 | 79 | 82 | 84 | 88 | 85 | 88 | 87 | 87 | 84 | 86 |
| September .. | 88 | 85 | 89 | 88 | 88 | 84 | 86 | 84 | 86 | 86 | 86 | 86 | 88 | 88 | 83 | 87 | 84 | 81 | 79 | 75 | 78 | 79 | 82 | 84 | 84 | 87 | 80 | -- | -- | -- | 84 | 84 |

SUWANNEE RIVER BASIN

2-3175. ALAPAHA RIVER AT STATENVILLE, GA.

LOCATION.--At gaging station at bridge on State Highway 94, 0.2 mile west of Statenville, Echols County.

DRAINAGE AREA.--1,400 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: July 1958 to September 1960.

Water temperatures: July 1958 to September 1960.

Sediment records: October 1961 to September 1962.

EXTREMES, 1961-62.--Sediment concentrations: Maximum daily, 23 ppm Mar. 3, 4; minimum daily, 2 ppm Nov. 11-22, Dec. 1-11, Apr. 21-29, and Sept. 1-4, 22.

REMARKS.--Sediment loads: Maximum daily, 217 tons Apr. 10; minimum daily, 0.2 tons Nov. 12-22, Dec. 1-11. June, when many samples were missing and it was necessary to estimate sediment discharge guided by discharge variations and by interpolation. The records during these months are considered poor.

Suspended sediment, water year October 1961 to September 1962

Where no concentrations are reported, loads are estimated

| 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.. | 156 | 5 | 2.1 | 56 | 3 | 0.5 | 42 | 2 | 0.2 |
| 2.. | 152 | 6 | 2.5 | 54 | 4 | .6 | 41 | 2 | .2 |
| 3.. | 208 | 16 | 8.7 | 49 | 4 | .5 | 41 | 2 | .2 |
| 4.. | 257 | 20 | 14 | 47 | 4 | .5 | 40 | 2 | .2 |
| 5.. | 248 | 20 | 13 | 48 | 3 | .4 | 40 | 2 | .2 |
| 6.. | 266 | 20 | 14 | 53 | 3 | .4 | 40 | 2 | .2 |
| 7.. | 275 | 20 | 15 | 50 | 3 | .4 | 42 | 2 | .2 |
| 8.. | 275 | 18 | 13 | 49 | 3 | .4 | 41 | 2 | .2 |
| 9.. | 248 | 15 | 10 | 50 | 3 | .4 | 39 | 2 | .2 |
| 10.. | 266 | 15 | 11 | 49 | 3 | .4 | 38 | 2 | .2 |
| 11.. | 266 | 14 | 10 | 47 | 2 | .3 | 38 | 2 | .2 |
| 12.. | 257 | 13 | 9 | 46 | 2 | .2 | 39 | 3 | .3 |
| 13.. | 248 | 11 | 7.3 | 44 | 2 | .2 | 68 | 6 | 1.1 |
| 14.. | 222 | 10 | 5.9 | 43 | 2 | .2 | 75 | 7 | 1.4 |
| 15.. | 222 | 9 | 5.4 | 43 | 2 | .2 | 73 | 5 | 1.0 |
| 16.. | 203 | 8 | 4.4 | 43 | 2 | .2 | 69 | 5 | .9 |
| 17.. | 191 | 6 | 3.1 | 42 | 2 | .2 | 64 | 4 | .7 |
| 18.. | 179 | 6 | 2.4 | 41 | 2 | .2 | 103 | 8 | 2.2 |
| 19.. | 165 | 4 | 1.8 | 39 | 2 | .2 | 171 | 11 | 5.0 |
| 20.. | 150 | 5 | 2.0 | 37 | 2 | .2 | 167 | 8 | 3.6 |
| 21.. | 140 | 5 | 1.9 | 37 | 2 | .2 | 142 | 5 | 1.9 |
| 22.. | 126 | 4 | 1.4 | 37 | 2 | .2 | 135 | 4 | 1.5 |
| 23.. | 109 | 5 | 1.5 | 54 | 5 | .7 | 158 | 4 | 1.7 |
| 24.. | 101 | 6 | 1.6 | 74 | 7 | 1.4 | 158 | 6 | 2.6 |
| 25.. | 84 | 7 | 1.6 | 57 | 5 | .8 | 144 | 6 | 2.3 |
| 26.. | 74 | 9 | 1.8 | 53 | 4 | .6 | 132 | 6 | 2.1 |
| 27.. | 68 | 10 | 1.8 | 49 | 4 | .5 | 124 | 5 | 1.7 |
| 28.. | 64 | 10 | 1.7 | 47 | 4 | .5 | 130 | 4 | 1.4 |
| 29.. | 66 | 8 | 1.4 | 44 | 3 | .4 | 128 | 3 | 1.0 |
| 30.. | 61 | 6 | 1.3 | 43 | 3 | .3 | 122 | 3 | 1.0 |
| 31.. | 56 | 3 | .5 | -- | -- | -- | 116 | 3 | .9 |
| Total | 5403 | -- | 170.8 | 1425 | -- | 12.2 | 2760 | -- | 36.0 |

SUWANNEE RIVER BASIN--Continued

2-3175. ALAPAHA RIVER AT STATENVILLE, GA.--Continued

Suspended sediment, water year October 1961 to September 1962--Continued

Where no concentrations are reported, loads are estimated⁷

| 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.. | 129 | 4 | 1.4 | 386 | 10 | 10 | 1260 | 15 | 51 | |
| 2.. | 144 | 5 | 1.9 | 376 | 10 | 10 | 1500 | 20 | 81 | |
| 3.. | 146 | 5 | 2.0 | 366 | 9 | 8.9 | 1760 | 23 | 109 | |
| 4.. | 138 | 5 | 1.9 | 376 | 8 | 8.1 | 1840 | 23 | 114 | |
| 5.. | 140 | 4 | 1.5 | 396 | 8 | 8.6 | 1820 | 21 | 103 | |
| 6.. | 171 | 5 | 2.3 | 426 | 9 | 10 | 1790 | 18 | 87 | |
| 7.. | 284 | 13 | 10 | 426 | 12 | 14 | 1730 | 16 | 75 | |
| 8.. | 446 | 17 | 20 | 406 | 15 | 16 | 1710 | 12 | 55 | |
| 9.. | 446 | 16 | 19 | 366 | 16 | 16 | 1630 | 12 | 53 | |
| 10.. | 446 | 13 | 16 | 338 | 17 | 16 | 1580 | 12 | 51 | |
| 11.. | 436 | 9 | 11 | 311 | 18 | 15 | 1580 | 12 | 51 | |
| 12.. | 396 | 7 | 7.5 | 293 | 14 | 11 | 1580 | 12 | 51 | |
| 13.. | 347 | 7 | 6.5 | 284 | 12 | 9.2 | 1580 | 12 | 51 | |
| 14.. | 320 | 7 | 6.0 | 293 | 10 | 7.9 | 1600 | 12 | 52 | |
| 15.. | 311 | 7 | 5.9 | 293 | 8 | 6.3 | 1790 | 13 | 63 | |
| 16.. | 302 | 7 | 5.7 | 302 | 7 | 5.7 | 2110 | 17 | 97 | |
| 17.. | 293 | 7 | 5.5 | 320 | 6 | 5.2 | 2190 | 20 | 118 | |
| 18.. | 275 | 7 | 5.2 | 338 | 6 | 5.5 | 2170 | 20 | 117 | |
| 19.. | 266 | 8 | 5.7 | 376 | 7 | 7.1 | 2140 | 20 | 116 | |
| 20.. | 257 | 8 | 5.5 | 612 | 11 | 18 | 2080 | 20 | 112 | |
| 21.. | 249 | 8 | 5.2 | 735 | 13 | 26 | 2030 | 19 | 104 | |
| 22.. | 230 | 7 | 4.3 | 760 | 13 | 27 | 1950 | 19 | 100 | |
| 23.. | 230 | 7 | 4.3 | 835 | 13 | 29 | 1870 | 19 | 96 | |
| 24.. | 240 | 6 | 3.7 | 885 | 12 | 29 | 1760 | 18 | 86 | |
| 25.. | 222 | 5 | 3.0 | 935 | 12 | 30 | 1650 | 16 | 71 | |
| 26.. | 222 | 5 | 3.0 | 985 | 12 | 32 | 1520 | 14 | 57 | |
| 27.. | 222 | 5 | 3.0 | 1060 | 12 | 34 | 1420 | 12 | 46 | |
| 28.. | 257 | 7 | 4.9 | 1160 | 12 | 38 | 1340 | 9 | 33 | |
| 29.. | 302 | 8 | 6.5 | -- | -- | -- | 1260 | 7 | 24 | |
| 30.. | 320 | 9 | 7.8 | -- | -- | -- | 1210 | 4 | 13 | |
| 31.. | 347 | 9 | 8.4 | -- | -- | -- | 1240 | 6 | 20 | |
| Total | 8514 | -- | 195.0 | 14639 | -- | 453.5 | 52690 | -- | 2256 | |
| APRIL | | | MAY | | | JUNE | | | | |
| 1.. | 3000 | 12 | 97 | 1010 | C | 3 B | 8.2 | 74 | 3 B | 0.6 |
| 2.. | 3540 | 20 | 191 | 760 | C | 3 B | 6.2 | 73 | 3 B | .6 |
| 3.. | 3480 | 20 | 188 | 636 | C | 3 B | 5.1 | 72 | 3 B | .6 |
| 4.. | 3450 | 18 | 168 | 555 | C | 3 B | 4.5 | 72 | 3 B | .6 |
| 5.. | 3360 | 14 | 127 | 490 | C | 3 B | 4.0 | 72 | 3 B | .6 |
| 6.. | 3230 | 11 | 96 | 430 | C | 3 B | 3.5 | 74 | 3 B | .6 |
| 7.. | 3170 | 11 | 94 | 382 | C | 3 B | 3.1 | 79 | 4 B | .6 |
| 8.. | 3290 | 15 | 133 | 344 | C | 3 B | 2.8 | 85 | 4 B | .9 |
| 9.. | 3510 | 21 | 199 | 316 | C | 3 B | 2.6 | 91 | 4 B | 1.0 |
| 10.. | 3660 | 22 | 217 | 288 | C | 3 B | 2.3 | 115 | 5 | 1.6 |
| 11.. | 3760 | 21 | 213 | 262 | C | 3 B | 2.1 | 108 | 5 B | 1.5 |
| 12.. | 3760 | 20 | 203 | 244 | C | 3 B | 2.0 | 108 | 5 B | 1.5 |
| 13.. | 3630 | 19 | 186 | 228 | C | 3 B | 1.8 | 99 | 5 B | 1.3 |
| 14.. | 3390 | 16 | 146 | 211 | C | 3 B | 1.7 | 95 | 5 B | 1.3 |
| 15.. | 3110 | 14 | 118 | 195 | C | 3 B | 1.6 | 103 | 5 B | 1.4 |
| 16.. | 2860 | 12 | 93 | 185 | C | 3 B | 1.5 | 107 | 5 B | 1.4 |
| 17.. | 2640 | 11 | 78 | 173 | C | 3 B | 1.4 | 113 | 5 B | 1.5 |
| 18.. | 2440 | 8 | 53 | 159 | C | 2 B | .9 | 113 | 5 B | 1.5 |
| 19.. | 2250 | 6 | 36 | 147 | C | 2 B | .8 | 111 | 5 | 1.5 |
| 20.. | 2030 | 3 | 16 | 138 | C | 2 B | .7 | 102 | 5 | 1.3 |
| 21.. | 1870 | 2 | 10 | 129 | C | 2 B | .7 | 94 | 5 | 1.3 |
| 22.. | 1790 | 2 | 9.7 | 119 | C | 2 B | .6 | 94 | 5 | 1.3 |
| 23.. | 1760 | 2 | 9.5 | 111 | C | 2 B | .6 | 92 | 4 | 1.0 |
| 24.. | 1760 | 2 | 9.5 | 104 | C | 2 B | .6 | 86 | 4 | .9 |
| 25.. | 1760 | 2 | 9.5 | 99 | C | 2 B | .5 | 86 | 3 B | .7 |
| 26.. | 1760 | 2 | 9.5 | 92 | C | 2 B | .5 | 87 | 3 B | .7 |
| 27.. | 1730 | 2 | 9.3 | 87 | C | 2 B | .5 | 85 | 3 B | .7 |
| 28.. | 1650 | 2 | 8.9 | 84 | C | 2 B | .5 | 85 | 3 B | .7 |
| 29.. | 1520 | 2 | 8.2 | 80 | C | 2 B | .4 | 79 | 3 B | .6 |
| 30.. | 1260 | 3 | 10 | 79 | C | 2 B | .4 | 72 | 3 B | .6 |
| 31.. | -- | -- | -- | 75 | C | 2 B | .4 | -- | -- | -- |
| Total | 80420 | -- | 2746.1 | 8212 | -- | 62.5 | 2726 | -- | 30.4 | |

B Computed from estimated-concentration graph.
C Composite period.

QUALITY OF SURFACE WATERS, 1962

SUWANNEE RIVER BASIN--Continued

2-3175. ALAPAHA RIVER AT STATENVILLE, GA.--Continued

Suspended sediment, water year October 1961 to September 1962--Continued

Where no concentrations are reported, loads are estimated.

[illegible]

SUWANNEE RIVER BASIN--Continued
2-3215. SANTA FE RIVER AT WORTHINGTON, FLA.

LOCATION --Temperature recorder at gaging station on downstream side of bridge on State Highway 23, 0.5 mile south of Worthington, Union County, and 0.8 mile downstream from New River.

DRAINAGE AREA --630 square miles, approximately.

RECORDS AVAILABLE --Chemical analyses: July 1957 to September 1960.

Water temperatures: July 1957 to September 1962.

EXTREMES, 1961-62 --Water temperatures: Maximum, 90°F July 7; minimum, 44°F Dec. 31, Jan. 13, 14.

EXTREMES, 1957-62 --Water temperatures: Maximum, 90°F July 7, 1962; minimum, 40°F Feb. 19, 1958.

Temperature °F of water, water year October 1961 to September 1962
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 | 74 | 74 | 73 | 72 | 71 | 69 | 69 | 69 | 70 | 70 | 70 | 71 | 72 | 72 | 72 | 67 | 65 | 65 | 67 | 67 | 65 | 62 | 61 | 62 | 63 | 64 | 64 | 64 | 65 | 67 | 67 | 68 |
| | 73 | 72 | 72 | 70 | 68 | 68 | 67 | 67 | 68 | 68 | 69 | 70 | 71 | 72 | 67 | 65 | 61 | 63 | 65 | 65 | 61 | 60 | 61 | 62 | 62 | 62 | 62 | 62 | 63 | 65 | 65 | 66 |
| November | 67 | 71 | 71 | 72 | 72 | 73 | 73 | 70 | 65 | 62 | 63 | 65 | 68 | 69 | 70 | 70 | 69 | 66 | 66 | 64 | 62 | 63 | 64 | 64 | 60 | 61 | 62 | 62 | 60 | -- | -- | 66 |
| | 65 | 65 | 71 | 70 | 71 | 72 | 70 | 65 | 61 | 62 | 63 | 65 | 68 | 69 | 69 | 66 | 64 | 62 | 60 | 61 | 63 | 60 | 61 | 63 | 60 | 60 | 61 | 60 | 58 | -- | 65 | |
| December | 58 | 58 | 59 | 60 | 61 | 62 | 63 | 63 | 60 | 62 | 64 | 66 | 66 | 66 | 66 | 66 | 67 | 68 | 68 | 68 | 63 | 58 | 58 | 58 | 54 | 51 | 53 | 52 | 47 | 45 | 60 | |
| | 56 | 57 | 58 | 59 | 60 | 60 | 62 | 59 | 58 | 60 | 62 | 64 | 66 | 64 | 65 | 66 | 66 | 67 | 68 | 63 | 58 | 55 | 56 | 54 | 51 | 48 | 49 | 51 | 47 | 45 | 54 | |
| January | 49 | 49 | 49 | 48 | 51 | 57 | 57 | 54 | 54 | 51 | 48 | 46 | 48 | 52 | 54 | 54 | 53 | 55 | 56 | 58 | 61 | 62 | 63 | 63 | 63 | 64 | 64 | 62 | 58 | 57 | 55 | |
| | 45 | 49 | 47 | 46 | 48 | 51 | 54 | 53 | 51 | 51 | 48 | 46 | 44 | 44 | 48 | 52 | 52 | 53 | 55 | 56 | 56 | 58 | 61 | 62 | 62 | 62 | 62 | 58 | 55 | 55 | 53 | |
| February | 57 | 57 | 59 | 59 | 59 | 59 | 59 | 56 | 58 | 58 | 58 | 56 | 57 | 61 | 62 | 63 | 63 | 64 | 66 | 66 | 65 | 67 | 69 | 71 | 72 | 73 | 72 | 73 | -- | -- | 62 | |
| | 55 | 56 | 56 | 57 | 57 | 59 | 54 | 54 | 56 | 56 | 54 | 53 | 56 | 57 | 61 | 61 | 62 | 64 | 65 | 62 | 64 | 67 | 68 | 70 | 70 | 70 | 69 | -- | -- | -- | 60 | |
| March | 72 | 70 | 62 | 67 | 58 | 56 | 53 | 55 | 57 | 61 | 65 | 69 | 67 | 65 | 62 | 61 | 60 | 57 | 58 | 59 | 63 | 63 | 62 | 62 | 63 | 63 | 63 | 63 | 66 | 62 | 59 | |
| | 70 | 62 | 57 | 55 | 56 | 52 | 50 | 51 | 54 | 57 | 61 | 65 | 65 | 62 | 59 | 59 | 56 | 54 | 57 | 53 | 61 | 60 | 61 | 60 | 61 | 61 | 61 | 60 | 61 | 63 | 66 | |
| April | 66 | 66 | 63 | 60 | 60 | 63 | 63 | 67 | 68 | 69 | 72 | 73 | 72 | 70 | 66 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 66 | 62 | 58 | 57 | 59 | 60 | 63 | 63 | 64 | 67 | 68 | 70 | 70 | 64 | 62 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| May | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| June | -- | -- | -- | -- | -- | -- | -- | -- | 73 | 75 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | -- | -- | -- | -- | -- | -- | -- | -- | 70 | 70 | 71 | -- | -- | -- | -- | 71 | 72 | 72 | 74 | 75 | 75 | 71 | 73 | 75 | 75 | 76 | 74 | 75 | 75 | -- | -- | |
| July | 79 | 79 | 81 | 81 | 81 | 83 | 90 | 77 | 84 | 84 | 86 | 95 | 95 | 93 | 86 | 84 | 85 | 84 | 81 | 81 | 79 | 79 | 80 | 83 | 82 | 82 | 83 | 82 | 81 | 78 | 78 | 82 |
| | 74 | 74 | 75 | 77 | 77 | 77 | 77 | 75 | 75 | 79 | 81 | 80 | 80 | 80 | 80 | 79 | 80 | 80 | 78 | 79 | 77 | 78 | 79 | 80 | 80 | 80 | 79 | 79 | 78 | 78 | 77 | 78 |
| August | 78 | 78 | 78 | 78 | 80 | 78 | 78 | 78 | 79 | 80 | 80 | 78 | 79 | 80 | 79 | 80 | 79 | 78 | 78 | 80 | 80 | 79 | 78 | 78 | 78 | 78 | 78 | 78 | 80 | 80 | 79 | 79 |
| | 77 | 78 | 77 | 77 | 76 | 78 | 76 | 77 | 77 | 78 | 78 | 77 | 76 | 78 | 76 | 78 | 76 | 78 | 75 | 76 | 76 | 78 | 77 | 76 | 76 | 76 | 76 | 77 | 77 | 78 | 77 | 77 |
| September | 78 | 79 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 79 | 80 | 80 | 80 | 79 | 78 | 78 | 78 | 77 | 76 | 74 | 74 | 73 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 76 | 77 | 76 | 76 | 76 | 77 | 78 | 77 | 78 | 78 | 79 | 79 | 79 | 79 | 78 | 77 | 76 | 76 | 76 | 76 | 74 | 73 | 74 | 73 | -- | -- | -- | -- | -- | -- | -- | -- |

APALACHICOLA RIVER BASIN

2-3475. FLINT RIVER NEAR CULLODEN, GA.

LOCATION.--At gaging station underneath bridge on U.S. Highway 19, 4 miles upstream from Auchumpkee Creek, 5 miles downstream from Swift Creek, and 13 miles southwest of Culloden, Monroe County.

DRAINAGE AREA.--1,850 square miles, approximately.

RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1962.

Water temperatures: June 1960 to September 1962.

Sediment records: October 1961 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 4 ppm Oct. 21-25, 28-31; minimum, 34 ppm Mar. 11-31.

Water temperatures: Maximum, 6 ppm Feb. 26; minimum, 4 ppm Aug. 14; minimum daily, 25 micromhos Feb. 22.

Specific conductance: Maximum, 128 micromhos Aug. 14; minimum, 6 ppm Feb. 26.

Water temperatures: Maximum, 88°F July 24, Aug. 5, 8; minimum, 37°F Jan. 14.

Sediment concentrations: Maximum daily, 729 ppm Mar. 11; minimum daily, 8 ppm on Oct. 30, 31, Nov. 1-7, 13-15, 20-22, and Dec. 1-6.

Sediment loads: Maximum daily, 28,100 tons Feb. 22; minimum daily, 8.5 tons Sept. 4, 25.

EXTREMES, 1960-62.--Dissolved solids: Maximum, 74 ppm Feb. 22, 1962.

Hardness: Maximum, 26 ppm Feb. 26, 1962; minimum, 6 ppm Feb. 22, 1962.

Specific conductance: Maximum daily, 128 micromhos Aug. 14, 1962; minimum daily, 25 micromhos Feb. 22, 1962.

Water temperatures: Maximum, 88°F July 30, 31, Aug. 1, 2, 1961, July 24 and Aug. 5, 8, 1962; minimum, 37°F Dec. 24, 1960, Jan. 14, 1962.

Sediment concentrations: Maximum daily, 729 ppm Mar. 11, 1962; minimum daily, 8 ppm on many days in 1961.

Sediment loads: Maximum daily, 28,100 tons Feb. 22, 1962; minimum daily, 8.5 tons Sept. 4, 25, 1962.

REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla. Sediment records are considered fair during the year.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|----------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-9, 1961..... | 472 | 15 | 0.04 | 4.0 | 1.5 | 10 | 2.3 | 44 | 3.2 | 4.0 | 0.1 | 0.5 | 71 | 16 | 0 | 87 | 7.7 | 10 |
| Oct. 10, 26..... | 472 | 14 | .06 | 5.2 | 1.0 | 8.3 | 2.2 | 35 | -- | -- | .2 | .3 | -- | 17 | 0 | 73 | 7.8 | 3 |
| Oct. 11-20..... | 399 | 15 | .03 | 4.2 | 1.2 | 12 | 2.3 | 46 | 1.2 | 4.5 | .1 | .3 | 72 | 16 | 0 | 90 | 7.6 | 10 |
| Oct. 21-25, 28-31... | 439 | 15 | .04 | 4.0 | 1.3 | 13 | 2.3 | 47 | 3.2 | 5.0 | .1 | .3 | 74 | 16 | 0 | 93 | 7.8 | 10 |
| Nov. 1-7, 9-10..... | 509 | 15 | .02 | 3.6 | 1.3 | 11 | 3.8 | 42 | 3.2 | 3.5 | .6 | .1 | 63 | 14 | 0 | 85 | 8.0 | 5 |
| Nov. 11-20..... | 698 | 13 | .03 | 4.4 | 1.3 | 10 | 3.0 | 42 | 2.8 | 4.0 | .2 | .1 | 64 | 16 | 0 | 86 | 7.8 | 5 |
| Nov. 21-22, 24-30... | 970 | 15 | .08 | 4.0 | 1.2 | 7.3 | 3.0 | 33 | 3.6 | 4.0 | .2 | .1 | 254 | 15 | 0 | 72 | 7.5 | 5 |
| Dec. 1-4..... | -- | 14 | .02 | 3.2 | 1.5 | 10 | 2.5 | 34 | 2.4 | 4.0 | .2 | .1 | 62 | 14 | 0 | 75 | 7.5 | 15 |
| Dec. 11-12, 19..... | 4,210 | -- | -- | -- | -- | 3.7 | 2.0 | 26 | -- | -- | -- | -- | -- | 16 | 0 | -- | -- | -- |
| Dec. 13-18, 20..... | 12,900 | 9.1 | .11 | 2.8 | .6 | 3.3 | 2.7 | 16 | .8 | 3.0 | .1 | .1 | 49 | 10 | 0 | 40 | 7.2 | 5 |
| Dec. 21-24, 26-29... | 3,470 | 12 | .16 | 3.2 | .7 | 3.9 | 2.0 | 19 | 4.0 | 3.1 | .1 | .0 | 49 | 11 | 0 | 45 | 7.3 | 0 |
| Dec. 30-31..... | 1,740 | -- | -- | -- | -- | 4.2 | 1.3 | 30 | -- | -- | -- | -- | -- | 17 | 0 | 60 | 7.5 | -- |
| Jan. 2-6, 8-10, 1962 | 4,400 | 11 | .09 | 2.4 | 1.0 | 4.8 | 1.3 | 18 | .8 | 3.5 | .1 | .0 | 35 | 10 | 0 | 41 | 7.1 | 10 |
| Jan. 11, 20..... | 3,560 | 12 | .11 | 2.2 | 1.1 | 5.2 | 1.3 | 18 | 2.4 | 3.0 | .1 | .1 | a36 | 10 | 0 | 40 | 7.0 | 5 |
| Jan. 21-31..... | 4,950 | 11 | .16 | 2.4 | 1.0 | 5.0 | 1.3 | 18 | 2.0 | 4.0 | .1 | .1 | 38 | 10 | 0 | 39 | 7.2 | 10 |
| Feb. 1-10..... | 2,480 | 12 | .06 | 2.8 | .7 | 4.9 | 1.3 | 21 | 2.0 | 4.0 | .2 | .1 | 47 | 10 | 0 | 48 | 7.2 | 15 |
| Feb. 11-20..... | 2,020 | 13 | .03 | 2.8 | 1.0 | 5.6 | 1.3 | 24 | 2.4 | 4.0 | .2 | .1 | a42 | 11 | 0 | 53 | 7.3 | 5 |
| Feb. 21-23, 27-28. | 9,910 | 9.7 | .01 | 2.8 | 1.7 | 3.5 | 1.5 | 17 | 5.2 | 3.0 | .2 | .3 | 42 | 10 | 0 | 38 | 7.1 | 20 |

| | | | | | | | | | | | | | | | | | | |
|---------------------------------------|--------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|-----|----|
| Feb. 22, 1962..... | 18,200 | -- | -- | -- | 1.5 | 1.5 | 7 | -- | -- | -- | -- | -- | -- | 6 | 0 | 25 | 6.9 | -- |
| Feb. 26..... | 10,900 | -- | -- | -- | 2.3 | 2.3 | 33 | -- | -- | -- | -- | -- | -- | 26 | 0 | 64 | 7.6 | -- |
| Mar. 1-4, 6-8, 10... | 3,850 | 14 | -- | 1.3 | 4.7 | 1.4 | 30 | 2.4 | 2.4 | .1 | 0.6 | .1 | 40 | 11 | 0 | 44 | 7.0 | 5 |
| Mar. 5..... | 3,630 | -- | -- | -- | 3.8 | 1.2 | 31 | -- | -- | -- | -- | -- | -- | 19 | 0 | 63 | 7.5 | -- |
| Mar. 11-20..... | 9,400 | 11 | -- | .6 | 3.1 | 1.4 | 16 | 3.2 | 1.9 | .1 | .3 | .1 | 34 | 10 | 0 | 36 | 7.5 | 5 |
| Mar. 21-31..... | 4,310 | 11 | -- | .7 | 4.4 | 1.3 | 22 | 3.2 | 2.9 | .1 | .0 | .1 | a38 | 12 | 0 | 45 | 7.3 | 4 |
| Apr. 1-10..... | 7,600 | 11 | .07 | 3.4 | 3.5 | 1.2 | 18 | 1.6 | 2.0 | .7 | .0 | .1 | 41 | 10 | 0 | 40 | 7.1 | 10 |
| Apr. 11-20..... | 7,770 | 8.4 | -- | 1.0 | 3.3 | 1.2 | 18 | 1.6 | 2.0 | .7 | .0 | .1 | 37 | 9 | 0 | 36 | 6.9 | 10 |
| Apr. 21-30..... | 2,930 | 9.2 | .01 | 2.6 | 4.3 | 1.2 | 24 | 1.2 | 2.2 | .2 | .0 | .1 | 44 | 12 | 0 | 58 | 7.3 | 10 |
| May 1-8..... | 2,010 | 13 | .03 | 3.6 | 5.5 | 1.6 | 26 | 1.2 | 2.8 | .2 | .1 | .1 | 52 | 12 | 0 | 56 | 7.1 | 10 |
| May 11-20..... | 1,020 | 13 | .00 | 4.0 | 7.5 | 1.9 | 32 | 1.2 | 3.0 | .2 | .1 | .1 | 56 | 14 | 0 | 67 | 7.1 | 7 |
| May 21-31..... | 821 | 12 | .00 | 3.8 | 8.2 | 2.0 | 34 | .8 | 5.0 | .3 | .0 | .1 | 57 | 14 | 0 | 67 | 7.1 | 5 |
| June 1-10..... | 1,110 | 13 | .00 | 4.0 | 7.6 | 1.6 | 30 | 2.4 | 3.0 | .0 | .2 | .1 | 62 | 14 | 0 | 64 | 7.4 | 3 |
| June 11-15, 17-20... | 1,210 | 12 | .04 | 4.0 | 6.6 | 1.7 | 28 | 1.2 | 4.0 | .0 | .1 | .1 | 60 | 15 | 0 | 60 | 7.0 | 15 |
| June 21-22, 24-30... | 1,720 | 12 | .07 | 4.0 | 7.0 | 1.7 | 30 | 3.6 | 3.5 | .0 | .1 | .1 | 60 | 14 | 0 | 61 | 7.0 | 25 |
| July 1-2, 4-9..... | 1,380 | 14 | .02 | 3.6 | 3.8 | 1.5 | 20 | .8 | 1.5 | .2 | .4 | .1 | 50 | 12 | 0 | 46 | 6.9 | 10 |
| July 3, 22, 24-25, 27, 29..... | 778 | 13 | .02 | 4.8 | 9.1 | 1.9 | 34 | 2.8 | 3.5 | .2 | .1 | .1 | 56 | 14 | 0 | 73 | 7.2 | 14 |
| July 10-11, 13-21, 23, 26, 30-31..... | 869 | 14 | .05 | 4.0 | 7.1 | 1.6 | 31 | 2.0 | 2.0 | .3 | .1 | .1 | 51 | 15 | 0 | 63 | 7.3 | 20 |
| Aug. 2-10..... | 657 | 13 | .00 | 3.2 | 9.8 | 2.1 | 36 | 2.0 | 3.0 | .1 | .1 | .1 | a33 | 14 | 0 | 76 | 7.5 | 5 |
| Aug. 11-13, 15-16, 18-20..... | 545 | 12 | .00 | 2.8 | 14 | 2.2 | 43 | 2.8 | 3.0 | .1 | .1 | .1 | a60 | 14 | 0 | 85 | 7.7 | 5 |
| Aug. 14..... | 692 | -- | -- | -- | -- | -- | 68 | -- | 3.0 | -- | -- | -- | -- | -- | -- | 130 | 7.9 | -- |
| Aug. 21-25, 27-31... | 509 | 13 | .00 | 3.2 | 14 | 2.3 | 42 | 2.0 | 4.0 | .1 | .1 | .1 | a61 | 15 | 0 | 88 | 7.5 | 5 |
| Sept. 1-6, 8-10... | 417 | 13 | .00 | 3.6 | 1.6 | 12 | 40 | 3.2 | 3.2 | .2 | .0 | .0 | a59 | 16 | 0 | 86 | 7.5 | 5 |
| Sept. 11-14, 16-17, 19-20, 25-26..... | 500 | 13 | .01 | 3.2 | 1.3 | 12 | 40 | 3.2 | 2.5 | .2 | .1 | .1 | 58 | 14 | 0 | 85 | 7.7 | 5 |
| Time-weighted average..... | 2,600 | 13 | 0.04 | 3.4 | 1.1 | 7.3 | 1.9 | 2.3 | 3.2 | 0.2 | 0.1 | 0.1 | 52 | 13 | 0 | 62 | -- | 9 |

a Calculated from determined constituents.

APALACHICOLA RIVER BASIN--Continued
2-3475. FLINT RIVER NEAR CULLODEN, GA.--Continued
Temperature °F of water, water year October 1961 to September 1962
Continuous ethyl alcohol-actuated thermometer

| 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 | 76 | 76 | 75 | 71 | 68 | 67 | 67 | 67 | 68 | 69 | 69 | 69 | 70 | 69 | 67 | 66 | 66 | 66 | 66 | 65 | 63 | 63 | 63 | 63 | 64 | 64 | 61 | 59 | 63 | 66 | 67 | 69 |
| Minimum | 72 | 71 | 70 | 67 | 64 | 63 | 62 | 62 | 63 | 64 | 65 | 65 | 65 | 67 | 63 | 61 | 61 | 61 | 62 | 61 | 58 | 59 | 58 | 59 | 60 | 60 | 57 | 56 | 58 | 61 | 63 | 63 |
| November | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 69 | 69 | 69 | 71 | 71 | 71 | 70 | 69 | 63 | 59 | 57 | 60 | 62 | 63 | 64 | 66 | 66 | 63 | 58 | 58 | 56 | 54 | 55 | 56 | 56 | 54 | 52 | 53 | 53 | 51 | -- | 61 |
| Minimum | 65 | 65 | 66 | 68 | 69 | 68 | 66 | 63 | 57 | 54 | 56 | 57 | 59 | 62 | 63 | 64 | 62 | 58 | 57 | 55 | 52 | 50 | 53 | 55 | 53 | 52 | 51 | 51 | 50 | 47 | -- | 58 |
| December | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 49 | 50 | 52 | 53 | 53 | 53 | 53 | 52 | 51 | 53 | 55 | 57 | 57 | 57 | 53 | 51 | 51 | 53 | 53 | 53 | 50 | 48 | 47 | 45 | 43 | 43 | 43 | 42 | 41 | 40 | 50 | |
| Minimum | 46 | 47 | 48 | 50 | 51 | 53 | 52 | 50 | 51 | 51 | 53 | 55 | 57 | 53 | 51 | 51 | 51 | 53 | 53 | 50 | 48 | 47 | 45 | 43 | 43 | 43 | 42 | 39 | 39 | 49 | 49 | |
| January | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 42 | 42 | 42 | 42 | 45 | 51 | 51 | 50 | 48 | 46 | 43 | 41 | 39 | 38 | 42 | 43 | 42 | 42 | 42 | 42 | 42 | 42 | 44 | 47 | 49 | 52 | 54 | 55 | 55 | 53 | 51 | 46 |
| Minimum | 41 | 42 | 41 | 41 | 42 | 45 | 50 | 48 | 46 | 43 | 41 | 39 | 38 | 37 | 38 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 44 | 47 | 49 | 52 | 54 | 55 | 53 | 51 | 50 | 45 |
| February | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 50 | 50 | 51 | 51 | 53 | 53 | 51 | 51 | 51 | 52 | 51 | 49 | 50 | 53 | 55 | 55 | 55 | 56 | 54 | 56 | 55 | 53 | 57 | 58 | 59 | 59 | 57 | 58 | 60 | 58 | 58 | 54 |
| Minimum | 49 | 49 | 50 | 51 | 51 | 51 | 49 | 47 | 51 | 51 | 49 | 43 | 50 | 52 | 54 | 55 | 54 | 54 | 55 | 54 | 55 | 53 | 57 | 58 | 59 | 57 | 58 | 59 | 57 | 58 | 59 | 53 |
| March | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 60 | 59 | 55 | 51 | 50 | 49 | 47 | 47 | 48 | 51 | 52 | 54 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 54 | 59 | 59 | 59 | 59 | 59 | 57 | 57 | 57 | 58 | 59 | 54 | |
| Minimum | 59 | 55 | 51 | 50 | 49 | 46 | 45 | 47 | 47 | 48 | 51 | 52 | 52 | 52 | 52 | 52 | 53 | 52 | 52 | 53 | 54 | 58 | 57 | 58 | 57 | 57 | 57 | 57 | 58 | 59 | 53 | |
| April | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 59 | 59 | 58 | 57 | 57 | 56 | 58 | 61 | 63 | 65 | 66 | 66 | 62 | 61 | 59 | 59 | 58 | 57 | 59 | 60 | 61 | 64 | 65 | 66 | 67 | 66 | 67 | 69 | 69 | -- | 62 | |
| Minimum | 59 | 58 | 56 | 55 | 55 | 55 | 56 | 58 | 61 | 63 | 65 | 62 | 61 | 59 | 59 | 57 | 57 | 56 | 57 | 59 | 59 | 61 | 64 | 66 | 66 | 66 | 66 | 69 | -- | 60 | | |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 71 | 72 | 71 | 71 | 71 | 71 | 72 | 73 | 75 | 75 | 75 | 77 | 77 | 78 | 79 | 80 | 80 | 80 | 81 | 81 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 82 | 81 | 78 | 80 | |
| Minimum | 69 | 71 | 68 | 67 | 67 | 68 | 69 | 70 | 71 | 73 | 72 | 73 | 74 | 75 | 74 | 75 | 76 | 75 | 76 | 77 | 76 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 77 | 74 | 74 | |
| June | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 81 | 81 | 79 | 80 | 80 | 81 | 81 | 80 | 80 | 79 | 79 | 79 | 79 | 79 | 81 | 82 | 83 | 81 | 83 | 82 | 81 | 83 | 84 | 84 | 85 | 85 | 85 | 81 | 75 | 76 | -- | 81 |
| Minimum | 77 | 77 | 76 | 77 | 77 | 76 | 77 | 77 | 77 | 76 | 77 | 77 | 77 | 77 | 77 | 77 | 78 | 78 | 79 | 79 | 77 | 78 | 79 | 79 | 79 | 80 | 81 | 73 | 75 | -- | 77 | |
| July | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 77 | 79 | 80 | 81 | 82 | 82 | 81 | 82 | 85 | 85 | 85 | 85 | 87 | 87 | 87 | 86 | 85 | 85 | 87 | 86 | 87 | 87 | 88 | 87 | 85 | 85 | 85 | 83 | 81 | 85 | 84 | |
| Minimum | 76 | 77 | 78 | 78 | 79 | 80 | 79 | 78 | 80 | 80 | 81 | 81 | 82 | 82 | 81 | 81 | 80 | 81 | 82 | 81 | 81 | 83 | 83 | 83 | 83 | 83 | 81 | 80 | 79 | 79 | 80 | |
| August | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 85 | 87 | 85 | 86 | 88 | 87 | 88 | 87 | 86 | 85 | 85 | 83 | 82 | 84 | 85 | 86 | 87 | 87 | 87 | 85 | 85 | 81 | 80 | 80 | 79 | 83 | 84 | 84 | 84 | 84 | 85 | |
| Minimum | 81 | 81 | 81 | 81 | 81 | 82 | 83 | 81 | 81 | 80 | 79 | 79 | 79 | 78 | 79 | 80 | 81 | 81 | 81 | 81 | 80 | 81 | 79 | 76 | 77 | 77 | 77 | 78 | 78 | 79 | 80 | |
| September | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 84 | 85 | 86 | 85 | 87 | 86 | 85 | 77 | 79 | 81 | 83 | 83 | 85 | 84 | 83 | 82 | 81 | 81 | 79 | 78 | 77 | 75 | 75 | 73 | 72 | 73 | 72 | 70 | 70 | -- | 80 | |
| Minimum | 78 | 79 | 79 | 81 | 81 | 81 | 77 | 76 | 75 | 76 | 79 | 80 | 79 | 79 | 78 | 79 | 79 | 77 | 75 | 73 | 71 | 70 | 70 | 71 | 71 | 71 | 67 | 65 | 65 | -- | 75 | |

