



NORTH CAROLINA
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
R. BRUCE ETHERIDGE, DIRECTOR

DIVISION OF WATER RESOURCES AND ENGINEERING
W. H. RILEY, PRINCIPAL ENGINEER

BULLETIN 52
VOLUME 1

CHEMICAL CHARACTER of SURFACE
WATERS of NORTH CAROLINA
1944-45

BY
WILLIAM L. LAMAR

PREPARED IN COOPERATION WITH THE GEOLOGICAL SURVEY
OF THE UNITED STATES DEPARTMENT OF THE INTERIOR

RALEIGH
1947

**CONSERVATION
NT**

..... Raleigh

..... Rocky Mount

..... Durham

..... Fayetteville

..... Raleigh

..... Wananish

..... Sparta

..... Canton

..... Andrews

..... Charlotte

..... Plymouth

..... Marion

..... Scotland Neck

..... Salisbury

..... Pomona

..... Albemarle

LETTER OF TRANSMITTAL

Raleigh, North Carolina
September 7, 1946

*To His Excellency, HON. R. GREGG CHERRY,
Governor of North Carolina.*

SIR:

I have the honor to transmit to you Bulletin 52, Volume 1, Chemical Character of Surface Waters of North Carolina, 1944-45.

This bulletin does not supersede Economic Paper 61, published by this Department, or Chemical Character of Surface Waters of North Carolina, 1943-44, published by the U. S. Geological Survey. No water analyses made prior to October 1, 1944, will be found in this bulletin.

With industries expanding, new industries being formed and municipalities requiring additional water, the need for information in this bulletin has been felt for several years. A similar publication for the year 1943-44 published by the U. S. Geological Survey has had a wide circulation. It is planned to continue this work and publish additional information each year.

Respectfully submitted,

R. BRUCE ETHERIDGE,
Director.

lected and the results of these measurements are given on pages 17 to 20. The tables of analyses of miscellaneous streams on pages 12 to 16 include 85 analyses of spot samples collected at gaging stations and other points.

The mineral matter in water is dissolved from rocks and soils and it may be increased by sources of pollution. The mineral content of the waters reported did not exceed 110 parts per million except in several cases where the water was noticeably polluted. The hardness of the waters was less than 60 parts per million. The individual mineral constituents, with the exception of those in a few noticeably polluted waters, did not exceed, in parts per million, the following limits: Silica 20, iron 1.4, calcium 15, magnesium 6, sodium + potassium 25, bicarbonate 65, sulfate 25, chloride 25, fluoride 0.3, and nitrate 6. Color and suspended matter of the waters covered a considerable range. Color ranged from 1 to 220 and suspended matter from 0 to 949 parts per million.

A few of the analyses of samples collected at the sampling station on the Roanoke River near Scotland Neck show noticeable pollution from industrial wastes. For the Roanoke River near Scotland Neck the highest total dissolved solids during the periods of noticeable pollution was 173 parts per million. The composite sample collected at the above sampling station from June 1 to 10 had a nitrate of 26 parts per million. However, some of this nitrate may be from the reaction of organic and other nitrogen compounds in the sample bottle. The re-examination of several of these samples of water after standing in the sample bottles for varying lengths of time showed that the sulfate and nitrate content had increased considerably. A polluted sample of water from the North Buffalo Creek near Greensboro had a total dissolved solids of 466 parts per million.

Acknowledgements for cooperation and assistance are made to R. B. Etheridge, Paul Kelly, and W. H. Riley of the North Carolina Department of Conservation and Development, E. E. Randolph of the North Carolina State College, and E. D. Burchard of the U. S. Geological Survey. The analytical work was under the supervision of W. L. Lamar of the U. S. Geological Survey. The analyses were made by Evelyn Holloman and G. W. Whetstone of the U. S. Geological Survey at the North Carolina State College, Raleigh, North Carolina.

CHEMICAL ANALYSES
AND
WATER TEMPERATURES

CAPE FEAR RIVER AT LILLINGTON, N. C.