APALACHICOLA RIVER BASIN--Continued

2-3475, FLINT RIVER NEAR CULLODEN, GA.--Continued

Suspended sediment, water year October 1961 to September 1962

| 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.. | 485 | 19 | 25 | 465 | 8 | 10 | 759 | 8 | 16 |
| 2.. | 477 | 19 | 24 | 491 | 8 | 11 | 742 | 8 | 16 |
| 3.. | 467 | 19 | 24 | 485 | 8 | 10 | 722 | 8 | 16 |
| 4.. | 470 | 19 | 24 | 484 | 8 | 10 | 710 | 8 | 15 |
| 5.. | 468 | 19 | 24 | 486 | 8 | 10 | 712 | 8 | 15 |
| 6.. | 484 | 19 | 25 | 512 | 8 | 11 | 822 | 8 | 18 |
| 7.. | 480 | 19 | 25 | 531 | 8 | 11 | 1060 | 15 | 43 |
| 8.. | 470 | 19 | 24 | 573 | 10 | 15 | 1090 | 20 | 59 |
| 9.. | 447 | 19 | 23 | 565 | 10 | 15 | 1050 | 20 | 57 |
| 10.. | 431 | 19 | 22 | 558 | 10 | 15 | 1050 | 21 | 60 |
| 11.. | 427 | 19 | 22 | 557 | 10 | 15 | 1590 | 42 S | 104 |
| 12.. | 424 | 19 | 22 | 555 | 10 | 15 | 5670 | 124 S | 1320 |
| 13.. | 403 | 19 | 21 | 552 | 8 | 12 | 10100 | 477 S | 13400 |
| 14.. | 423 | 19 | 22 | 589 | 8 | 13 | 12600 | 234 S | 7790 |
| 15.. | 393 | 19 | 20 | 646 | 8 | 14 | 19600 | 233 S | 12400 |
| 16.. | 367 | 19 | 19 | 715 | 9 | 17 | 16100 | 122 | 5450 |
| 17.. | 359 | 19 | 18 | 823 | 10 | 22 | 10600 | 78 | 2230 |
| 18.. | 390 | 19 | 20 | 893 | 10 | 24 | 8630 | 70 | 1630 |
| 19.. | 401 | 19 | 21 | 874 | 9 | 21 | 7380 | 74 | 1470 |
| 20.. | 401 | 19 | 21 | 771 | 8 | 17 | 7210 | 67 | 1300 |
| 21.. | 390 | 19 | 20 | 722 | 8 | 16 | 7000 | 49 | 926 |
| 22.. | 402 | 19 | 21 | 698 | 8 | 15 | 5670 | 82 | 1260 |
| 23.. | 423 | 18 | 21 | 771 | 10 | 21 | 4090 | 92 | 1020 |
| 24.. | 503 | 20 | 27 | 1120 | 18 | 54 | 3020 | 90 | 707 |
| 25.. | 535 | 19 | 27 | 1250 | 19 | 64 | 2490 | 90 | 605 |
| 26.. | 512 | 18 | 25 | 1220 | 18 | 59 | 2200 | 80 | 475 |
| 27.. | 453 | 16 | 20 | 1070 | 15 | 43 | 2010 | 78 | 423 |
| 28.. | 422 | 12 | 14 | 977 | 13 | 34 | 1940 | 75 | 393 |
| 29.. | 411 | 9 | 10 | 877 | 10 | 24 | 1840 | 70 | 348 |
| 30.. | 420 | 8 | 9.1 | 796 | 9 | 19 | 1770 | 62 | 296 |
| 31.. | 428 | 8 | 9.2 | -- | -- | -- | 1700 | 55 | 252 |
| Total | 13566 | -- | 649.3 | 21626 | -- | 637 | 139927 | -- | 54114 |

| JANUARY | | | | FEBRUARY | | | | MARCH | | | |
|---------|--------|-------|-------|----------|-------|-------|--------|-------|--------|--|--|
| 1.. | 2160 | 67 | 390 | 33780 | 62 | 633 | 4550 | 78 | 958 | | |
| 2.. | 2460 | 90 | 598 | 3200 | 38 | 328 | 5020 | 100 | 1360 | | |
| 3.. | 2270 | 65 | 398 | 2740 | 30 | 222 | 4980 | 70 | 941 | | |
| 4.. | 2030 | 31 | 170 | 2460 | 30 | 199 | 4200 | 65 | 737 | | |
| 5.. | 1790 | 18 | 87 | 2330 | 30 | 189 | 3630 | 70 | 686 | | |
| 6.. | 9540 | 359 S | 10900 | 2250 | 30 | 182 | 3220 | 70 | 609 | | |
| 7.. | 10200 | 220 | 6060 | 2090 | 20 | 113 | 2940 | 65 | 516 | | |
| 8.. | 7470 | 100 | 2020 | 1950 | 16 | 84 | 2740 | 60 | 444 | | |
| 9.. | 5520 | 88 | 1310 | 1870 | 16 | 81 | 2670 | 60 | 433 | | |
| 10.. | 4160 | 70 | 786 | 1830 | 16 | 79 | 3 80 | 83 | 767 | | |
| 11.. | 3280 | 48 | 425 | 1760 | 14 | 64 | 12800 | 729 S | 27000 | | |
| 12.. | 2690 | 40 | 278 | 1690 | 14 | 62 | 22000 | 456 S | 26400 | | |
| 13.. | 2340 | 30 | 190 | 1660 | 14 | 63 | 17500 | 228 | 10800 | | |
| 14.. | 2140 | 20 | 116 | 1620 | 16 | 70 | 12100 | 180 | 5880 | | |
| 15.. | 2170 | 15 | 88 | 1590 | 20 | 86 | 8650 | 162 | 3780 | | |
| 16.. | 2400 | 16 | 104 | 1840 | 20 | 99 | 6240 | 158 | 2660 | | |
| 17.. | 2360 | 24 | 153 | 2450 | 25 | 165 | 4570 | 165 | 2040 | | |
| 18.. | 2230 | 110 | 662 | 2320 | 36 | 226 | 3740 | 162 | 1640 | | |
| 19.. | 6080 | 259 S | 4350 | 2660 | 50 | 359 | 3350 | 160 | 1440 | | |
| 20.. | 9950 | 242 | 6500 | 2630 | 75 | 533 | 3090 | 150 | 1250 | | |
| 21.. | 8770 | 304 S | 7240 | 2540 | 70 | 480 | 3120 | 145 | 1220 | | |
| 22.. | 6870 | 118 | 2190 | 18200 | 600 S | 28100 | 3800 | 170 | 1740 | | |
| 23.. | 5250 | 60 | 850 | 16900 | 248 | 11300 | 3600 | 140 | 1360 | | |
| 24.. | 4340 | 42 | 492 | 13600 | 264 S | 9720 | 3270 | 96 | 848 | | |
| 25.. | 3720 | 45 | 452 | 13700 | 308 S | 11500 | 3080 | 50 | 416 | | |
| 26.. | 3430 | 46 | 426 | 10900 | 115 S | 3290 | 5840 | 154 | 2430 | | |
| 27.. | 3280 | 43 | 381 | 7510 | 110 | 2230 | 5450 | 124 | 1820 | | |
| 28.. | 4210 | 66 | 750 | 5230 | 128 | 1810 | 4590 | 100 | 1240 | | |
| 29.. | 5040 | 80 | 1090 | -- | -- | -- | 3810 | 100 | 1030 | | |
| 30.. | 5010 | 77 | 1040 | -- | -- | -- | 3370 | 98 | 892 | | |
| 31.. | 4530 | 62 | 758 | -- | -- | -- | 6440 | 283 S | 7290 | | |
| Total | 137690 | -- | 51254 | 133300 | -- | 72085 | 177520 | -- | 110627 | | |

S Computed by subdividing day.

APALACHICOLA RIVER BASIN--Continued

2-3475. FLINT RIVER NEAR CULLODEN, GA.--Continued

Particle-size analyses of suspended sediment, water year October 1961 to September 1962
(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 per- centage (24 hour) | Sam- pling point | Water tem- per- ature (°F) | Discharge (cfs) | Sediment concentra- tion (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 | |
| Dec. 12, 1961..... | 1730 | | 69 | 3,860 | 148 | | | 61 | 62 | 75 | 79 | 85 | | | | BWC |
| Dec. 13..... | 1000 | | 55 | 13,200 | 200 | | | 63 | 69 | 74 | 79 | 80 | | | | BWC |
| Dec. 15..... | 1130 | | 50 | 22,200 | 240 | | | 60 | 67 | 73 | 79 | 84 | | | | BWC |
| Dec. 16..... | 1100 | | 52 | 17,800 | 118 | | | 47 | 59 | 66 | 73 | 81 | | | | BWC |
| Dec. 17..... | 1100 | | 47 | 11,200 | 83 | | | 58 | 66 | 72 | 78 | 84 | | | | BWC |
| Dec. 23..... | 1700 | | 50 | 4,480 | 92 | | | 66 | 71 | 78 | 84 | 97 | | | | BWC |
| Feb. 22, 1962..... | 1120 | | 50 | 20,400 | 814 | | | 36 | 46 | 56 | 64 | 71 | | | | BWC |
| Feb. 28..... | 0945 | | 50 | 5,100 | 131 | | | 66 | 70 | 71 | 73 | 78 | | | | BWC |
| Feb. 28..... | 1915 | | 50 | 4,440 | 112 | | | 68 | 73 | 78 | 83 | 87 | | | | BWC |

APALACHICOLA RIVER BASIN--Continued

2-3490. WHITEWATER CREEK BELOW RAMBULETTE CREEK, NEAR BUTLER, GA.

LOCATION.--At gaging station 500 feet downstream from bridge on U.S. Highway 19, at mouth of Rambulette Creek, 6.5 miles south of Butler, Taylor County, and 8 miles upstream from Cedar Creek.

DRAINAGE AREA.--93.4 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1961 to September 1962.

Water temperatures: October 1961 to September 1962.

EXTREMES, 1961-62.--Dissolved solids: Maximum, 29 ppm Apr. 21-30; minimum, 10 ppm Aug. 1-28, 30-31.

Hardness: Maximum, 12 ppm Mar. 12, 29-30; minimum, 2 ppm Oct. 1-31, Nov. 1-12, 14, 16-20, Dec. 1-4, 6-8, Jan. 21-25, 27-31, Feb. 11-28, Apr. 1-10,

May 11-31, June 1-30, July 1-7, 9-10, 13-18, 20-29, 29-31, Aug. 1-20, and Sept. 1-30.

Specific conductance: Maximum, 39 micromhos Aug. 29, minimum daily, 8 micromhos Oct. 9, Nov. 9.

Water temperatures: Maximum, 84°F July 18, minimum, 64°F July 13.

REMARKS.--Records of specific conductance of daily samples available in district office at Ocala, Fla.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| 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) | Hardness as CaCO ₃ | | Specific conductance (micro-mhos at 25°C) | pH | Color |
|------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| Oct. 1-10, 1961..... | 131 | 6.3 | 0.07 | 0.4 | 0.2 | 1.2 | 0.1 | 5 | 0.4 | 2.0 | 0.0 | 0.3 | 2 | 0 | 12 | 6.6 | 5 |
| Oct. 11-20..... | 128 | 6.0 | .05 | .6 | .1 | 1.2 | .1 | 6 | .0 | 1.5 | .0 | .2 | 21 | 2 | 0 | 12 | 6.8 |
| Oct. 21-31..... | 132 | 6.0 | .07 | .6 | .2 | 1.2 | .1 | 6 | .0 | 1.5 | .0 | .3 | 21 | 2 | 0 | 13 | 6.5 |
| Nov. 1-10..... | 134 | 6.5 | .08 | .4 | .2 | 1.1 | .4 | 5 | .0 | .8 | .0 | .1 | 13 | 2 | 0 | 10 | 6.6 |
| Nov. 11-12, 14, 16-20 | 140 | 6.4 | .06 | .4 | .2 | 1.3 | .4 | 4 | .4 | .5 | .0 | .1 | 12 | 2 | 0 | 11 | 6.2 |
| Nov. 21-27, 29-30... | 148 | 6.6 | .05 | 1.0 | .1 | 1.2 | .4 | 4 | .0 | .2 | .1 | .1 | 12 | 3 | 0 | 12 | 6.6 |
| Dec. 1-4, 6-8..... | 125 | 6.2 | .06 | .8 | .0 | 1.3 | .2 | 4 | .6 | 1.2 | .1 | .0 | 14 | 2 | 0 | 11 | 6.7 |
| Dec. 11-19..... | 270 | 5.7 | .12 | 1.0 | .1 | 1.4 | .4 | 3 | .7 | 2.0 | .1 | .0 | 15 | 3 | 0 | 14 | 6.1 |
| Dec. 21-23, 25-26... | 158 | 6.1 | .05 | 1.2 | .2 | 1.4 | .4 | 6 | .4 | 1.0 | .1 | .0 | 16 | 4 | 0 | 14 | 6.8 |
| Jan. 8-11, 13-15, 1962 | 202 | 5.8 | .07 | 1.4 | .0 | 1.4 | .1 | 4 | .0 | 1.8 | .1 | .2 | 15 | 4 | 0 | 13 | 6.4 |
| Jan. 4, 12, 16-17, 26 | 160 | 5.5 | .01 | 3.2 | .2 | 1.4 | .1 | 11 | .4 | 1.8 | .1 | .1 | 19 | 9 | 0 | 22 | 6.5 |
| Jan. 11, 13-15, 18-20 | 175 | 5.6 | .04 | .4 | .5 | 1.3 | .1 | 5 | .0 | 1.5 | .1 | .1 | 16 | 3 | 0 | 12 | 6.6 |
| Jan. 21-25, 27-31... | 178 | 6.0 | .09 | .4 | .2 | 1.2 | .1 | 4 | .0 | 1.5 | .7 | .3 | 18 | 2 | 0 | 10 | 6.2 |
| Feb. 1, 5..... | 154 | -- | -- | -- | -- | 1.9 | .0 | 8 | -- | -- | -- | -- | 4 | 0 | 0 | 19 | 6.9 |
| Feb. 2, 4, 6-10..... | 151 | 5.5 | .04 | .4 | .7 | 1.3 | .2 | 4 | .4 | 2.0 | .1 | .1 | 21 | 4 | 0 | 10 | 6.4 |
| Feb. 11-20..... | 176 | 5.6 | .05 | .0 | .5 | 1.3 | .3 | 4 | .4 | 2.5 | .1 | .5 | 23 | 2 | 0 | 10 | 6.5 |
| Feb. 21-28..... | 179 | 5.4 | .07 | .4 | .2 | 1.6 | .2 | 4 | .4 | 3.0 | .1 | .2 | 22 | 2 | 0 | 11 | 6.6 |

| | | | | | | | | | | | | | | | | | | |
|-------------------------------|-----|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|----|----|-----|----|
| Mar. 1-10, 1962..... | 180 | 6.0 | .40 | .7 | .4 | 1.5 | .2 | 6 | .8 | 2.0 | .0 | .0 | a15 | 3 | 0 | 17 | 6.5 | 20 |
| Mar. 11, 13-20..... | 205 | 6.5 | .50 | .4 | 1.0 | 1.4 | .2 | 4 | .2 | 2.4 | .0 | .0 | a15 | 5 | 2 | 14 | 6.5 | 20 |
| Mar. 12..... | 415 | -- | -- | -- | -- | .9 | .0 | 12 | -- | -- | -- | -- | -- | 12 | 2 | 29 | 7.1 | -- |
| Mar. 21-28, 31..... | 182 | 5.5 | .06 | .4 | 1.0 | 1.3 | .2 | 17 | 1.2 | 2.0 | .0 | .0 | a15 | 5 | 0 | 15 | 6.7 | 20 |
| Mar. 29-30..... | 166 | -- | -- | -- | -- | 1.4 | .0 | 14 | -- | -- | -- | -- | -- | 12 | 0 | 34 | 7.2 | -- |
| Apr. 1-10..... | 237 | 4.6 | .01 | .8 | .1 | 1.2 | .3 | 4 | .8 | 1.0 | .0 | .1 | 23 | 2 | 0 | 13 | 6.1 | 15 |
| Apr. 11-20..... | 215 | 4.8 | .02 | .8 | .2 | 1.2 | .3 | 3 | .4 | 1.5 | .0 | .1 | 26 | 3 | 0 | 12 | 6.1 | 15 |
| Apr. 21-30..... | 174 | 4.8 | .04 | 1.8 | .1 | 1.2 | .3 | 6 | .4 | 1.5 | .0 | .1 | 29 | 3 | 0 | 17 | 6.7 | 13 |
| May 1-10..... | 183 | 4.7 | .05 | 1.0 | .1 | 1.1 | .7 | 5 | .0 | 1.5 | .2 | .0 | 21 | 2 | 0 | 13 | 6.4 | 18 |
| May 11-20..... | 140 | 5.2 | .06 | .5 | .1 | 1.9 | .0 | 1 | .0 | 1.2 | .1 | .1 | 21 | 2 | 0 | 13 | 6.2 | 13 |
| May 21-31..... | 186 | 5.1 | .06 | .8 | .1 | 1.3 | .7 | 5 | .4 | 1.2 | .0 | .1 | 21 | 2 | 0 | 13 | 6.2 | 13 |
| June 1-10..... | 159 | 5.3 | .06 | .8 | .1 | 1.2 | .3 | 4 | .4 | 1.5 | .0 | .3 | 22 | 2 | 0 | 11 | 6.1 | 15 |
| June 11-20..... | 166 | 5.7 | .01 | .6 | .1 | 1.2 | .3 | 3 | .4 | 1.0 | .0 | .2 | 23 | 2 | 0 | 10 | 5.9 | 7 |
| June 21-30..... | 146 | 5.8 | .08 | .6 | .1 | 1.2 | .3 | 3 | .4 | 1.5 | .0 | .2 | 22 | 2 | 0 | 10 | 6.0 | 15 |
| July 1-7, 9-10..... | 154 | 6.2 | .11 | .8 | .1 | 1.1 | .0 | 4 | .0 | 1.0 | .6 | .1 | 24 | 2 | 0 | 16 | 6.4 | 15 |
| July 12-13, 15-16..... | 154 | 6.2 | .07 | 2.0 | .1 | 1.1 | .0 | 6 | .0 | 1.5 | .2 | .2 | 18 | 6 | 0 | 19 | 6.6 | 17 |
| July 17-18, 20-23, 25-31..... | 153 | 6.9 | .11 | .8 | .1 | .9 | .0 | 4 | .4 | .5 | .1 | .1 | 18 | 2 | 0 | 12 | 6.3 | 18 |
| Aug. 1-10..... | 139 | 5.6 | .03 | .4 | .2 | .7 | .0 | 3 | .4 | 1.0 | .0 | .1 | a10 | 2 | 0 | 12 | 6.2 | 10 |
| Aug. 11-20..... | 144 | 5.8 | .04 | .4 | .4 | .7 | .1 | 3 | .0 | 1.0 | .0 | .1 | a10 | 2 | 0 | 12 | 6.2 | 10 |
| Aug. 21-28, 30-31..... | 143 | 5.6 | .04 | .4 | .5 | .7 | .1 | 4 | .0 | .8 | .0 | .1 | a10 | 3 | 0 | 13 | 6.4 | 13 |
| Aug. 29..... | 136 | -- | -- | -- | -- | -- | -- | 22 | -- | -- | -- | -- | -- | -- | -- | 40 | 7.5 | -- |
| Sept. 1-10..... | 140 | 6.1 | .03 | .6 | .1 | 1.3 | .3 | 4 | .0 | 1.5 | .2 | .1 | 12 | 2 | 0 | 12 | 7.4 | 5 |
| Sept. 11-20..... | 142 | 5.8 | .04 | .6 | .1 | 1.1 | .3 | 4 | .0 | 1.5 | .1 | .1 | 14 | 2 | 0 | 11 | 6.5 | 10 |
| Sept. 21-30..... | 144 | 6.2 | .03 | .8 | .0 | 1.1 | .4 | 3 | .0 | 1.5 | .1 | .1 | 14 | 2 | 0 | 11 | 6.3 | 10 |
| Time-weighted average..... | 162 | 5.8 | 0.07 | 0.7 | 0.2 | 1.2 | 0.3 | 5 | 0.3 | 1.4 | 0.1 | 0.1 | 18 | 3 | 0 | 13 | -- | 13 |

a Calculated from determined constituents.

APALACHICOLA RIVER BASIN--Continued
2-3490. WHITEWATER CREEK, BELOW RAMBULETTE CREEK, NEAR BUTLER, GA.--Continued

| Temperature °F of water, water year October 1961 to September 1962 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Aver- age |
|--------------------------------------------------------------------|----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------|
| 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 | | |
| October | 66 | 66 | 66 | 62 | 64 | 59 | 58 | 59 | 59 | 61 | 61 | 62 | 62 | 61 | 65 | 60 | 56 | 58 | 59 | 57 | 62 | 58 | 59 | 58 | 60 | 59 | 56 | 55 | 60 | 63 | 63 | 60 | |
| November .. | 64 | 64 | 64 | 66 | 64 | 67 | 60 | 58 | 54 | 52 | 56 | 60 | 61 | 64 | 65 | 65 | 61 | 58 | 59 | 55 | 50 | 50 | 60 | 55 | 53 | 49 | 60 | 59 | 50 | 46 | -- | 58 | |
| December .. | 48 | 51 | 58 | 52 | -- | 64 | 58 | 51 | 53 | 70 | 70 | 70 | 59 | 50 | 52 | 55 | 52 | 64 | 55 | 52 | 49 | 46 | 59 | 47 | 48 | 47 | -- | 46 | 45 | 42 | 45 | 54 | |
| January | 50 | 46 | 44 | 49 | 50 | 64 | 50 | 49 | 46 | 45 | 41 | 40 | 34 | 45 | 56 | 46 | -- | 50 | 52 | 45 | 48 | 50 | 55 | 59 | 59 | 63 | 61 | 59 | 50 | 52 | 52 | 50 | |
| February | 50 | 53 | 52 | 53 | 64 | 53 | 46 | 49 | 59 | 57 | 49 | 52 | 56 | 65 | 56 | 62 | 53 | 58 | 63 | 55 | 58 | 60 | 63 | 62 | 60 | 54 | 59 | 65 | -- | -- | -- | 57 | |
| March | 60 | 50 | 58 | 50 | 52 | 47 | 50 | 50 | 55 | 55 | 57 | 62 | 60 | 53 | 54 | 54 | 52 | 52 | 56 | 61 | 58 | 59 | 58 | 61 | 58 | 56 | 56 | 57 | 60 | 67 | 56 | 56 | |
| April | 60 | 54 | 53 | 54 | 57 | 60 | 62 | 62 | 63 | 62 | 66 | 64 | 59 | 55 | 50 | 55 | 55 | 56 | 64 | 60 | 59 | 57 | 65 | 64 | 65 | 66 | 60 | 65 | 65 | 66 | -- | 60 | |
| May | 73 | 68 | 64 | 70 | 60 | 63 | 65 | 67 | 68 | 67 | 68 | 69 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 71 | 70 | 72 | 72 | 72 | 68 | 75 | 71 | 72 | 69 | 71 | |
| June | 69 | 71 | 69 | 66 | 71 | 70 | 73 | 70 | 73 | 72 | 73 | 71 | 72 | 71 | 69 | 70 | 71 | 72 | 70 | 74 | 70 | 72 | 71 | 72 | 71 | 70 | 71 | 69 | 68 | 69 | -- | 71 | |
| July | 69 | 70 | 70 | 70 | 72 | 72 | 72 | 71 | 72 | 71 | 72 | 74 | 73 | 74 | 73 | 74 | 73 | 84 | 75 | 74 | 73 | 73 | 75 | 74 | 75 | 72 | 73 | 74 | 71 | 72 | 73 | 73 | |
| August | 73 | 74 | 72 | 70 | 73 | 74 | 73 | 72 | 70 | 71 | 72 | 71 | 69 | 72 | 72 | 73 | 73 | 72 | 74 | 73 | 71 | 71 | 71 | 71 | 70 | 71 | 70 | 71 | 71 | 72 | 69 | 72 | |
| September ... | 69 | 70 | 70 | 72 | 73 | 73 | 70 | 67 | 70 | 71 | 71 | 72 | 71 | 70 | 73 | 72 | 77 | 71 | 69 | 68 | 66 | 64 | 67 | 62 | 66 | 70 | 68 | 65 | 66 | 62 | -- | 69 | |

APALACHICOLA RIVER BASIN--Continued

2-3525. FLINT RIVER AT ALBANY, GA.

LOCATION.--At gaging station 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.

Sediment records: October 1961 to September 1962.

EXTREMES, 1961-62.--Sediment concentrations: Maximum daily, 84 ppm Mar. 2; minimum daily, 3 ppm Aug. 21-23, Sept. 25-30.

Sediment loads: Maximum daily, 4,630 tons Mar. 2; minimum daily, 6.8 tons Sept. 25.

REMARKS.--Flow regulated by powerplant at Flint River Reservoir since 1921 (capacity 7,500 acre-feet), and at Warwick Reservoir since 1930 (capacity about 35,000 acre-feet).

Suspended sediment, water year October 1961 to September 1962

Where no concentrations are reported, loads are estimated.

| 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.. | 3520 | 19 | 181 | 670 | 13 | 24 | 2440 | | 40 |
| 2.. | 2580 | 19 | 132 | 2320 | 12 | 75 | 2350 | | 38 |
| 3.. | 714 | 19 | 37 | 1870 | 11 | 56 | 3530 | | 57 |
| 4.. | 664 | 19 | 34 | 676 | 10 | 18 | 2950 | | 48 |
| 5.. | 668 | 19 | 34 | 2510 | 9 | 61 | 1510 | | 24 |
| 6.. | 660 | 19 | 34 | 2130 | 9 | 52 | 1470 | | 24 |
| 7.. | 663 | 19 | 34 | 692 | 9 | 17 | 1840 | | 30 |
| 8.. | 2690 | 19 | 138 | 1160 | 9 | 28 | 1820 | | 29 |
| 9.. | 2040 | 19 | 105 | 1160 | 9 | 28 | 2590 | | 42 |
| 10.. | 788 | 19 | 40 | 1830 | 9 | 44 | 3700 | | 60 |
| 11.. | 653 | 19 | 33 | 1910 | 8 | 41 | 3520 | | 57 |
| 12.. | 675 | 19 | 35 | 3420 | 8 | 74 | 3320 | | 54 |
| 13.. | 1520 | 19 | 78 | 1950 | 8 | 42 | 4840 | | 78 |
| 14.. | 1860 | 18 | 90 | 680 | 8 | 15 | 6210 | | 151 |
| 15.. | 3230 | 18 | 157 | 680 | 8 | 15 | 11000 | | 416 |
| 16.. | 1950 | 17 | 90 | 621 | 8 | 13 | 14400 | | 739 |
| 17.. | 679 | 17 | 31 | 1850 | 8 | 40 | 14200 | | 767 |
| 18.. | 654 | 17 | 30 | 2850 | 8 | 62 | 13800 | | 745 |
| 19.. | 633 | 16 | 27 | 3560 | 7 | 67 | 16000 | | 864 |
| 20.. | 635 | 15 | 26 | 2180 | 7 | 41 | 19100 | | 1030 |
| 21.. | 1680 | 15 | 68 | 825 | 7 | 16 | 14500 | | 548 |
| 22.. | 3160 | 14 | 119 | 703 | 7 | 13 | 15500 | | 460 |
| 23.. | 1780 | 14 | 67 | 2720 | -- | 51 | 14700 | | 437 |
| 24.. | 764 | 14 | 29 | 2970 | -- | 56 | 13500 | | 401 |
| 25.. | 615 | 14 | 23 | 2460 | -- | 46 | 10900 | | 324 |
| 26.. | 720 | 14 | 27 | 3770 | -- | 61 | 7980 | | 237 |
| 27.. | 1640 | 14 | 62 | 3370 | -- | 55 | 6510 | | 193 |
| 28.. | 1750 | 14 | 66 | 1140 | -- | 18 | 5330 | | 158 |
| 29.. | 2940 | 13 | 103 | 3280 | -- | 53 | 5640 | | 168 |
| 30.. | 1890 | 13 | 66 | 3190 | -- | 52 | 3970 | | 118 |
| 31.. | 699 | 13 | 25 | -- | -- | -- | 4110 | | 122 |
| Total | 45114 | -- | 2021 | 59147 | -- | 1234 | 23323 | | 8459 |

APALACHICOLA RIVER BASIN--Continued

2-3525. FLINT RIVER AT ALBANY, GA.--Continued

Suspended sediment, water year October 1961 to September 1962--Continued
Where no concentrations are reported, loads are estimated⁷

| 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.. | 5140 | 70 | 971 | 10400 | 18 | 505 | 22400 | 48 | 2900 |
| 2.. | 4940 | 25 | 333 | 8570 | 17 | 393 | 20400 | 84 | 4630 |
| 3.. | 3380 | 12 | 110 | 9880 | 17 | 453 | 19600 | 18 | 953 |
| 4.. | 4000 | 13 | 140 | 6400 | 16 | 276 | 16600 | 17 | 762 |
| 5.. | 5450 | 13 | 191 | 6600 | 15 | 267 | 14700 | 17 | 675 |
| 6.. | 6800 | 14 | 257 | 6050 | 15 | 245 | 9540 | -- | 438 |
| 7.. | 11900 | 18 | 578 | 5880 | 15 | 238 | 13400 | -- | 615 |
| 8.. | 15500 | 36 | 1510 | 5490 | 14 | 208 | 11400 | -- | 523 |
| 9.. | 17600 | 31 | 1720 | 4700 | 13 | 165 | 9040 | -- | 415 |
| 10.. | 15400 | 32 | 1330 | 4470 | 13 | 157 | 7150 | -- | 326 |
| 11.. | 15900 | 32 | 1370 | 4640 | 13 | 163 | 8930 | -- | 410 |
| 12.. | 15100 | 24 | 978 | 4400 | 12 | 143 | 6850 | -- | 314 |
| 13.. | 15100 | 30 | 1220 | 4310 | 12 | 140 | 12700 | -- | 582 |
| 14.. | 7050 | 46 | 876 | 4590 | 12 | 149 | 13400 | -- | 615 |
| 15.. | 7480 | 31 | 626 | 4570 | 11 | 136 | 18800 | -- | 2030 |
| 16.. | 6440 | 21 | 366 | 4700 | 11 | 140 | 23400 | -- | 3790 |
| 17.. | 5900 | 16 | 255 | 4670 | 14 | 177 | 28400 | -- | 4600 |
| 18.. | 5890 | 15 | 239 | 4470 | 20 | 241 | 27500 | -- | 3710 |
| 19.. | 5560 | 15 | 225 | 9880 | 25 | 667 | 19300 | -- | 2500 |
| 20.. | 5560 | 15 | 225 | 12300 | 28 | 930 | 13300 | -- | 1620 |
| 21.. | 6060 | 15 | 245 | 8790 | 25 | 593 | 13100 | -- | 1060 |
| 22.. | 7130 | 15 | 289 | 10500 | 21 | 595 | 9920 | -- | 804 |
| 23.. | 10800 | 14 | 408 | 14200 | 17 | 652 | 5760 | -- | 467 |
| 24.. | 10300 | 13 | 362 | 11800 | 15 | 678 | 7810 | -- | 633 |
| 25.. | 12100 | 11 | 346 | 13700 | 14 | 518 | 8530 | -- | 691 |
| 26.. | 12800 | 11 | 380 | 15700 | 15 | 636 | 6120 | -- | 496 |
| 27.. | 9930 | 11 | 295 | 21100 | 20 | 1140 | 8890 | -- | 720 |
| 28.. | 13400 | 11 | 398 | 22900 | 32 | 1980 | 9000 | -- | 729 |
| 29.. | 13500 | 15 | 425 | -- | -- | -- | 10000 | -- | 810 |
| 30.. | 5940 | 20 | 321 | -- | -- | -- | 11000 | -- | 891 |
| 31.. | 7600 | 19 | 390 | -- | -- | -- | 14000 | -- | 1130 |
| Total | 286670 | -- | 17129 | 245660 | -- | 12185 | 420940 | -- | 40841 |
| 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.. | 17000 | -- | 1380 | 7340 | 29 | 575 | 1190 | 14 B | 45 |
| 2.. | 16000 | -- | 1300 | 6610 | 29 | 518 | 3330 | 14 B | 126 |
| 3.. | 17000 | -- | 1380 | 7420 | 28 | 561 | 4080 | 14 B | 154 |
| 4.. | 20000 | -- | 1620 | 5470 | 26 | 384 | 2950 | 14 B | 112 |
| 5.. | 22000 | -- | 1780 | 5940 | 25 | 401 | 1560 | 14 B | 59 |
| 6.. | 23000 | -- | 1860 | 4100 | 24 | 266 | 3960 | 14 B | 150 |
| 7.. | 23000 | -- | 1860 | 4810 | 22 | 286 | 3900 | 14 B | 147 |
| 8.. | 22000 | -- | 1780 | 4990 | 21 | 283 | 2820 | 14 B | 107 |
| 9.. | 20000 | -- | 1620 | 4980 | 21 | 282 | 3320 | 14 B | 88 |
| 10.. | 19000 | -- | 1540 | 5010 | 21 | 284 | 3200 | 12 B | 104 |
| 11.. | 19800 | -- | 1600 | 5120 | 20 | 276 | 3460 | 12 B | 112 |
| 12.. | 18100 | 29 A | 1430 | 2920 | 19 | 150 | 2510 | 12 B | 81 |
| 13.. | 19700 | 29 A | 1540 | 4070 | 18 | 198 | 4390 | 10 B | 119 |
| 14.. | 21500 | 30 A | 1740 | 3980 | 18 | 193 | 4520 | 10 B | 122 |
| 15.. | 19100 | 30 A | 1550 | 2610 | 18 | 127 | 3490 | 10 B | 94 |
| 16.. | 20100 | 35 A | 1900 | 1730 | 17 | 79 | 4930 | 10 B | 133 |
| 17.. | 22900 | 55 A | 3400 | 1850 | 17 | 85 | 4680 | 8 B | 101 |
| 18.. | 25500 | 56 A | 3860 | 2350 | 17 | 108 | 3920 | 8 B | 85 |
| 19.. | 19800 | 40 A | 2140 | 3710 | 17 B | 170 | 2800 | 8 B | 60 |
| 20.. | 15900 | 32 A | 1370 | 4330 | 17 B | 199 | 2180 | 8 B | 47 |
| 21.. | 13600 | 31 A | 1140 | 3960 | 17 B | 182 | 2280 | 6 B | 37 |
| 22.. | 6450 | 31 A | 540 | 2510 | 17 B | 115 | 2590 | 6 B | 42 |
| 23.. | 8360 | 31 A | 700 | 2300 | 17 B | 106 | 3580 | 6 B | 58 |
| 24.. | 5670 | 30 A | 459 | 1720 | 16 A | 74 | 4510 | 6 B | 73 |
| 25.. | 7830 | 30 A | 634 | 2790 | 16 B | 121 | 4050 | 6 B | 66 |
| 26.. | 5920 | 30 A | 480 | 3090 | 16 B | 133 | 2870 | 6 B | 46 |
| 27.. | 7400 | 29 | 579 | 2840 | 15 B | 115 | 3780 | 5 B | 51 |
| 28.. | 6580 | 29 | 515 | 3690 | 15 B | 149 | 3010 | 5 B | 41 |
| 29.. | 6050 | 29 | 474 | 1540 | 15 B | 62 | 1670 | 5 B | 23 |
| 30.. | 8000 | 29 | 626 | 792 | 15 B | 32 | 2530 | 5 B | 34 |
| 31.. | -- | -- | -- | 806 | 14 B | 30 | -- | -- | -- |
| Total | 477460 | -- | 42797 | 115378 | -- | 6544 | 97060 | -- | 2517 |

S Computed by subdividing day.

A Computed from partly estimated-concentration graph.

B Computed from estimated-concentration graph.

APALACHICOLA RIVER BASIN--Continued

2-3525. FLINT RIVER AT ALBANY, GA.--Continued

Suspended sediment, water year October 1961 to September 1962--Continued

Where no concentrations are reported, loads are estimated⁷

| 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.. | 4320 | 5.8 | 58 | 3340 | 5 | 45 | 2090 | 6 | 34 |
| 2.. | 5460 | 5.8 | 74 | 2670 | 5 | 36 | 3000 | 7 | 57 |
| 3.. | 5180 | 5.8 | 70 | 2900 | 5 | 39 | 3550 | 7 | 67 |
| 4.. | 4490 | 5.8 | 61 | 2630 | 5 | 36 | 886 | 7 | 17 |
| 5.. | 4050 | 5.8 | 55 | 3780 | 5 | 51 | 1250 | 7 | 24 |
| 6.. | 3030 | 5.8 | 41 | 4060 | 5 | 55 | 1320 | 6 | 21 |
| 7.. | 2820 | 5.8 | 38 | 1630 | 5 | 22 | 1410 | 6 | 23 |
| 8.. | 4390 | 5.8 | 59 | 1270 | 5 | 17 | 1650 | 5 | 22 |
| 9.. | 3870 | 5.8 | 52 | 1240 | 5 | 17 | 2610 | 5 | 35 |
| 10.. | 2700 | 5.8 | 36 | 1440 | 5 | 19 | 3380 | 5 | 46 |
| 11.. | 2670 | 5.8 | 36 | 1530 | 5 | 21 | 1970 | 5 | 27 |
| 12.. | 2690 | 5.8 | 36 | 1810 | 5 | 24 | 2220 | 5 | 30 |
| 13.. | 2640 | 5.8 | 36 | 2910 | 4 | 31 | 1570 | 5 | 21 |
| 14.. | 2450 | 5.8 | 33 | 1340 | 4 | 14 | 1710 | 5 | 23 |
| 15.. | 2400 | 5.8 | 32 | 1050 | 4 | 11 | 1490 | 5 | 20 |
| 16.. | 2000 | 5.8 | 27 | 1100 | 4 | 12 | 918 | 5 | 12 |
| 17.. | 2740 | 5 | 37 | 2610 | 4 | 28 | 933 | 5 | 13 |
| 18.. | 2760 | 6 | 45 | 3270 | 4 | 35 | 2450 | 5 | 33 |
| 19.. | 2880 | 6 | 47 | 4580 | 4 | 49 | 1950 | 5 | 26 |
| 20.. | 2600 | 6 | 42 | 3340 | 4 | 36 | 2140 | 5 | 29 |
| 21.. | 2200 | 6 | 36 | 1400 | 3 | 11 | 2380 | 4 | 26 |
| 22.. | 2450 | 6 | 40 | 1490 | 3 | 12 | 1450 | 4 | 16 |
| 23.. | 2270 | 6 | 37 | 1330 | 3 | 11 | 3460 | 4 | 37 |
| 24.. | 1220 | 7 | 23 | 1410 | 4 | 15 | 2850 | 4 | 31 |
| 25.. | 1450 | 7 | 27 | 1590 | 5 | 21 | 841 | 3 | 6.8 |
| 26.. | 1410 | 7 | 27 | 909 | 5 | 12 | 882 | 3 | 7.1 |
| 27.. | 1210 | 7 | 23 | 2530 | 5 | 34 | 1010 | 3 | 8.1 |
| 28.. | 2180 | 7 | 41 | 835 | 6 | 14 | 1750 | 3 | 14 |
| 29.. | 2650 | 7 | 50 | 1630 | 6 | 26 | 2600 | 3 | 21 |
| 30.. | 3360 | 7 | 64 | 1280 | 6 | 21 | 3760 | 3 | 30 |
| 31.. | 2100 | 6 | 34 | 1590 | 6 | 26 | -- | -- | -- |
| Total | 88640 | -- | 1317 | 64494 | -- | 801 | 59480 | -- | 777 |

Total discharge for year (cfs-days).....2193273

Total load for year (tons).....136622

B Computed from estimated-concentration graph.

APALACHICOLA RIVER BASIN--Continued
2-3525. FLINT RIVER AT ALBANY, GA.--Continued

Particle-size analyses of suspended sediment, water year October 1961 to September 1962
(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) | Samp- ling point (° F) | Water tem- per- ature (° F) | Discharge (cfs) | Sediment con- cen- tration (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 |
| Jan. 9, 1962..... | 0615 | | | 4,500 | 52 | | | 43 | 56 | 67 | 82 | 93 | | | | | BWC |
| Jan. 9..... | 1110 | | | 4,300 | 36 | | | 78 | 87 | 90 | 92 | 96 | | | | | BWC |
| Jan. 9..... | 1200 | | | 4,400 | 103 | | | 84 | 89 | 93 | 95 | 96 | | | | | BWC |

APALACHICOLA RIVER BASIN--Continued

2-3570. SPRING CREEK NEAR IRON CITY, GA.

LOCATION.--Conductance recorder at gaging station, 125 feet downstream from highway bridge, 1.5 miles downstream from Aycock Creek, 1.5 miles upstream from Dry Creek, 5 miles north of Brinson, and 5.5 miles northeast of Iron City, Seminole County.

DRAINAGE AREA.--485 square miles.

RECORDS AVAILABLE.--Chemical analyses: October 1959 to September 1961.

Specific conductance (continuous): October 1961 to August 1962.

Water temperature: October 1959 to September 1961.

EXTREMES, 1961-62.--Specific conductance: Maximum daily, 225 micromhos Oct. 14-25; minimum daily, 76 micromhos Feb. 23.

Chemical analyses, in parts per million, water year October 1961 to September 1962

| Date of collection | Mean discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Calcium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|--------------------|----------------------|----------------------------|-----------|--------------|--------------------------|-------------|-------------------------|--------------------------------------|----------------------------|---------------|-------------------|---------------------------------|-------------------------------------|-------------------------------|--------------------|----------------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbon- ate | | | |
| May 1, 1962..... | 486 | -- | -- | -- | -- | -- | -- | 101 | -- | -- | -- | -- | -- | 84 | 1 | 170 | 7.6 | -- |
| May 10..... | 299 | -- | -- | -- | -- | -- | -- | 116 | -- | -- | -- | -- | -- | 98 | 3 | 199 | 7.5 | 5 |
| June 7..... | 122 | -- | -- | -- | -- | -- | -- | 128 | -- | -- | -- | -- | -- | 102 | 0 | 206 | 7.3 | 5 |
| June 23..... | 184 | 6.4 | 0.01 | 36 | 0.5 | 3.6 | 0.5 | 110 | 0.8 | 3.0 | 0.1 | 0.3 | 106 | 92 | 2 | 206 | 7.6 | 8 |
| July 6..... | 127 | 6.3 | .01 | 39 | .6 | 2.4 | .2 | 124 | .0 | 2.0 | .0 | .8 | 113 | 100 | 0 | 206 | 7.3 | -- |
| July 20..... | 114 | 7.2 | .01 | 31 | .6 | 2.0 | .1 | 94 | 2.0 | 2.0 | .1 | .4 | 93 | 80 | 3 | 165 | 7.6 | 10 |
| Aug. 5..... | 101 | -- | -- | -- | -- | -- | -- | 119 | -- | -- | -- | -- | -- | -- | -- | 196 | 7.4 | -- |
| Aug. 28..... | 152 | 10 | .06 | 21 | .4 | 2.1 | .2 | 57 | 4.4 | 3.5 | .1 | .4 | 104 | 54 | 8 | 123 | 7.9 | 40 |
| Sept. 27..... | 75 | -- | -- | -- | -- | -- | -- | 110 | -- | -- | -- | -- | -- | -- | -- | 188 | 7.8 | -- |

QUALITY OF SURFACE WATERS, 1962

APALACHICOLA RIVER BASIN--Continued

2-3570. SPRING CREEK NEAR IRON CITY, GA.--Continued

Specific conductance, in micromhos, water year October 1961 to September 1962

| Day | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-----|------|------|------|------|------|------|------|-----|------|------|------|-------|
| 1 | -- | 215 | -- | 169 | 149 | 122 | 132 | 163 | 174 | 178 | 140 | -- |
| 2 | -- | 215 | -- | 168 | 150 | 125 | 124 | 165 | 183 | 178 | 135 | 173 |
| 3 | -- | 215 | -- | 169 | 150 | 125 | 110 | 166 | 177 | 178 | 150 | 173 |
| 4 | -- | 215 | 175 | 170 | 150 | 123 | 106 | 168 | 172 | 180 | 173 | 185 |
| 5 | -- | 215 | 175 | 166 | 148 | 122 | 105 | 170 | 174 | 182 | 182 | 190 |
| 6 | 210 | 215 | 175 | 163 | 146 | 121 | 108 | 175 | 182 | 194 | 189 | 188 |
| 7 | 210 | 215 | 177 | 155 | 149 | 116 | 115 | 178 | 200 | 198 | 190 | 168 |
| 8 | 210 | 215 | 178 | 152 | 155 | 112 | 120 | 180 | 205 | 195 | 190 | 174 |
| 9 | 210 | 215 | 180 | 152 | 162 | 118 | 114 | 180 | 205 | 169 | 216 | 180 |
| 10 | 210 | 215 | 180 | 146 | 162 | 122 | 105 | 182 | 194 | 165 | 212 | 191 |
| 11 | 210 | 215 | 179 | 108 | 160 | 128 | 106 | 180 | 170 | 165 | 196 | 195 |
| 12 | 210 | 215 | 179 | 87 | 160 | 130 | 108 | 180 | 160 | 180 | 150 | 197 |
| 13 | 218 | 215 | 176 | 83 | 160 | 132 | 110 | 180 | 160 | 190 | 157 | 195 |
| 14 | 225 | 215 | 165 | 85 | 160 | 135 | 114 | 178 | 165 | 195 | 167 | 195 |
| 15 | 225 | 215 | 144 | 94 | 163 | 137 | 112 | 178 | 165 | 195 | 175 | 189 |
| 16 | 225 | -- | 130 | 99 | 168 | 138 | 110 | 180 | 168 | 190 | 180 | 189 |
| 17 | 225 | -- | 127 | 105 | 168 | 138 | 110 | 182 | 178 | 190 | 185 | 196 |
| 18 | 225 | -- | 125 | 113 | 165 | 137 | 115 | 183 | 182 | 195 | 185 | 197 |
| 19 | 225 | -- | 125 | 118 | 162 | 135 | 123 | 183 | 187 | 198 | 177 | 190 |
| 20 | 225 | -- | 128 | 122 | 144 | 135 | 130 | 177 | 190 | 176 | 165 | 198 |
| 21 | 225 | -- | 135 | 125 | 116 | 136 | 135 | 172 | 190 | 165 | 165 | 199 |
| 22 | 225 | -- | 145 | 127 | 80 | 140 | 139 | 174 | 184 | 165 | 168 | 188 |
| 23 | 225 | -- | 152 | 132 | 76 | 142 | 142 | 182 | 180 | 165 | 175 | 184 |
| 24 | 225 | -- | 155 | 138 | 82 | 145 | 148 | 184 | 180 | 170 | 177 | 185 |
| 25 | 225 | -- | 158 | 142 | 90 | 148 | 151 | 189 | 175 | 175 | 180 | 188 |
| 26 | 218 | -- | 159 | 147 | 103 | 148 | 155 | 192 | 155 | 180 | 176 | 185 |
| 27 | 215 | -- | 162 | 149 | 115 | 148 | 160 | 190 | 162 | 182 | 159 | 188 |
| 28 | 215 | -- | 168 | 148 | 115 | 149 | 162 | 186 | 173 | 185 | 153 | 169 |
| 29 | 215 | -- | 170 | 145 | -- | 151 | 164 | 184 | 175 | 185 | -- | 99 |
| 30 | 215 | -- | 170 | 145 | -- | 152 | 164 | 184 | 178 | 180 | 124 | 103 |
| 31 | 215 | -- | 170 | 147 | -- | 152 | -- | 155 | -- | 180 | 147 | -- |

ECONFINA CREEK BASIN

2-3595, ECONFINA CREEK NEAR BENNETT, FLA.

LOCATION.--At gaging station on downstream side of bridge on State Highway 388, 0.5 mile downstream from Old Mill Branch, and 1.6 miles southwest of Bennett, Bay County.

DRAINAGE AREA.--182 square miles.

RECORDS AVAILABLE.--Chemical analyses: April to September 1962.

Water temperatures: January to September 1962.

EXTREMES, April to September 1962.--Dissolved solids: Maximum, 66 ppm Apr. 12-25, 27-30; minimum 50 ppm Sept. 11-19.

Hardness: Maximum, 50 ppm May 24-31; minimum, 41 ppm Sept. 11-19.

Specific conductance: Maximum 500 micromhos/cm May 24-31; minimum 72 micromhos/cm Sept. 15.

Water samples collected May 24-31, 1962; 77°F July 10-11.

REMARKS.--Miscellaneous samples collected Nov 15, 1961; Feb. 5, 1962. Daily sampling station established Apr. 12, 1962. Records of specific conductance of daily samples available in district office at Ocala, Fla.

Chemical analyses, in parts per million, April to September 1962

| 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 (micro-mhos at 25°C) | pH | Color |
|-----------------------------|----------------------|----------------------------|-----------|--------------|----------------|-------------|---------------|---------------------------------|----------------------------|---------------|--------------|----------------------------|-------------------------------------|-------------------------------|---------------|-------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-magnesium | | | |
| Nov. 15, 1961..... | 430 | 5.5 | 0.00 | 15 | 1.8 | 1.6 | 0.2 | 55 | 2.0 | 2.0 | 0.0 | 0.1 | a55 | 45 | 0 | 96 | 7.5 | 2 |
| Feb. 5, 1962..... | 418 | 5.0 | 0.00 | 17 | 1.7 | 1.6 | .2 | 53 | .4 | 2.8 | .1 | .3 | 59 | 44 | 1 | 94 | 7.4 | 5 |
| Apr. 12-20..... | 483 | 5.0 | .01 | 17 | 1.2 | 2.1 | .4 | 53 | 2.0 | 2.5 | .2 | .5 | 66 | 44 | 0 | 102 | 7.5 | 10 |
| Apr. 21-25, 27-30..... | 463 | 4.7 | 0.00 | 16 | 1.1 | 2.5 | .5 | 52 | 2.0 | 2.5 | .0 | .4 | 66 | 44 | 2 | 100 | 7.5 | 10 |
| May 1-8..... | 426 | 4.9 | 0.00 | 16 | 1.9 | 1.7 | .2 | 52 | 2.0 | 2.0 | .1 | .0 | a55 | 46 | 6 | 101 | 7.3 | 5 |
| May 9-11, 13-14, 21-23..... | 388 | 4.7 | .00 | 17 | 7.3 | 2.8 | .1 | 56 | 1.2 | 3.0 | .1 | .0 | a58 | 48 | 2 | 105 | 7.1 | 5 |
| May 24-31..... | 369 | 4.5 | .00 | 17 | 1.8 | 1.3 | .1 | 58 | 1.2 | 2.0 | .1 | .0 | a57 | 50 | 2 | 103 | 7.3 | 5 |
| June 1-10..... | 398 | 6.9 | .01 | 15 | 2.2 | 2.1 | .2 | 54 | 1.2 | 3.5 | .2 | .2 | 59 | 46 | 2 | 102 | 7.4 | 8 |
| June 11-20..... | 418 | 5.5 | .02 | 15 | 1.6 | 1.5 | .2 | 52 | 1.6 | 2.5 | .1 | .2 | 56 | 44 | 2 | 95 | 7.5 | 9 |
| June 21-23, 25, 30..... | 410 | 5.7 | .01 | 15 | 1.6 | 1.5 | .1 | 52 | .8 | 1.5 | .3 | .2 | 55 | 44 | 2 | 94 | 7.5 | 14 |
| July 1-10..... | 402 | 5.0 | -- | 15 | 1.6 | 1.8 | .1 | 51 | .8 | 1.5 | .1 | .0 | 53 | 44 | 2 | 98 | 7.5 | 10 |
| July 11-20..... | 389 | 5.1 | -- | 15 | 1.8 | 1.9 | .1 | 52 | 2.0 | 1.8 | .2 | .1 | 55 | 45 | 2 | 97 | 7.6 | 5 |
| July 21-31..... | 428 | 4.9 | -- | 16 | 1.0 | 2.0 | .1 | 52 | 1.6 | 1.8 | .1 | .1 | 54 | 44 | 2 | 95 | 7.4 | 7 |
| Aug. 1-10..... | 421 | 5.0 | -- | 16 | 1.2 | 2.0 | .1 | 52 | 1.6 | 1.8 | .1 | .1 | 54 | 45 | 2 | 97 | 7.7 | 10 |
| Aug. 11-20..... | 395 | 4.8 | -- | 16 | 1.7 | 2.0 | .1 | 55 | 1.6 | 2.0 | .1 | .0 | 56 | 47 | 2 | 100 | 7.4 | 8 |
| Aug. 24..... | 630 | -- | -- | -- | -- | -- | -- | 31 | -- | 2.0 | -- | -- | -- | -- | -- | 64 | 7.4 | -- |
| Aug. 21-23, 25-31..... | 442 | 5.2 | -- | 16 | 1.0 | 2.3 | .1 | 53 | .4 | 1.8 | .1 | .1 | 55 | 44 | 0 | 96 | 7.6 | 10 |
| Sept. 1-7, 9-10..... | 423 | 4.8 | .01 | 15 | 2.1 | 1.4 | .2 | 55 | 1.2 | 2.0 | .1 | .0 | 64 | 46 | 1 | 95 | 7.9 | 5 |
| Sept. 8..... | 592 | -- | -- | -- | -- | -- | -- | 68 | -- | 1.0 | -- | -- | -- | -- | -- | 120 | 8.0 | -- |
| Sept. 11..... | 543 | -- | -- | 14 | 1.5 | 1.9 | .1 | 48 | .4 | 3.0 | .1 | .0 | a50 | 41 | 2 | 87 | 7.2 | 20 |
| Sept. 20..... | 618 | 5.1 | .02 | 14 | 1.5 | 1.9 | .1 | 37 | -- | 1.0 | -- | -- | -- | -- | -- | 71 | 7.5 | -- |
| Sept. 21-30..... | 463 | 5.0 | .01 | 14 | 2.2 | 2.1 | .1 | 51 | .8 | 2.5 | .2 | .2 | 58 | 44 | 2 | 92 | 7.7 | 15 |
| Time-weighted average..... | 450 | 5.1 | 0.01 | 15 | 1.8 | 1.9 | 0.2 | 53 | 1.3 | 2.2 | 0.1 | 0.1 | 57 | 45 | 2 | 97 | -- | 9 |

a Calculated from determined constituents.

BLACKWATER RIVER BASIN

2-3707.5. HURRICANE BRANCH NEAR MILTON, FLA.

LOCATION.--Temperature recorder at bridge, 0.6 mile upstream from Pond Creek and 7 miles northwest of Milton, Santa Rosa County.
DRAINAGE AREA.--3 square miles, approximately.
RECORDS AVAILABLE.--Water temperatures: March 1960 to January 1962.

Temperature °F of water, October 1961 to January 1962
Continuous ethyl alcohol-actuated thermograph

QUALITY OF SURFACE WATERS, 1962

MOBILE RIVER BASIN

2-3835. COOSAWATTEE RIVER AT PINE CHAPEL, GA.

LOCATION.--At gaging station at downstream edge of highway bridge at Pine Chapel, Gordon County, 4 miles downstream from Sallacoa Creek, 5 miles east of Resaca, and 6 miles upstream from confluence with Conasauga River.

DRAINAGE AREA.--856 square miles.

RECORDS AVAILABLE.--Sediment records: October 1960 to September 1962.

EXTREMES, 1961-62.--Sediment concentrations: Maximum daily, 468 ppm Dec. 12; minimum daily, 6 ppm Oct. 16-31, Nov. 1-16.

Sediment loads: Maximum daily, 15,100 tons Dec. 13; minimum daily, 5.6 tons Oct. 28.

EXTREMES, 1960-62.--Sediment concentrations: Maximum daily, 1,350 ppm Feb. 26, 1961; minimum daily, 6 ppm on many days in October, November 1962.

Sediment loads: Maximum daily, 60,500 tons Feb. 26, 1961; minimum daily, 5.6 tons Oct. 28, 1961.

Suspended sediment, water year October 1961 to September 1962

Where no concentrations are reported, loads are estimated⁷

| 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.. | 375 | 11 B | 11 | 384 | 6 B | 6.2 | 455 | 10 | 12 |
| 2.. | 372 | 11 B | 11 | 387 | 6 B | 6.3 | 438 | 10 | 12 |
| 3.. | 542 | 60 | 88 | 384 | 6 B | 6.2 | 438 | 10 | 12 |
| 4.. | 1090 | 95 B | 280 | 420 | 6 B | 6.8 | 438 | 10 | 12 |
| 5.. | 595 | 35 B | 56 | 525 | 6 B | 8.5 | 438 | 10 | 12 |
| 6.. | 508 | 15 B | 21 | 472 | 6 B | 7.4 | 508 | 15 | 21 |
| 7.. | 472 | 12 B | 15 | 525 | 6 B | 8.5 | 542 | 20 | 29 |
| 8.. | 455 | 12 B | 15 | 455 | 6 B | 7.4 | 508 | 20 | 27 |
| 9.. | 438 | 10 B | 12 | 405 | 6 B | 6.6 | 438 | 20 | 24 |
| 10.. | 438 | 10 B | 12 | 390 | 6 B | 6.3 | 2270 | 261 S | 2390 |
| 11.. | 420 | 10 B | 11 | 390 | 6 B | 6.3 | 4770 | 279 S | 3930 |
| 12.. | 405 | 10 B | 11 | 390 | 6 B | 6.3 | 12400 | 468 S | 14400 |
| 13.. | 405 | 10 B | 11 | 390 | 6 B | 6.3 | 24300 | 230 | 15100 |
| 14.. | 405 | 10 B | 11 | 390 | 6 B | 6.3 | 13400 | 70 | 2530 |
| 15.. | 390 | 10 B | 11 | 455 | 6 B | 7.4 | 6720 | 35 | 635 |
| 16.. | 390 | 6 B | 6.3 | 595 | 6 B | 9.6 | 3300 | 22 | 196 |
| 17.. | 390 | 6 B | 6.3 | 970 | -- | 65 | 4520 | 170 S | 3780 |
| 18.. | 390 | 6 B | 6.3 | 630 | -- | 34 | 700 | 215 | 6790 |
| 19.. | 390 | 6 B | 6.3 | 508 | -- | 21 | 16600 | 85 S | 4620 |
| 20.. | 390 | 6 B | 6.3 | 455 | -- | 15 | 300 | 40 | 1110 |
| 21.. | 405 | 6 B | 6.6 | 438 | -- | 12 | 5560 | 50 | 751 |
| 22.. | 405 | 6 B | 6.6 | 420 | -- | 11 | 3020 | 40 | 326 |
| 23.. | 390 | 6 B | 6.3 | 560 | -- | 45 | 2400 | 45 | 292 |
| 24.. | 384 | 6 B | 6.2 | 1570 | 85 | 360 | 2170 | 48 | 281 |
| 25.. | 372 | 6 B | 6.0 | 970 | 10 | 26 | 1820 | 38 | 187 |
| 26.. | 372 | 6 B | 6.0 | 682 | 10 | 18 | 1660 | 30 | 134 |
| 27.. | 372 | 6 B | 6.0 | 578 | 10 | 16 | 1450 | -- | 98 |
| 28.. | 360 | 6 B | 5.6 | 542 | 10 | 15 | 3300 | -- S | 859 |
| 29.. | 366 | 6 B | 5.9 | 490 | 10 | 13 | 2430 | -- | 210 |
| 30.. | 372 | 6 B | 6.0 | 472 | 10 | 13 | 1900 | -- | 154 |
| 31.. | 378 | 6 B | 6.1 | -- | -- | -- | 1720 | -- | 140 |
| Total | 13436 | -- | 676.8 | 16242 | -- | 776.4 | 141913 | -- | 59074 |

S Computed by subdividing day.

B Computed from estimated-concentration graph.

MOBILE RIVER BASIN--Continued

2-3835. COOSAWATTEE RIVER AT PINE CHAPEL, GA.--Continued

Suspended sediment, water year October 1961 to September 1962--Continued
(Where no concentrations are reported, loads are estimated)

| 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.. | 1920 | -- | 156 | 3330 | 20 | 180 | 3590 | 30 | 291 |
| 2.. | 2080 | -- | 168 | 3070 | 30 | 249 | 3040 | 50 | 410 |
| 3.. | 1780 | -- | 144 | 2650 | 35 | 250 | 2710 | 50 | 366 |
| 4.. | 1640 | -- | 133 | 2400 | 35 | 227 | 2500 | 50 | 338 |
| 5.. | 1540 | -- | 125 | 2280 | 35 | 215 | 2410 | 50 | 325 |
| 6.. | 2300 | -- | 497 | 2300 | 35 | 217 | 2250 | 48 | 292 |
| 7.. | 2820 | 60 | 458 | 2070 | 35 | 196 | 2130 | 45 | 259 |
| 8.. | 2140 | 25 | 144 | 1980 | 35 | 187 | 2040 | 40 | 220 |
| 9.. | 1840 | 20 | 99 | 2010 | 32 | 174 | 2410 | 40 | 260 |
| 10.. | 1640 | 20 | 89 | 1970 | 30 | 160 | 2790 | 50 | 377 |
| 11.. | 1460 | 20 | 79 | 1790 | 30 | 145 | 5470 | 212 S | 667 |
| 12.. | 1380 | 20 | 75 | 1720 | 30 | 139 | 7060 | 110 | 2100 |
| 13.. | 1310 | 20 | 71 | 1710 | 25 | 115 | 4470 | 50 | 603 |
| 14.. | 1310 | 25 | 88 | 1640 | 25 | 111 | 3070 | 50 | 414 |
| 15.. | 1470 | 45 | 179 | 1580 | 25 | 107 | 2660 | 50 | 359 |
| 16.. | 1720 | 45 | 209 | 1580 | 25 | 107 | 2440 | 50 | 329 |
| 17.. | 1460 | 20 | 79 | 1540 | 25 | 104 | 2250 | 50 | 304 |
| 18.. | 1450 | 20 | 73 | 1500 | 25 | 101 | 2110 | 45 | 256 |
| 19.. | 1610 | 20 | 87 | 1880 | 25 | 127 | 2030 | 43 | 236 |
| 20.. | 1880 | 20 | 101 | 1870 | 25 | 126 | 2030 | 40 | 219 |
| 21.. | 1600 | 20 | 86 | 1990 | 75 S | 798 | 2780 | 125 S | 1120 |
| 22.. | 1460 | 20 | 79 | 5570 | 259 S | 6840 | 2640 | 125 | 891 |
| 23.. | 2300 | 98 S | 686 | 7030 | 150 | 2850 | 2220 | 70 | 420 |
| 24.. | 1030 | 60 | 491 | 6310 | 334 S | 4800 | 2070 | 50 | 279 |
| 25.. | 4420 | 145 S | 632 | 6750 | 140 | 2550 | 2030 | 55 | 301 |
| 26.. | 8310 | 255 S | 6070 | 5740 | 60 | 930 | 3120 | 110 S | 773 |
| 27.. | 9850 | 89 | 2370 | 4320 | 40 | 467 | 2620 | 45 | 316 |
| 28.. | 10400 | 70 | 1970 | 3560 | 32 | 308 | 2250 | 35 | 213 |
| 29.. | 10700 | 60 | 1730 | -- | -- | -- | 2070 | 28 | 156 |
| 30.. | 8510 | 45 | 1030 | -- | -- | -- | 1980 | 30 | 160 |
| 31.. | 5480 | 30 | 444 | -- | -- | -- | 2950 | 85 S | 806 |
| Total | 100710 | -- | 18642 | 82140 | -- | 22654 | 86190 | -- | 14062 |
| 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.. | 5250 | 297 S | 3610 | 1960 | -- | 79 | 1130 | 60 B | 183 |
| 2.. | 3330 | 32 | 288 | 1880 | -- | 76 | 1110 | 35 B | 105 |
| 3.. | 2570 | 30 | 208 | 1820 | -- | 74 | 1090 | 30 B | 88 |
| 4.. | 2300 | 25 | 155 | 1750 | -- | 71 | 1090 | 30 B | 88 |
| 5.. | 2180 | 25 | 147 | 1720 | -- | 70 | 1120 | 40 B | 121 |
| 6.. | 2310 | 40 | 249 | 1690 | -- | 68 | 1210 | 38 B | 124 |
| 7.. | 3010 | 100 S | 869 | 1600 | -- | 65 | 1050 | 25 B | 71 |
| 8.. | 2760 | 35 | 261 | 1560 | -- | 63 | 1130 | 30 B | 92 |
| 9.. | 2440 | 30 | 198 | 1520 | -- | 62 | 990 | 20 B | 53 |
| 10.. | 2220 | 28 | 168 | 1480 | -- | 60 | 910 | 20 B | 49 |
| 11.. | 6080 | 356 S | 7210 | 1440 | -- | 58 | 870 | 20 B | 47 |
| 12.. | 11700 | 240 | 7580 | 1440 | -- | 58 | 1640 | 159 S | 852 |
| 13.. | 15600 | 70 | 2950 | 1370 | -- | 55 | 2330 | 200 | 1260 |
| 14.. | 10800 | 40 | 1170 | 1330 | -- | 54 | 1450 | 155 | 607 |
| 15.. | 7300 | 38 | 749 | 1300 | -- | 53 | 1130 | 105 | 320 |
| 16.. | 4580 | 40 | 495 | 1300 | -- | 53 | 990 | 95 | 253 |
| 17.. | 3520 | 45 | 475 | 1330 | -- | 54 | 930 | 80 | 400 |
| 18.. | 3080 | 45 | 374 | 1260 | -- | 51 | 870 | 70 | 164 |
| 19.. | 2870 | 35 | 271 | 1220 | -- | 49 | 830 | 70 | 157 |
| 20.. | 2680 | 30 | 217 | 1220 | -- | 49 | 850 | 70 | 161 |
| 21.. | 2500 | 25 | 169 | 1160 | -- | 47 | 950 | 70 | 180 |
| 22.. | 2380 | 20 | 129 | 1120 | -- | 45 | 830 | 70 | 157 |
| 23.. | 2340 | 20 | 126 | 1120 | -- | 45 | 810 | 78 | 171 |
| 24.. | 2430 | -- | 98 | 1090 | -- | 44 | 770 | 70 | 146 |
| 25.. | 2250 | -- | 91 | 1090 | -- | 44 | 735 | 60 | 119 |
| 26.. | 2330 | -- | 94 | 1120 | -- | 45 | 735 | 60 | 119 |
| 27.. | 2150 | -- | 87 | 1050 | -- | 43 | 1090 | 99 S | 441 |
| 28.. | 2080 | -- | 84 | 1010 | -- | 41 | 1310 | 132 A | 467 |
| 29.. | 2080 | -- | 84 | 970 | -- | 39 | 910 | 48 A | 118 |
| 30.. | 2050 | -- | 83 | 1490 | 134 S | 857 | 770 | 40 A | 83 |
| 31.. | -- | -- | -- | 1450 | 210 | 822 | -- | -- | -- |
| Total | 119170 | -- | 28689 | 42860 | -- | 31783 | 31630 | -- | 6996 |

S Computed by subdividing day.

A Computed from partly estimated-concentration graph.

B Computed from estimated-concentration graph.

MOBILE RIVER BASIN--Continued

22-

2-3835. COOSAWATTEE RIVER AT PINE CHAPEL, GA.--Continued

Suspended sediment, water year October 1961 to September 1962--Continued
(Where no concentrations are reported, loads are estimated)

| 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.. | 718 | 35 A | 68 | 648 | 30 B | 52 | 333 | 15 A | 13 |
| 2.. | 682 | 40 A | 74 | 578 | 22 B | 34 | 327 | 15 A | 13 |
| 3.. | 682 | 50 A | 92 | 595 | 36 B | 58 | 324 | 15 A | 13 |
| 4.. | 1090 | 115 S | 361 | 648 | 45 B | 79 | 336 | 15 A | 14 |
| 5.. | 1050 | 70 B | 198 | 578 | 28 B | 44 | 333 | 15 A | 13 |
| 6.. | 1220 | 126 S | 582 | 665 | 112 S | 497 | 363 | 20 A | 20 |
| 7.. | 1630 | 159 | 700 | 770 | 144 S | 269 | 821 | 173 S | 465 |
| 8.. | 1090 | 110 | 324 | 1210 | 20 | 119 | 1250 | 95 | 320 |
| 9.. | 1710 | 366 S | 1700 | 970 | 20 | 52 | 630 | 40 | 68 |
| 10.. | 1120 | 193 | 584 | 665 | 20 | 36 | 578 | 40 | 62 |
| 11.. | 907 | 85 | 208 | 578 | 20 | 31 | 542 | 40 | 59 |
| 12.. | 1050 | 341 S | 799 | 542 | 20 | 29 | 490 | 30 | 40 |
| 13.. | 1230 | 220 B | 731 | 525 | 20 | 28 | 420 | 30 | 34 |
| 14.. | 870 | 80 B | 188 | 612 | 55 | 91 | 455 | 30 | 37 |
| 15.. | 770 | 65 B | 135 | 560 | 40 | 60 | 472 | 30 | 38 |
| 16.. | 810 | 78 B | 171 | 525 | 30 | 43 | 438 | 30 | 35 |
| 17.. | 1050 | 130 S | 366 | 490 | 25 | 33 | 1410 | 196 S | 937 |
| 18.. | 752 | 70 | 142 | 472 | 20 | 25 | 958 | 40 A | 103 |
| 19.. | 700 | 65 | 123 | 438 | 20 | 24 | 560 | 32 A | 48 |
| 20.. | 648 | 60 | 105 | 420 | 20 | 23 | 455 | 32 A | 39 |
| 21.. | 630 | 55 | 94 | 405 | 25 | 27 | 420 | 32 A | 36 |
| 22.. | 612 | 42 | 69 | 682 | 125 S | 491 | 390 | 30 A | 32 |
| 23.. | 578 | 40 | 62 | 525 | 20 A | 28 | 390 | 30 A | 32 |
| 24.. | 790 | 128 S | 305 | 472 | 20 A | 25 | 381 | 30 A | 31 |
| 25.. | 1130 | 340 S | 1010 | 438 | 20 A | 24 | 366 | 25 A | 25 |
| 26.. | 890 | 100 B | 240 | 405 | 20 A | 22 | 375 | 20 | 20 |
| 27.. | 735 | 55 B | 109 | 405 | 20 A | 22 | 490 | 20 | 26 |
| 28.. | 648 | 45 B | 79 | 381 | 20 A | 21 | 508 | 20 | 27 |
| 29.. | 665 | 33 B | 59 | 366 | 15 A | 15 | 390 | 22 | 23 |
| 30.. | 682 | 30 B | 55 | 354 | 15 A | 14 | 381 | 42 | 43 |
| 31.. | 718 | 35 B | 68 | 339 | 15 | 14 | -- | -- | -- |
| Total | 27857 | -- | 9800 | 17261 | -- | 15586 | 15586 | -- | 2666 |
| Total discharge for year (cfs-days)..... | | | | | | | | | 694995 |
| Total load for year (tons)..... | | | | | | | | | 198147.2 |

S Computed by subdividing day.

A Computed from partly estimated-concentration graph.

B Computed from estimated-concentration graph.

MOBILE RIVER BASIN--Continued

2-3835. COOSAWATTEE RIVER AT PINE CHAPEL, GA.--Continued

Particle-size analyses of suspended sediment, water year October 1961 to September 1962
(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) | Sam- pling point | Water tem- per- ature (°F) | Discharge (cfs) | Sediment con- cen- tration (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. 13, 1961..... | 0715 | | 51 | 31,500 | 262 | | | 71 | 82 | 88 | 92 | 94 | | | | BWC | |
| Dec. 14..... | 0745 | | 48 | 19,800 | 88 | | | 83 | 88 | 92 | 95 | 97 | | | | BWC | |
| Dec. 16..... | 0850 | | 48 | 9,500 | 24 | | | 83 | 88 | 93 | 96 | 98 | | | | BWC | |
| Dec. 17..... | 0900 | | 50 | 7,690 | 98 | | | 72 | 81 | 89 | 95 | 99 | | | | BWC | |
| Dec. 18..... | 0730 | | 50 | 11,500 | 264 | | | 41 | 52 | 60 | 71 | 81 | | | | BWC | |
| Dec. 18..... | 1600 | | 54 | 13,300 | 150 | | | 55 | 64 | 75 | 80 | 83 | | | | BWC | |
| Dec. 19..... | 0740 | | 52 | 21,800 | 80 | | | 75 | 85 | 89 | 92 | 95 | | | | BWC | |
| Dec. 22..... | 0910 | | 45 | 9,140 | 41 | | | 89 | 92 | 94 | 96 | 97 | | | | BWC | |
| Dec. 23..... | 0900 | | 46 | 6,420 | 38 | | | 75 | 79 | 82 | 85 | 88 | | | | BWC | |
| Dec. 24..... | 0930 | | 44 | 2,620 | 48 | | | 60 | 69 | 79 | 85 | 92 | | | | BWC | |

MOBILE RIVER BASIN--Continued

2-4058. TALLADEGA CREEK ABOVE TALLADEGA, ALA.

LOCATION.--Temperature recorder at gaging station, 300 feet upstream from Mump Creek, 0.5 mile upstream from bridge on State Highway 77, and 6 miles southeast of Talladega, Talladega County.

DRAINAGE AREA.--67.3 square miles.

RECORDS AVAILABLE.--Water temperatures: October 1959 to May 1962.

EXTREMES, October 1961 to May 1962.--Water temperatures: Minimum, 37°F Jan. 13.

EXTREMES, 1959-62.--Water temperatures: Maximum, 87°F July 1, 2, 5, 1960; minimum, 35°F Dec. 18, 23, 1960.

Temperature (°F) of water, October 1961 to May 1962

(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 | 73 | 74 | 71 | 62 | 61 | 61 | 61 | 64 | 64 | 65 | 65 | 64 | 64 | 63 | 60 | 58 | 60 | 61 | 61 | 59 | 55 | 56 | 57 | 58 | 60 | 60 | 55 | 54 | 60 | 64 | 64 | 62 |
| Minimum | 67 | 69 | 61 | 57 | 55 | 55 | 55 | 58 | 58 | 58 | 59 | 59 | 59 | 60 | 55 | 53 | 58 | 55 | 56 | 53 | 53 | 52 | 52 | 53 | 55 | 55 | 50 | 50 | 54 | 58 | 60 | 57 |
| November | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 65 | 67 | 65 | 65 | 67 | 66 | 64 | 59 | 53 | 50 | 52 | 56 | 59 | 62 | 64 | 65 | 61 | 55 | 55 | 52 | 50 | 51 | 54 | 54 | 51 | 50 | 53 | 53 | 50 | 46 | -- | 57 |
| Minimum | 61 | 62 | 63 | 62 | 63 | 64 | 59 | 53 | 49 | 46 | 49 | 52 | 56 | 59 | 62 | 61 | 55 | 52 | 52 | 50 | 46 | 47 | 51 | 51 | 48 | 48 | 50 | 50 | 46 | 42 | -- | 54 |
| December | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 46 | 50 | 52 | 54 | 55 | 55 | 53 | 49 | 51 | 55 | 59 | 60 | 59 | 52 | 54 | 54 | 55 | 56 | 56 | 55 | 51 | 48 | 50 | 48 | 46 | 45 | 47 | 47 | 44 | 42 | 44 | 51 |
| Minimum | 43 | 45 | 49 | 51 | 54 | 53 | 49 | 47 | 47 | 51 | 55 | 59 | 52 | 51 | 51 | 54 | 54 | 55 | 54 | 51 | 48 | 47 | 48 | 46 | 45 | 43 | 44 | 44 | 42 | 40 | 41 | 49 |
| January | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 44 | 44 | 44 | 47 | 50 | 52 | 50 | 48 | 47 | 44 | 39 | 38 | 38 | 42 | 47 | 47 | 47 | 45 | 47 | 48 | 49 | 51 | 53 | 54 | 56 | 57 | 57 | 57 | 52 | 52 | 48 | 48 |
| Minimum | 44 | 44 | 42 | 44 | 47 | 50 | 48 | 47 | 44 | 39 | 38 | 38 | 37 | 38 | 42 | 45 | 45 | 44 | 44 | 47 | 48 | 49 | 51 | 53 | 54 | 56 | 55 | 52 | 49 | 50 | 50 | 46 |
| February | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 51 | 52 | 52 | 53 | 56 | 55 | 47 | 47 | 55 | 54 | 50 | 51 | 55 | 58 | 57 | 56 | 54 | 54 | 59 | 56 | 53 | 57 | 60 | 60 | 58 | 58 | 62 | 62 | -- | -- | -- | 55 |
| Minimum | 49 | 50 | 50 | 50 | 53 | 47 | 44 | 44 | 47 | 50 | 47 | 48 | 51 | 54 | 54 | 54 | 50 | 51 | 54 | 51 | 52 | 53 | 57 | 58 | 56 | 55 | 58 | 57 | -- | -- | -- | 52 |
| March | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 57 | 53 | 51 | 51 | 51 | 48 | 47 | 48 | 53 | 53 | 54 | 56 | 55 | 53 | 54 | 54 | 53 | 53 | 55 | 56 | 62 | 60 | 58 | 59 | 58 | 58 | 59 | 61 | 62 | 60 | 55 | 59 |
| Minimum | 53 | 51 | 50 | 49 | 48 | 45 | 45 | 46 | 48 | 52 | 53 | 52 | 51 | 50 | 50 | 50 | 49 | 47 | 50 | 54 | 56 | 55 | 52 | 54 | 56 | 54 | 51 | 52 | 55 | 58 | 59 | 51 |
| April | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 59 | 55 | 56 | 56 | 56 | 56 | 57 | 61 | 64 | 66 | 66 | 64 | 60 | 58 | 63 | 58 | 55 | 58 | 63 | 62 | 63 | 65 | 66 | 67 | 66 | 66 | 67 | 66 | 67 | 73 | -- | 62 |
| Minimum | 55 | 52 | 51 | 51 | 54 | 54 | 56 | 56 | 59 | 59 | 64 | 60 | 56 | 54 | 53 | 52 | 56 | 56 | 56 | 56 | 57 | 61 | 63 | 62 | 62 | 62 | 62 | 61 | 65 | -- | 57 | |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 74 | 72 | 68 | 69 | 70 | 71 | 71 | 73 | 75 | 77 | 79 | 79 | 79 | 79 | 79 | 80 | 80 | 81 | 81 | 81 | 82 | 76 | 75 | 78 | 80 | 81 | 82 | 82 | 78 | -- | 77 | |
| Minimum | 67 | 66 | 61 | 61 | 62 | 62 | 63 | 65 | 65 | 68 | 70 | 69 | 69 | 70 | 70 | 70 | 71 | 70 | 72 | 72 | 72 | 69 | 70 | 69 | 70 | 71 | 72 | 73 | 74 | 74 | -- | 69 |

MOBILE RIVER BASIN--Continued
2-4650. BLACK WARRIOR RIVER AT TUSCALOOSA, ALA.

LOCATION.--Temperature recorder at gaging station, at bridge on U.S. Highway 82 at Tuscaloosa, Tuscaloosa County, 0.2 mile upstream from Gulf, Mobile and Ohio Railroad bridge, and 0.8 mile upstream from Oliver Lock and Dam.

DRAINAGE AREA.--4,828 square miles.

RECORDS AVAILABLE.--Water temperatures: November 1960 to September 1962.

EXTREMES, 1961-62.--Water temperatures: Maximum, 92°F July 22; minimum, 45°F Jan. 12-21.

EXTREMES, 1960-62.--Water temperatures: Maximum, 93°F Aug. 4, 5, 1961; minimum, 43°F Jan. 29, 1961.

REMARKS.--Daily maximum temperatures usually caused by release of waste from industrial plants upstream.