LOCATION.—At gaging station at bridge on U. S. Highway 15A just downstream from Norfolk Southern Railway bridge at Lillington, Harnett County, and 1 mile downstream from Neill Creek.

DRAINAGE AREA.—3,440 square miles.

RECORDS AVAILABLE.—Chemical analyses: November 1944 to October 1945—Water temperatures: Nov. 1944 to Oct. 1945.

EXTREMES, 1944-45.—Dissolved solids: Maximum, 92 parts per million June 1-10; minimum, 48 parts per million Feb. 20-28, Mar. 1-10.

Total hardness: Maximum, 28 parts per million June 1-10; minimum, 11 parts per million July 1-10.

Water temperatures: Maximum, 85°F. June 18, 20, July 29, August 3; minimum, 34°F. December 20.

Chemical analyses, in parts per million, year November 1944 to October 1945

Date	Mean discharge (second-feet)	Temperature (° F.)	Suspended matter	Oxygen consumed		Color	Silica (SiO ₂)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Dissolved solids	Total hardness as CaCO ₃
				Unfiltered	Filtered														
Nov. 1-10, 1944	909	56	8	6.2	5.1	35	15	0.38	4.6	2.0	7.8	1.6	29	5.2	5.6	0.1	0.2	68	20
Nov. 11-20	899	54	2	3.6	3.4	30	13	.31	5.5	2.4	14		43	7.0	7.4	.1	.2	75	24
Nov. 21-30	4,300	48	22	4.5	3.4	24	12	.11	5.1	2.4	15		43	6.9	8.5	.2	.3	75	23
Dec. 1-10	4,770	39	32	7.0	5.5	33	11	.01	3.8	1.7	6.9		22	6.2	4.6	.1	.4	53	16
Dec. 11-20	3,469	36	18	5.2	4.1	20	12	.03	4.3	1.9	6.7		21	7.0	5.5	.1	.7	57	19
Dec. 21-31	1,660	39	10	4.2	3.3	17	14	.07	4.6	1.9	7.9	1.4	27	6.0	6.1	.1	.8	61	19
Jan. 1-10, 1945	5,547	40	45	6.4	5.2	27	12	.05	4.6	2.1	6.7	1.2	22	6.7	5.8	.1	.9	59	20
Jan. 11-20	3,292	44	22	5.2	3.9	17	12	.04	4.4	1.8	6.8		22	6.4	5.4	.1	.8	55	18
Jan. 21-31	2,022	41	14	3.9	2.9	9	13	.05	4.9	2.0	7.8		25	6.5	6.5	.1	.8	60	20
Feb. 1-10	1,531	37	10	2.8	2.5	9	14	.04	5.2	2.1	10		33	5.6	7.1	.1	.7	65	22
Feb. 11-19	11,480	45	91	6.6	4.8	26	11	.01	4.7	1.7	6.3		21	6.5	5.1	.1	1.4	56	19
Feb. 20-28	12,450	46	40	8.2	5.2	28	9.8	.03	4.1	1.5	3.7		14	7.0	3.5	.1	.5	48	16
Mar. 1-10	7,264	51	28	5.8	4.7	26	10	.03	3.8	1.7	4.8		18	5.7	3.9	.1	.5	48	16
Mar. 11-20	2,389	53	10	4.0	3.2	20	12	.11	4.4	1.9	7.2		25	5.9	5.2	.1	.4	56	19
March 21-31	2,062	62	6	3.6	3.4	28	12	.19	5.8	2.0	9.7		35	5.5	6.1	.1	.5	61	23
April 1-10	1,231	66	4	4.2	3.7	25	11	.19	6.0	2.3	9.8	1.5	39	6.2	6.6	.1	.4	65	24
April 11-20	1,825	68	21	4.3	3.5	18	9.7	.10	6.0	2.3	9.9		38	4.7	6.4	.1	.7	64	24
April 21-30	3,313	64	48	8.7	6.6	37	12	.04	4.7	1.9	8.1		28	4.8	5.6	.1	1.4	62	20
May 1-10	1,259	62	18	6.1	5.6	29	13	.05	5.6	2.3	8.2		32	5.3	5.8	.1	1.4	64	23
May 11-20	1,956	65	37	5.0	4.0	21	9.6	.05	5.7	2.3	12		41	5.3	6.4	.1	.7	66	24
May 21-31	1,405	71	39	5.6	3.4	27	13	.03	5.4	2.2	8.1		31	5.6	5.4	.2	1.0	67	22
June 1-10	613	74	13	8.1		20	13	.03	6.9	2.5	14		46	6.4	7.8	.2	1.7	92	28
June 11-20	390	81	8	4.6	3.8	22	8.0	.04	5.6	2.4	12		41	6.1	6.6	.2	.7	69	24
June 21-30	341	81	8	4.2	3.6	19	9.0	.05	6.4	2.5	16	2.0	52	6.6	9.6	.3	.8	86	26
July 1-10	577	80	16	4.9	4.2	27	10	.06	6.3	2.5	15	2.0	50	6.0	8.2	.3	1.1	83	11
July 11-20	5,427	80	142	12	11	28	8.0	.02	5.2	1.9	9.8	2.0	35	5.0	6.5	.2	.1	71	21
July 21-31	3,241	80	70	11	8.3	52	9.1	.05	3.8	1.4	4.7		19	4.8	3.2	.1	.3	52	15
Aug. 1-10	1,115	82	21	12	9.4	39	11	.04	4.9	1.6	6.4		25	4.6	4.9	.1	.5	81	19
Aug. 11-20	1,000	79	17	4.8	4.6	31	12	.06	5.6	2.3	13		39	5.8	8.9	.3	.8	73	23
Aug. 21-31	3,439	76	53	11	10	55	8.2	.04	3.6	1.5	4.8		18	4.2	4.0	.1	.7	53	15