Temperature (°F) of water, water year October 1961 to September 1962

(Recorder with temperature attachment, continuous ethyl alcohol-actuated thermometer)

| 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 | 79 | 78 | 77 | 76 | 77 | 76 | 76 | 75 | 74 | 76 | 76 | 75 | 75 | 73 | 72 | 73 | 72 | 74 | 72 | 70 | 69 | 69 | 69 | 70 | 71 | 69 | 69 | 69 | 68 | 70 | 71 | 73 |
| Minimum | 78 | 77 | 76 | 75 | 75 | 74 | 74 | 73 | 73 | 73 | 73 | 73 | 72 | 71 | 70 | 71 | 70 | 70 | 69 | 68 | 67 | 67 | 67 | 68 | 68 | 68 | 68 | 68 | 67 | 68 | 71 | 73 |
| November | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 69 | 70 | 69 | 68 | 68 | 67 | 66 | 65 | 66 | 65 | 66 | 64 | 64 | 64 | 65 | 65 | 64 | 64 | 63 | 62 | 62 | 62 | 61 | 60 | 61 | 61 | 60 | 59 | 59 | 58 | -- | 64 |
| Minimum | 68 | 68 | 68 | 67 | 67 | 66 | 66 | 65 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 63 | 62 | 61 | 60 | 60 | 60 | 60 | 59 | 59 | 58 | 58 | -- | 63 | |
| December | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 60 | 59 | 59 | 59 | 59 | 59 | 58 | 58 | 57 | 58 | 58 | 57 | 55 | 55 | 55 | 55 | 55 | 56 | 56 | 55 | 54 | 53 | 53 | 52 | 52 | 51 | 51 | 50 | -- | 56 | | |
| Minimum | 58 | 58 | 58 | 58 | 58 | 58 | 57 | 56 | 57 | 57 | 57 | 57 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 54 | 53 | 53 | 52 | 51 | 51 | 50 | -- | 55 | | | |
| January | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | -- | -- | -- | 48 | 48 | 49 | 48 | 47 | 48 | 48 | 47 | 46 | 45 | 45 | 46 | 46 | 46 | 45 | 45 | 45 | 46 | 47 | 48 | 48 | 49 | 51 | 53 | 54 | 54 | 54 | 48 | |
| Minimum | -- | -- | -- | 48 | 48 | 48 | 47 | 47 | 47 | 47 | 46 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 46 | 47 | 48 | 48 | 49 | 51 | 53 | 54 | 54 | 54 | 48 | |
| February | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 53 | 53 | 53 | 53 | 53 | 53 | 52 | 51 | 52 | 52 | 52 | 52 | 53 | 53 | 53 | 53 | 53 | 54 | 54 | 54 | 54 | 54 | 55 | 56 | 56 | 56 | 57 | 57 | -- | -- | 54 | |
| Minimum | 53 | 53 | 52 | 52 | 52 | 52 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 52 | 52 | 53 | 53 | 54 | 54 | 54 | 55 | 56 | 56 | 57 | -- | -- | 53 | |
| March | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 57 | 55 | 55 | 55 | 54 | 53 | 52 | 52 | 52 | 52 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 52 | 52 | 53 | 53 | 55 | 55 | 55 | 56 | 56 | 55 | 57 | 60 | 60 | 54 | |
| Minimum | 55 | 55 | 55 | 55 | 54 | 53 | 52 | 52 | 52 | 52 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 52 | 52 | 53 | 53 | 55 | 55 | 54 | 54 | 55 | 55 | 57 | 57 | 58 | 53 | |
| April | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 58 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 58 | 58 | 58 | 59 | 59 | 58 | 58 | 58 | 58 | 58 | 59 | 60 | 61 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 62 | 59 | |
| Minimum | 57 | 57 | 57 | 56 | 57 | 57 | 57 | 57 | 57 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 59 | 59 | 60 | 61 | 61 | 61 | 61 | 61 | 62 | 62 | 62 | 62 | 59 | |
| May | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 64 | 65 | 64 | 66 | 67 | 68 | 68 | 72 | 73 | 76 | 77 | 78 | 78 | 80 | 81 | 81 | 80 | 84 | 83 | 82 | 80 | 81 | 81 | 81 | 85 | 85 | 86 | 87 | 85 | 80 | 77 | |
| Minimum | 62 | 63 | 63 | 64 | 65 | 66 | 67 | 69 | 70 | 72 | 74 | 75 | 77 | 77 | 77 | 77 | 77 | 78 | 78 | 78 | 78 | 79 | 78 | 79 | 80 | 80 | 81 | 80 | 79 | 73 | | |
| June | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 83 | 86 | 84 | 86 | 84 | 86 | 86 | 84 | 84 | 83 | 83 | 82 | 83 | 84 | 86 | 88 | 87 | 87 | 86 | 87 | 87 | 87 | 87 | 89 | 87 | 86 | 86 | 85 | 86 | -- | 86 | |
| Minimum | 79 | 79 | 80 | 80 | 80 | 81 | 81 | 82 | 81 | 81 | 81 | 80 | 80 | 81 | 82 | 82 | 83 | 82 | 83 | 82 | 82 | 83 | 84 | 84 | 84 | 84 | 84 | 83 | 83 | -- | 82 | |
| July | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 88 | 86 | 87 | 89 | 88 | 87 | 86 | 87 | 89 | 88 | 87 | 89 | 90 | 89 | 90 | 89 | 90 | 89 | 91 | 90 | 92 | 90 | 91 | 87 | 88 | 89 | 86 | 88 | 89 | 88 | 89 | |
| Minimum | 83 | 84 | 83 | 84 | 85 | 85 | 84 | 85 | 85 | 85 | 85 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 86 | 87 | 87 | 86 | 88 | 85 | 85 | 85 | 85 | 85 | 85 | |
| August | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 88 | 88 | 87 | 88 | 89 | 89 | 89 | 88 | 88 | 89 | 88 | 88 | 89 | 88 | 88 | 87 | 88 | 89 | 88 | 88 | 88 | 87 | 87 | 85 | 86 | 85 | 86 | 87 | 88 | 87 | 88 | |
| Minimum | 85 | 86 | 85 | 85 | 85 | 85 | 86 | 86 | 87 | 86 | 85 | 86 | 86 | 86 | 86 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 86 | 85 | 86 | 84 | 84 | 84 | 84 | 84 | 85 | |
| September | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum | 87 | 88 | 88 | 86 | 86 | 85 | 84 | 85 | 86 | 85 | 84 | 87 | 84 | 85 | 85 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | 84 | |
| Minimum | 84 | 84 | 85 | 85 | 84 | 84 | 83 | 82 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 82 | |

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS

Chemical analyses, in parts per million, water year October 1961 to September 1962

| Date of collection | Discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|---------------------------------------------|--------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-----------------------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------|------------------------|-------------------------------------------------------------|-----|-------|
| | | | | | | | | | | | | | Calcium | Non- carbon- ate | | | |
| | | | | | | | | | | | | | | | | | |
| CHOWAN RIVER BASIN | | | | | | | | | | | | | | | | | |
| 2-532. POTECA SI CREEK NEAR UNION, N. C. | | | | | | | | | | | | | | | | | |
| Mar. 13, 1962..... | 936 | 3.6 | 0.07 | 2.6 | 1.0 | 3.4 | 1.5 | 5 | 7.2 | 5.3 | 0.1 | 0.6 | 27 | 10 | 6 | 51 | 5.9 |
| Aug. 23..... | 3.82 | 23 | .03 | 7.6 | 2.4 | 12 | 1.4 | 39 | 3.6 | 17 | .2 | .0 | 86 | 29 | 0 | 132 | 7.2 |
| 2-535. AHSKIE CREEK AT AHSKIE, N. C. | | | | | | | | | | | | | | | | | |
| Mar. 13, 1962..... | 236 | 5.2 | 0.06 | 2.6 | 1.0 | 3.6 | 1.4 | 5 | 9.0 | 5.2 | 0.1 | 0.1 | 30 | 10 | 6 | 49 | 5.8 |
| Aug. 23..... | 1.80 | 14 | .04 | 6.7 | 1.7 | 7.6 | 2.7 | 27 | 7.6 | 8.7 | .2 | .7 | 63 | 24 | 2 | 89 | 6.7 |
| ROANOKE RIVER BASIN | | | | | | | | | | | | | | | | | |
| 2-685. DAN RIVER NEAR FRANCISCO, N. C. | | | | | | | | | | | | | | | | | |
| Dec. 29, 1961..... | 70.1 | -- | 0.01 | 3.0 | 1.1 | 2.5 | 0.7 | 17 | 0.5 | 1.6 | 0.0 | 0.5 | -- | 12 | 0 | 36 | 7.0 |
| Dec. 30..... | 134 | 11 | .03 | 3.3 | .4 | 2.0 | .7 | 15 | 2.6 | 1.3 | .1 | .5 | 29 | 10 | 0 | 31 | 6.7 |
| July 19, 1962..... | 146 | 9.7 | .03 | 3.2 | .9 | 1.7 | .9 | 16 | 1.6 | 1.7 | .1 | 1.1 | 29 | 12 | 0 | 36 | 6.8 |
| 2-705. MAYO RIVER NEAR PRICE, N. C. | | | | | | | | | | | | | | | | | |
| Mar. 6, 1962..... | 324 | 13 | 0.12 | 3.7 | 1.3 | 2.3 | 0.8 | 21 | 1.4 | 2.3 | 0.0 | 0.5 | 36 | 14 | 0 | 43 | 7.1 |
| Aug. 22..... | 247 | 14 | .08 | 4.0 | 1.5 | 3.0 | 1.4 | 22 | 1.6 | 2.5 | .0 | 1.1 | 40 | 16 | 0 | 47 | 7.3 |
| 2-710. DAN RIVER NEAR WENTWORTH, N. C. | | | | | | | | | | | | | | | | | |
| Mar. 6, 1962..... | 1,450 | 14 | 0.00 | 3.4 | 1.9 | 3.2 | 2.1 | 19 | 3.6 | 3.2 | 0.0 | 0.4 | 41 | 16 | 1 | 52 | 7.2 |
| Aug. 22..... | 640 | 15 | .05 | 4.2 | 2.3 | 4.1 | 1.7 | 27 | 3.0 | 2.2 | .1 | 1.9 | 48 | 20 | 0 | 56 | 7.2 |
| 2-740. SMITH RIVER AT SPRAY, N. C. | | | | | | | | | | | | | | | | | |
| Mar. 6, 1962..... | 588 | 14 | 0.14 | 5.0 | 2.2 | 5.8 | 1.3 | 29 | 4.2 | 5.7 | 0.0 | 1.2 | 54 | 22 | 0 | 76 | 7.3 |
| Aug. 22..... | 597 | 13 | .04 | 5.6 | 2.0 | 9.3 | 1.9 | 31 | 4.8 | 9.1 | .1 | .8 | 62 | 22 | 0 | 90 | 7.0 |
| 2-751.6. MOON CREEK NEAR YANCEYVILLE, N. C. | | | | | | | | | | | | | | | | | |
| Mar. 5, 1962..... | 41.3 | 16 | 0.00 | 4.2 | 1.8 | 3.5 | 1.4 | 23 | 4.4 | 3.6 | 0.0 | 0.2 | 46 | 18 | 0 | 60 | 7.3 |
| Aug. 21..... | 13.6 | 18 | .21 | 7.1 | 2.6 | 4.8 | 2.0 | 42 | 1.6 | 3.0 | .2 | .7 | 61 | 29 | 0 | 78 | 7.4 |

2-804.82. ROANOKE RIVER, AT N. C. 48, NEAR ROANOKE RAPIDS, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|--------|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Mar. 1, 1962..... | 18,500 | 12 | 0.01 | 6.3 | 2.2 | 4.6 | 1.5 | 28 | 6.2 | 3.2 | 0.1 | 2.2 | 52 | 24 | 2 | 77 | 6.9 | 5 |
| Aug. 31..... | 13,800 | 10 | .02 | 7.2 | 2.3 | 6.0 | 1.7 | 38 | 5.0 | 4.7 | .2 | .2 | 56 | 28 | 0 | 83 | 7.1 | 12 |

2-810. ROANOKE RIVER NEAR SCOTLAND NECK, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|-------|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Mar. 1, 1962..... | 7,070 | 12 | 0.02 | 7.5 | 2.0 | 6.4 | 1.8 | 35 | 5.4 | 4.5 | 0.1 | 1.8 | 59 | 28 | 0 | 83 | 7.4 | 7 |
| Aug. 31..... | | 10 | .02 | 7.7 | 2.4 | 6.5 | 1.6 | 40 | 10 | 2.6 | .2 | .0 | 61 | 29 | 0 | 93 | 7.2 | 19 |

PAMLICO RIVER BASIN

2-815. TAR RIVER NEAR TAR RIVER, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|------|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Oct. 3, 1961..... | 7.69 | 16 | 0.13 | 7.0 | 3.0 | 5.0 | 1.8 | 42 | 2.4 | 3.7 | 0.1 | 0.3 | 60 | 30 | 0 | 81 | 7.4 | 25 |
| Feb. 9, 1962..... | 107 | 14 | .19 | 4.6 | 2.1 | 4.0 | 1.5 | 24 | 5.8 | 4.3 | .0 | .7 | 49 | 20 | 0 | 64 | 6.5 | 50 |
| Sept. 5..... | 3.41 | 10 | .08 | 6.4 | 3.0 | 4.1 | 2.3 | 34 | 3.8 | 5.8 | .1 | .9 | 53 | 28 | 0 | 82 | 6.9 | 18 |

2-818. CEDAR CREEK NEAR LOUISBURG, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|------|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Oct. 3, 1961..... | 16.5 | 25 | 0.07 | 4.4 | 1.3 | 6.7 | 2.0 | 32 | 1.6 | 3.9 | 0.1 | 0.2 | 61 | 16 | 0 | 65 | 7.4 | 13 |
| Feb. 9, 1962..... | 49 | 20 | .11 | 3.8 | 1.0 | 5.0 | 1.8 | 23 | 3.8 | 4.0 | .0 | .7 | 51 | 14 | 0 | 56 | 6.9 | 19 |
| Sept. 5..... | 14.6 | 23 | .02 | 5.0 | 1.3 | 7.2 | 1.6 | 33 | .4 | 4.8 | .1 | .2 | 60 | 18 | 0 | 66 | 6.8 | 7 |

2-820. TAR RIVER NEAR NASHVILLE, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Mar. 14, 1962..... | 3,400 | 8.5 | 0.07 | 3.0 | 1.7 | 3.3 | 1.4 | 13 | 6.8 | 3.0 | 0.0 | 0.8 | 35 | 14 | 4 | 50 | 6.6 | 40 |
| Aug. 22..... | 120 | 15 | .04 | 5.3 | 1.6 | 5.8 | 2.0 | 30 | 2.6 | 4.3 | .2 | 2.0 | 54 | 20 | 0 | 69 | 6.9 | 10 |

2-829.5. LITTLE FISHING CREEK NEAR WHITE OAK, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|-----|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Mar. 1, 1962..... | 361 | 13 | 0.03 | 3.4 | 1.4 | 3.3 | 1.3 | 17 | 4.4 | 1.8 | 0.1 | 1.3 | 38 | 14 | 0 | 50 | 6.8 | 7 |
| Aug. 23..... | 70 | 18 | .10 | 5.6 | 1.0 | 5.0 | 1.9 | 32 | 3.2 | 1.8 | .2 | .8 | 54 | 18 | 0 | 68 | 7.1 | 14 |

2-838. CONETOE CREEK NEAR BETHEL, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|-----|------|-----|-----|-----|-----|----|----|-----|-----|-----|----|----|----|-----|-----|----|
| Mar. 12, 1962..... | 536 | 6.0 | 0.06 | 4.8 | 1.5 | 4.0 | 2.0 | 5 | 13 | 6.3 | 0.3 | 3.6 | 44 | 18 | 14 | 69 | 5.6 | 40 |
| Aug. -24..... | 24.0 | 11 | .14 | 9.2 | 1.9 | 5.2 | 1.8 | 14 | 18 | 7.1 | .3 | 2.7 | 64 | 31 | 20 | 105 | 6.9 | 23 |

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tar- sodium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (calcu- lated) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|-----------------------------------------------|--------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|------------------------------|-----------------------------------------|-------------------------------|------------------|----------------------|------------------------------------|------------------------------------------|----------------------------------|------------------------|-------------------------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non- carbon- ate | | | |
| PAMLICO RIVER BASIN--Continued | | | | | | | | | | | | | | | | | | |
| 2-840. TAR RIVER AT GREENVILLE, N. C. | | | | | | | | | | | | | | | | | | |
| Mar. 30, 1962..... | | 7.6 | 0.06 | 3.2 | 1.3 | 4.2 | 1.3 | 12 | 5.6 | 5.3 | 0.2 | 1.2 | 36 | 13 | 3 | 56 | 6.6 | 33 |
| Sept. 14..... | | 12 | .03 | 7.0 | 2.2 | 9.6 | 2.5 | 32 | 6.8 | 11 | .1 | 2.7 | 70 | 26 | 0 | 110 | 6.5 | 10 |
| 2-845. HERRING RUN NEAR WASHINGTON, N. C. | | | | | | | | | | | | | | | | | | |
| Mar. 29, 1962..... | 21.4 | 10 | 0.44 | 1.8 | 0.7 | 3.2 | 0.2 | 1 | 7.0 | 3.8 | 0.2 | 1.0 | 29 | 8 | 6 | 44 | 4.7 | 120 |
| Sept. 14..... | 1.45 | 29 | .10 | 7.9 | 1.6 | 7.3 | .9 | 22 | 15 | 7.3 | .1 | 1.2 | 82 | 26 | 8 | 96 | 6.3 | 30 |
| NEUSE RIVER BASIN | | | | | | | | | | | | | | | | | | |
| 2-850. ENO RIVER AT HILLSBORO, N. C. | | | | | | | | | | | | | | | | | | |
| Feb. 6, 1962..... | 410 | 16 | 0.05 | 5.1 | 1.7 | 8.3 | 1.2 | 24 | 4.2 | 11 | 0.1 | 0.6 | 60 | 20 | 0 | 87 | 6.6 | 20 |
| Sept. 6..... | 11.1 | 19 | .00 | 6.6 | 2.6 | 13 | 1.4 | 40 | 6.2 | 14 | .1 | .9 | 84 | 28 | 0 | 127 | 6.7 | 14 |
| 2-855. FLAT RIVER AT BAHAMA, N. C. | | | | | | | | | | | | | | | | | | |
| Feb. 6, 1962..... | 148 | 14 | 0.08 | 4.1 | 1.3 | 3.9 | 1.0 | 19 | 4.4 | 4.0 | 0.0 | 0.5 | 42 | 16 | 0 | 54 | 6.7 | 25 |
| Sept. 6..... | 18 | 13 | .01 | 5.5 | 1.8 | 5.3 | 2.0 | 27 | 5.2 | 4.4 | .1 | 1.6 | 52 | 21 | 0 | 75 | 7.2 | 20 |
| 2-860. DIAL CREEK NEAR BAHAMA, N. C. | | | | | | | | | | | | | | | | | | |
| Feb. 6, 1962..... | 4.75 | 17 | 0.15 | 3.5 | 0.9 | 4.0 | 1.0 | 19 | 2.4 | 3.6 | 0.0 | 0.0 | 42 | 12 | 0 | 52 | 6.9 | 30 |
| Sept. 6..... | .75 | 17 | .09 | 4.2 | 1.3 | 4.8 | 1.3 | 27 | 3.6 | 2.9 | .0 | .1 | 48 | 16 | 0 | 55 | 7.3 | 25 |
| 2-865. FLAT RIVER, AT DAM, NEAR BAHAMA, N. C. | | | | | | | | | | | | | | | | | | |
| Feb. 9, 1962..... | 115 | 9.3 | 0.04 | 3.8 | 1.1 | 2.9 | 1.4 | 13 | 6.0 | 3.0 | 0.1 | 0.7 | 34 | 14 | 4 | 50 | 6.4 | 37 |
| Sept. 5..... | 12 | 8.6 | .01 | 4.4 | 1.4 | 3.2 | 1.7 | 22 | 4.0 | 2.9 | .1 | .3 | 38 | 15 | 0 | 51 | 7.2 | 20 |
| 2-870. NEUSE RIVER NEAR NORTHSIDE, N. C. | | | | | | | | | | | | | | | | | | |
| Oct. 3, 1961..... | 46.6 | 14 | 0.01 | 13 | 3.0 | 23 | 4.3 | 48 | 13 | 20 | 0.2 | 14 | 132 | 44 | 4 | 208 | 6.5 | 14 |
| Feb. 9, 1962..... | 386 | 13 | .13 | 3.0 | 2.2 | 7.8 | 2.1 | 24 | 7.0 | 7.5 | .0 | 2.4 | 57 | 22 | 2 | 97 | 6.5 | 40 |
| Sept. 5..... | 60 | 12 | .02 | 8.3 | 3.4 | 16 | 3.6 | 32 | 10 | 16 | .2 | 12 | 100 | 35 | 8 | 158 | 7.4 | 20 |

2-875. NEUSE RIVER NEAR CLAYTON, N. C.

| | | | | | | | | | | | | | | | | |
|-------------------|-------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|----|---|-----|-----|----|
| Oct. 2, 1961..... | 220 | 17 | 0.01 | 6.9 | 2.1 | 23 | 3.0 | 38 | 6.0 | 26 | 108 | 26 | 0 | 172 | 6.5 | 12 |
| Mar. 1, 1962..... | 5,130 | 9.1 | .04 | 4.2 | 1.4 | 4.2 | 1.2 | 18 | 6.4 | 2.4 | 40 | 16 | 1 | 60 | 6.5 | 17 |
| Aug. 31..... | 238 | 16 | .03 | 7.7 | 1.8 | 24 | 3.1 | 43 | 6.6 | 25 | 111 | 26 | 0 | 178 | 6.7 | 25 |

2-880. MIDDLE CREEK NEAR CLAYTON, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Oct. 2, 1961..... | 14.6 | 15 | 0.11 | 3.9 | 1.5 | 4.0 | 2.5 | 25 | 0.8 | 4.5 | 0.0 | 0.4 | 45 | 16 | 0 | 60 | 6.8 | 32 |
| Mar. 1, 1962..... | 169 | 9.7 | .27 | 2.7 | 1.6 | 3.7 | 1.0 | 13 | 4.2 | 2.8 | .0 | 2.1 | 34 | 14 | 3 | 48 | 6.5 | 50 |
| Aug. 31..... | 12.7 | 14 | .04 | 4.4 | 1.4 | 5.3 | 1.3 | 26 | 1.6 | 3.7 | .1 | .9 | 46 | 17 | 0 | 57 | 6.8 | 23 |

2-910. NAHANTA SWAMP NEAR SHINE, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|----|----|-----|----|
| Mar. 27, 1962..... | 119 | 8.3 | 0.27 | 4.2 | 1.7 | 5.5 | 1.2 | 9 | 7.8 | 7.4 | 0.2 | 1.7 | 42 | 18 | 10 | 64 | 6.5 | 50 |
| Sept. 11..... | 64.5 | 7.6 | .18 | 3.7 | 1.1 | 4.6 | 2.9 | 10 | 5.4 | 7.4 | .2 | 3.2 | 42 | 14 | 6 | 63 | 5.8 | 45 |

NEW RIVER BASIN

2-930. NEW RIVER NEAR GUM BRANCH, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|-----|------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|
| Mar. 28, 1962..... | 247 | 4.4 | 0.16 | 11 | 1.2 | 3.7 | 0.8 | 30 | 6.2 | 5.7 | 0.0 | 2.6 | 51 | 33 | 8 | 89 | 6.6 | 110 |
| Sept. 12..... | 21.5 | 7.0 | .17 | 41 | 2.4 | 5.5 | 1.2 | 118 | 9.0 | 5.5 | .1 | 6.2 | 136 | 113 | 16 | 231 | 6.9 | 45 |

CAPE FEAR RIVER BASIN

2-938. REEDY FORK NEAR OAK RIDGE, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|------|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|---|
| Mar. 7, 1962..... | 26.8 | 16 | 0.01 | 4.2 | 1.9 | 3.1 | 1.7 | 24 | 3.6 | 3.4 | 0.1 | 0.8 | 47 | 18 | 0 | 56 | 7.1 | 0 |
| Aug. 23..... | 15.9 | 17 | .00 | 6.4 | 2.3 | 4.4 | 2.6 | 38 | 4.8 | 3.6 | .1 | 2.7 | 63 | 26 | 0 | 76 | 6.7 | 5 |

2-945. REEDY FORK NEAR GIBSONVILLE, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|------|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|---|
| Mar. 8, 1962..... | 262 | 11 | 0.01 | 3.7 | 2.0 | 3.0 | 1.9 | 20 | 5.2 | 2.3 | 0.1 | 1.0 | 40 | 18 | 1 | 56 | 6.8 | 5 |
| Aug. 24..... | 11.9 | 16 | .06 | 7.1 | 2.8 | 4.6 | 1.9 | 42 | 2.2 | 3.6 | .1 | .7 | 60 | 29 | 0 | 78 | 7.2 | 5 |

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color | |
|------------------------------------------------|--------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-----------------------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------|------------------------|-------------------------------------------------------------|-----|-------|----|
| | | | | | | | | | | | | | Calcium | Non- magne- sium | | | | |
| CAPE FEAR RIVER BASIN--Continued | | | | | | | | | | | | | | | | | | |
| 2-965. HAW RIVER AT HAW RIVER, N. C. | | | | | | | | | | | | | | | | | | |
| Mar. 5, 1962..... | 606 | 15 | 0.03 | 6.8 | 2.3 | 17 | 2.5 | 47 | 15 | 9.5 | 0.6 | 2.3 | 94 | 26 | 0 | 148 | 6.6 | 17 |
| Aug. 21..... | 142 | 12 | .06 | 11 | 2.5 | 42 | 3.9 | 62 | 23 | 34 | 1.1 | 6.1 | 169 | 36 | 0 | 282 | 7.0 | 30 |
| 2-967. ALAMANCE CREEK NEAR ELON COLLEGE, N. C. | | | | | | | | | | | | | | | | | | |
| Mar. 8, 1962..... | 159 | 15 | 0.02 | 5.1 | 3.0 | 4.3 | 1.3 | 25 | 8.2 | 3.8 | 0.0 | 1.0 | 54 | 25 | 4 | 82 | 6.8 | 5 |
| Aug. 24..... | 15.1 | 15 | .02 | 9.1 | 3.2 | 5.5 | 1.4 | 49 | 4.6 | 4.0 | .1 | .0 | 67 | 36 | 0 | 98 | 7.3 | 16 |
| 2-968.5. CANE CREEK NEAR TEER, N. C. | | | | | | | | | | | | | | | | | | |
| Mar. 5, 1962..... | 31.9 | 14 | 0.00 | 4.1 | 1.7 | 4.0 | 0.6 | 21 | 3.2 | 5.2 | 0.0 | 0.9 | 44 | 17 | 0 | 58 | 7.1 | 5 |
| Aug. 21..... | 6.88 | 16 | .03 | 6.2 | 1.8 | 4.8 | 1.1 | 32 | 2.4 | 3.8 | .2 | .0 | 52 | 22 | 0 | 68 | 7.0 | 17 |
| 2-969.29. TERRELL CREEK NEAR PITTSBORO, N. C. | | | | | | | | | | | | | | | | | | |
| Sept. 12, 1962..... | 0.33 | 7.3 | 0.04 | 6.3 | 2.8 | 4.4 | 3.5 | 39 | 2.4 | 5.5 | 0.1 | 0.2 | 52 | 27 | 0 | 82 | 7.2 | 15 |
| Sept. 13..... | .06 | 11 | .07 | 9.4 | 2.6 | 5.9 | 2.7 | 46 | 1.8 | 6.1 | .0 | .4 | 63 | 34 | 0 | 96 | 7.3 | 13 |
| 2-970. HAW RIVER NEAR PITTSBORO, N. C. | | | | | | | | | | | | | | | | | | |
| Feb. 28, 1962..... | 4,360 | 11 | 0.06 | 4.3 | 1.6 | 4.8 | 1.4 | 18 | 8.8 | 4.4 | 0.0 | 1.4 | 47 | 18 | 2 | 69 | 6.9 | 40 |
| Aug. 14..... | 102 | 10 | .02 | 6.1 | 2.3 | 11 | 2.6 | 33 | 8.6 | 10 | .2 | 3.1 | 70 | 24 | 0 | 115 | 6.7 | 30 |
| 2-995. DEEP RIVER NEAR RANDLEMAN, N. C. | | | | | | | | | | | | | | | | | | |
| Mar. 7, 1962..... | 188 | 14 | 0.04 | 7.1 | 3.4 | 16 | 2.4 | 43 | 13 | 17 | 0.2 | 0.2 | 95 | 32 | 0 | 150 | 6.6 | 10 |
| Aug. 23..... | 36 | 16 | .13 | 13 | 3.7 | 34 | 4.2 | 49 | 16 | 36 | .4 | 24 | 178 | 48 | 8 | 261 | 6.9 | 30 |
| 2-1005. DEEP RIVER AT RAMSEUR, N. C. | | | | | | | | | | | | | | | | | | |
| Mar. 9, 1962..... | 361 | 15 | 0.00 | 6.0 | 2.8 | 7.6 | 1.4 | 31 | 8.2 | 8.3 | 0.1 | 1.0 | 66 | 26 | 2 | 97 | 7.3 | 15 |
| Aug. 15..... | 27.3 | 10 | .05 | 10 | 3.1 | 26 | 3.4 | 59 | 9.4 | 25 | .2 | 2.6 | 120 | 38 | 0 | 201 | 6.9 | 8 |
| 2-1010. BEAR CREEK AT ROBBINS, N. C. | | | | | | | | | | | | | | | | | | |
| Mar. 2, 1962..... | 151 | 11 | 0.07 | 2.5 | 1.6 | 3.8 | 0.8 | 14 | 4.4 | 3.7 | 0.2 | 0.7 | 36 | 12 | 1 | 43 | 6.6 | 40 |
| Aug. 15..... | 4.74 | 7.4 | .07 | 3.8 | 1.2 | 7.9 | 1.5 | 19 | 7.4 | 6.9 | .1 | 1.2 | 47 | 14 | 0 | 71 | 6.4 | 20 |

2-1018. TICK CREEK NEAR MOUNT VERNON SPRINGS, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|----|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Feb. 28, 1962..... | 29 | 9.1 | 0.06 | 5.2 | 2.2 | 3.3 | 0.5 | 21 | 6.8 | 4.3 | 0.0 | 0.4 | 42 | 22 | 5 | 61 | 6.7 | 35 |
| Aug. 14..... | .2 | 7.2 | .06 | 6.1 | 2.2 | 2.8 | 2.1 | 24 | 4.4 | 4.7 | .0 | 3.0 | 45 | 24 | 4 | 67 | 6.7 | 30 |

2-1033.88. LITTLE RIVER NEAR LINDEN, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|----|
| Feb. 13, 1962..... | 534 | 5.4 | 0.11 | 1.4 | 0.4 | 2.5 | 0.7 | 7 | 3.0 | 4.3 | 0.0 | 0.6 | 22 | 6 | 0 | 38 | 6.0 | 29 |
| Aug. 6..... | 176 | 4.1 | .04 | 1.5 | .4 | 3.0 | .8 | 5 | 2.8 | 3.3 | .2 | 1.7 | 20 | 6 | 2 | 30 | 5.8 | 22 |

2-1040. CAPE FEAR RIVER AT FAYETTEVILLE, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|--|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|-----|-----|----|
| Mar. 19, 1962..... | | 8.3 | 0.01 | 3.4 | 1.8 | 5.0 | 1.1 | 15 | 6.6 | 5.0 | 0.1 | 0.3 | 39 | 16 | 4 | 60 | 6.4 | 12 |
| Aug. 6..... | | 4.7 | .05 | 5.7 | 1.8 | 14 | 2.0 | 33 | 8.0 | 12 | .2 | 1.2 | 66 | 22 | 0 | 108 | 6.7 | 30 |

2-1055. CAPE FEAR RIVER, AT LOCK 3, NEAR TARHEEL, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Feb. 13, 1962..... | 3,850 | 11 | 0.07 | 3.2 | 2.0 | 6.4 | 1.2 | 17 | 7.0 | 6.8 | 0.0 | 1.5 | 47 | 16 | 2 | 73 | 6.7 | 30 |
| Aug. 6..... | 1,420 | 5.1 | .04 | 4.4 | 1.8 | 9.0 | 1.5 | 22 | 7.0 | 8.1 | .3 | 1.6 | 50 | 18 | 0 | 78 | 6.6 | 20 |

2-1059. HOOD CREEK NEAR LELAND, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|-----|
| Feb. 14, 1962..... | 9.66 | 7.5 | 0.04 | 7.4 | 1.0 | 3.7 | 0.3 | 20 | 4.2 | 6.6 | 0.0 | 0.7 | 41 | 22 | 6 | 61 | 7.3 | 60 |
| Aug. 7..... | 15 | 6.8 | .32 | 7.1 | .8 | 3.6 | .2 | 19 | 1.4 | 5.7 | .1 | 1.1 | 36 | 22 | 6 | 52 | 6.6 | 180 |

2-1060. LITTLE COHARIE CREEK NEAR ROSEBORO, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|----|
| Feb. 15, 1962..... | 66.2 | 4.9 | 0.13 | 1.4 | 0.4 | 5.2 | 0.8 | 5 | 2.8 | 7.3 | 0.0 | 1.3 | 26 | 5 | 1 | 45 | 5.7 | 70 |
| Aug. 8..... | 128 | 6.5 | .04 | 1.4 | .5 | 4.2 | 1.0 | 6 | 4.0 | 4.2 | .1 | 1.4 | 26 | 6 | 0 | 38 | 5.9 | 90 |

2-1065. BLACK RIVER NEAR TOMAHAWK, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|----|---|----|-----|-----|
| Feb. 15, 1962..... | 490 | 7.2 | 0.16 | 3.2 | 0.7 | 4.8 | 0.9 | 8 | 6.4 | 7.3 | 0.0 | 1.0 | 36 | 11 | 4 | 57 | 6.2 | 45 |
| Aug. 8..... | 736 | 7.1 | .21 | 2.7 | .5 | 4.0 | 1.0 | 6 | 5.0 | 5.2 | .0 | .6 | 29 | 9 | 4 | 40 | 5.9 | 110 |

2-1075. COLLY CREEK NEAR KELLY, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|-----|
| Feb. 14, 1962..... | 127 | 7.5 | 0.22 | 2.2 | 0.3 | 2.1 | 0.3 | 0 | 3.6 | 3.7 | 0.1 | 2.1 | 22 | 7 | 7 | 40 | 4.5 | 300 |
| Aug. 7..... | 173 | 5.0 | .33 | 1.4 | .5 | 2.4 | .3 | 0 | 3.6 | 2.2 | .2 | .7 | 17 | 6 | 6 | 35 | 4.5 | 240 |

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Pot- as- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (calcu- lated) (NO ₃) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color | |
|------------------------------------------------------------------------------------------|--------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-----------------------------------------|-------------------------------|------------------|----------------------|---------------------------------------------------------|----------------------------------|--------------------|-------------------------------------------------------------|-----|-------|-----|
| | | | | | | | | | | | | | Calcium | Non-carbon- ate | | | | |
| CAPE FEAR RIVER BASIN--Continued | | | | | | | | | | | | | | | | | | |
| 2-1075.69. CAPE FEAR RIVER, AT CAROLINA POWER AND LIGHT STEAM PLANT, NEAR ROYSTER, N. C. | | | | | | | | | | | | | | | | | | |
| Oct. 1-2, 1961..... | | | | 7.1 | 3.4 | | | 22 | 8.8 | 52 | 0.3 | 2.3 | 74 | 32 | 14 | 242 | 6.5 | |
| Oct. 3-7..... | | 9.3 | 0.41 | 5.9 | 1.6 | 14 | 1.6 | 21 | | 20 | | | | 22 | 4 | 127 | 6.8 | 160 |
| 2-1076. NORTHEAST CAPE FEAR RIVER NEAR SEVEN SPRINGS, N. C. | | | | | | | | | | | | | | | | | | |
| Mar. 28, 1962..... | 63.4 | 3.6 | 0.32 | 3.8 | 0.7 | 33 | 1.4 | 9 | 4.6 | 51 | 0.2 | 0.8 | 103 | 12 | 5 | 204 | 5.9 | 85 |
| Sept. 11..... | 26.7 | 8.2 | .50 | 3.7 | 1.4 | 72 | 3.2 | 7 | 8.4 | 115 | .1 | 3.1 | 219 | 14 | 9 | 422 | 5.6 | 60 |
| 2-1085. ROCKFISH CREEK NEAR WALLACE, N. C. | | | | | | | | | | | | | | | | | | |
| Feb. 14, 1962..... | 38.1 | 6.4 | 0.17 | 4.3 | 1.2 | 3.9 | 0.7 | 10 | 6.4 | 6.2 | 0.0 | 1.2 | 35 | 16 | 8 | 58 | 6.3 | 50 |
| Aug. 8..... | 25.3 | 7.6 | .38 | 3.4 | .6 | 3.0 | .6 | 8 | 4.4 | 4.4 | .1 | .9 | 29 | 11 | 4 | 37 | 6.0 | 150 |
| PEE DEE RIVER BASIN | | | | | | | | | | | | | | | | | | |
| 2-1110. YADKIN RIVER AT PATTERSON, N. C. | | | | | | | | | | | | | | | | | | |
| Feb. 1, 1962..... | 75.4 | 10 | 0.02 | 2.4 | 0.4 | 1.7 | 0.7 | 12 | 2.8 | 1.9 | 0.0 | 0.4 | 26 | 8 | 0 | 29 | 6.6 | 9 |
| June 28..... | 101 | 10 | .02 | 2.8 | .6 | 2.1 | 1.0 | 15 | 1.4 | .9 | .1 | 1.3 | 27 | 10 | 0 | 31 | 6.4 | 3 |
| 2-1115. REDDIES RIVER AT NORTH WILKESBORO, N. C. | | | | | | | | | | | | | | | | | | |
| Jan. 6, 1962..... | 223 | 11 | 0.02 | 1.9 | 0.8 | 1.8 | 1.0 | 11 | 2.4 | 1.0 | 0.0 | 0.8 | 26 | 8 | 0 | 29 | 6.3 | 5 |
| June 28..... | 213 | 11 | .04 | 2.6 | .4 | 2.0 | .9 | 13 | 1.4 | 1.5 | 0.2 | .6 | 27 | 8 | 0 | 28 | 7.1 | 8 |
| 2-1130. FISHER RIVER NEAR COPELAND, N. C. | | | | | | | | | | | | | | | | | | |
| Dec. 22, 1961..... | 194 | 9.7 | 0.03 | 2.4 | 0.6 | 1.7 | 0.6 | 11 | 2.8 | 2.5 | 0.0 | 0.5 | 26 | 8 | 0 | 31 | 6.5 | 6 |
| July 25, 1962..... | 149 | 9.1 | .05 | 2.6 | .7 | 1.7 | .7 | 13 | 2.8 | 1.1 | .1 | 1.5 | 25 | 10 | 0 | 34 | 5.2 | 14 |
| 2-1144.5. LITTLE YADKIN RIVER AT DALTON, N. C. | | | | | | | | | | | | | | | | | | |
| Dec. 22, 1961..... | 40.2 | 17 | 0.08 | 3.2 | 1.7 | 3.2 | 1.7 | 19 | 3.2 | 3.3 | 0.0 | 0.8 | 43 | 15 | 0 | 48 | 6.6 | 15 |
| June 26, 1962..... | 156 | 8.8 | .03 | 2.6 | .9 | 1.9 | 1.8 | 11 | 5.4 | .6 | .1 | .5 | 28 | 10 | 2 | 38 | 6.0 | 28 |

2-1175. ROCKY CREEK AT TURNERSBURG, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Dec. 30, 1961..... | 109 | 13 | 0.01 | 3.2 | 1.0 | 2.4 | 1.1 | 18 | 2.0 | 1.7 | 0.2 | 0.7 | 34 | 12 | 0 | 38 | 6.6 | 5 |
| July 12, 1962..... | 78 | 11 | .07 | 3.2 | 1.0 | 2.4 | 1.3 | 19 | .4 | 2.3 | .0 | .8 | 31 | 12 | 0 | 36 | 6.7 | 13 |

2-1185. HUNTING CREEK NEAR HARMONY, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Dec. 30, 1961..... | 142 | 11 | 0.06 | 2.4 | 0.7 | 1.9 | 1.1 | 12 | 2.4 | 1.9 | 0.0 | 0.8 | 28 | 9 | 0 | 34 | 6.3 | 9 |
| June 28, 1962..... | 243 | 11 | .03 | 2.6 | .8 | 1.9 | 1.4 | 13 | .8 | 2.5 | .1 | .9 | 28 | 10 | 0 | 32 | 6.5 | 30 |

2-1190. SOUTH YADKIN RIVER AT COOLEEMEE, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|----|------|-----|-----|----|-----|----|-----|-----|-----|-----|----|----|---|-----|-----|----|
| Feb. 10, 1962..... | 714 | 13 | 0.16 | 3.5 | 1.5 | 19 | 2.0 | 58 | 6.4 | 3.0 | 0.0 | 1.1 | 79 | 15 | 0 | 113 | 8.0 | 35 |
| June 25..... | 950 | 10 | .08 | 3.5 | 1.4 | 12 | 2.5 | 37 | 4.4 | 6.7 | .1 | .5 | 59 | 15 | 0 | 106 | 6.7 | 22 |

2-1194. THIRD CREEK SUBWATERSHED NO. 7A NEAR STONY POINT, N. C. (OUTFLOW)

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Dec. 30, 1961..... | 5.49 | 11 | 0.02 | 2.6 | 0.7 | 2.3 | 1.4 | 13 | 2.0 | 2.4 | 0.1 | 2.1 | 31 | 10 | 0 | 36 | 6.3 | 12 |
| July 23, 1962..... | 3.45 | 12 | .06 | 2.6 | .9 | 4.1 | 2.3 | 16 | 1.2 | 4.3 | .1 | 2.7 | 38 | 10 | 0 | 48 | 6.4 | 10 |

2-1235. UWHARRIE RIVER NEAR ELDORADO, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|-----|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Mar. 1, 1962..... | 700 | 12 | 0.01 | 3.8 | 2.4 | 3.4 | 0.9 | 20 | 5.2 | 3.8 | 0.1 | 1.5 | 43 | 20 | 3 | 63 | 6.5 | 10 |
| Aug. 13..... | 28 | 14 | .06 | 8.3 | 3.1 | 3.4 | 1.3 | 48 | 2.4 | 3.4 | 0.2 | .9 | 63 | 34 | 0 | 83 | 7.4 | 20 |

2-1250. BIG BEAR CREEK NEAR RICHFIELD, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Jan. 27, 1962..... | 68 | 9.6 | 0.02 | 5.4 | 1.9 | 4.9 | 0.9 | 16 | 7.8 | 7.0 | 0.2 | 2.1 | 48 | 22 | 8 | 75 | 6.6 | 20 |
| July 11..... | .84 | 12 | .03 | 5.5 | 2.4 | 5.2 | 1.4 | 33 | 2.2 | 4.4 | .3 | .9 | 50 | 24 | 0 | 71 | 6.8 | 8 |

2-1270. BROWN CREEK NEAR POLKTON, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|-----|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Mar. 1, 1962..... | 409 | 7.2 | 0.05 | 2.5 | 1.9 | 4.0 | 1.5 | 14 | 1.6 | 6.0 | 0.1 | 0.7 | 33 | 14 | 2 | 61 | 6.0 | 38 |
| Aug. 16..... | .10 | 4.5 | .13 | 4.6 | 2.0 | 3.0 | 2.9 | 24 | 3.4 | 3.3 | .1 | 1.0 | 37 | 20 | 0 | 59 | 6.4 | 40 |

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (calcu- lated) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|------------------------------------------------------------|--------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-------------------------------|------------------|----------------------|------------------------------------|------------------------------------------|----------------------------------|------------------------|-------------------------------------------------------------|-----|-------|
| | | | | | | | | | | | | | Calcium | Non- carbon- ate | | | |
| PEE DEE RIVER BASIN--Continued | | | | | | | | | | | | | | | | | |
| 2-1280. LITTLE RIVER NEAR STAR, N. C. | | | | | | | | | | | | | | | | | |
| Mar. 1, 1962..... | 170 | 13 | 0.03 | 3.0 | 1.0 | 3.3 | 0.8 | 15 | 3.0 | 2.5 | 0.0 | 0.3 | 34 | 12 | 0 | 44 | 6.8 |
| Aug. 15..... | 14.3 | 14 | .17 | 5.4 | 1.7 | 4.8 | 1.0 | 32 | 1.6 | 3.1 | .0 | 1.0 | 49 | 20 | 0 | 67 | 7.7 |
| 2-1345. LUMBER RIVER AT BOARDMAN, N. C. | | | | | | | | | | | | | | | | | |
| Feb. 13, 1962..... | 1,250 | 4.9 | 0.06 | 1.5 | 0.8 | 3.7 | 0.6 | 3 | 5.4 | 5.5 | 0.0 | 0.7 | 24 | 8 | 5 | 41 | 5.7 |
| Aug. 6..... | 422 | 6.8 | .02 | 1.6 | .6 | 4.2 | .7 | 6 | 4.4 | 4.4 | .1 | .7 | 27 | 6 | 2 | 35 | 6.0 |
| SANTÉE RIVER BASIN | | | | | | | | | | | | | | | | | |
| 2-1370. MILL CREEK AT OLD FORT, N. C. | | | | | | | | | | | | | | | | | |
| Jan. 8, 1962..... | 56 | 8.3 | 0.01 | 2.2 | 0.7 | 1.3 | 0.5 | 10 | 3.2 | 1.5 | 0.0 | 0.2 | 23 | 8 | 0 | 27 | 6.5 |
| July 23..... | 23.7 | 10 | .00 | 2.9 | .8 | 1.5 | 1.5 | 13 | 3.0 | 1.0 | .1 | .6 | 28 | 10 | 0 | 33 | 7.0 |
| 2-1380. CATAWBA RIVER NEAR MARION, N. C. | | | | | | | | | | | | | | | | | |
| Jan. 8, 1962..... | 535 | 10 | 0.02 | 2.4 | 0.8 | 2.8 | 0.7 | 14 | 4.0 | 2.8 | 0.0 | 0.7 | 31 | 10 | 0 | 39 | 6.3 |
| July 23..... | 183 | 12 | .04 | 3.2 | 1.1 | 5.3 | 1.0 | 21 | 2.4 | 4.4 | .0 | 1.4 | 41 | 12 | 0 | 50 | 6.7 |
| 2-1385. LINVILLE RIVER AT BRANCH, N. C. | | | | | | | | | | | | | | | | | |
| Jan. 8, 1962..... | 275 | 6.0 | 0.01 | 1.3 | 2.6 | 1.2 | 0.8 | 6 | 1.6 | 28 | 0.1 | 0.4 | 57 | 42 | 38 | 110 | 5.9 |
| July 23..... | 49 | 6.9 | .01 | 2.6 | .4 | 1.4 | .7 | 13 | .6 | 1.2 | .2 | .6 | 21 | 8 | 0 | 27 | 6.8 |
| 2-1420. LOWER LITTLE RIVER NEAR ALL HEALING SPRINGS, N. C. | | | | | | | | | | | | | | | | | |
| Dec. 30, 1961..... | 29.7 | 11 | 0.02 | 3.2 | 0.5 | 2.1 | 0.9 | 15 | 1.4 | 1.3 | 0.2 | 0.2 | 28 | 10 | 0 | 33 | 6.6 |
| July 23, 1962..... | 20.2 | 11 | .07 | 2.7 | 1.0 | 1.9 | 1.2 | 16 | .4 | 1.4 | .1 | 1.3 | 29 | 11 | 0 | 32 | 3.3 |
| 2-1425. CATAWBA RIVER AT CATAWBA, N. C. | | | | | | | | | | | | | | | | | |
| Jan. 8, 1962..... | 724 | 8.7 | 0.02 | 2.3 | 1.4 | 3.1 | 1.7 | 15 | 3.0 | 3.0 | 0.0 | 1.5 | 32 | 12 | 0 | 47 | 6.3 |
| July 23..... | 4,130 | 9.3 | .03 | 3.3 | .7 | 4.5 | 1.6 | 17 | 2.6 | 4.5 | .2 | 2.3 | 37 | 11 | 0 | 48 | 6.9 |

2-1430. HENRY FORK NEAR HENRY RIVER, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|-----|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|---|---|----|-----|---|
| Jan. 8, 1962..... | 261 | 6.7 | 0.00 | 1.3 | 0.7 | 1.1 | 0.9 | 7 | 1.4 | 2.2 | 0.1 | 0.2 | 18 | 6 | 0 | 25 | 6.3 | 5 |
| June 26..... | 101 | 9.1 | .02 | 2.1 | .6 | 2.0 | 1.2 | 10 | 3.2 | 1.2 | .2 | 1.6 | 26 | 8 | 0 | 30 | 6.2 | 5 |

2-1430.4. JACOB FORK AT RAMSEY, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|---|---|----|-----|---|
| Jan. 9, 1962..... | 57.0 | 7.1 | 0.02 | 1.0 | 0.4 | 1.0 | 0.6 | 6 | 2.4 | 2.0 | 0.0 | 0.3 | 18 | 4 | 0 | 18 | 6.6 | 7 |
| July 27..... | 25 | 8.7 | .02 | 2.0 | .4 | 1.6 | .9 | 11 | 1.6 | 1.1 | .0 | .2 | 22 | 6 | 0 | 24 | 6.3 | 4 |

2-1440. LONG CREEK NEAR BESSEMER CITY, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Feb. 10, 1962..... | 37 | 14 | 0.10 | 4.6 | 1.9 | 2.8 | 1.2 | 25 | 2.4 | 3.5 | 0.1 | 2.1 | 45 | 20 | 0 | 59 | 6.6 | 30 |
| June 27..... | 31.7 | 13 | .02 | 5.4 | 1.6 | 2.6 | 1.9 | 26 | 3.0 | 1.9 | .1 | 1.9 | 45 | 20 | 0 | 60 | 6.4 | 17 |

2-1450. SOUTH FORK CATAWBA AT LOWELL, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Jan. 27, 1962..... | 930 | 14 | 0.01 | 4.7 | 1.5 | 6.7 | 1.4 | 24 | 4.2 | 6.3 | 0.1 | 0.6 | 52 | 18 | 0 | 72 | 6.4 | 10 |
| July 17..... | 530 | 13 | .06 | 4.8 | 1.4 | 4.9 | 1.5 | 24 | 2.4 | 5.0 | .3 | 2.2 | 48 | 18 | 0 | 60 | 7.0 | 8 |

2-1463. SUGAR IRWIN CREEK AT CHARLOTTE, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|----|------|----|-----|----|-----|----|----|----|-----|-----|-----|----|----|-----|-----|----|
| Oct. 13, 1961..... | 7.04 | 22 | 0.00 | 19 | 5.7 | 24 | 3.0 | 94 | 13 | 24 | 0.9 | 0.2 | 158 | 71 | 0 | 257 | 7.6 | 13 |
| July 9, 1962..... | 13.4 | 19 | .00 | 18 | 6.8 | 13 | 2.4 | 78 | 12 | 13 | .6 | 3.6 | 127 | 74 | 10 | 190 | 6.9 | 4 |

2-1465. LITTLE SUGAR CREEK NEAR CHARLOTTE, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|----|------|----|-----|----|-----|----|----|-----|-----|-----|-----|----|---|-----|-----|----|
| Dec. 29, 1961..... | 15.8 | 21 | 0.02 | 19 | 4.7 | 11 | 2.5 | 73 | 16 | 9.7 | 0.3 | 0.4 | 121 | 66 | 6 | 188 | 6.8 | 12 |
| July 9, 1962..... | 16.3 | 17 | .03 | 19 | 4.0 | 16 | 3.6 | 81 | 17 | 9.9 | .4 | 2.3 | 132 | 64 | 0 | 202 | 6.6 | 12 |

2-1469. TWELVE MILE CREEK NEAR WAXHAW, N. C.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Dec. 29, 1961..... | 11.8 | 20 | 0.04 | 5.8 | 2.1 | 6.5 | 1.6 | 31 | 4.8 | 5.5 | 0.2 | 0.4 | 62 | 24 | 0 | 80 | 6.8 | 18 |
| July 5, 1962..... | 10.0 | 14 | .04 | 6.4 | 2.7 | 5.6 | 1.7 | 36 | 4.0 | 3.5 | 0.1 | 1.0 | 37 | 27 | 0 | 82 | 6.8 | 20 |

2-1490. CORE CREEK NEAR LAKE LURE, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|------|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Jan. 8, 1962..... | 193 | 13 | 0.05 | 2.6 | 0.9 | 2.1 | 1.9 | 14 | 3.0 | 2.0 | 0.0 | 0.4 | 33 | 10 | 0 | 38 | 6.6 | 25 |
| July 23..... | 93.4 | 15 | .04 | 3.3 | .9 | 3.1 | 1.0 | 19 | 1.4 | 2.2 | .3 | .9 | 37 | 12 | 0 | 40 | 6.6 | 7 |

2-1510. SECOND BROAD RIVER AT CLIFFSIDE, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|-----|----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|---|
| Jan. 9, 1962..... | 588 | 12 | 0.00 | 2.6 | 1.5 | 3.7 | 1.2 | 16 | 2.8 | 4.8 | 0.0 | 1.4 | 38 | 12 | 0 | 54 | 6.7 | 5 |
| July 25..... | 246 | 15 | .05 | 4.2 | 1.4 | 7.8 | 1.5 | 24 | 2.8 | 7.2 | .2 | 1.8 | 54 | 16 | 0 | 70 | 6.7 | 5 |

2-1525. FIRST BROAD RIVER NEAR LAWDALE, N. C.

| | | | | | | | | | | | | | | | | | | |
|-------------------|-----|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Jan. 9, 1962..... | 512 | 9.8 | 0.00 | 2.1 | 1.0 | 2.4 | 1.3 | 12 | 2.6 | 2.5 | 0.0 | 0.8 | 28 | 9 | 0 | 36 | 6.8 | 5 |
| July 25..... | 199 | 11 | .06 | 3.0 | 1.1 | 3.9 | 1.5 | 18 | 2.4 | 3.7 | .0 | 1.8 | 38 | 12 | 0 | 45 | 6.8 | 15 |

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs) d | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color | |
|-----------------------------------------------------------------|----------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------|------------------------|-------------------------------------------------------------|-----|-------|-----|
| | | | | | | | | | | | | Calcium | Non- carbon- ate | | | | |
| ST. JOHNS RIVER BASIN | | | | | | | | | | | | | | | | | |
| 2-2320. ST. JOHNS RIVER NEAR MELBOURNE, FLA. | | | | | | | | | | | | | | | | | |
| July 6, 1962..... | 25 | 6.9 | 0.06 | 62 | 11 | 62 | 2.5 | 128 | 30 | 140 | 0.4 | 0.6 | 546 | 200 | 94 | 696 | 7.4 |
| Aug. 17..... | 556 | 6.0 | .26 | 17 | 2.3 | 18 | .8 | 32 | 3.2 | 32 | .4 | .2 | 188 | 52 | 26 | 187 | 6.4 |
| 2-2332. LITTLE ECONLOCKHATCHEE RIVER NEAR UNION PARK, FLA. | | | | | | | | | | | | | | | | | |
| Oct. 23, 1961..... | 4.9 | 4.8 | 0.10 | 7.2 | 1.5 | 9.5 | 0.9 | 20 | 4.8 | 16 | 0.3 | 0.0 | 82 | 24 | 8 | 101 | 6.7 |
| Dec. 4..... | 2.6 | 5.5 | .01 | 11 | 1.1 | 12 | .6 | 32 | 2.0 | 16 | .0 | .1 | 195 | 32 | 8 | 146 | 6.9 |
| Jan. 15, 1962..... | 4.2 | 5.5 | .04 | 12 | 1.9 | 10 | 1.5 | 37 | 5.2 | 19 | .2 | .2 | 38 | 8 | 135 | 7.4 | 40 |
| Feb. 28..... | 3.5 | 2.0 | .02 | 9.6 | 1.7 | 13 | 1.1 | 30 | 4.0 | 20 | .3 | .0 | 85 | 31 | 7 | 121 | 6.7 |
| Apr. 11..... | 2.6 | 3.4 | .08 | 11 | 1.6 | 12 | .5 | 33 | 5.2 | 18 | .2 | .0 | 86 | 34 | 7 | 125 | 6.9 |
| May 23..... | 1.5 | 1.6 | .03 | 9.6 | 1.9 | 16 | .4 | 33 | 4.0 | 20 | .2 | .0 | 79 | 32 | 5 | 126 | 7.0 |
| June 25..... | 1.0 | 3.8 | .01 | 8.0 | 1.0 | 14 | .3 | 26 | 3.2 | 18 | .1 | .1 | 76 | 26 | 4 | 118 | 6.7 |
| Aug. 8..... | 30 | 8.1 | .64 | 6.8 | 1.6 | 8.7 | 2.4 | 9 | 6.0 | 14 | .4 | .4 | 139 | 24 | 16 | 93 | 5.6 |
| 2-2340. ST. JOHNS RIVER NEAR GENEVA BRIDGE, FLA. | | | | | | | | | | | | | | | | | |
| May 29, 1962..... | | | | | | | | | | | | | | | | 4,230 | -- |
| June 7..... | | 8.7 | 0.02 | 126 | 78 | 644 | 24 | 116 | 240 | 1,180 | 0.7 | 5.6 | 2,730 | 636 | 540 | 4,200 | 7.2 |
| July 7..... | | 5.4 | .03 | 146 | 105 | 580 | 19 | 54 | 402 | 1,040 | .3 | 4.2 | 2,560 | 796 | 752 | 3,030 | 6.8 |
| Aug. 16..... | | 8.1 | .28 | 60 | 29 | 230 | 2.4 | 41 | 107 | 410 | .3 | .5 | 1,080 | 269 | 236 | 1,680 | 6.5 |
| 2-2344.5. ST. JOHNS RIVER ABOVE LAKE MONROE, NEAR SANFORD, FLA. | | | | | | | | | | | | | | | | | |
| May 29, 1962..... | | | | | | | | | | | | | | | | 2,720 | -- |
| June 7..... | | 8.6 | 0.04 | 76 | 38 | 348 | 12 | 66 | 132 | 630 | 0.3 | 6.8 | 1,570 | 346 | 292 | 2,360 | 7.0 |
| July 7..... | | 12 | .02 | 92 | 57 | 525 | 16 | 66 | 180 | 900 | .3 | 5.5 | 1,990 | 464 | 410 | 3,230 | 6.8 |
| Aug. 15..... | | 9.1 | .13 | 74 | 41 | 301 | 11 | 46 | 146 | 545 | .3 | .8 | 1,990 | 353 | 316 | 2,150 | 6.8 |

2-2345. ST. JOHNS RIVER NEAR SANFORD, FLA.

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2-2360. ST. JOHNS RIVER NEAR DE LAND, FLA.

[illegible]

2-2360.3. ST. JOHNS RIVER AT ASTOR, FLA.

[illegible]

2-2440. OKLAWAHA RIVER, AT RIVERSIDE LANDING, NEAR ORANGE SPRINGS, FLA.

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| Nov. 13, 1961..... | 1,330 | 9.5 | 0.02 | 56 | 11 | 40 | 1.5 | 146 | 47 | 73 | 0.1 | 344 | 184 | 65 | 565 | 8.0 | 20 |
| Jan. 9, 1962..... | 1,110 | 7.5 | .00 | 61 | 11 | 45 | 1.6 | 148 | 53 | 80 | .2 | 375 | 197 | 76 | 603 | 7.7 | 5 |
| Feb. 26..... | 964 | 8.3 | .00 | 64 | 12 | 51 | 2.0 | 152 | 56 | 85 | .2 | 406 | 209 | 84 | 645 | 7.7 | 5 |
| Apr. 27..... | 834 | 7.7 | .00 | 66 | 12 | 53 | 1.4 | 156 | 58 | 96 | .2 | 414 | 214 | 86 | 663 | 7.7 | 5 |
| Aug. 18..... | 1,380 | 7.6 | .10 | 69 | 12 | 45 | 1.2 | 112 | 102 | 74 | .3 | 441 | 222 | 130 | 633 | 7.3 | 90 |
| June 10..... | 1,190 | 9.8 | .12 | 64 | 12 | 38 | .8 | 126 | 71 | 74 | .4 | 388 | 209 | 106 | 563 | 7.5 | 110 |

a Top sample.

b Bottom sample.

c Integrated sample.

d Negative figures indicate reverse flow.

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|---------------------------------------------------------|--------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-----------------------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------------------|----------------------------------|--------------------|-------------------------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbon- ate | | | |
| ST. JOHNS RIVER BASIN--Continued | | | | | | | | | | | | | | | | | | |
| 2-2446.2. ST. JOHNS RIVER NEAR GREEN COVE SPRINGS, FLA. | | | | | | | | | | | | | | | | | | |
| July 7, 1962a..... | | 1.9 | 0.02 | 84 | 127 | 1,080 | 40 | 88 | 294 | 1,820 | 0.4 | 1.6 | 3,700 | 732 | 660 | 6,030 | 7.0 | 40 |
| July 7b..... | | 1.4 | .01 | 84 | 129 | 1,160 | 40 | 88 | 302 | 1,850 | .4 | 1.5 | 3,770 | 740 | 668 | 6,250 | 7.0 | 40 |
| July 7c..... | | 2.0 | .02 | 82 | 125 | 1,120 | 40 | 88 | 282 | 1,820 | .4 | 2.0 | 3,740 | 718 | 646 | 6,030 | 6.9 | 35 |
| Aug. 16..... | | 3.8 | .02 | 58 | 22 | 168 | 5.3 | 96 | 90 | 278 | .3 | 2.1 | 760 | 235 | 156 | 1,230 | 7.4 | 45 |
| 2-2446.5. ST. JOHNS RIVER AT PALATKA, FLA. | | | | | | | | | | | | | | | | | | |
| June 8, 1962..... | | 6.3 | 0.03 | 66 | 22 | 150 | 7.7 | 128 | 80 | 260 | 0.2 | 0.5 | 712 | 255 | 150 | 1,190 | 7.4 | 12 |
| July 7..... | | 6.4 | .03 | 69 | 25 | 178 | 5.3 | 104 | 114 | 299 | .3 | 2.4 | 804 | 225 | 190 | 1,340 | 6.9 | 40 |
| Aug. 16a..... | | 5.6 | .06 | 60 | 26 | 145 | 4.8 | 90 | 75 | 265 | .3 | 1.8 | 784 | 256 | 182 | 1,210 | 7.1 | 60 |
| Aug. 16b..... | | 5.8 | .05 | 60 | 23 | 148 | 4.8 | 88 | 87 | 267 | .3 | 1.8 | 788 | 244 | 172 | 1,200 | 7.1 | 60 |
| 2-2465. ST. JOHNS RIVER AT JACKSONVILLE, FLA. | | | | | | | | | | | | | | | | | | |
| June 8, 1962..... | | 0.4 | 0.02 | 206 | 547 | 4,790 | .192 | 89 | 1,110 | 8,370 | 0.8 | 1.9 | 16,400 | 2,760 | 2,690 | 24,600 | 7.2 | 25 |
| Aug. 16..... | | 2.4 | .04 | 86 | 173 | 1,500 | 54 | 72 | 374 | 2,620 | .4 | 3.1 | 5,060 | 926 | 867 | 8,110 | 7.1 | 50 |
| INDIAN RIVER BASIN | | | | | | | | | | | | | | | | | | |
| 2-2525. NORTH CANAL NEAR VERO BEACH, FLA. | | | | | | | | | | | | | | | | | | |
| Oct. 5, 1961..... | -- | 13 | 0.04 | 65 | 9.2 | 41 | 1.7 | 178 | 31 | 78 | | 0.2 | e327 | 200 | 54 | 582 | 7.8 | 45 |
| Nov. 8..... | -- | 8.0 | .02 | 55 | 13 | 49 | 2.4 | 160 | 30 | 80 | | .1 | e318 | 193 | 62 | 581 | 7.4 | 40 |
| Dec. 14..... | -- | 8.1 | .05 | 69 | 13 | 54 | 2.2 | 184 | 39 | 110 | | .9 | e387 | 226 | 74 | 685 | 7.9 | 20 |
| Feb. 15, 1962..... | -- | 7.1 | .04 | 71 | 9.5 | 46 | 1.9 | 194 | 31 | 92 | | .6 | e355 | 216 | 57 | 630 | 7.7 | 20 |
| Mar. 27..... | -- | 9.2 | .02 | 56 | 15 | 57 | 3.9 | 138 | 44 | 114 | | .8 | e368 | 201 | 88 | 682 | 7.3 | 40 |
| May 29..... | -- | 6.6 | .03 | 72 | 14 | 60 | 2.7 | 186 | 41 | 120 | | .8 | e408 | 237 | 84 | 777 | 7.7 | 40 |
| July 12..... | 21.7 | 12 | .02 | 80 | 24 | 80 | 6.8 | 164 | 78 | 182 | | .0 | e544 | 298 | 164 | 912 | 7.9 | 50 |
| Aug. 30..... | 7.3 | 12 | .02 | 68 | 15 | 61 | 2.8 | 184 | 41 | 118 | | .0 | e409 | 231 | 80 | 704 | 8.1 | 20 |

2-2530. MAIN CANAL AT VERO BEACH, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|-----|------|-----|----|-----|-----|-----|----|-----|--|-----|------|-----|-----|-------|-----|----|
| Oct. 4, 1961..... | 53 | 12 | 0.05 | 88 | 23 | 98 | 4.4 | 216 | 54 | 195 | | 0.5 | e590 | 314 | 137 | 1,070 | 7.6 | 45 |
| Nov. 8..... | 59 | 10 | .05 | 88 | 21 | 90 | 4.6 | 206 | 60 | 163 | | .3 | e540 | 306 | 134 | 966 | 8.3 | 50 |
| Dec. 14..... | 58 | 12 | .02 | 97 | 33 | 144 | 6.6 | 218 | 86 | 275 | | .1 | e761 | 378 | 199 | 1,380 | 8.2 | 25 |
| Feb. 15, 1962..... | 29 | 7.1 | .03 | 98 | 30 | 130 | 5.6 | 224 | 86 | 270 | | .6 | -- | 368 | 184 | 1,300 | 7.9 | 20 |
| Mar. 27..... | 122 | 11 | .01 | 85 | 32 | 140 | 7.7 | 186 | 98 | 260 | | .3 | e726 | 344 | 191 | 1,320 | 7.2 | 30 |
| May 29..... | 47 | 13 | .03 | 109 | 29 | 170 | 6.8 | 224 | 98 | 308 | | .2 | e844 | 392 | 208 | 1,480 | 7.5 | 40 |
| July 12..... | 90 | 18 | .03 | 92 | 18 | 92 | 6.0 | 200 | 71 | 178 | | .0 | e574 | 304 | 140 | 1,020 | 7.5 | 50 |
| Aug. 31..... | f137 | 12 | .04 | 76 | 15 | 67 | 3.9 | 184 | 53 | 128 | | .0 | e446 | 251 | 100 | 795 | 7.4 | 75 |

2-2535. SOUTH CANAL NEAR VERO BEACH, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|-----|------|----|-----|----|-----|-----|----|-----|--|-----|------|-----|----|-----|-----|----|
| Oct. 4, 1961..... | 5.3 | 18 | 0.05 | 73 | 8.3 | 44 | 2.0 | 214 | 23 | 76 | | 0.2 | e350 | 216 | 40 | 609 | 7.7 | 45 |
| Nov. 8..... | 6.4 | 8.7 | .03 | 63 | 8.5 | 46 | 1.5 | 178 | 27 | 85 | | .0 | e328 | 192 | 46 | 570 | 8.1 | 50 |
| Dec. 14..... | 4.8 | 7.8 | .03 | 74 | 8.1 | 47 | 2.2 | 206 | 28 | 82 | | .0 | e350 | 218 | 49 | 635 | 7.8 | 45 |
| Feb. 15, 1962..... | 3.9 | 6.9 | .05 | 78 | 8.1 | 50 | 2.0 | 230 | 28 | 88 | | .7 | e375 | 228 | 40 | 650 | 8.2 | 40 |
| Mar. 28..... | 5.8 | 8.0 | .03 | 74 | 13 | 56 | 3.0 | 212 | 32 | 99 | | .1 | e389 | 238 | 64 | 718 | 7.9 | 45 |
| May 30..... | 4.8 | 7.9 | .03 | 80 | 9.8 | 53 | 2.4 | 234 | 28 | 90 | | .0 | e386 | 240 | 48 | 701 | 7.8 | 45 |
| July 12..... | f99 | 8.3 | .07 | 56 | 15 | 55 | 5.3 | 132 | 50 | 110 | | .0 | e365 | 201 | 93 | 641 | 7.7 | 50 |
| Aug. 30..... | f7.5 | 6.8 | .04 | 60 | 7.4 | 40 | 1.5 | 160 | 22 | 74 | | .0 | e291 | 180 | 49 | 512 | 8.1 | 45 |

ST. LUCIE RIVER BASIN

2-2540. NORTH FORK ST. LUCIE RIVER AT WHITE CITY, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|-----|----|-----|-----|-----|-----|-----|-----|-----|--------|-----|-----|-------|-----|----|
| Oct. 10, 1961..... | -- | 16 | 0.04 | 115 | 30 | 182 | 6.6 | 240 | 118 | 320 | | 1.2 | e907 | 410 | 214 | 1,610 | 7.5 | 20 |
| Nov. 22..... | -- | 11 | .03 | 112 | 32 | 176 | 5.5 | 236 | 124 | 320 | | .6 | e897 | 411 | 218 | 1,600 | 7.8 | 12 |
| Dec. 20..... | -- | 11 | .02 | 118 | 33 | 185 | 6.8 | 240 | 128 | 370 | | .7 | -- | 430 | 234 | 1,700 | 7.9 | 15 |
| Jan. 18, 1962..... | -- | 8.6 | .00 | 124 | 32 | 225 | 7.4 | 232 | 136 | 400 | 0.6 | .1 | 1,140 | 441 | 251 | 1,840 | 7.9 | 10 |
| Feb. 13..... | -- | 8.8 | .03 | 116 | 44 | 223 | 7.8 | 234 | 130 | 410 | | .7 | e1,060 | 470 | 278 | 1,880 | 7.9 | 20 |
| Mar. 20..... | -- | 11 | .00 | 124 | 35 | 208 | 6.6 | 244 | 138 | 380 | | .6 | e1,020 | 454 | 254 | 1,770 | 8.1 | 15 |
| Apr. 20..... | -- | 7.6 | .00 | 122 | 26 | 145 | 4.8 | 240 | 125 | 269 | | .4 | e818 | 412 | 215 | 1,450 | 7.9 | 20 |
| May 15..... | -- | 9.4 | .03 | 118 | 32 | 200 | 7.0 | 224 | 128 | 366 | | .3 | e971 | 426 | 242 | 1,770 | 7.6 | 40 |
| June 21..... | -- | 14 | .01 | 124 | 22 | 165 | 5.3 | 244 | 122 | 285 | | .1 | e857 | 400 | 200 | 1,500 | 7.8 | 25 |
| July 24..... | 0.1 | 11 | .05 | 72 | 20 | 95 | 4.8 | 150 | 71 | 186 | | .0 | e534 | 262 | 138 | 962 | 7.4 | 55 |
| Aug. 28..... | 1.0 | 11 | .08 | 66 | 14 | 80 | 5.1 | 138 | 68 | 142 | | .3 | e454 | 222 | 109 | 793 | 7.2 | 50 |

a Top sample.

b Bottom sample.

c Integrated sample.

e Calculated from determined constituents.

f Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs) ^d | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color | |
|----------------------------------------------------------------------|---------------------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-----------------------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------------------|----------------------------------|-------------------------------------|-------------------------------------------------------------|-----|-------|-----|
| | | | | | | | | | | | | | | Calcium | Non- magne-carbon- sum ate | | | | |
| LAKE OKEECHOBEE AND THE EVERGLADES | | | | | | | | | | | | | | | | | | | |
| 2-2565. FISHEATING CREEK AT PALMDALE, FLA. | | | | | | | | | | | | | | | | | | | |
| Oct. 5, 1961..... | 56 | 4.7 | 0.19 | 5.2 | 1.2 | 6.4 | 0.0 | 13 | 0.0 | 10 | | 0.4 | e34 | 18 | 8 | 64 | 6.3 | 240 | |
| Dec. 6..... | .5 | 1.3 | .31 | 6.0 | 2.2 | 11 | .2 | 19 | 3.2 | 17 | | .0 | e51 | 24 | 8 | 92 | 6.6 | 120 | |
| Apr. 3, 1962..... | 1.6 | 1.4 | .04 | 6.4 | 2.9 | 13 | .5 | 16 | 4.0 | 18 | | 3.4 | e58 | 28 | 15 | 116 | 6.4 | 45 | |
| May 25..... | 1.3 | 2.7 | .03 | 8.8 | 2.9 | 13 | .6 | 36 | 4.4 | 18 | | .0 | e68 | 34 | 4 | 133 | 6.5 | 40 | |
| July 19..... | 1,090 | 3.7 | .18 | 4.8 | 1.9 | 4.6 | .8 | 16 | .0 | 7.0 | | .0 | e31 | 20 | 7 | 56 | 6.5 | 180 | |
| Aug. 28..... | 350 | 4.3 | .13 | 4.8 | 1.9 | 5.4 | .5 | 12 | .4 | 10 | | .0 | e33 | 20 | 10 | 63 | 6.6 | 160 | |
| 2-2580. HARNEY POND CANAL, AT HIGHWAY 78 BRIDGE, NEAR BRIGHTON, FLA. | | | | | | | | | | | | | | | | | | | |
| Oct. 5, 1961..... | | 8.1 | 0.26 | 29 | 5.7 | 18 | 1.5 | 76 | 26 | 28 | | 0.2 | e154 | 96 | 34 | 261 | 7.2 | 180 | |
| Dec. 6..... | | 3.6 | .02 | 39 | 10.9 | 33 | 1.3 | 124 | 37 | 59 | | .0 | e204 | 134 | 32 | 363 | 8.1 | 45 | |
| Feb. 2, 1962..... | | 1.9 | .05 | 47 | 10 | 33 | 2.0 | 146 | 39 | 49 | | .5 | e257 | 158 | 39 | 465 | 7.7 | 45 | |
| Mar. 30..... | | 2.1 | .00 | 46 | 11 | 34 | 2.7 | 146 | 39 | 62 | | .2 | e256 | 160 | 40 | 473 | 7.6 | 20 | |
| May 25..... | | 3.6 | .01 | 50 | 13 | 45 | 2.5 | 152 | 46 | 62 | | .1 | e297 | 178 | 54 | 549 | 7.7 | 20 | |
| July 20..... | | 10 | .43 | 56 | 11 | 14 | 2.5 | 24 | 129 | 18 | | 9.1 | e262 | 184 | 165 | 411 | 6.9 | 180 | |
| Aug. 27..... | | 4.3 | .09 | 14 | 5.1 | 7.3 | 1.4 | 20 | 30 | 12 | | .2 | e84 | 56 | 40 | 147 | 6.9 | 90 | |
| 2-2595. INDIAN PRAIRIE CANAL, AT HIGHWAY 78, NEAR OKEECHOBEE, FLA. | | | | | | | | | | | | | | | | | | | |
| Oct. 5, 1961..... | | 2.8 | 0.02 | 58 | 8.6 | 25 | 1.4 | 144 | 63 | 36 | | 0.2 | e266 | 180 | 62 | 456 | 7.4 | 55 | |
| Dec. 6..... | | 1.0 | .03 | 97 | 13 | 42 | 1.6 | 218 | 110 | 65 | | .0 | e437 | 296 | 117 | 720 | 7.9 | 55 | |
| Feb. 2, 1962..... | | 2.1 | .02 | 100 | 17 | 47 | 2.4 | 220 | 96 | 71 | | .0 | e444 | 320 | 139 | 776 | 8.2 | 70 | |
| Mar. 30..... | | 6.3 | .02 | 99 | 1.5 | 52 | 2.5 | 220 | 106 | 78 | | .6 | e467 | 308 | 128 | 803 | 7.5 | 50 | |
| May 25..... | | 11 | .04 | 112 | 16 | 52 | 2.5 | 244 | 135 | 70 | | .0 | e519 | 346 | 146 | 848 | 7.6 | 65 | |
| July 20..... | | 12 | .21 | 62 | 14 | 3.2 | 3.0 | 28 | 153 | 20 | | 8.4 | e290 | 212 | 189 | 454 | 7.1 | 200 | |
| Aug. 27..... | | 5.3 | .08 | 32 | 4.9 | 13 | 1.5 | 16 | 77 | 16 | | 2.2 | e160 | 100 | 87 | 275 | 6.8 | 80 | |
| 2-2629. BOGGY CREEK NEAR TAFT, FLA. | | | | | | | | | | | | | | | | | | | |
| Nov. 21, 1961..... | 6.8 | 9.3 | 0.06 | 4.0 | 2.9 | 12 | 1.0 | 20 | 5.2 | 16 | | 0.1 | 90 | 22 | 6 | 95 | 7.9 | 100 | |
| Jan. 16, 1962..... | 9.6 | 7.0 | .06 | 6.4 | 1.7 | 12 | 2.0 | 20 | 6.4 | 16 | | .2 | .1 | 74 | 23 | 6 | 100 | 7.1 | 90 |
| Mar. 13..... | 5.7 | 5.7 | .10 | 7.2 | 1.5 | 14 | 1.6 | 26 | 5.6 | 16 | | .2 | .5 | 82 | 24 | 2 | 109 | 7.0 | 100 |
| May 10..... | 1.1 | 6.9 | .07 | 8.0 | 1.9 | 14 | 1.8 | 34 | 5.6 | 16 | | .3 | .1 | 87 | 28 | 0 | 121 | 6.8 | 80 |
| June 26..... | 15 | 10 | .16 | 6.8 | 1.7 | 11 | 1.4 | 18 | 3.2 | 15 | | .1 | .9 | 100 | 20 | 5 | 95 | 6.5 | 210 |
| Aug. 22..... | 45 | 8.4 | .33 | 5.0 | 1.6 | 9.3 | 2.8 | 13 | 5.2 | 17 | | .3 | .1 | 106 | 19 | 8 | 94 | 6.2 | 40 |

2-2637. SHINGLE CREEK NEAR VINELAND, FLA.

| | | | | | | | | | | | | | | | | |
|--------------------|-----|------|-----|-----|----|-----|----|-----|----|-----|-----|----|----|-----|-----|-----|
| Nov. 22, 1961..... | 4.6 | 0.05 | 16 | 1.9 | 27 | 2.6 | 54 | 11 | 31 | 1.6 | 156 | 48 | 4 | 253 | 7.1 | 80 |
| Jan. 16, 1962..... | 5.3 | .05 | 15 | 1.8 | 24 | 3.3 | 32 | 12 | 32 | 4.3 | 157 | 45 | 19 | 236 | 7.2 | 70 |
| Mar. 13..... | 3.8 | .04 | 17 | 3.3 | 33 | 2.9 | 56 | 19 | 36 | .2 | 157 | 56 | 10 | 268 | 7.4 | 45 |
| May 9..... | 4.4 | .03 | 13 | 2.8 | 35 | 1.2 | 62 | 12 | 36 | .5 | 155 | 44 | 0 | 252 | 7.1 | 45 |
| June 27..... | 6.7 | .29 | 8.8 | 1.9 | 15 | 1.5 | 25 | 4.0 | 18 | .1 | 121 | 30 | 10 | 124 | 6.2 | 200 |
| Aug. 21..... | 8.5 | .16 | 7.2 | 3.9 | 18 | 5.1 | 24 | 7.2 | 26 | .4 | 126 | 34 | 14 | 174 | 6.2 | 120 |

2-2652. CYPRESS LAKE NEAR ST. CLOUD, FLA.

| | | | | | | | | | | | | | | | | |
|-------------------|-----|------|-----|-----|----|-----|----|----|----|-----|-----|----|----|-----|-----|----|
| May 28, 1962..... | 1.9 | 0.07 | 6.4 | 3.4 | 15 | 1.9 | 14 | 12 | 23 | 0.0 | e71 | 30 | 18 | 141 | 6.5 | 45 |
| July 17..... | 1.9 | .00 | 6.4 | 3.9 | 12 | 1.8 | 12 | 11 | 22 | .1 | e65 | 32 | 22 | 122 | 6.3 | 25 |

2-2685. WEORYKAPKA-ROSALIE CANAL NEAR LAKE WALES, FLA.

| | | | | | | | | | | | | | | | | |
|--------------------|-----|------|-----|-----|-----|-----|----|----|----|-----|-----|----|----|-----|-----|----|
| July 10, 1962..... | 5.3 | 0.00 | 9.6 | 5.8 | 6.6 | 0.8 | 24 | 16 | 12 | 0.0 | e68 | 48 | 28 | 110 | 7.4 | 5 |
| Aug. 21..... | | | | | 10 | 1.4 | 8 | | | | | 96 | 90 | 247 | 5.9 | 50 |

2-2720. ISTOKOGA CANAL NEAR CORNWELL, FLA.

| | | | | | | | | | | | | | | | | | |
|-------------------|-----|-----|------|-----|-----|-----|-----|----|----|----|-----|-----|----|----|-----|-----|-----|
| Oct. 3, 1961..... | 56 | 2.5 | 0.04 | 6.0 | 2.4 | 6.2 | 1.5 | 10 | 11 | 13 | 0.4 | e48 | 25 | 17 | 90 | 6.2 | 45 |
| Oct. 17..... | 53 | 4.7 | .05 | 6.0 | 2.7 | 6.8 | 1.6 | 10 | 12 | 14 | .1 | e53 | 26 | 18 | 94 | 6.2 | 45 |
| Nov. 21..... | 63 | 3.8 | .03 | 6.8 | 2.7 | 6.6 | 1.4 | 10 | 15 | 15 | .0 | e56 | 28 | 20 | 118 | 6.4 | 45 |
| Dec. 12..... | 53 | 1.3 | .03 | 7.2 | 2.2 | 6.7 | 1.4 | 9 | 16 | 14 | .0 | e53 | 27 | 20 | 110 | 6.2 | 45 |
| June 4, 1962..... | 18 | 1.2 | .03 | 8.8 | 3.9 | 12 | 2.0 | 14 | 21 | 18 | .0 | e74 | 38 | 26 | 151 | 6.2 | 40 |
| Aug. 21..... | 213 | -- | -- | -- | -- | 5.9 | 1.5 | 12 | -- | -- | -- | -- | 36 | 26 | 99 | 6.3 | 120 |

2-2745. TAYLOR CREEK ABOVE OKEECHOBEE, FLA.

| | | | | | | | | | | | | | | | | | |
|-------------------|-----|-----|------|-----|----|-----|-----|-----|-----|-------|-----|--------|-----|-----|-------|-----|-----|
| Oct. 3, 1961..... | 2.7 | 4.0 | 0.19 | 43 | 14 | 84 | 3.7 | 132 | 48 | 126 | 0.6 | e388 | 165 | 57 | 714 | 7.3 | 130 |
| Nov. 27..... | 2.1 | 4.1 | .03 | 112 | 50 | 323 | 12 | 130 | 206 | 650 | .9 | e1,420 | 485 | 378 | 2,450 | 7.4 | 45 |
| Feb. 2, 1962..... | 4.3 | 3.1 | .03 | 136 | 73 | 335 | 23 | 130 | 243 | 1,080 | 5.1 | e2,150 | 714 | 637 | 3,710 | 7.3 | 45 |
| June 4..... | 15 | 3.6 | .07 | 74 | 29 | 200 | 7.2 | 96 | 117 | 358 | .1 | e836 | 304 | 226 | 1,540 | 6.9 | 120 |

e Calculated from determined constituents.

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962---Continued

| Date of collection | Discharge (cfs)/d | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|--------------------|----------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-----------------------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------------------|----------------------------------|----------------------------------|-------------------------------------------------------------|----|-------|
| | | | | | | | | | | | | | | Calcium | Non- magne-carbon- ium ate | | | |

LAKE OKECHOBEE AND THE EVERGLADES--Continued

2-2765. ST. LUCIE CANAL AT LAKE OKECHOBEE, FLA.

| | | | | | | | | | | | | | | | | | | |
|-------------------|--|-----|------|-----|-----|----|-----|-----|----|----|--|-----|------|-----|----|-----|-----|-----|
| Oct. 6, 1961..... | | 7.1 | 0.04 | 42 | 11 | 26 | 1.4 | 140 | 25 | 36 | | 0.5 | e218 | 150 | 36 | 386 | 7.4 | 20 |
| Nov. 21..... | | 8.1 | .02 | 45 | 15 | 26 | 1.1 | 154 | 25 | 36 | | .5 | e236 | 176 | 50 | 400 | 7.4 | 20 |
| Dec. 2..... | | 7.8 | .01 | 43 | 13 | 20 | 2.2 | 138 | 25 | 32 | | .4 | e210 | 158 | 46 | 370 | 7.7 | 15 |
| Jan. 4, 1962..... | | 7.0 | .01 | 43 | 8.9 | 23 | 1.4 | 144 | 26 | 37 | | .3 | e218 | 144 | 26 | 370 | 8.0 | 15 |
| Feb. 2..... | | 8.8 | .02 | 47 | 12 | 28 | 1.6 | 164 | 24 | 32 | | .4 | e232 | 167 | 32 | 414 | 7.4 | 20 |
| Mar. 3..... | | 8.1 | .01 | 45 | 9.6 | 24 | 1.6 | 152 | 28 | 34 | | .3 | e226 | 152 | 28 | 385 | 7.9 | 15 |
| Apr. 2..... | | 4.8 | .01 | 55 | 10 | 33 | 2.8 | 176 | 39 | 49 | | .0 | e281 | 178 | 34 | 494 | 8.1 | 25 |
| May 5..... | | 7.4 | .01 | 72 | 10 | 51 | 3.1 | 218 | 35 | 72 | | .4 | e358 | 220 | 42 | 646 | 7.6 | 40 |
| June 5..... | | 5.8 | .01 | 47 | 10 | 28 | 1.9 | 156 | 28 | 41 | | .0 | e239 | 158 | 30 | 437 | 7.7 | 25 |
| July 4..... | | 7.8 | .01 | 61 | 8.3 | 42 | 2.9 | 186 | 22 | 61 | | .4 | e297 | 186 | 34 | 543 | 7.8 | 50 |
| Aug. 3..... | | 8.2 | .06 | 113 | 17 | 50 | 1.8 | 344 | 52 | 74 | | 4.7 | e490 | 352 | 70 | 833 | 7.8 | 200 |

2-2770. ST. LUCIE CANAL NEAR STUART, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|----|-----|------|----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-------|-----|----|
| Oct. 10, 1961..... | 10 | 4.6 | 0.02 | 80 | 7.9 | 55 | 2.5 | 248 | 8.8 | 90 | | 0.1 | e371 | 232 | 39 | 703 | 7.7 | 45 |
| Nov. 21..... | 10 | 2.9 | .02 | 86 | 14 | 118 | 4.9 | 252 | 42 | 110 | | .3 | e352 | 232 | 58 | 908 | 7.6 | 45 |
| Dec. 2..... | 10 | 6.4 | .01 | 84 | 17 | 118 | 4.2 | 252 | 42 | 201 | | .3 | e352 | 232 | 73 | 1,108 | 7.6 | 35 |
| Jan. 17, 1962..... | 10 | 6.4 | .01 | 96 | 6.9 | 122 | 4.2 | 268 | 42 | 180 | 0.4 | .0 | e352 | 268 | 48 | 1,030 | 7.8 | 20 |
| Feb. 13..... | 10 | 6.4 | .04 | 94 | 23 | 160 | 6.5 | 260 | 49 | 288 | | .5 | e734 | 325 | 112 | 1,340 | 8.1 | 30 |
| Mar. 20..... | 10 | 9.1 | .00 | 90 | 23 | 180 | 6.2 | 262 | 54 | 295 | | .4 | e789 | 319 | 101 | 1,430 | 8.3 | 25 |
| Apr. 20..... | 10 | 2.5 | .01 | 72 | 16 | 112 | 5.8 | 208 | 42 | 180 | | .0 | e532 | 246 | 75 | 966 | 7.8 | 45 |
| May 15..... | 10 | 6.1 | .02 | 70 | 12 | 86 | 5.3 | 204 | 34 | 140 | | .0 | e453 | 224 | 57 | 843 | 7.6 | 45 |
| June 21..... | 10 | 9.0 | .01 | 80 | 12 | 106 | 4.7 | 228 | 40 | 170 | | .1 | e534 | 249 | 62 | 980 | 8.2 | 45 |
| July 23..... | 10 | 9.4 | .02 | 72 | 12 | 57 | 3.0 | 224 | 22 | 98 | | .0 | e383 | 229 | 46 | 693 | 7.4 | 30 |
| Aug. 28..... | 10 | 7.1 | .05 | 46 | 5.1 | 27 | 2.7 | 138 | 12 | 43 | | .1 | e211 | 136 | 23 | 391 | 7.5 | 80 |

2-2777. SOUTHWEST FORK LOXAHATCHEE RIVER, AT S-46, NEAR JUPITER, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|----|-----|----|-----|-----|-----|----|--|-----|------|-----|----|-----|-----|----|
| Oct. 19, 1961..... | 98 | 9.4 | 0.02 | 80 | 5.0 | 31 | 0.8 | 246 | 15 | 50 | | 0.1 | e312 | 220 | 18 | 549 | 7.9 | 35 |
| July 23, 1962..... | 198 | 8.9 | .05 | 46 | 5.1 | 20 | .4 | 136 | 14 | 28 | | .0 | e159 | 136 | 21 | 341 | 7.7 | 70 |
| Aug. 27..... | 248 | 6.0 | .05 | 30 | 1.2 | 14 | .7 | 88 | 4.8 | 17 | | .3 | e117 | 80 | 8 | 220 | 7.2 | 70 |

2-2778. LEVEE L-8, AT S-76, NEAR CANAL POINT, FLA.

| | | | | | | | | | | | | | | | | |
|--------------------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|----|-------|-----|-----|
| Oct. 20, 1961..... | 23 | 0.08 | 78 | 29 | 115 | 5.0 | 314 | 64 | 150 | 7.8 | 6627 | 314 | 56 | 1,070 | 7.4 | 160 |
| Dec. 8..... | 8.3 | .01 | 41 | 9.1 | 23 | 1.8 | 140 | 27 | 36 | 1.2 | 6216 | 140 | 26 | 380 | 7.4 | 15 |
| Jan. 19, 1962..... | 8.2 | .01 | 46 | 13 | 27 | 1.8 | 154 | 28 | 36 | 1.1 | 6236 | 169 | 42 | 413 | 7.7 | 25 |
| Mar. 1..... | 7.6 | .01 | 46 | 8.8 | 27 | 1.9 | 158 | 18 | 36 | .0 | 6243 | 186 | 20 | 423 | 7.9 | 60 |
| Mar. 11..... | 16.1 | .01 | 106 | 8.7 | 84 | 2.8 | 318 | 18 | 120 | .4 | 6192 | 186 | 20 | 1,153 | 7.9 | 60 |
| June 28..... | 11.2 | .12 | 49 | 3.3 | 24 | .8 | 140 | 4.4 | 40 | .2 | 6197 | 136 | 22 | 353 | 7.2 | 200 |
| Aug. (?)..... | 3.4 | .12 | 31 | 3.5 | 17 | .6 | 94 | 4.0 | 28 | .3 | --- | 92 | 15 | 240 | 7.3 | 200 |

2-2780. WEST PALM BEACH CANAL, AT HGS-5, AT CANAL POINT, FLA.

| | | | | | | | | | | | | | | | | | |
|-------------------|------|-----|------|----|----|-----|-----|-----|-----|-----|-----|------|-----|----|-------|-----|-----|
| Oct. 2, 1961..... | 252 | 9.8 | 0.03 | 40 | 11 | 22 | 1.5 | 138 | 25 | 32 | 0.5 | e210 | 145 | 32 | 362 | 7.9 | 20 |
| Dec. 1..... | -106 | 7.5 | .02 | 43 | 12 | 24 | 2.7 | 140 | 29 | 36 | .4 | e224 | 157 | 42 | 390 | 8.1 | 17 |
| Jan. 3, 1962..... | 66 | 8.5 | .01 | 46 | 10 | 23 | 1.4 | 162 | 25 | 38 | .3 | e232 | 156 | 23 | 420 | 7.6 | 10 |
| Feb. 2..... | 222 | 8.3 | .02 | 43 | 13 | 24 | 1.0 | 148 | 25 | 33 | .5 | e221 | 161 | 40 | 392 | 8.2 | 20 |
| Mar. 3..... | 248 | 7.5 | .02 | 44 | 16 | 24 | 1.6 | 152 | 29 | 31 | .0 | e228 | 176 | 52 | 400 | 7.9 | 25 |
| Apr. 2..... | -409 | 24 | .03 | 90 | 31 | 169 | 4.7 | 326 | 112 | 220 | 7.8 | e820 | 352 | 85 | 1,370 | 7.9 | 140 |
| May 1..... | -53 | 19 | .03 | 72 | 12 | 96 | 4.6 | 252 | 53 | 120 | 5.3 | e506 | 229 | 22 | 863 | 7.8 | 90 |
| June 3..... | 52 | 7.9 | .02 | 48 | 10 | 30 | 1.9 | 162 | 27 | 43 | .6 | e248 | 161 | 28 | 447 | 7.7 | 35 |
| July 1..... | -52 | 25 | .07 | 88 | 31 | 138 | 6.7 | 374 | 88 | 247 | 5.9 | e742 | 177 | 40 | 1,380 | 7.2 | 200 |
| Aug. 1..... | -483 | 4.8 | .02 | 42 | 10 | 38 | 2.7 | 142 | 20 | 55 | .1 | e243 | 146 | 30 | 464 | 7.4 | 50 |

2-2784.5. WEST PALM BEACH CANAL NEAR LOXAHATCHEE, FLA.

| | | | | | | | | | | | | | | | | | |
|-------------------|--------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|--------|-----|----|-------|-----|-----|
| Oct. 2, 1961..... | 185 | 7.0 | 0.03 | 42 | 13 | 37 | 2.1 | 152 | 29 | 48 | 0.2 | e253 | 158 | 34 | 433 | 7.5 | 35 |
| Dec. 1..... | 87 | 9.1 | .03 | 72 | 11 | 56 | 4.2 | 228 | 28 | 86 | .2 | e377 | 220 | 33 | 669 | 7.8 | 50 |
| Jan. 2, 1962..... | 112 | 9.6 | .04 | 57 | 11 | 64 | 2.3 | 198 | 34 | 82 | .2 | e357 | 187 | 24 | 610 | 8.0 | 40 |
| Feb. 1..... | 176 | 21 | .02 | 68 | 34 | 110 | 4.8 | 286 | 62 | 138 | .1 | e579 | 310 | 75 | 975 | 8.1 | 100 |
| Mar. 1..... | 124 | 9.5 | .01 | 50 | 10 | 40 | 1.8 | 164 | 33 | 52 | .0 | e281 | 166 | 25 | 483 | 8.3 | 35 |
| Apr. 2..... | 47 | 17 | .06 | 77 | 24 | 131 | 5.8 | 306 | 53 | 170 | 12 | e641 | 290 | 40 | 1,090 | 7.9 | 130 |
| May 2..... | 114 | 20 | .04 | 108 | 17 | 185 | 6.5 | 386 | 68 | 215 | 5.6 | e815 | 340 | 23 | 1,380 | 7.7 | 120 |
| July 2..... | -158 | 6.6 | .90 | 45 | 3.8 | 37 | 1.1 | 132 | 12 | 56 | .1 | e228 | 128 | 20 | 418 | 7.9 | 120 |
| Aug. 1..... | 224 | 24 | .07 | 72 | 24 | 145 | 5.2 | 332 | 40 | 193 | 4.4 | e672 | 278 | 6 | 1,150 | 7.5 | 120 |
| Aug. 23..... | 1,310 | --- | --- | --- | --- | 135 | 5.6 | 318 | --- | --- | --- | --- | 340 | 80 | 1,210 | 7.3 | 400 |
| Sept. 4..... | 11,020 | 32 | .09 | 108 | 39 | 230 | 8.3 | 492 | 57 | 280 | 6.9 | e1,020 | 436 | 0 | 1,610 | 8.3 | 200 |

d Negative figures indicate reverse flow.

e Calculated from determined constituents.

f Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs) ^d | Silica (SiO ₂) | Iron (Fe) | Calcium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|------------------------------------------------------------|---------------------------------|-------------------------------|--------------|-----------------|-----------------------------|----------------|----------------------------|-----------------------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------------------|----------------------------------|------------------------|-------------------------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non- magne- sium | | | |
| LAKE OKEECHOBEE AND THE EVERGLADES--Continued | | | | | | | | | | | | | | | | | | |
| 2-2785.5. LEVEE 8 CANAL NEAR LOXAHATCHEE, FLA. | | | | | | | | | | | | | | | | | | |
| Oct. 2, 1961..... | 162 | 4.0 | 0.05 | 54 | 11 | 43 | 2.0 | 182 | 24 | 62 | | 0.1 | e290 | 180 | 30 | 523 | 7.6 | 50 |
| Dec. 1..... | -87 | 9.1 | .05 | 69 | 12 | 49 | 3.6 | 218 | 8.4 | 80 | | .0 | e338 | 222 | 43 | 626 | 7.6 | 50 |
| Jan. 2, 1962..... | -112 | 8.4 | .05 | 66 | 11 | 58 | 2.1 | 218 | 31 | 92 | | .3 | e376 | 210 | 31 | 660 | 8.0 | 40 |
| Mar. 1..... | -23 | 11 | .02 | 78 | 8.6 | 69 | 2.3 | 238 | 26 | 105 | | 1.9 | e421 | 230 | 32 | 740 | 8.3 | 45 |
| Apr. 2..... | -47 | 16 | .05 | 76 | 23 | 125 | 5.2 | 268 | 55 | 165 | | 9.4 | e623 | 284 | 38 | 1,050 | 8.6 | 150 |
| May 2..... | 98 | 11 | .03 | 104 | 5.0 | 98 | 3.1 | 310 | 26 | 140 | | .0 | e540 | 280 | 26 | 969 | 7.6 | 75 |
| July 2..... | 138 | 6.3 | .06 | 42 | 5.6 | 36 | 1.1 | 134 | 12 | 58 | | .1 | e222 | 128 | 26 | 408 | 7.6 | 75 |
| Aug. 1..... | 119 | 6.8 | .08 | 37 | 3.8 | 28 | 1.0 | 112 | 9.6 | 44 | | .0 | e185 | 108 | 16 | 338 | 7.1 | 60 |
| Aug. 23..... | -- | -- | -- | -- | -- | 40 | 1.5 | 200 | -- | -- | | -- | -- | 200 | 36 | 555 | 7.4 | 120 |
| 2-2805. HILLSBORO CANAL, BELOW RGS-4, NEAR SOUTH BAY, FLA. | | | | | | | | | | | | | | | | | | |
| Oct. 2, 1961..... | -- | 10 | 0.03 | 44 | 13 | 33 | 1.8 | 154 | 36 | 45 | | 0.1 | e259 | 164 | 38 | 449 | 7.6 | 40 |
| Nov. 1..... | -- | 29 | .06 | 113 | 44 | 131 | 7.0 | 474 | 86 | 180 | | .3 | e823 | 463 | 74 | 1,380 | 7.3 | 220 |
| Dec. 1..... | -- | 7.3 | .02 | 45 | 14 | 25 | 3.0 | 152 | 31 | 38 | | .4 | e239 | 170 | 46 | 419 | 7.6 | 20 |
| Jan. 3, 1962..... | -- | 19 | .02 | 64 | 11 | 25 | 1.7 | 208 | 30 | 38 | | 4.1 | e295 | 204 | 34 | 500 | 7.8 | 15 |
| Feb. 2..... | -- | 5.1 | .02 | 42 | 13 | 32 | 2.0 | 150 | 31 | 43 | | .2 | e542 | 158 | 36 | 441 | 8.1 | 30 |
| Mar. 3..... | -- | 5.0 | .01 | 44 | 9.7 | 26 | 1.6 | 146 | 29 | 38 | | .3 | e226 | 150 | 30 | 403 | 7.6 | 25 |
| Apr. 2..... | -- | 21 | .03 | 79 | 28 | 101 | 4.7 | 282 | 102 | 127 | | .1 | e602 | 312 | 81 | 991 | 8.1 | 80 |
| May 1..... | -- | 2 | .05 | 68 | 32 | 92 | 5.0 | 268 | 74 | 114 | | 2.4 | e520 | 301 | 82 | 922 | 7.5 | 110 |
| June 5..... | -- | 8.3 | .02 | 32 | 12 | 42 | 2.2 | 112 | 32 | 57 | | .9 | e241 | 130 | 38 | 448 | 7.4 | 45 |
| July 4..... | -- | -- | .07 | 130 | 45 | 116 | 7.0 | 434 | 149 | 162 | | 22 | e671 | 510 | 154 | 1,390 | 8.0 | 240 |
| Aug. 1..... | 12.2 | 18 | .08 | 140 | 44 | 91 | 4.5 | 488 | 111 | 126 | | 4.2 | e779 | 530 | 130 | 1,271 | 7.7 | 200 |
| Aug. 2..... | 220 | -- | -- | -- | -- | 118 | 6.5 | 504 | -- | -- | | -- | -- | 480 | 67 | 1,390 | 7.3 | 200 |

2-2813. HILLSBORO CANAL, AT S-39, NEAR DEERFIELD BEACH, FLA.

| | | | | | | | | | | | | | | | | | |
|--------------------|-----|------|----|-----|-----|-----|-----|----|-----|-----|------|-----|-----|----|-------|-----|-----|
| Oct. 11, 1961..... | 17 | 0.02 | 49 | 17 | 98 | 3.4 | 210 | 29 | 130 | 0.3 | e453 | 192 | 130 | 10 | 783 | 8.4 | 100 |
| Nov. 13..... | 7.2 | .03 | 56 | 22 | 104 | 3.5 | 256 | 38 | 135 | .2 | e492 | 230 | 20 | 20 | 867 | 7.9 | 110 |
| Dec. 11..... | 6.7 | .06 | 74 | 11 | 49 | 4.9 | 242 | 25 | 80 | .0 | e370 | 230 | 31 | 31 | 664 | 7.6 | 90 |
| Jan. 8, 1962..... | 3.4 | .05 | 69 | 23 | 102 | 4.1 | 316 | 29 | 134 | 2.6 | -- | 286 | 8 | 8 | 920 | 8.2 | 90 |
| Feb. 7..... | 8.5 | .01 | 72 | 37 | 237 | 7.3 | 370 | 67 | 340 | 1.7 | e953 | 332 | 28 | 28 | 1,750 | 7.9 | 80 |
| Mar. 15..... | 9.7 | .04 | 70 | 22 | 160 | 4.7 | 208 | 50 | 205 | 2.1 | e676 | 285 | 12 | 12 | 1,190 | 7.8 | 60 |
| Apr. 7..... | 5.2 | .05 | 78 | 9.1 | 78 | 2.5 | 248 | 36 | 113 | .3 | e445 | 232 | 29 | 29 | 1,806 | 8.0 | 70 |
| Apr. 13..... | 1.6 | .03 | 60 | 18 | 134 | 4.0 | 238 | 52 | 175 | .4 | e562 | 224 | 28 | 28 | 1,010 | 8.1 | 70 |
| May 3..... | 10 | .02 | 72 | 17 | 150 | 4.4 | 290 | 50 | 190 | 1.4 | e638 | 250 | 12 | 12 | 1,140 | 7.6 | 50 |
| June 15..... | 15 | .03 | 84 | 27 | 225 | 5.8 | 380 | 64 | 270 | 1.4 | e879 | 320 | 9 | 9 | 1,540 | 7.8 | 90 |

2-2815. HILLSBORO CANAL, ABOVE CONTROL, NEAR DEERFIELD BEACH, FLA.

| | | | | | | | | | | | | | | | | | | |
|-------------------|-----|-----|-------|----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|
| Apr. 7, 1962..... | 40 | 4.8 | 80.14 | 83 | 10 | 92 | 4.3 | 266 | 38 | 120 | 0.4 | 0.2 | 512 | 248 | 30 | 877 | 7.6 | 75 |
| Aug. 23..... | 160 | 9.3 | .05 | 98 | 6.2 | 62 | 4.1 | 294 | 24 | 95 | .6 | .0 | 486 | 270 | 29 | 770 | 7.6 | 80 |

2-2822.5. CYPRESS CREEK CANAL, AT S-37-A, NEAR POMPANO BEACH, FLA.

| | | | | | | | | | | | | | | | | | |
|-------------------|-----|------|----|-----|----|-----|-----|----|----|-----|-----|-----|-----|----|-----|-----|----|
| Apr. 7, 1962..... | 16 | 0.05 | 98 | 9.6 | 46 | 2.4 | 294 | 34 | 69 | 0.3 | 0.0 | 422 | 284 | 43 | 802 | 7.8 | 30 |
| Aug. 23..... | 6.6 | 0.05 | 94 | 5.0 | 35 | 2.8 | 268 | 24 | 52 | .4 | .0 | 392 | 255 | 36 | 605 | 7.8 | 75 |

2-2825. MIDDLE RIVER CANAL, AT S-36, NEAR FORT LAUDERDALE, FLA.

| | | | | | | | | | | | | | | | | | |
|-------------------|----|-------|-----|-----|----|-----|-----|----|----|-----|-----|-----|-----|----|-----|-----|----|
| Apr. 7, 1962..... | 17 | 60.41 | 102 | 2.3 | 17 | 1.8 | 288 | 19 | 26 | 0.5 | 0.8 | 344 | 264 | 28 | 549 | 7.7 | 60 |
| Aug. 23..... | 11 | .03 | 106 | 2.6 | 18 | 1.4 | 298 | 18 | 27 | .3 | .8 | 342 | 275 | 31 | 582 | 7.2 | 35 |

2-2825.1. MIDDLE RIVER CANAL, AT S-36, NEAR FORT LAUDERDALE, FLA.

| | | | | | | | | | | | | | | | | | |
|-------------------|-----|------|-----|-----|----|-----|-----|----|-------|-----|-----|-----|-----|----|--------|-----|----|
| Apr. 7, 1962..... | 8.6 | 0.04 | 106 | 2.6 | 19 | 1.4 | 302 | 16 | 3,150 | 0.3 | 0.1 | 372 | 275 | 28 | 10,400 | 7.7 | 45 |
| Aug. 23..... | | | | | | | | | 30 | | | | | 28 | 599 | 7.7 | 55 |

d Negative figures indicate reverse flow.

e Calculated from determined constituents.

g Total iron.

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs) ^d | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|--------------------|---------------------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-----------------------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------------------|--|----------------------------------|------------------------|-------------------------------------------------------------|----|-------|
| | | | | | | | | | | | | | | | Calcium | Non- magne- cium | | | |

LAKE OKECHOBEE AND THE EVERGLADES--Continued

2-2835. NORTH NEW RIVER CANAL NEAR SOUTH BAY, FLA.

| | | | | | | | | | | | | | | | | | | |
|-------------------|------|-----|------|-----|----|-----|-----|-----|-----|-----|--|-----|------|-----|-----|-------|-----|-----|
| Oct. 2, 1961..... | 438 | 12 | 0.04 | 46 | 14 | 34 | 2.1 | 160 | 31 | 46 | | 0.1 | e264 | 172 | 42 | 457 | 7.9 | 35 |
| Nov. 1..... | 300 | 26 | .11 | 101 | 34 | 122 | 6.4 | 420 | 89 | 160 | | .9 | e746 | 392 | 48 | 1,250 | 7.4 | 180 |
| Dec. 1..... | 286 | 7.8 | .02 | 46 | 12 | 26 | 3.0 | 152 | 31 | 38 | | .4 | e239 | 164 | 40 | 421 | 7.7 | 20 |
| Jan. 3, 1962..... | 314 | 24 | .02 | 77 | 12 | 25 | 1.7 | 242 | 35 | 40 | | 3.4 | e362 | 242 | 43 | 555 | 7.5 | 20 |
| Feb. 2..... | 253 | 5.6 | .04 | 43 | 15 | 32 | 2.0 | 154 | 29 | 42 | | .0 | e245 | 169 | 43 | 440 | 8.1 | 25 |
| Mar. 2..... | 234 | 9.0 | .00 | 54 | 10 | 25 | 1.6 | 180 | 28 | 35 | | .4 | e252 | 176 | 28 | 439 | 8.0 | 15 |
| Apr. 2..... | 372 | 16 | .02 | 70 | 21 | 59 | 3.4 | 232 | 77 | 79 | | 7.6 | e447 | 261 | 71 | 749 | 8.1 | 70 |
| May 1..... | 312 | 1.1 | .01 | 50 | 16 | 56 | 3.4 | 180 | 45 | 74 | | 3.0 | e338 | 191 | 44 | 624 | 7.6 | 60 |
| June 4..... | 316 | 7.6 | .02 | 42 | 12 | 37 | 2.2 | 144 | 36 | 53 | | 1.1 | e262 | 154 | 36 | 476 | 7.5 | 30 |
| July 4..... | -867 | 17 | .03 | 122 | 38 | 74 | 4.3 | 364 | 105 | 98 | | 36 | e673 | 461 | 162 | 1,090 | 8.1 | 180 |
| Aug. 2..... | 251 | 18 | .05 | 140 | 44 | 89 | 4.4 | 492 | 120 | 132 | | 4.7 | e794 | 530 | 128 | 1,260 | 7.6 | 170 |

2-2846.6. NORTH NEW RIVER CANAL, BELOW S-34, NEAR FORT LAUDERDALE, FLA.

| | | | | | | | | | | | | | | | | | | |
|-------------------|----|-------|----|----|----|----|-----|-----|-----|----|-----|-----|-----|-----|----|-----|-----|----|
| Apr. 7, 1962..... | 10 | 80.42 | 77 | 15 | 15 | 48 | 1.8 | 300 | 6.0 | 69 | 0.2 | 1.7 | 402 | 254 | 8 | 629 | 7.8 | 55 |
| Aug. 23..... | 10 | .03 | 82 | 15 | 15 | 54 | 2.0 | 304 | 5.6 | 76 | .4 | 1.6 | 456 | 266 | 17 | 684 | 7.9 | 65 |

2-2848. NORTH NEW RIVER CANAL WEST OF FORT LAUDERDALE, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|-----|-----|----|-----|-----|-----|----|--|-----|------|-----|----|-----|-----|----|
| Oct. 12, 1961..... | | 8.8 | 0.04 | 100 | 5.0 | 22 | 0.8 | 246 | 7.2 | 68 | | 1.0 | e334 | 270 | 30 | 580 | 7.7 | 80 |
| Nov. 13..... | | 7.7 | .04 | 70 | 9.6 | 52 | 2.8 | 258 | 7.6 | 75 | | 1.1 | e353 | 214 | 2 | 627 | 7.6 | 55 |
| Dec. 6..... | | 4.1 | .03 | 70 | 9.1 | 41 | 3.1 | 242 | 22 | 65 | | 1.4 | e324 | 212 | 14 | 583 | 8.0 | 60 |
| Jan. 8, 1962..... | | 8.1 | .05 | 67 | 15 | 54 | 2.2 | 256 | 22 | 82 | | 1.2 | e378 | 228 | 18 | 660 | 8.1 | 55 |
| Feb. 6..... | | 7.3 | .05 | 74 | 14 | 58 | 2.3 | 272 | 12 | 75 | | .6 | e354 | 242 | 19 | 678 | 8.1 | 60 |
| Mar. 6..... | | 4.6 | .01 | 62 | 20 | 60 | 2.1 | 240 | 18 | 74 | | .2 | e259 | 237 | 40 | 634 | 7.9 | 50 |
| Apr. 5..... | | 5.2 | .02 | 78 | 9.6 | 61 | 2.5 | 286 | 18 | 94 | | 1.6 | e396 | 234 | 24 | 720 | 8.1 | 60 |
| May 3..... | | 4.7 | .02 | 75 | 11 | 55 | 1.5 | 350 | 10 | 75 | | .0 | e374 | 240 | 10 | 674 | 7.4 | 55 |
| June 2..... | | 7.1 | .03 | 74 | 12 | 56 | 2.4 | 262 | 13 | 76 | | .5 | e375 | 226 | 12 | 686 | 7.3 | 75 |
| Aug. 6..... | 0.3 | 6.7 | .03 | 48 | 9.7 | 43 | 1.4 | 176 | 14 | 60 | | .1 | e270 | 160 | 16 | 493 | 7.3 | 50 |

2-2860.5. SOUTH NEW RIVER CANAL WEST OF DAVIE, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|----|-----|----|-----|-----|-----|----|--|-----|------|-----|----|-----|-----|----|
| Oct. 12, 1961..... | -- | 6.8 | 0.02 | 84 | 12 | 45 | 0.8 | 306 | 22 | 38 | | 1.2 | e361 | 259 | 8 | 665 | 7.9 | 80 |
| Nov. 13..... | -- | 8.2 | .04 | 85 | 10 | 43 | 1.2 | 306 | 6.0 | 62 | | 1.0 | e367 | 253 | 2 | 651 | 7.7 | 65 |
| Dec. 6..... | -- | 7.1 | .03 | 82 | 11 | 37 | 2.2 | 284 | 12 | 56 | | 1.0 | e348 | 230 | 17 | 616 | 7.9 | 55 |
| Jan. 8, 1962..... | -- | 4.8 | .04 | 76 | 10 | 46 | 1.5 | 280 | 7.2 | 67 | | 1.0 | e332 | 230 | 16 | 823 | 8.0 | 35 |
| Feb. 6..... | -- | 4.3 | .03 | 75 | 15 | 48 | 1.8 | 284 | 11 | 61 | | .2 | e332 | 238 | 15 | 823 | 8.0 | 35 |
| Mar. 6..... | -- | 3.6 | .01 | 64 | 15 | 55 | 2.1 | 238 | 9.6 | 61 | | .1 | e335 | 221 | 12 | 563 | 8.4 | 60 |
| Apr. 5..... | -- | 4.7 | .02 | 70 | 12 | 50 | 1.8 | 270 | 8.8 | 66 | | .2 | e347 | 224 | 2 | 621 | 7.9 | 60 |
| May 2..... | -- | 7.1 | .02 | 80 | 7.4 | 56 | 1.8 | 276 | 11 | 72 | | .0 | e371 | 230 | 4 | 658 | 8.2 | 50 |
| June 11..... | -- | 11 | .03 | 80 | 9.8 | 50 | 1.8 | 292 | 8.0 | 66 | | .1 | e371 | 240 | 0 | 669 | 7.7 | 60 |
| July 10..... | 2.9 | 7.8 | .03 | 92 | 12 | 38 | 1.1 | 296 | 16 | 64 | | .0 | e377 | 279 | 36 | 635 | 7.6 | 60 |
| Aug. 6..... | 3.0 | 8.3 | .04 | 88 | 12 | 36 | 1.0 | 304 | 13 | 56 | | .0 | e364 | 269 | 20 | 643 | 7.7 | 60 |
| Sept. 12..... | -- | 7.9 | .01 | 93 | 8.3 | 29 | .8 | 300 | 14 | 44 | | .1 | e345 | 266 | 20 | 590 | 7.8 | 50 |

2-2863.4. BISCAYNE CANAL NEAR OPALOCKA, FLA.

| | | | | | | | | | | | | | | | | | | |
|-------------------|-----|-----|------|----|-----|----|-----|-----|-----|----|-----|-----|-----|-----|----|-----|-----|----|
| Oct. 3, 1961..... | -- | 8.4 | 0.05 | 80 | 6.9 | 20 | 1.5 | 264 | 12 | 30 | 0.2 | 1.2 | 320 | 228 | 12 | 511 | 7.9 | 55 |
| Nov. 1..... | -- | 8.8 | .04 | 83 | 10 | 18 | 1.5 | 282 | 11 | 28 | .3 | .1 | 320 | 248 | 17 | 523 | 7.7 | 55 |
| Dec. 1..... | -- | 11 | .08 | 82 | 8.6 | 25 | 1.6 | 284 | 8.4 | 34 | .2 | .0 | 338 | 240 | 8 | 540 | 7.6 | 55 |
| Jan. 2, 1962..... | -- | 14 | .02 | 82 | 9.1 | 25 | 1.3 | 290 | 8.0 | 32 | .3 | 1.6 | 338 | 242 | 8 | 545 | 7.8 | 45 |
| Feb. 1..... | 1.7 | 5.5 | .01 | 88 | 7.4 | 28 | 1.8 | 284 | 8.4 | 32 | .3 | 2.2 | 364 | 240 | 16 | 535 | 7.8 | 50 |
| Mar. 1..... | 1.5 | 2.9 | .01 | 84 | 7.4 | 28 | 1.8 | 274 | 8.0 | 37 | .3 | | 344 | 240 | 16 | 535 | 7.8 | 50 |
| Apr. 2..... | 1.6 | 2.9 | .03 | 78 | 7.4 | 37 | 2.1 | 264 | 11 | 48 | .3 | .2 | 364 | 225 | 8 | 559 | 7.9 | 45 |
| May 1..... | 1.2 | 1.7 | .01 | 81 | 6.8 | 28 | 1.8 | 276 | 10 | 40 | .3 | .1 | 332 | 230 | 4 | 554 | 7.7 | 50 |
| June 4..... | 1.1 | 3.4 | .02 | 78 | 9.1 | 26 | 1.6 | 268 | 9.6 | 36 | .4 | .0 | 329 | 232 | 12 | 532 | 7.6 | 50 |
| Aug. 1..... | -- | 5.7 | .02 | 92 | 7.4 | 20 | 1.7 | 292 | 12 | 28 | .2 | .0 | 350 | 260 | 20 | 517 | 8.0 | 50 |
| Sept. 4..... | -- | 6.0 | .04 | 94 | 6.2 | 16 | 1.8 | 288 | 12 | 24 | .2 | .1 | 344 | 260 | 24 | 502 | 7.4 | 50 |

d Negative figures indicate reverse flow.

e Calculated from determined constituents.

g Total iron.

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--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 (residue at 180°C) | Hardness as CaCO ₃ | Specific conductance (micro- mhos at 25°C) | pH | Color | |
|-------------------------------------------------------------|--------------------|-------------------------------|--------------|-----------------|-------------------|----------------|------------------|------------------------------------|-------------------------------|------------------|-----------------|-------------------------------|----------------------------------------------|----------------------------------|--------------------------------------------------------|-------|-------|-----|
| LAKE OKEECHOBEE AND THE EVERGLADES--Continued | | | | | | | | | | | | | | | | | | |
| 2-2864. MIAMI CANAL, AT RGS-3 AND S-3, AT LAKE HARBOR, FLA. | | | | | | | | | | | | | | | | | | |
| Oct. 2, 1961..... | 237 | 6.0 | 0.03 | 40 | 13 | 30 | 1.5 | 138 | 34 | 41 | | 0.4 | e234 | 154 | 40 | 412 | 7.5 | 20 |
| Dec. 1..... | 54 | 6.7 | .02 | 44 | 14 | 26 | 2.8 | 144 | 31 | 38 | | .5 | e234 | 168 | 50 | 411 | 7.6 | 20 |
| Jan. 3, 1962..... | 66 | 5.7 | .01 | 39 | 10 | 30 | 1.5 | 140 | 28 | 40 | | .4 | e224 | 138 | 24 | 590 | 8.2 | 15 |
| Feb. 2..... | 27 | 6.2 | .00 | 52 | 9 | 30 | 1.8 | 150 | 29 | 40 | | .3 | e244 | 168 | 42 | 430 | 8.3 | 20 |
| Mar. 2..... | 81 | 1.4 | .01 | 37 | 16 | 29 | 2.0 | 130 | 32 | 40 | | .8 | e222 | 138 | 52 | 403 | 7.8 | 30 |
| Apr. 2..... | 61 | 15 | .03 | 62 | 20 | 56 | 2.9 | 230 | 58 | 72 | | 3.9 | e403 | 237 | 48 | 683 | 8.1 | 70 |
| May 1..... | 216 | 3.1 | .03 | 37 | 13 | 36 | 2.2 | 126 | 37 | 48 | | .8 | e239 | 146 | 42 | 437 | 7.5 | 30 |
| June 3..... | 217 | 9.5 | .03 | 30 | 11 | 42 | 2.1 | 112 | 33 | 54 | | .6 | e237 | 120 | 28 | 430 | 7.2 | 30 |
| July 3..... | -517 | 9.3 | .03 | 98 | 20 | 56 | 2.5 | 318 | 51 | 77 | | 4.8 | e476 | 327 | 66 | 800 | 8.2 | 150 |
| Aug. 1..... | -360 | 31 | .09 | 116 | 41 | 235 | 9.9 | 454 | 134 | 298 | | 8.0 | e1,100 | 458 | 86 | 1,730 | 8.0 | 200 |
| Aug. 23..... | -252 | -- | -- | -- | -- | 71 | 2.8 | 400 | -- | -- | | -- | -- | 500 | 172 | 1,130 | 7.3 | 160 |
| Sept. 4..... | -564 | 14 | .10 | 136 | 29 | 64 | 3.9 | 388 | 116 | 92 | | 31 | e677 | 459 | 141 | 1,060 | 8.0 | 210 |
| 2-2872. MIAMI CANAL EAST OF L-30, FLA. | | | | | | | | | | | | | | | | | | |
| Mar. 5, 1962..... | | -- | -- | -- | -- | -- | -- | 164 | -- | 36 | | -- | -- | -- | -- | 370 | -- | -- |
| May 6..... | | -- | -- | -- | -- | -- | -- | 178 | -- | 65 | | -- | -- | -- | -- | 480 | 8.4 | -- |
| May 9..... | | -- | -- | -- | -- | -- | -- | 174 | -- | 46 | | -- | -- | -- | -- | 400 | 8.3 | -- |
| June 7..... | | -- | -- | -- | -- | -- | -- | 204 | -- | 31 | | -- | -- | -- | -- | 410 | 8.4 | -- |
| Sept. 1-10..... | | 6.2 | 0.10 | 80 | 8.9 | 22 | 0.9 | 272 | 9.6 | 29 | 0.2 | 0.2 | 314 | 236 | 13 | 491 | 8.2 | 80 |
| Sept. 11-20..... | | 6.1 | .06 | 76 | 7.9 | 20 | .9 | 236 | 10 | 28 | .2 | .2 | 288 | 242 | 12 | 483 | 8.6 | 90 |
| Sept. 21-30..... | | 6.0 | .03 | 73 | 7.8 | 19 | .9 | 248 | 6.8 | 26 | .2 | .2 | 288 | 214 | 11 | 447 | 8.0 | 90 |
| 2-2885. MIAMI CANAL AT HIALEAH, FLA. | | | | | | | | | | | | | | | | | | |
| Oct. 4, 1961..... | | 6.3 | 0.03 | 74 | 13 | 21 | 1.2 | 276 | 8.0 | 30 | 0.2 | 2.3 | e292 | 238 | 12 | 507 | 8.2 | 55 |
| Nov. 8..... | | 7.7 | .03 | 83 | 9.0 | 25 | 1.3 | 276 | 6.0 | 31 | .2 | 13 | 360 | 244 | 18 | 551 | 7.5 | 55 |
| Dec. 13..... | | 8.8 | .04 | 82 | 6.7 | 20 | 1.5 | 280 | 6.4 | 28 | .2 | 1.5 | 324 | 232 | 2 | 525 | 7.4 | 55 |
| Jan. 9, 1962..... | | 13 | .04 | 80 | 10 | 21 | 1.2 | 276 | 6.4 | 36 | .2 | 5.1 | 358 | 240 | 14 | 540 | 8.2 | 60 |
| May 2..... | | 14 | .02 | 86 | 10 | 32 | 1.6 | 302 | 7.2 | 43 | .4 | 5.2 | 409 | 256 | 8 | 606 | 7.6 | 60 |
| June 7..... | | 6.8 | .02 | 88 | 10 | 30 | 1.2 | 304 | 15 | 42 | .2 | 2.2 | 379 | 260 | 12 | 611 | 7.5 | 45 |

2-2892. TAMIAHI CANAL, AT BRIDGE 45, NEAR MIAMI, FLA.

| | | | | | | | | | | | | | | | | | |
|--------------------|-----|------|-----|-----|-----|-----|-----|-----|----|-----|-----|------|-----|----|-----|-----|----|
| Oct. 13, 1961..... | 11 | 0.02 | 62 | 4.3 | 13 | 0.6 | 196 | 5.6 | 21 | 0.2 | 0.0 | 224 | 172 | 12 | 371 | 7.6 | 45 |
| Nov. 15..... | 5.7 | .04 | 102 | 4.7 | 11 | .5 | 300 | 5.6 | 20 | -- | 3.2 | e301 | 274 | 28 | 524 | 7.7 | 55 |
| Dec. 15..... | 8.6 | .03 | 94 | 12 | 13 | .6 | 340 | 4.4 | 20 | -- | 3.5 | e323 | 284 | 16 | 565 | 8.2 | 50 |
| Jan. 16, 1962..... | 6.7 | .01 | 86 | 6.2 | 15 | .8 | 270 | 5.6 | 22 | .2 | 3.7 | 286 | 240 | 18 | 480 | 8.0 | 45 |
| Feb. 15..... | 6.5 | .05 | 124 | 5.3 | 13 | .3 | 388 | 3.6 | 22 | .4 | 4.0 | 400 | 352 | 14 | 536 | 8.0 | 45 |
| Mar. 14..... | 7.4 | .00 | 101 | 5.8 | 2 | .4 | 320 | 4.0 | 22 | .5 | 2.0 | 366 | 264 | 14 | 536 | 8.1 | 50 |
| Mar. 29..... | 6.6 | .02 | 117 | 5.8 | 3.3 | .3 | 368 | 4.4 | 22 | .5 | 3.0 | 410 | 316 | 14 | 617 | 7.9 | 45 |
| Apr. 16a..... | 6.4 | .01 | 114 | 6.7 | 3.3 | .5 | 356 | 5.2 | 24 | .5 | 4.2 | 400 | 312 | 20 | 603 | 8.0 | 50 |
| Apr. 16b..... | 6.5 | .02 | 112 | 7.4 | 18 | .8 | 352 | 4.0 | 24 | .2 | 5.9 | 358 | 310 | 22 | 603 | 8.0 | 45 |
| May 15..... | 6.6 | .08 | 133 | 4.9 | 17 | 1.1 | 402 | 6.0 | 24 | .5 | 11 | 460 | 352 | 22 | 689 | 7.7 | 45 |
| June 15..... | 6.9 | .01 | 102 | 8.6 | 15 | .9 | 328 | 4.8 | 22 | .2 | 7.2 | 334 | 290 | 21 | 569 | 7.7 | 40 |
| July 13..... | 5.1 | .03 | 88 | 4.0 | 15 | 1.3 | 208 | 53 | 20 | .3 | 1.2 | 361 | 236 | 66 | 494 | 7.4 | 85 |
| Aug. 22..... | -- | -- | -- | -- | 12 | .6 | 214 | -- | -- | -- | -- | -- | 196 | 20 | 405 | 7.4 | 80 |

2-2907. SNAPPER CREEK CANAL, AT MILLER DRIVE, NEAR SOUTH MIAMI, FLA.

| | | | | | | | | | | | | | | | | | |
|-------------------|-----|------|----|-----|----|-----|-----|-----|----|-----|-----|------|-----|----|-----|-----|----|
| Oct. 3, 1961..... | 5.7 | 0.02 | 78 | 5.2 | 16 | 0.5 | 250 | 4.4 | 25 | -- | 0.3 | e258 | 216 | 11 | 453 | 7.0 | 40 |
| Nov. 1..... | 6.0 | .03 | 80 | 5.5 | 15 | .7 | 254 | 4.8 | 22 | -- | 1.4 | e250 | 222 | 14 | 458 | 7.5 | 40 |
| Dec. 1..... | 5.9 | .02 | 77 | 4.4 | 14 | 1.0 | 250 | 3.2 | 20 | 0.2 | 3.7 | 278 | 210 | 15 | 457 | 7.1 | 45 |
| Jan. 2, 1962..... | 5.6 | .02 | 77 | 5.8 | 14 | .9 | 246 | 7.2 | 20 | .2 | 3.4 | 280 | 216 | 14 | 439 | 7.4 | 40 |
| Mar. 1..... | 5.1 | .00 | 78 | 6.2 | 15 | 1.0 | 244 | 4.8 | 20 | .2 | 3.5 | 286 | 220 | 20 | 440 | 7.8 | 25 |
| Apr. 3..... | 4.8 | .01 | 82 | 3.8 | 16 | 1.2 | 242 | 6.4 | 22 | .3 | 6.6 | 298 | 220 | 22 | 447 | 7.9 | 40 |
| May 1..... | 5.8 | .03 | 78 | 3.8 | 17 | 5.2 | 216 | 7.6 | 26 | .3 | 27 | 340 | 210 | 33 | 472 | 7.5 | 40 |
| June 4..... | 4.8 | .02 | 75 | 5.5 | 18 | 6.3 | 248 | 6.0 | 23 | .2 | 12 | 299 | 212 | 9 | 494 | 7.7 | 45 |
| Aug. 1..... | 4.9 | .01 | 82 | 6.2 | 15 | .8 | 252 | 10 | 22 | .2 | 1.9 | 290 | 230 | 24 | 448 | 7.9 | 40 |
| Sept. 4..... | 4.9 | .00 | 86 | 5.0 | 14 | .8 | 256 | 12 | 20 | .2 | .5 | 294 | 235 | 25 | 448 | 7.4 | 25 |

2-2808.1. EVERGLADES STATION P-37 NEAR HOMESTEAD, FLA.

| | | | | | | | | | | | | | | | | | |
|--------------------|-----|------|-----|-------|--------|-----|-----|-------|--------|-----|-----|--------|-------|-------|--------|-----|----|
| Oct. 12, 1961..... | 2.5 | 0.07 | 59 | 6.1 | 57 | 1.3 | 180 | 0.0 | 103 | 0.3 | 0.3 | 342 | 172 | 24 | 605 | 8.2 | 10 |
| Jan. 11, 1962..... | .9 | .01 | 82 | 8.6 | 95 | 2.9 | 212 | 10 | 165 | .2 | 9.6 | 556 | 240 | 66 | 875 | 7.8 | 25 |
| Mar. 22..... | 2 | .05 | 485 | 1,230 | 10,200 | 380 | 236 | 1,700 | 18,500 | 1.4 | 3.0 | 37,500 | 6,270 | 6,060 | 50,900 | 7.6 | 40 |
| Mar. 28..... | 6.3 | .06 | 122 | 3.8 | 52 | .7 | 354 | 6.0 | 95 | .3 | 5.0 | 508 | 320 | 30 | 841 | 7.8 | 7 |
| June 18..... | 1.8 | .37 | .02 | 60 | 5.0 | 27 | 1.8 | 26 | 42 | .2 | 30 | 332 | 170 | 62 | 453 | 7.2 | 85 |

a Top sample.

b Bottom sample.

c Negative figures indicate reverse flow.

d Calculated from determined constituents.

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Calcium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color | |
|-----------------------------------------------------------|--------------------|-------------------------------|--------------|-----------------|-----------------------------|----------------|----------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------------------|----------------------------------|------------------------|-------------------------------------------------------------|--------|-------|----|
| | | | | | | | | | | | | | Calcium | Non- carbon- ate | | | | |
| LAKE OKECHOBEE AND THE EVERGLADES--Continued | | | | | | | | | | | | | | | | | | |
| 2-2908.3. EVERGLADES STATION P-38 NEAR HOMESTEAD, FLA. | | | | | | | | | | | | | | | | | | |
| Oct. 12, 1961..... | | 0.6 | 0.01 | 62 | 6.7 | 58 | 1.2 | 128 | 0.0 | 140 | 0.2 | 1.0 | 412 | 182 | 77 | 659 | 8.1 | 15 |
| Jan. 11, 1962..... | | 8.1 | .00 | 130 | 8.6 | 78 | 2.4 | 306 | 4.4 | 175 | 1.1 | 15 | 592 | 360 | 109 | 1,050 | 7.9 | 7 |
| Mar. 21..... | | 3.4 | .01 | 417 | 9.2 | 7,430 | 293 | 272 | 1,810 | 13,800 | 1.2 | .4 | 28,100 | 4,790 | 4,570 | 35,400 | 7.7 | 60 |
| Mar. 28..... | | 2.2 | .04 | 124 | 14 | 166 | 3.1 | 128 | 45 | 400 | 1.2 | 1.9 | 1,152 | 367 | 262 | 1,550 | 7.4 | 15 |
| June 19..... | 2.1 | 4.6 | .02 | 48 | 1.2 | 18 | .6 | 122 | 11 | 31 | .2 | .6 | 206 | 125 | 25 | 323 | 7.3 | 45 |
| 2-2908.5. SHARK RIVER NEAR HOMESTEAD, FLA. | | | | | | | | | | | | | | | | | | |
| Jan. 18, 1962h..... | | | | | | | | | | 10,000 | | | | | | 26,230 | 7.7 | 50 |
| Jan. 18i..... | | | | | | | | | | 10,030 | | | | | | 26,200 | 7.7 | 50 |
| 2-2908.7. EVERGLADES STATION P-34 NEAR HOMESTEAD, FLA. | | | | | | | | | | | | | | | | | | |
| Oct. 10, 1961..... | | 2.5 | 0.00 | 62 | 0.9 | 8.9 | 0.9 | 189 | 0.0 | 16 | 0.2 | 1.2 | 206 | 158 | 3 | 350 | 8.1 | 10 |
| Jan. 12, 1962..... | | 21 | .06 | 94 | 1.3 | 34 | 4.2 | 338 | 12 | 49 | .3 | 7.5 | e389 | 240 | 0 | 717 | 7.8 | 45 |
| Mar. 27..... | | 12 | .07 | 112 | 1.6 | 28 | 2.1 | 366 | 4.8 | 30 | .3 | .6 | 398 | 286 | 0 | 641 | 7.2 | 15 |
| May 14..... | | 4.2 | .00 | 173 | 3.0 | 68 | .5 | 534 | .0 | 9.0 | .4 | 1.7 | 478 | 444 | 6 | 891 | 7.7 | 10 |
| Sept. 25..... | | 2.4 | .01 | 40 | 3.4 | 4.6 | .5 | 126 | .0 | 8.0 | .0 | .0 | 130 | 114 | 10 | 216 | 7.7 | 7 |
| 2-2909.5. TAMAMI CANAL NEAR MONROE, FLA. | | | | | | | | | | | | | | | | | | |
| Oct. 13, 1961..... | 40 | 4.2 | 0.00 | 71 | 0.7 | 6.9 | 0.6 | 216 | 0.0 | 10 | 0.2 | 0.3 | 206 | 180 | 3 | 292 | 8.0 | 15 |
| Nov. 10..... | 30 | 2.8 | .01 | 65 | 1.9 | 6.7 | .5 | 202 | .0 | 11 | .2 | .4 | e189 | 170 | 4 | 343 | 7.8 | 15 |
| Dec. 15..... | 10 | 2.6 | .04 | 59 | 2.3 | 7.0 | .4 | 186 | .4 | 12 | .2 | 1.3 | 178 | 158 | 6 | 324 | 8.1 | 15 |
| Feb. 15, 1962..... | 5 | .8 | .00 | 58 | 2.7 | 7.8 | .4 | 182 | .0 | 12 | .2 | .8 | 172 | 154 | 5 | 314 | 8.2 | 15 |
| Mar. 14..... | 5 | 1.9 | .00 | 64 | 3.0 | 7.7 | .3 | 204 | .0 | 13 | .3 | .2 | 192 | 172 | 5 | 349 | 8.0 | 7 |
| 2-2909.75. TAMAMI CANAL, AT BRIDGE 86, NEAR OCHOPEE, FLA. | | | | | | | | | | | | | | | | | | |
| June 15, 1962..... | 4.1 | 3.9 | 0.00 | 92 | 2.6 | 7.2 | 0.8 | 267 | 8.8 | 12 | 0.1 | 2.6 | 276 | 240 | 21 | 462 | 7.4 | 15 |
| Aug. 16..... | | 2.2 | .03 | 53 | 3.4 | 6.5 | .6 | 168 | .8 | 7.0 | .0 | .0 | 182 | 146 | 8 | 284 | 7.6 | 45 |
| Aug. 22..... | | -- | -- | -- | -- | 77 | 2.1 | 226 | -- | -- | -- | -- | -- | 240 | 55 | 796 | 7.5 | 70 |
| Sept. 14..... | | 2.2 | .03 | 54 | 4.7 | 6.2 | .3 | 168 | .8 | 9.0 | .0 | .0 | 168 | 154 | 16 | 277 | 7.7 | 30 |

2-2920. CALOOSAHATCHEE CANAL AT MOORE HAVEN, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|----|-----|------|----|-----|----|-----|-----|----|----|--|-----|------|-----|----|-----|-----|-----|
| Oct. 5, 1961..... | 10 | 8.4 | 0.13 | 34 | 7.1 | 20 | 2.2 | 110 | 16 | 32 | | 0.7 | e175 | 114 | 24 | 301 | 7.6 | 160 |
| Dec. 1..... | 10 | 6.6 | .02 | 43 | 12 | 28 | 1.6 | 130 | 31 | 48 | | .0 | e244 | 137 | 34 | 415 | 8.0 | 25 |
| Mar. 30, 1962..... | 10 | 3.9 | .01 | 38 | 14 | 34 | 1.8 | 130 | 38 | 43 | | .6 | e243 | 152 | 46 | 456 | 7.4 | 20 |
| July 20..... | 10 | 7.9 | .15 | 54 | 6.2 | 19 | 2.2 | 156 | 22 | 28 | | .2 | e217 | 160 | 32 | 372 | 7.8 | 140 |
| Aug. 22..... | 10 | -- | -- | -- | -- | 26 | 2.0 | 192 | -- | -- | | -- | -- | 204 | 46 | 500 | 7.1 | 130 |
| Aug. 27..... | 10 | 7.1 | .13 | 64 | 6.9 | 22 | 1.7 | 180 | 29 | 32 | | 1.3 | e253 | 188 | 40 | 427 | 7.9 | 140 |

2-2924. CALOOSAHATCHEE CANAL AT ORTONA LOCK, FLA.

| | | | | | | | | | | | | | | | | | | |
|-------------------|--|-----|------|----|-----|----|-----|-----|----|----|--|-----|------|-----|----|-----|-----|-----|
| Oct. 5, 1961..... | | 4.0 | 0.03 | 72 | 7.9 | 28 | 2.0 | 228 | 20 | 44 | | 0.3 | e290 | 212 | 25 | 509 | 7.6 | 75 |
| Dec. 6..... | | 4.2 | .03 | 54 | 12 | 30 | 2.7 | 182 | 30 | 50 | | .0 | e273 | 184 | 35 | 478 | 7.8 | 45 |
| Feb. 5, 1962..... | | 7.6 | .02 | 58 | 13 | 32 | 2.4 | 196 | 32 | 50 | | .0 | e292 | 198 | 38 | 495 | 7.9 | 45 |
| Mar. 30..... | | 7.0 | .03 | 54 | 12 | 34 | 3.2 | 174 | 37 | 48 | | .0 | e281 | 184 | 42 | 508 | 6.9 | 40 |
| May 24..... | | 1.0 | .03 | 67 | 15 | 37 | 2.8 | 224 | 36 | 52 | | .0 | e321 | 228 | 45 | 582 | 7.4 | 40 |
| July 20..... | | 6.7 | .12 | 48 | 6.8 | 18 | 1.3 | 140 | 13 | 20 | | .8 | e169 | 148 | 34 | 510 | 7.9 | 120 |
| Aug. 22..... | | -- | -- | -- | -- | 18 | 1.2 | 148 | -- | -- | | -- | -- | 148 | 26 | 345 | 7.3 | 140 |
| Aug. 27..... | | 4.4 | .05 | 56 | 5.5 | 18 | 1.3 | 172 | 15 | 28 | | .1 | e213 | 162 | 21 | 375 | 7.3 | 90 |

2-2930. ORANGE RIVER, AT BUCKINGHAM, NEAR FORT MYERS, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|--|-----|------|-----|-----|----|-----|-----|----|-----|-----|-----|------|-----|----|-----|-----|----|
| Nov. 13, 1961..... | | 10 | 0.05 | 106 | 14 | 50 | 2.6 | 280 | 55 | 99 | 0.2 | 0.0 | 546 | 322 | 92 | 831 | 8.0 | 40 |
| Apr. 3, 1962..... | | 7.8 | .01 | 106 | 7.7 | 60 | 1.4 | 288 | 47 | 110 | | .0 | e472 | 296 | 76 | 822 | 8.1 | 30 |
| May 14..... | | 7.2 | .02 | 89 | 11 | 68 | 1.5 | 208 | 56 | 124 | | .1 | e459 | 267 | 96 | 832 | 7.7 | 30 |
| July 2..... | | 7.1 | .05 | 66 | 6.2 | 29 | 1.5 | 180 | 26 | 49 | | .1 | e274 | 190 | 42 | 495 | 7.7 | 60 |
| Aug. 22..... | | -- | -- | -- | -- | 34 | 1.6 | 164 | -- | -- | | -- | -- | 180 | 46 | 498 | 7.7 | 90 |

ALLIGATOR CREEK BASIN

2-2931.5. NORTH PRONG ALLIGATOR CREEK NEAR PUNTA GORDA, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|--|----|------|-----|-----|----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|----|
| Apr. 10, 1962..... | | 10 | 0.01 | 114 | 1.8 | 52 | 1.4 | 276 | 30 | 117 | 0.4 | 0.1 | 480 | 292 | 66 | 920 | 7.9 | 10 |
| June 7..... | | | | | | | | | | 48 | | | | 116 | | 500 | | |

2-2933. SOUTH PRONG ALLIGATOR CREEK NEAR PUNTA GORDA, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|--|-----|------|-----|----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-------|-----|----|
| Apr. 10, 1962..... | | 6.3 | 0.01 | 124 | 16 | 124 | 3.0 | 244 | 53 | 290 | 0.4 | 0.6 | 888 | 376 | 176 | 1,300 | 7.8 | 20 |
| June 7..... | | | | | | | | | | 146 | | | | 214 | | 892 | | |

e Calculated from determined constituents.

h Collected at 1045.

i Collected at 1050.

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs) ^d | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|-------------------------------------------------------------------------------|---------------------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-----------------------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------------------|----------------------------------|--------------------|-------------------------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbon- ate | | | |
| PEACE RIVER BASIN | | | | | | | | | | | | | | | | | | |
| 2-2981. LEE BRANCH NEAR FORT ODGEN, FLA. | | | | | | | | | | | | | | | | | | |
| Apr. 10, 1962..... | | | | | | | | 172 | | 70 | | | | 200 | 59 | 635 | 8.1 | |
| June 8..... | | | | | | | | | | 18 | | | | 164 | | 356 | | |
| 2-2981.5. PRAIRIE CREEK NEAR CLEVELAND, FLA. | | | | | | | | | | | | | | | | | | |
| Apr. 10, 1962..... | | | | | | | | 252 | | 82 | | | | 240 | 20 | 730 | 8.4 | |
| June 8..... | | | | | | | | | | 72 | | | | 188 | | 567 | | |
| 2-2981.7. SHELL CREEK NEAR CLEVELAND, FLA. | | | | | | | | | | | | | | | | | | |
| Apr. 10, 1962..... | | | | | | | | 200 | | 172 | | | | 292 | 128 | 980 | 8.2 | |
| June 8..... | | | | | | | | | | 184 | | | | 260 | | 939 | | |
| 2-2981.9E. MYRTLE SLOUGH NEAR CLEVELAND, FLA. | | | | | | | | | | | | | | | | | | |
| Apr. 12, 1962..... | | | | | | | | 184 | | 58 | | | | 208 | 47 | 500 | 8.3 | |
| June 8..... | | | | | | | | | | 23 | | | | 136 | | 333 | | |
| 2-2981.9F. BROAD CREEK NEAR PUNTA GORDA, FLA. | | | | | | | | | | | | | | | | | | |
| Apr. 12, 1962..... | | 8.4 | 0.04 | 228 | 21 | 625 | 25 | 176 | 140 | 1,200 | 0.5 | 18 | 2,860 | 656 | 512 | 4,300 | 7.1 | 50 |
| June 7..... | | | | | | | | | | 1,080 | | | | 595 | | 4,090 | | |
| MYAKKA RIVER BASIN | | | | | | | | | | | | | | | | | | |
| 2-2982. MYAKKA RIVER AT MYAKKA CITY, FLA. | | | | | | | | | | | | | | | | | | |
| Feb. 16, 1962..... | | 1.9 | 0.15 | 8.8 | 2.4 | 14 | 1.7 | 16 | 4.4 | 24 | 0.8 | 0.0 | 120 | 32 | 19 | 142 | 6.6 | 210 |
| Apr. 3..... | | | | | | | | 16 | | 18 | | | | 36 | 23 | 115 | 6.7 | |
| June 12..... | | | | | | | | -- | | 14 | | | | 24 | -- | 107 | -- | |
| 2-2984. FORDHAM WATERWAY CANAL, AT QUESADE BOULEVARD, AT PORT CHARLOTTE, FLA. | | | | | | | | | | | | | | | | | | |
| Apr. 11, 1962..... | | 4.4 | 0.03 | 71 | 14 | 75 | 1.0 | 170 | 37 | 133 | 0.6 | 0.2 | 562 | 234 | 95 | 766 | 7.8 | 60 |
| June 11..... | | | | | | | | | | 81 | | | | 184 | | 558 | | |

2-2995.2. MYAKKA RIVER, AT ROCKY FORD, NEAR VENICE, FLA.

[illegible]

2-2995.3. BLACKBURN PIT NEAR VENICE, FLA.

| | | | | | | | | | | | | | | | | |
|--------------------|-----|------|-----|----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-------|-----|
| Feb. 22, 1962..... | 8.1 | 0.02 | 134 | 58 | 148 | 4.0 | 312 | 214 | 290 | 0.6 | 0.8 | 1,100 | 573 | 318 | 1,650 | 8.0 |
| Apr. 13..... | | | | | | | 256 | 46 | 46 | | | | 332 | 122 | 660 | 7.7 |

2-2995.4. DEER PRAIRIE CREEK NEAR VENICE, FLA.

[illegible]

2-2995.6. WARM MINERAL SPRINGS NEAR MURDOCK, FLA.

| | | | | | | | | | | | | | | | | | |
|-------------------|----|------|-----|-----|-------|-----|-------|-------|-------|-----|--------|--------|-------|--------|--------|-----|---|
| Apr. 9, 1962..... | 17 | 0.03 | 720 | 475 | 179 | 160 | 1,580 | 9,180 | 2.0 | 1.7 | 19,000 | 3,750 | 3,620 | 26,000 | 7.2 | 5 | |
| June 15..... | 17 | .00 | 503 | 571 | 5,380 | 176 | 158 | 1,600 | 9,100 | 1.8 | 15 | 19,500 | 3,600 | 3,470 | 26,600 | 7.3 | 5 |

2-2996. BIG SLOUGH CANAL NEAR SARASOTA, FLA.

[illegible]

2-2996.1. BIG SLOUGH, 6 MILES UPSTREAM FROM U.S. HIGHWAY 41, NEAR MURDOCK, FLA.

| | | | | | | | | | | | | | | | | |
|--------------------|-----|------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|----|
| Feb. 23, 1962..... | 1.8 | 0.02 | 86 | 31 | 36 | 1.2 | 161 | 68 | 1.2 | 0.0 | 566 | 342 | 210 | 810 | 7.3 | 30 |
| Apr. 9..... | | | | | | | 96 | 32 | | | | 184 | 106 | 420 | 7.3 | |
| June 5..... | | | | | | | -- | 125 | | | | -- | -- | 1,010 | -- | |

2-2996.6. BIG SLOUGH NEAR MURDOCK, FLA.

[illegible]

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs) | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|---------------------------------------------------------|--------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------------------|----------------------------------|-------------------------------------------------------------|-------|-------|
| MYAKKA RIVER BASIN--Continued | | | | | | | | | | | | | | | | |
| 2-2996.7. LITTLE SALT SPRINGS NEAR MURDOCK, FLA. | | | | | | | | | | | | | | | | |
| Feb. 22, 1962..... | | 19 | 0.01 | 206 | 118 | 700 | 24 | 168 | 1,325 | 2.0 | 3.0 | 3,330 | 1,000 | 862 | 5,000 | 7.6 |
| Apr. 12..... | | | | | | | | 168 | 1,300 | | | | 996 | 858 | 5,000 | 8.1 |
| June 5..... | | | | | | | | -- | 1,320 | | | | 1,000 | -- | 4,970 | -- |
| SHAKETT CREEK BASIN | | | | | | | | | | | | | | | | |
| 2-2997. COW PEN SLOUGH NEAR BEE RIDGE, FLA. | | | | | | | | | | | | | | | | |
| Apr. 3, 1962..... | | | | | | | | 104 | 38 | | | | 168 | 83 | 410 | 7.8 |
| June 4..... | | | | | | | | | 29 | | | | 124 | | 335 | |
| 2-2997.1. COW PEN SLOUGH NEAR VENICE, FLA. | | | | | | | | | | | | | | | | |
| Apr. 6, 1962..... | | | | | | | | 212 | 52 | | | | 604 | 414 | 1,150 | 8.4 |
| June 5..... | | | | | | | | | 41 | | | | 338 | | 741 | |
| FOX CREEK BASIN | | | | | | | | | | | | | | | | |
| 2-2997.3. FOX CREEK NEAR LAUREL, FLA. | | | | | | | | | | | | | | | | |
| Apr. 6, 1962..... | | | | | | | | 264 | 66 | | | | 248 | 22 | 630 | 8.4 |
| June 6..... | | | | | | | | | 58 | | | | 224 | | 609 | |
| PHILLIPPI CREEK BASIN | | | | | | | | | | | | | | | | |
| 2-2997.5. PHILLIPPI CREEK NEAR SARASOTA, FLA. | | | | | | | | | | | | | | | | |
| Apr. 2, 1962..... | | | | | | | | 172 | 44 | | | | 536 | 395 | 1,000 | 8.2 |
| June 15..... | | | | | | | | | 24 | | | | 334 | | 688 | |
| 2-2997.6. PHILLIPPI CREEK TRIBUTARY NEAR SARASOTA, FLA. | | | | | | | | | | | | | | | | |
| Apr. 2, 1962..... | | | | | | | | 84 | 32 | | | | 116 | 47 | 405 | 7.8 |
| June 4..... | | | | | | | | | 34 | | | | 158 | | 436 | |

MANATEE RIVER BASIN

2-2999.4. NORTH FORK MANATEE RIVER NEAR KEENTOWN, FLA.

| | | | | | | | | | | | | | | | | | |
|--------------------|----|------|----|-----|-----|-----|----|-----|-----|-----|-----|----|----|----|-----|-----|----|
| Feb. 13, 1962..... | 10 | 0.07 | 14 | 2.2 | 4.3 | 0.2 | 47 | 2.0 | 9.0 | 0.4 | 0.0 | 84 | 44 | 6 | 105 | 7.1 | 50 |
| Apr. 4..... | | | | | | | 24 | | 18 | | | | 60 | 40 | 150 | 7.1 | |
| June 12..... | | | | | | | -- | | 14 | | | | 24 | -- | 96 | -- | |

2-2999.6. EAST FORK MANATEE RIVER NEAR DUETTE, FLA.

| | | | | | | | | | | | | | | | | | |
|--------------------|-----|------|----|-----|-----|-----|----|-----|-----|-----|-----|----|----|----|-----|-----|----|
| Feb. 13, 1962..... | 5.4 | 0.03 | 15 | 3.3 | 5.6 | 0.5 | 57 | 1.6 | 9.0 | 0.4 | 0.2 | 82 | 51 | 5 | 135 | 7.2 | 20 |
| Apr. 4..... | | | | | | | 44 | | 16 | | | | 64 | 28 | 170 | 7.7 | |

2-3000. MANATEE RIVER NEAR BRADENTON, FLA.

| | | | | | | | | | | | | | | | | | |
|-------------------|-----|--|--|--|--|--|----|--|----|--|--|--|----|----|-----|-----|--|
| Apr. 3, 1962..... | 61 | | | | | | 12 | | 14 | | | | 32 | 22 | 110 | 6.9 | |
| June 12..... | 107 | | | | | | | | 11 | | | | 14 | | 69 | | |

2-3000.5. GILLEY CREEK NEAR OAK KNOLL, FLA.

| | | | | | | | | | | | | | | | | | |
|-------------------|-----|------|----|-----|-----|-----|----|----|-----|-----|-----|-----|----|----|-----|-----|----|
| Feb. 2, 1962..... | 8.5 | 0.06 | 14 | 5.1 | 6.8 | 1.3 | 45 | 13 | 10 | 0.5 | 3.0 | 108 | 56 | 19 | 160 | 7.3 | 45 |
| Apr. 3..... | | | | | | | 10 | | 12 | | | | 24 | 16 | 90 | 6.4 | |
| June 12..... | | | | | | | | | 9.5 | | | | 16 | -- | 69 | -- | |

2-3001. GAMBLE CREEK NEAR PARRISH, FLA.

| | | | | | | | | | | | | | | | | | |
|--------------------|-----|------|----|-----|-----|-----|----|----|----|-----|-----|-----|----|----|-----|-----|----|
| Feb. 12, 1962..... | 5.8 | 0.04 | 28 | 0.5 | 9.8 | 2.0 | 50 | 24 | 18 | 0.5 | 0.0 | 130 | 72 | 31 | 200 | 7.5 | 45 |
| Apr. 3..... | | | | | | | 16 | | 20 | | | | 56 | 43 | 175 | 6.8 | |
| June 12..... | | | | | | | -- | | 12 | | | | 44 | -- | 135 | -- | |

2-3001.5. BRADEN RIVER, AT HEAD OF BRADEN RESERVOIR, NEAR BRADENTON, FLA.

| | | | | | | | | | | | | | | | | | |
|--------------------|-----|------|-----|----|----|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|
| Feb. 16, 1962..... | 2.7 | 0.01 | 115 | 43 | 18 | 3.9 | 128 | 335 | 28 | 0.7 | 0.1 | 700 | 464 | 359 | 917 | 7.7 | 15 |
| Apr. 14..... | | | | | | | 56 | | 22 | | | | 104 | 56 | 249 | 7.7 | |
| June 13..... | | | | | | | -- | -- | 23 | | | | 274 | -- | 616 | -- | |

2-3001.6. WARES CREEK, AT HIGHWAY 41 BRIDGE, AT BRADENTON, FLA.

| | | | | | | | | | | | | | | | | | |
|--------------------|----|------|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|----|
| Feb. 14, 1962..... | 13 | 0.06 | 154 | 26 | 97 | 6.5 | 324 | 206 | 138 | 2.2 | 3.0 | 860 | 481 | 226 | 1,300 | 7.7 | 30 |
| Apr. 5..... | | | | | | | 256 | | 96 | | | | 468 | 238 | 1,000 | 8.5 | |
| June 15..... | | | | | | | -- | | 125 | | | | 500 | -- | 1,200 | -- | |

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water Year October 1961 to September 1962--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 (residue at 180°C) | Hardness as CaCO ₃ | | Specific conductance (micro-mhos at 25°C) | pH | Color |
|------------------------------------------------------------|--------------------|-------------------------------|--------------|-----------------|-------------------|----------------|------------------|------------------------------------|-------------------------------|------------------|-----------------|-------------------------------|----------------------------------------------|----------------------------------|---------------|-------------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium magnesium | Non-carbonate | | | |
| LITTLE MANATEE RIVER BASIN | | | | | | | | | | | | | | | | | | |
| 2-3002. SOUTH FORK LITTLE MANATEE RIVER NEAR DUETTE, FLA. | | | | | | | | | | | | | | | | | | |
| Feb. 3, 1962..... | | 9.2 | 0.17 | 10 | 3.4 | 5.1 | 0.2 | 41 | 2.0 | 9.0 | 0.4 | 0.0 | 86 | 39 | 6 | 108 | 7.6 | 40 |
| Apr. 4..... | | | | | | | | 8 | | 18 | | | | 36 | 30 | 135 | 5.9 | |
| June 12..... | | | | | | | | -- | | 12 | | | | 22 | -- | 90 | -- | |
| 2-3004. SOUTH FORK LITTLE MANATEE RIVER NEAR WIMAUMA, FLA. | | | | | | | | | | | | | | | | | | |
| Feb. 3, 1962..... | | 6.2 | 0.07 | 6.8 | 1.5 | 4.5 | 0.2 | 19 | 0.8 | 10 | 0.4 | 0.0 | 60 | 23 | 8 | 76 | 6.9 | 50 |
| Apr. 4..... | | | | | | | | 8 | | 12 | | | | 32 | 26 | 125 | 6.3 | |
| June 12..... | | | | | | | | -- | | 10 | | | | 16 | -- | 71 | -- | |
| 2-3005. LITTLE MANATEE RIVER NEAR WIMAUMA, FLA. | | | | | | | | | | | | | | | | | | |
| Nov. 21, 1961..... | 11 | 3.9 | 0.03 | 5.6 | 3.2 | 4.9 | 0.8 | 23 | 5.6 | 8.0 | 0.2 | 0.3 | 47 | 27 | 8 | 81 | 7.2 | 20 |
| Jan. 16, 1962..... | 34 | 7.9 | .07 | 5.2 | 2.9 | 5.6 | .8 | 14 | 5.2 | 10 | .2 | .1 | 49 | 25 | 14 | 80 | 6.6 | 55 |
| Mar. 13..... | 15 | 2.6 | .03 | 6.0 | 3.2 | 5.1 | .5 | 25 | 3.2 | 9.0 | .3 | .0 | 57 | 28 | 8 | 86 | 7.5 | 25 |
| May 8..... | 102 | 4.2 | .03 | 6.4 | 2.9 | 5.1 | .5 | 22 | 6.4 | 8.5 | .3 | .0 | 59 | 28 | 11 | 92 | 6.7 | 25 |
| June 29..... | 114 | 8.1 | .36 | 7.0 | 2.1 | 5.8 | .6 | 18 | 6.8 | 11 | .3 | .3 | 93 | 26 | 11 | 83 | 6.3 | 200 |
| Aug. 2..... | | 6.4 | .19 | 4.8 | 2.2 | 5.0 | .4 | 13 | 3.6 | 8.5 | .3 | .0 | 70 | 21 | 10 | 85 | 6.5 | 185 |
| ALAFIA RIVER BASIN | | | | | | | | | | | | | | | | | | |
| 2-3015. ALAFIA RIVER AT LITHIA, FLA. | | | | | | | | | | | | | | | | | | |
| Nov. 21, 1961a..... | 83 | 52 | 0.01 | 75 | 27 | 30 | 1.5 | 0 | 168 | 50 | 24 | 16 | 588 | 298 | 298 | 730 | 6.0 | 15 |
| Nov. 21b..... | 83 | 52 | .01 | 75 | 23 | 33 | 1.5 | 3 | 184 | 50 | 15 | 16 | 588 | 282 | 279 | 741 | 5.4 | 15 |
| Jan. 16, 1962..... | 133 | 40 | .02 | 69 | 38 | 6.8 | 1.5 | 4 | 132 | 68 | 18 | 4.3 | 474 | 328 | 325 | 647 | 5.9 | 25 |
| Mar. 13..... | 82 | 52 | .02 | 51 | 36 | 28 | 1.2 | 0 | 156 | 35 | 17 | 32 | e554 | 275 | 275 | 690 | 4.5 | 10 |
| May 8..... | 91 | 56 | .03 | 57 | 27 | 27 | 2.1 | 1 | 100 | 30 | 14 | 24 | 533 | 253 | 252 | 670 | 5.0 | 25 |
| June 9..... | 154 | 26 | .17 | 39 | 7.9 | 18 | 1.7 | -- | 65 | 30 | 6.2 | 1.5 | 267 | 130 | 117 | 340 | 6.4 | 160 |
| Aug. 2..... | 457 | 19 | .28 | 29 | 11 | 18 | 1.9 | 1 | 56 | 28 | 7.8 | 17 | 267 | 118 | 116 | 343 | 4.8 | 90 |
| Sept. 12..... | 1,210 | 14 | .23 | 20 | 3.9 | 11 | 2.2 | 6 | 22 | 17 | 4.9 | 1.3 | 163 | 66 | 61 | 211 | 6.2 | 120 |

2-3017.3. ALAFIA RIVER AT RIVERVIEW, FLA.

| | | | | | | | | | | | | | | | | | |
|----------------------|----|------|----|-----|----|-----|---|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| Sept. 12, 1962j..... | 18 | 0.12 | 27 | 10 | 25 | 2.2 | 5 | 45 | 38 | 6.5 | 2.5 | 236 | 108 | 104 | 517 | 6.5 | 110 |
| Sept. 12k..... | 18 | .15 | 30 | 8.5 | 20 | 2.2 | 5 | 46 | 36 | 7.4 | 2.6 | 242 | 110 | 106 | 317 | 6.5 | 110 |

2-3017.6. ALAFIA RIVER AT GIBSONTON, FLA.

| | | | | | | | | | | | | | | | | | | |
|---------------------|-----|-----|------|-----|-----|-------|-----|----|-------|--------|-----|-----|--------|-------|-------|--------|-----|----|
| Sept. 11, 1962..... | 873 | 14 | 0.19 | 104 | 204 | 1,720 | 65 | 28 | 452 | 3,100 | 5.7 | 4.3 | 6,180 | 1,100 | 1,080 | 9,390 | 6.6 | 80 |
| Sept. 12..... | | 4.4 | .05 | 264 | 691 | 5,950 | 225 | 94 | 1,650 | 10,400 | 3.7 | 3.2 | 20,400 | 3,500 | 3,420 | 27,400 | 7.1 | 50 |

HILLSBOROUGH RIVER BASIN

2-3030. HILLSBOROUGH RIVER NEAR ZEPHYRHILLS, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-------|-----|------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|
| Nov. 21, 1961..... | 72 | 10 | 0.00 | 51 | 5.1 | 6.1 | 1.3 | 170 | 9.2 | 8.0 | 0.1 | 1.3 | 178 | 148 | 8 | 310 | 7.6 | 5 |
| Jan. 15, 1962..... | 91 | 11 | .01 | 48 | 7.3 | 8.0 | 1.8 | 163 | 11 | 13 | .2 | 1.2 | 186 | 150 | 16 | 317 | 7.8 | 10 |
| Mar. 12, 1962..... | 84 | 9.7 | .00 | 51 | 5.6 | 6.3 | 1.7 | 169 | 9.2 | 10 | .2 | 1.0 | 183 | 150 | 12 | 315 | 7.5 | 5 |
| May 7..... | 74 | 11 | .00 | 48 | 6.3 | 5.9 | .8 | 164 | 7.6 | 9.6 | .2 | .4 | 177 | 146 | 12 | 302 | 7.9 | 5 |
| June 25..... | 1,680 | 5.2 | .19 | 16 | 1.5 | 4.1 | 1.2 | 42 | 7.6 | 7.5 | .2 | 1.1 | 98 | 46 | 12 | 107 | 6.6 | 180 |
| Aug. 3..... | 243 | 8.4 | .19 | 38 | 3.2 | 6.2 | 1.5 | 115 | 6.8 | 10 | .3 | 1.4 | 174 | 108 | 14 | 237 | 7.3 | 110 |

COASTAL BASINS BETWEEN HILLSBOROUGH RIVER AND WITHLACOCHEE RIVER

2-3130. WITHLACOCHEE RIVER NEAR HOLDER, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|-----|------|----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|-----|
| Oct. 5, 1961..... | 640 | 8.2 | 0.04 | 51 | 4.6 | 4.7 | 0.5 | 140 | 25 | 10 | 0.1 | 0.3 | 184 | 146 | 32 | 296 | 8.0 | 40 |
| Nov. 30..... | 529 | 6.7 | .02 | 59 | 5.1 | 4.2 | .5 | 152 | 38 | 7.0 | .1 | .6 | 202 | 168 | 44 | 338 | 7.1 | 5 |
| Jan. 25, 1962..... | 476 | 3.4 | .00 | 59 | 5.1 | 5.0 | .6 | 138 | 34 | 9.0 | .1 | .1 | 200 | 168 | 36 | 323 | 7.9 | 10 |
| May 28..... | 170 | 6.2 | .01 | 48 | 5.1 | 4.8 | .0 | 132 | 20 | 8.0 | .2 | .1 | 178 | 132 | 24 | 277 | 7.4 | 10 |
| June 9..... | 4490 | 7.6 | .18 | 48 | 5.8 | 5.7 | .7 | 114 | 33 | 10 | .3 | .6 | 203 | 144 | 50 | 289 | 7.3 | 80 |
| Sept. 14..... | 710 | 8.1 | .21 | 58 | 6.7 | 5.4 | .6 | 112 | 62 | 9.5 | .3 | .3 | 274 | 172 | 80 | 347 | 7.4 | 120 |

a Top sample.

b Bottom sample.

c Determined from determined constituents.

d Diluted discharge.

e Collected at high tide.

f Collected at 2100.

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--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 (residue at 180°C) | Hardness as CaCO ₃ | | Specific conductance (micro- mhos at 25°C) | pH | Color |
|-----------------------------------------------|--------------------|-------------------------------|--------------|-----------------|-------------------|----------------|------------------|------------------------------------|-------------------------------|------------------|-----------------|-------------------------------|----------------------------------------------|----------------------------------|---------------|--------------------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non-carbonate | | | |
| SUWANNEE RIVER BASIN | | | | | | | | | | | | | | | | | | |
| 2-3190. WITHLACOCHEE RIVER NEAR PINETTA, FLA. | | | | | | | | | | | | | | | | | | |
| Oct. 3, 1961..... | 212 | 14 | 0.13 | 32 | 3.9 | 18 | 1.4 | 124 | 17 | 9.0 | 0.2 | 0.3 | 160 | 96 | 0 | 253 | 8.1 | 55 |
| Dec. 1..... | 144 | 15 | .06 | 35 | 5.5 | 27 | 2.0 | 168 | 18 | 10 | .4 | .1 | 232 | 110 | 0 | 325 | 7.9 | 55 |
| Jan. 25, 1962..... | 366 | 12 | .08 | 19 | 2.1 | 18 | 1.4 | 77 | 14 | 9.5 | .7 | .7 | 128 | 56 | 0 | 187 | 7.6 | 40 |
| Mar. 23..... | 2,630 | 8.0 | .11 | 4.0 | .5 | 6.0 | .6 | 12 | 4.0 | 9.0 | .4 | .0 | 65 | 12 | 2 | 61 | 6.7 | 65 |
| May 17..... | 2,958 | 8.6 | .01 | 34 | 3.6 | 4.0 | .4 | 104 | 10 | 6.0 | .4 | .0 | 124 | 100 | 15 | 210 | 7.4 | 10 |
| July 11..... | 339 | 9.9 | .23 | 21 | 3.8 | 20 | 1.4 | 94 | 14 | 9.0 | .4 | 1.4 | 138 | 68 | 0 | 209 | 7.1 | 65 |
| Aug. 30..... | 318 | 11 | .22 | 18 | 3.6 | 22 | 1.2 | 88 | 15 | 7.0 | .3 | .9 | 149 | 60 | 0 | 201 | 7.1 | 110 |
| 2-3205. SUWANNEE RIVER AT BARNFORD, FLA. | | | | | | | | | | | | | | | | | | |
| Oct. 4, 1961..... | 5,040 | 8.7 | 0.08 | 41 | 5.7 | 3.7 | 0.5 | 132 | 12 | 6.0 | 0.1 | 0.6 | 160 | 126 | 18 | 247 | 8.0 | 110 |
| Nov. 30..... | 2,800 | 9.3 | .05 | 48 | 9.7 | 4.9 | .3 | 170 | 20 | 3.0 | .2 | .9 | 191 | 160 | 20 | 314 | 8.1 | 10 |
| Jan. 26, 1962..... | 2,980 | 8.0 | .03 | 38 | 5.8 | 3.9 | .6 | 124 | 14 | 6.0 | .2 | .0 | 154 | 114 | 12 | 235 | 8.1 | 45 |
| Mar. 23..... | 7,010 | 6.2 | .07 | 10 | 1.2 | 4.0 | .3 | 32 | 4.8 | 7.0 | .3 | .0 | 81 | 30 | 4 | 84 | 6.8 | 120 |
| May 18..... | 5,560 | 6.8 | .03 | 45 | 5.7 | 3.0 | .2 | 148 | 13 | 6.0 | .2 | .4 | 162 | 136 | 14 | 277 | 8.0 | 40 |
| July 13..... | 3,200 | 8.5 | .06 | 43 | 12 | 5.5 | .4 | 156 | 1.5 | 6.0 | .3 | .6 | 169 | 157 | 29 | 292 | 7.5 | 40 |
| Aug. 31..... | 3,330 | 7.4 | .12 | 33 | 7.7 | 4.2 | .3 | 120 | 13 | 5.0 | .2 | .7 | 148 | 64 | 16 | 231 | 7.6 | 90 |
| 2-3290. OCHLOCKNEE RIVER NEAR HAVANA, FLA. | | | | | | | | | | | | | | | | | | |
| Oct. 20, 1961..... | 62 | 7.2 | 0.10 | 11 | 5.0 | 13 | 1.2 | 51 | 7.2 | 18 | 0.1 | 0.4 | 96 | 48 | 6 | 159 | 7.3 | 10 |
| Dec. 8..... | 77 | 8.9 | .26 | 8.8 | 3.9 | 16 | 1.5 | 34 | 7.2 | 22 | .1 | 1.0 | 94 | 38 | 10 | 150 | 7.4 | 30 |
| Feb. 1, 1962..... | 508 | 8.8 | .06 | 4.2 | 1.3 | 5.8 | 1.1 | 16 | 4.0 | 8.8 | .1 | .4 | 48 | 16 | 3 | 69 | 6.4 | 15 |
| Mar. 30..... | 725 | 1.8 | .12 | 3.8 | 1.1 | 6.8 | 1.1 | 14 | 2.4 | 11 | .1 | .2 | 40 | 14 | 2 | 70 | 6.7 | 45 |
| May 25..... | 94 | 5.5 | .10 | 10 | 1.7 | 13 | 1.5 | 36 | 4.8 | 16 | .2 | .1 | 81 | 32 | 2 | 125 | 6.9 | 15 |
| July 23..... | f156 | 6.0 | .19 | 6.4 | 1.9 | 25 | 1.7 | 32 | 6.0 | 33 | .2 | .0 | 101 | 24 | 0 | 179 | 6.6 | 40 |
| Sept. 14..... | 125 | 8.8 | .23 | 6.4 | 3.9 | 28 | 2.0 | 34 | 8.4 | 35 | .2 | 1.6 | 123 | 32 | 4 | 201 | 7.5 | 65 |

COASTAL BASINS BETWEEN APALACHICOLA RIVER AND ECONFINA CREEK

2-3593. SANDY CREEK NEAR PANAMA CITY, FLA.

| | | | | | | | | | | | | | | | | | | |
|---------------------|--|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|---|----|-----|----|
| Nov. 13, 1961..... | | 6.4 | 0.05 | 4.2 | 0.4 | 2.3 | 0.4 | 14 | 0.4 | 3.2 | 0.0 | 0.1 | e34 | 12 | 0 | 37 | 7.0 | 3 |
| Sept. 14, 1962..... | | | | | | | | 2 | | 3.0 | | | 4 | 2 | | 22 | 5.1 | 80 |

2-3593.1. CALLOWAY CREEK NEAR CALLOWAY, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|-----|
| Nov. 13, 1961..... | -- | 4.7 | 0.03 | 1.6 | 0.2 | 3.0 | 0.2 | 6 | 1.6 | 5.0 | 0.0 | 0.1 | 24 | 5 | 0 | 25 | 6.9 | 15 |
| Mar. 9, 1962..... | 2.7 | 6.0 | 1.0 | 4.4 | 3.6 | 1.1 | 1 | 1 | 1.6 | 6.0 | 1.1 | 0 | 36 | 4 | 3 | 35 | 4.7 | 35 |
| Sept. 10..... | 10 | -- | -- | -- | -- | -- | 0 | 0 | -- | 4.8 | -- | -- | -- | 4 | 4 | 39 | 4.5 | 120 |

2-3593.2. CUSHION CREEK NEAR CALLOWAY, FLA.

| | | | | | | | | | | | | | | | | | | |
|---------------------|--|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|---|
| Nov. 13, 1961..... | | 5.6 | 0.01 | 1.8 | 0.5 | 2.5 | 0.2 | 8 | 0.4 | 3.5 | 0.0 | 0.0 | 21 | 6 | 0 | 24 | 6.8 | 4 |
| Sept. 14, 1962..... | | | | | | | 2 | 2 | | 2.5 | | | 4 | 2 | | 24 | 5.4 | |

2-3593.3. COOKS BAYOU CREEK NEAR CALLOWAY, FLA.

| | | | | | | | | | | | | | | | | | | |
|---------------------|--|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|---|---|----|-----|-----|
| Nov. 13, 1961..... | | 5.0 | 0.02 | 2.0 | 0.5 | 2.7 | 0.2 | 10 | 0.4 | 3.5 | 0.0 | 0.1 | 23 | 7 | 0 | 28 | 7.1 | 3 |
| Sept. 14, 1962..... | | | | | | | 0 | 0 | | 3.0 | | | 2 | 2 | | 24 | 4.6 | 150 |

2-3593.5. WETAPPA CREEK NEAR WEWAHITCHKA, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|-----|
| Nov. 13, 1961..... | -- | 6.3 | 0.08 | 1.4 | 0.4 | 2.5 | 0.4 | 7 | 0.4 | 3.8 | 0.1 | 0.1 | 19 | 5 | 0 | 25 | 6.3 | 25 |
| Apr. 23, 1962..... | 24.3 | 5.0 | -- | 1.6 | 1 | 2.6 | 0 | 2 | 3.2 | 5.0 | 0.2 | 0.3 | 40 | 4 | 3 | 25 | 5.3 | 65 |
| June 22..... | 21.0 | 5.0 | .11 | 1.6 | .2 | 2.1 | .3 | 2 | 3.8 | 4.5 | .0 | .0 | 44 | 5 | 4 | 27 | 5.2 | 60 |
| Aug. 13..... | 43.3 | 4.2 | .37 | .6 | .6 | 2.0 | .1 | 1 | .4 | 4.2 | .1 | .1 | 41 | 4 | 3 | 28 | 4.9 | 110 |
| Sept. 14..... | -- | -- | -- | -- | -- | -- | -- | 6 | -- | 2.0 | -- | -- | -- | 5 | 5 | 26 | 5.8 | -- |

2-3587. APALACHICOLA RIVER AT BLOUNTSTOWN, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|---|-----|-----|----|
| Oct. 17, 1961..... | -- | 8.0 | 0.01 | 19 | 2.6 | 4.2 | 1.2 | 65 | 2.4 | 3.0 | 0.0 | 0.6 | 80 | 58 | 4 | 123 | 7.2 | 0 |
| Dec. 6..... | -- | 7.2 | .01 | 16 | 1.5 | 4.8 | 1.2 | 59 | 4.4 | 4.0 | .1 | .8 | 71 | 46 | 0 | 114 | 7.6 | 6 |
| Jan. 30, 1962..... | -- | 8.5 | .01 | 7.4 | .6 | 3.5 | 1.5 | 27 | 2.8 | 3.5 | .1 | .4 | 60 | 21 | 0 | 65 | 6.7 | 5 |
| Mar. 28..... | 10 | 8.3 | .00 | 7.6 | .5 | 2.6 | 1.2 | 26 | 3.2 | 1.5 | .1 | .4 | e36 | 21 | 0 | 60 | 6.8 | 5 |
| May 23..... | -- | 6.5 | .00 | 16 | .5 | 2.6 | 1.4 | 54 | 2.4 | 3.0 | .1 | .1 | 66 | 42 | 0 | 102 | 7.1 | 5 |
| July 20..... | -- | 7.0 | .00 | 12 | 3 | 4.0 | 1.0 | 42 | 3.2 | 4.0 | .1 | .3 | e51 | 32 | 0 | 90 | 7.0 | 5 |
| Sept. 10..... | 4.0 | 7.2 | .00 | 13 | 2.3 | 4.3 | 1.1 | 53 | 3.6 | 3.5 | .1 | .3 | e61 | 42 | 0 | 105 | 7.5 | 10 |

e Calculated from determined constituents.

f Daily mean discharge.

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--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 (residue at 180°C) | Hardness as CaCO ₃ | | Specific conductance (micro- mhos at 25°C) | pH | Color |
|--------------------|--------------------|-------------------------------|--------------|-----------------|-------------------|----------------|------------------|------------------------------------|-------------------------------|------------------|-----------------|-------------------------------|----------------------------------------------|----------------------------------|-----------------------------------|--------------------------------------------------------|----|-------|
| | | | | | | | | | | | | | | Calcium | Non- magne-carbon- sium ate | | | |

COASTAL BASINS BETWEEN APALACHICOLA RIVER AND ECONFINA CREEK--Continued

2-3590. CHIPOLA RIVER NEAR ALTHA, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-------|-----|------|----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|---|-----|-----|---|
| Oct. 17, 1961..... | 780 | 6.4 | 0.01 | 35 | 4.5 | 2.3 | 0.6 | 124 | 0.0 | 2.5 | 0.0 | 1.3 | 120 | 106 | 4 | 208 | 7.8 | 0 |
| Dec. 5..... | 686 | 6.0 | .00 | 36 | 4.4 | 2.6 | .5 | 128 | .4 | 3.5 | .0 | 1.0 | 126 | 108 | 3 | 214 | 8.0 | 2 |
| Jan. 30, 1962..... | 1,320 | 5.4 | .00 | 28 | 2.9 | 3.6 | .6 | 98 | .0 | 5.5 | .1 | .4 | 100 | 82 | 2 | 177 | 7.4 | 7 |
| Mar. 27..... | 1,400 | 3.4 | .00 | 31 | .6 | 3.0 | .0 | 96 | .8 | 5.0 | .1 | .0 | 102 | 80 | 2 | 175 | 7.6 | 5 |
| May 2..... | 862 | 5.7 | .00 | 36 | 2.2 | 2.0 | .0 | 118 | .0 | 4.0 | .1 | 1.0 | 115 | 99 | 2 | 200 | 7.4 | 5 |
| July 20..... | 1764 | 5.7 | .00 | 33 | 2.8 | 2.0 | .1 | 110 | 1.2 | 3.0 | .1 | .9 | e103 | 94 | 4 | 189 | 7.3 | 5 |
| Sept. 11..... | 648 | 6.6 | .00 | 31 | 5.5 | 2.2 | .2 | 116 | .0 | 3.0 | .1 | 1.4 | e107 | 100 | 5 | 198 | 8.1 | 5 |

ECONFINA CREEK BASIN

2-3594. WHITE OAK CREEK NEAR GREENHEAD, FLA.

| | | | | | | | | | | | | | | | | |
|-------------------|-----|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|----|
| Feb. 6, 1962..... | 5.3 | 0.6 | 0.2 | 1.8 | 0.1 | 2 | 0.0 | 3.5 | 0.1 | 0.0 | 20 | 2 | 1 | 16 | 5.1 | 30 |
| Mar. 7..... | 4.5 | .6 | .2 | 1.9 | .0 | 2 | .0 | 3.5 | .1 | -- | 19 | 2 | 1 | 17 | 5.3 | 30 |
| Apr. 26..... | 12 | .4 | .1 | 2.4 | .0 | 2 | .0 | 2.5 | .2 | .0 | 20 | 2 | 0 | 14 | 5.0 | 35 |
| June 21..... | 8.3 | .4 | .2 | 1.4 | .2 | 1 | .8 | 3.5 | .0 | .0 | 29 | 2 | 1 | 20 | 4.7 | 60 |
| Aug. 16..... | 2.5 | -- | -- | -- | -- | 1 | -- | 1.8 | -- | -- | -- | 1 | 0 | 38 | 5.0 | 25 |

2-3594.3. ECONFINA CREEK NEAR BETTS, FLA.

| | | | | | | | | | | | | | | | | | | |
|---------------------|--|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|----|
| Nov. 13, 1961..... | | 5.7 | 0.06 | 1.4 | 0.6 | 1.7 | 0.6 | 7 | 0.4 | 3.5 | 0.0 | 0.2 | 22 | 6 | 0 | 28 | 7.1 | 30 |
| Sept. 12, 1962..... | | | | | | | | 4 | | 3.0 | | | | 5 | 2 | 20 | 5.7 | 50 |

2-3594.4. ECONFINA CREEK, BELOW HIGHWAY 231, NEAR BETTS, FLA.

| | | | | | | | | | | | | | | | | | | |
|---------------------|------|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|----|
| Nov. 13, 1961..... | | 4.2 | 0.02 | 0.8 | 0.2 | 1.6 | 0.2 | 4 | 0.0 | 3.5 | 0.0 | 0.2 | 17 | 3 | 0 | 14 | 6.3 | 25 |
| Sept. 12, 1962..... | 21.5 | | | | | | | 2 | | 2.2 | | | | 2 | 1 | 16 | 5.3 | 45 |

2-3594.5. ECONFINA CREEK NEAR FOUNTAIN, FLA.

| | | | | | | | | | | | | | | | | | | |
|-------------------|------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|---|----|-----|----|
| Feb. 5, 1962..... | -- | 4.9 | 0.07 | 1.0 | 0.1 | 2.0 | 0.4 | 3 | 0.4 | 2.2 | 0.1 | 0.0 | 22 | 3 | 0 | 16 | 5.6 | 40 |
| Feb. 6..... | -- | 4.8 | .06 | 5.2 | .9 | 1.8 | .4 | 19 | .8 | 2.5 | .1 | .0 | 36 | 16 | 1 | 39 | 6.9 | 30 |
| July 19..... | 101 | 5.9 | .08 | 6.2 | 1.2 | 1.4 | .2 | 23 | .8 | 3.5 | .0 | .0 | 630 | 20 | 2 | 48 | 6.7 | 55 |
| Sept. 11..... | 95.9 | -- | -- | -- | -- | -- | -- | 23 | -- | 1.8 | -- | -- | 38 | 22 | 1 | 51 | 6.9 | 30 |

2-3594.3M. BLACK SLOUGH NEAR GREENHEAD, FLA.

| | | | | | | | | | | | | | | | | | |
|-------------------|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|-----|
| Feb. 6, 1962..... | 6.1 | 0.09 | 0.6 | 0.5 | 2.0 | 0.2 | 1 | 5.2 | 3.5 | 0.1 | 0.0 | 27 | 4 | 2 | 25 | 4.6 | 80 |
| Mar. 7..... | 7.0 | | .6 | .1 | 2.2 | .2 | 0 | .0 | 4.0 | .1 | .0 | 36 | 2 | 2 | 23 | 4.6 | 70 |
| Sept. 12..... | -- | | -- | -- | -- | -- | 0 | -- | 2.8 | -- | -- | -- | 2 | 2 | 30 | 4.3 | 100 |

2-3594.5P. PORTER LAKE NEAR GREENHEAD, FLA.

| | | | | | | | | | | | | | | | | | |
|-------------------|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|---|
| Feb. 6, 1962..... | 0.7 | 0.00 | 0.6 | 0.1 | 1.6 | 0.2 | 2 | 0.0 | 2.0 | 0.1 | 0.1 | 16 | 2 | 0 | 16 | 5.3 | 5 |
| Sept. 12..... | | | | | | | 1 | | 2.2 | | | | 2 | 2 | 20 | 5.1 | 5 |

2-3594.7M. ECONFINA CREEK, UPSTREAM FROM SPRINGS, NEAR ECONFINA, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|--|----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Apr. 11, 1962..... | 318 | 5.5 | | 12 | 1.5 | 1.6 | 0.1 | 41 | 0.4 | 2.0 | 0.1 | 0.0 | 51 | 36 | 2 | 80 | 7.5 | 20 |
| Sept. 11..... | 206 | | | | | | 52 | | 1.8 | | | | 44 | 44 | 2 | 91 | 7.2 | 15 |

2-3594.7N. WEST SPRING ECONFINA CREEK NEAR ECONFINA, FLA.

| | | | | | | | | | | | | | | | | | |
|--------------------|------|--|----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|-----|-----|---|
| Apr. 11, 1962..... | 5.3 | | 18 | 3.2 | 1.9 | 0.1 | 65 | 0.8 | 3.0 | 0.2 | 0.0 | 65 | 58 | 4 | 115 | 7.2 | 2 |
| Sept. 11..... | 39.6 | | | | | | 61 | | 2.2 | | | 62 | 52 | 2 | 109 | 7.3 | 2 |

2-3594.7P. EAST SPRING ECONFINA CREEK NEAR ECONFINA, FLA.

| | | | | | | | | | | | | | | | | | |
|--------------------|------|--|----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|---|-----|-----|---|
| Apr. 11, 1962..... | 4.7 | | 19 | 2.8 | 2.0 | 0.2 | 70 | 1.6 | 2.5 | 0.1 | 0.0 | e67 | 59 | 2 | 115 | 7.4 | 2 |
| Sept. 11..... | 20.3 | | | | | | 70 | | 2.5 | | | 68 | 38 | 0 | 122 | 7.6 | 5 |

2-3594.7Q. SOUTH SPRING ECONFINA CREEK NEAR ECONFINA, FLA.

| | | | | | | | | | | | | | | | | | |
|--------------------|------|--|----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|-----|-----|---|
| Apr. 11, 1962..... | 4.4 | | 13 | 1.8 | 1.7 | 0.2 | 46 | 0.4 | 1.5 | 0.1 | 0.1 | 50 | 40 | 2 | 82 | 7.3 | 7 |
| Sept. 11..... | 53.3 | | | | | | 59 | | 1.8 | | | 58 | 50 | 2 | 104 | 7.5 | 2 |

2-3594.7R. ECONFINA CREEK NEAR ECONFINA, FLA.

| | | | | | | | | | | | | | | | | | |
|---------------------|-----|-----|----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|---|-----|-----|---|
| Apr. 11, 1962m..... | 468 | 5.0 | 13 | 1.8 | 1.6 | 0.1 | 43 | 1.6 | 2.0 | 0.1 | 0.0 | 51 | 40 | 5 | 82 | 7.2 | 8 |
| Apr. 11n..... | 468 | 4.4 | 17 | 2.1 | 1.8 | .2 | 61 | -- | 2.0 | .1 | .0 | e58 | 51 | 1 | 110 | 7.5 | 2 |
| Apr. 11o..... | 468 | 4.9 | 16 | 2.7 | 1.6 | .0 | 58 | .4 | 2.0 | .3 | .0 | 62 | 51 | 4 | 102 | 7.2 | 2 |
| Sept. 11..... | 3.7 | -- | -- | -- | -- | -- | 52 | -- | 2.2 | -- | -- | 57 | 46 | 4 | 107 | 7.2 | 7 |

e Calculated from determined constituents.

f Daily mean discharge.

m Collected on left bank.

n Collected at midstream.

o Collected on right bank.

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water year October 1961 to September 1962--Continued

CHEMICAL ANALYSES, IN PARTS PER MILLION, WATER YEAR OCTOBER 1961 TO SEPTEMBER 1962--Continued

| Date of collection | Discharge (cfs)d | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Bicar- bonate (HCO ₃) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|--------------------------------------------------|---------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-----------------------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------------------|----------------------------------|------------------------|-------------------------------------------------------------|-----|-------|
| | | | | | | | | | | | | | | Calcium | Non- carbon- ate | | | |
| ECONFINA CREEK BASIN--Continued | | | | | | | | | | | | | | | | | | |
| 2-3594.8. MOCOSIN CREEK NEAR ECONFINA, FLA. | | | | | | | | | | | | | | | | | | |
| Feb. 5, 1962..... | | 3.6 | 0.05 | 3.0 | 0.1 | 2.0 | 0.1 | 10 | 1.6 | 1.5 | 0.1 | 0.0 | 22 | 8 | 0 | 26 | 6.6 | 10 |
| Sept. 13..... | | | | | | 5 | | | 2.5 | | | | | 8 | 4 | 23 | 5.9 | 170 |
| 2-3595.5. BEAR CREEK NEAR YOUNGSTOWN, FLA. | | | | | | | | | | | | | | | | | | |
| Nov. 13, 1961..... | -- | 4.6 | 0.01 | 3.8 | 0.4 | 1.9 | 0.3 | 14 | 0.8 | 2.5 | 0.0 | 0.0 | 24 | 11 | 0 | 30 | 7.2 | 7 |
| Feb. 5, 1962..... | | 5.1 | 0.06 | 3.0 | 4.4 | 2.4 | 2 | 9 | 4 | 2.8 | 1.1 | 0 | 29 | 9 | 2 | 28 | 6.5 | 30 |
| May 22..... | -- | 4.6 | -- | 4.2 | 4.5 | 1.5 | 2.2 | 13 | 0 | 2.5 | 1.1 | 0.2 | 27 | 12 | 2 | 31 | 6.8 | 12 |
| July 19..... | 88 | 4.9 | 0.13 | 2.2 | 4.4 | 1.7 | 1.1 | 6 | 0.8 | 3.5 | 1.1 | 0 | 20 | 7 | 2 | 24 | 5.8 | 70 |
| Sept. 10..... | 90 | -- | -- | -- | -- | -- | -- | 6 | -- | 3.0 | -- | -- | -- | 8 | 3 | 29 | 5.9 | 90 |
| 2-3596. LITTLE BEAR CREEK AT YOUNGSTOWN, FLA. | | | | | | | | | | | | | | | | | | |
| Feb. 5, 1962..... | -- | 3.3 | 0.01 | 1.6 | 0.0 | 1.5 | 0.2 | 5 | 0.0 | 2.2 | 0.1 | 0.2 | 18 | 4 | 0 | 18 | 6.0 | 10 |
| May 22..... | -- | 3.4 | -- | 1.8 | 1.1 | 1.1 | 2 | 4 | 0 | 1.5 | 1.1 | 0 | 19 | 5 | 2 | 19 | 6.3 | 10 |
| July 16..... | 22.8 | 3.8 | 0.02 | 1.0 | 4.4 | 1.4 | 1.1 | 5 | 0 | 2.0 | 0.0 | 0.1 | el1 | 4 | 0 | 1,700 | 5.9 | 20 |
| Sept. 10..... | 34.3 | -- | -- | -- | -- | -- | -- | 3 | -- | 2.8 | -- | -- | -- | 4 | 2 | 20 | 5.7 | 45 |
| 2-3596.2. JUNIPER CREEK NEAR BENNETT, FLA. | | | | | | | | | | | | | | | | | | |
| Mar. 8, 1962..... | 4.3 | 4.4 | | 2.2 | 0.1 | 2.0 | 0.1 | 8 | 0.0 | 2.5 | 0.1 | 0.0 | 17 | 6 | 0 | 21 | 6.5 | 3 |
| Sept. 12..... | 12.0 | | | | | | | 2 | 2.2 | | | | | 3 | 2 | 16 | 5.4 | 50 |
| 2-3596.3. BEAR CREEK AT McALLISTER LANDING, FLA. | | | | | | | | | | | | | | | | | | |
| Dec. 11, 1961..... | | | | | | | | | 4,280 | | | | | | | 13,300 | | |
| Feb. 5, 1962..... | | | | | | | | | 975 | | | | | | | 3,320 | | |
| May 4..... | | | | | | | | | 2.0 | | | | | | | 49 | | |
| Sept. 13..... | | | | | | | | | 3.2 | | | | | | | | | |
| 2-3596.5. BIG CEDAR CREEK NEAR BENNETT, FLA. | | | | | | | | | | | | | | | | | | |
| Nov. 15, 1961..... | -- | 5.2 | 0.03 | 3.6 | 0.2 | 1.7 | 0.4 | 13 | 1.6 | 2.2 | 0.0 | 0.2 | 26 | 10 | 0 | 29 | 6.8 | 40 |
| Feb. 6, 1962..... | -- | 4.1 | 0.04 | 4.4 | 4.1 | 1.6 | 2.2 | 12 | 4.4 | 3.2 | 1.1 | 0 | 31 | 12 | 2 | 32 | 6.6 | 45 |
| Apr. 27..... | -- | 8.9 | -- | 4.0 | -- | 1.6 | 0.0 | 12 | 0.0 | 3.0 | 0.5 | 0 | 25 | 10 | 0 | 28 | 6.8 | 30 |
| June 20..... | 6.3 | 4.1 | 0.05 | 3.0 | 0.1 | 1.2 | 1.1 | 8 | 0.8 | 3.5 | 0 | 0 | 32 | 8 | 2 | 39 | 6.4 | 55 |
| Aug. 15..... | 3.6 | -- | -- | -- | -- | -- | -- | 12 | -- | 2.0 | -- | -- | -- | 10 | 0 | 34 | 6.7 | 15 |

2-3596.6. BAYOU GEORGE AT BAYOU GEORGE, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|-----|------|-----|-----|-------|----|----|-----|-------|-----|-----|-------|-----|-----|-------|-----|-----|
| Nov. 13, 1961..... | | 5.2 | 0.00 | 80 | 179 | 1,440 | 61 | 94 | 360 | 2,480 | 0.2 | 0.7 | 4,820 | 936 | 898 | 8,100 | 7.4 | 7 |
| Mar. 9, 1962..... | | 6.1 | | 7.4 | 6 | 2.6 | .0 | 20 | 2.0 | 5.0 | .1 | | 50 | 21 | 4 | 51 | 6.7 | 90 |
| Sept. 12..... | 69.8 | -- | | -- | -- | -- | -- | 0 | -- | 3.0 | -- | | -- | 4 | 4 | 26 | 4.5 | 160 |

2-3596.8. NORTH BAY, AT HIGH POINT, NEAR COLLEGE STATION, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|--|--|--|--|--|--|--|--|--|-------|--|--|--|--|--|-------|--|--|
| Dec. 11, 1961..... | | | | | | | | | | 2,150 | | | | | | 7,060 | | |
| Feb. 5, 1962..... | | | | | | | | | | 182 | | | | | | 741 | | |
| May 9..... | | | | | | | | | | 90 | | | | | | 401 | | |
| Sept. 12..... | | | | | | | | | | 48 | | | | | | 239 | | |

2-3596.9. NORTH BAY, AT DAM, NEAR COLLEGE STATION, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|--|--|--|--|--|--|--|--|--|-------|--|--|--|--|--|--------|--|--|
| Dec. 11, 1961..... | | | | | | | | | | 8,550 | | | | | | 23,700 | | |
| Feb. 5, 1962..... | | | | | | | | | | 325 | | | | | | 1,120 | | |
| May 9..... | | | | | | | | | | 80 | | | | | | 356 | | |
| Sept. 12..... | | | | | | | | | | 64 | | | | | | 300 | | |

2-3597.1. MILL BAYOU CREEK NEAR COLLEGE STATION, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|----|-----|-----|----|
| Nov. 13, 1961..... | | 5.6 | 0.03 | 8.8 | 7.3 | 50 | 2.6 | 24 | 15 | 91 | 0.1 | 0.1 | 193 | 52 | 32 | 370 | 7.1 | 5 |
| Mar. 9, 1962..... | | 5.6 | | 4.2 | .7 | 5.0 | .2 | 8 | 6.0 | 7.0 | .1 | | 44 | 14 | 7 | 53 | 6.3 | 30 |
| Sept. 10..... | 9.9 | -- | | -- | -- | -- | -- | 4 | -- | 5.0 | -- | | -- | 9 | 6 | 36 | 5.6 | 80 |

COASTAL BASINS BETWEEN ECONFINA CREEK AND CHOCTAWHATCHEE RIVER

2-3597.3. NORTH BAY AT LYNN HAVEN, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|-----|-----|-------|-----|----|-------|--------|-----|-----|--------|-------|-------|--------|-----|----|
| Apr. 24, 1962..... | | 2.9 | 0.00 | 152 | 446 | 3,800 | 139 | 66 | 810 | 6,650 | 0.7 | 0.0 | 13,900 | 2,210 | 2,160 | 19,000 | 7.0 | 30 |
| June 21..... | | 2.9 | | 236 | 652 | 5,750 | 222 | 94 | 1,300 | 9,900 | .7 | 6.9 | 20,000 | 3,270 | 3,190 | 26,800 | 7.2 | 10 |
| Aug. 15..... | 2.2 | -- | | -- | -- | -- | -- | -- | -- | 10,200 | -- | -- | -- | -- | -- | 28,100 | -- | 15 |

2-3597.6. BURNT MILL CREEK NEAR VICKSBURG, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Nov. 15, 1961..... | | 5.2 | 0.03 | 4.8 | 0.9 | 1.9 | 0.4 | 18 | 0.4 | 2.2 | 0.1 | 0.3 | 25 | 16 | 0 | 41 | 6.9 | 15 |
| Feb. 7, 1962..... | | 5.3 | | 3.4 | .5 | 2.5 | .0 | 10 | .4 | 4.5 | .1 | .0 | 31 | 10 | 2 | 31 | 7.1 | 55 |
| Mar. 6..... | | 6.7 | | 2.6 | .6 | 2.8 | .1 | 6 | .4 | 5.0 | .1 | .2 | 39 | 9 | 4 | 30 | 6.0 | 90 |
| Sept. 12..... | 17.8 | -- | | -- | -- | -- | -- | 14 | -- | 3.8 | -- | -- | -- | 14 | 2 | 40 | 6.7 | 70 |

e Calculated from determined constituents.

MISCELLANEOUS ANALYSES OF STREAMS IN SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS--Continued

Chemical analyses, in parts per million, water Year October 1961 to September 1962--Continued

| Date of collection | Discharge (cfs)/d | Silica (SiO ₂) | Iron (Fe) | Cal- cium (Ca) | Mag- ne- sium (Mg) | Sodium (Na) | Po- tas- sium (K) | Sulfate (SO ₄) | Chloride (Cl) | Fluo- ride (F) | Ni- trate (NO ₃) | Dissolved solids (residue at 180°C) | Hardness as CaCO ₃ | | Specific conduct- ance (micro- mhos at 25°C) | pH | Color |
|--------------------|----------------------|-------------------------------|--------------|----------------------|-----------------------------|----------------|----------------------------|-------------------------------|------------------|----------------------|------------------------------------|----------------------------------------------|----------------------------------|------------------------|-------------------------------------------------------------|----|-------|
| | | | | | | | | | | | | | Calcium | Non- carbon- ate | | | |

COASTAL BASINS BETWEEN ECOPINA CREEK AND CHOCTAWHATCHEE RIVER--Continued

2-3598.1. PIGEON CREEK NEAR WEST BAY, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|--|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Nov. 15, 1961..... | | 5.0 | 0.05 | 5.0 | 0.5 | 2.5 | 0.3 | 17 | 0.8 | 3.5 | 0.0 | 0.2 | 33 | 14 | 0 | 41 | 7.3 | 15 |
| Feb. 7, 1962..... | | 5.1 | .04 | 3.2 | .4 | 3.0 | .1 | 10 | 1.2 | 4.2 | .1 | 0 | 24 | 10 | 2 | 33 | 6.7 | 20 |
| Mar. 6..... | | 4.0 | -- | 2.2 | .4 | 3.0 | .1 | 6 | 1.4 | 5.0 | .1 | 0 | 27 | 7 | 2 | 30 | 6.3 | 25 |

2-3598.6. BIG CROOKED CREEK NEAR WEST BAY, FLA.

| | | | | | | | | | | | | | | | | | | |
|-------------------|-----|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|----|
| Feb. 7, 1962..... | 9.0 | 4.8 | 0.07 | 2.0 | 0.6 | 2.8 | 0.1 | 7 | 0.8 | 4.0 | 0.1 | 0.0 | 28 | 8 | 2 | 27 | 6.5 | 40 |
| Mar. 6..... | | 4.2 | -- | 2.0 | .2 | 2.4 | .1 | 6 | .0 | 4.5 | .1 | 0 | 23 | 6 | 1 | 25 | 6.3 | 25 |

2-3653. CHOCTAWHATCHEE RIVER NEAR IZAGORA, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|----|----|---|----|-----|----|
| Oct. 30, 1961..... | -- | 7.5 | 0.01 | 10 | 1.7 | 3.4 | 0.8 | 37 | 0.8 | 3.0 | 0.0 | 0.6 | 50 | 32 | 2 | 75 | 7.0 | 0 |
| Dec. 26..... | 29.5 | 7.3 | .00 | 6.4 | .6 | 2.2 | .8 | 22 | 1.6 | 3.5 | .1 | 1 | 34 | 18 | 0 | 52 | 7.4 | 5 |
| Feb. 22, 1962..... | 13.5 | 7.9 | .06 | 3.0 | .5 | 2.0 | .9 | 12 | .8 | 2.0 | .1 | .2 | 32 | 10 | 0 | 32 | 7.8 | 30 |
| Apr. 24..... | -- | 9.6 | -- | 6.6 | .9 | 2.4 | .5 | 24 | .0 | 4.0 | .2 | .0 | 43 | 20 | 0 | 83 | 7.4 | 30 |
| June 21..... | -- | 7.3 | .00 | 8.4 | .7 | 2.7 | .8 | 28 | 2.8 | 4.0 | .0 | .7 | 50 | 24 | 1 | 93 | 7.3 | 3 |
| Aug. 13..... | 31.6 | -- | -- | -- | -- | -- | -- | 39 | 4.2 | -- | -- | -- | -- | 32 | 0 | 93 | 6.9 | 5 |

YELLOW RIVER BASIN

2-3680. YELLOW RIVER NEAR MILLIGAN, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|---|----|-----|----|
| Oct. 3, 1961..... | 490 | 6.7 | 0.01 | 7.8 | 1.3 | 2.1 | 0.5 | 29 | 0.0 | 3.0 | 0.0 | 0.4 | 36 | 25 | 1 | 57 | 6.9 | 5 |
| Dec. 7..... | 475 | 6.9 | .11 | 6.6 | 1.2 | 2.5 | .3 | 26 | .0 | 3.2 | .0 | .4 | 44 | 22 | 0 | 57 | 7.0 | 10 |
| Mar. 23, 1962..... | 1,130 | 5.5 | -- | 5.6 | .5 | 1.9 | .4 | 19 | .0 | 2.5 | .1 | .2 | 37 | 16 | 0 | 42 | 6.8 | 20 |
| July 10..... | 515 | 6.0 | .03 | 8.0 | 1.0 | 2.0 | .4 | 28 | .0 | 3.0 | .1 | .5 | e35 | 24 | 1 | 61 | 6.6 | 10 |
| Sept. 11..... | 375 | 6.5 | .02 | 6.8 | 1.5 | 2.1 | .3 | 29 | .0 | 2.5 | .1 | .2 | 36 | 23 | 0 | 60 | 7.0 | 10 |

BLACKWATER RIVER BASIN

2-3705. BIG COLDWATER CREEK NEAR MILTON, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|----|
| Oct. 4, 1961..... | 508 | 7.1 | 0.07 | 0.8 | 0.1 | 1.7 | 0.0 | 4 | 0.0 | 2.5 | 0.0 | 0.4 | 20 | 2 | 0 | 16 | 6.1 | 10 |
| Dec. 7..... | 416 | 7.2 | .15 | .6 | .2 | 2.1 | .1 | 4 | .0 | 2.8 | .0 | .3 | 24 | 2 | 0 | 18 | 6.6 | 5 |
| Mar. 20, 1962..... | 530 | 6.8 | -- | .8 | .2 | 1.8 | .2 | 4 | .0 | 2.5 | .1 | .0 | 22 | 3 | 0 | 18 | 6.0 | 4 |

ESCAMBIA RIVER BASIN

2-3755. ESCAMBIA RIVER NEAR CENTURY, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|--------|-----|------|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|----|---|-----|-----|----|
| Nov. 3, 1961..... | 1,340 | 9.3 | 0.05 | 13 | 1.0 | 8.6 | 0.6 | 36 | 3.2 | 16 | 0.0 | 0.5 | 79 | 36 | 7 | 121 | 7.1 | 10 |
| Dec. 29..... | 6,720 | 12 | .14 | 7.6 | 1.0 | 3.6 | .8 | 24 | 2.8 | 6.0 | .0 | .5 | 48 | 23 | 4 | 63 | 6.8 | 30 |
| Feb. 20, 1962..... | 20,400 | 6.0 | .05 | 5.6 | .5 | 3.2 | .8 | 17 | 3.2 | 5.2 | .1 | .5 | e34 | 16 | 2 | 48 | 6.8 | 25 |
| Mar. 21..... | 6,320 | 7.9 | .04 | 8.8 | .7 | 3.3 | .5 | 26 | 3.2 | 6.5 | .0 | .0 | 55 | 23 | 4 | 70 | 6.8 | 20 |

2-3760. PINE BARREN CREEK NEAR BARTH, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|----|
| Oct. 5, 1961..... | 125 | 6.9 | 0.14 | 0.8 | 0.2 | 1.7 | 0.5 | 4 | 0.0 | 2.5 | 0.0 | 0.5 | 21 | 3 | 0 | 16 | 6.4 | 15 |
| Dec. 6..... | 118 | 8.0 | .23 | .6 | .5 | 1.8 | .1 | 5 | .0 | 2.8 | .0 | .3 | 23 | 4 | 0 | 17 | 6.2 | 10 |
| Jan. 24, 1962..... | 130 | 6.3 | .16 | 1.0 | .2 | 2.2 | .4 | 4 | 1.2 | 2.3 | .0 | .0 | 18 | 4 | 0 | 18 | 6.2 | 13 |
| Mar. 22..... | 137 | 6.0 | -- | 1.0 | .9 | 1.3 | .4 | 4 | .0 | 2.8 | .1 | .0 | 21 | 6 | 2 | 17 | 6.0 | 13 |

PERDIDO RIVER BASIN

2-3765. PERDIDO RIVER AT BARRINEAU PARK, FLA.

| | | | | | | | | | | | | | | | | | | |
|--------------------|-----|-----|------|-----|-----|-----|-----|---|-----|-----|-----|-----|----|---|---|----|-----|----|
| Oct. 5, 1961..... | 478 | 8.0 | 0.10 | 0.6 | 0.2 | 1.9 | 0.1 | 3 | 0.0 | 3.8 | 0.0 | 0.4 | 24 | 2 | 0 | 17 | 5.9 | 15 |
| Dec. 5..... | 428 | 8.3 | .16 | .8 | .2 | 1.8 | .0 | 4 | .0 | 3.0 | .0 | .1 | 26 | 3 | 0 | 27 | 6.0 | 10 |
| Jan. 24, 1962..... | 715 | 7.5 | .07 | .8 | .1 | 2.5 | .4 | 3 | .4 | 3.5 | .0 | .0 | 23 | 2 | 0 | 20 | 5.9 | 10 |
| Mar. 22..... | 604 | 6.8 | -- | .4 | .5 | 1.6 | .2 | 3 | .0 | 3.2 | .1 | .1 | 22 | 3 | 0 | 16 | 5.7 | 5 |

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