CHEMICAL CHARACTER OF SURFACE WATERS OF NORTH CAROLINA

Sept 1-10	745	78																		
Sept. 11-20	58,820	77	44	7.5	7.7	43	9.8	.12	4.6	2.0	9.2		29	5.3	6.5	.3	.6	63	20	
Sept. 21-30	14,020	78	45	7.9	6.3	33	9.7	.06	4.4	1.7	7.0		24	5.8	4.8	.1	.7	56	18	
Oct. 1-10		68	29	6.8	4.6	20	11	.03	4.2	1.6	5.1		19	5.6	3.9	.1	1.1	49	17	
Oct. 11-20		57	21	6.0	5.0	27	12	.09	4.3	1.7	6.5		24	4.8	4.6	.1	.7	54	18	
Oct. 21-31		63	5	5.2	4.8	20	12	.04	4.8	1.9	8.7		28	6.0	5.9	.2	.8	60	20	
Average		62	29	6.2	5.0	28	11	.07	5.0	2.0	9.0		30	5.8	6.0	.1	.7	63	21	

Chemical analyses, in equivalents per million, year November 1944 to October 1945

Nov. 1-10, 1944	909	56							0.230	0.164	0.339	0.041	0.475	0.108	0.158	0.005	0.003		
Nov. 11-20	899	54							.275	.197	.596		.705	.146	.209	.005	.003		
Nov. 21-30	4,300	48							.255	.197	.652		.705	.144	.240	.010	.005		
Dec. 1-10	4,770	39							.190	.140	.301		.361	.129	.130	.005	.006		
Dec. 11-20	3,469	36							.215	.156	.290		.344	.146	.155	.005	.011		
Dec. 21-31	1,660	39							.230	.156	.344	.036	.443	.125	.172	.005	.013		
Jan. 1-10, 1945	5,547	40							.230	.173	.291	.031	.361	.139	.164	.005	.015		
Jan. 11-20	3,292	44							.220	.148	.296		.361	.133	.152	.005	.013		
Jan. 21-31	2,022	41							.245	.164	.337		.410	.135	.183	.005	.013		
Feb. 1-10	1,531	37							.260	.173	.441		.541	.117	.200	.005	.011		
Feb. 11-19	11,480	45							.235	.140	.276		.344	.135	.144	.005	.023		
Feb. 20-28	12,450	46							.205	.123	.159		.229	.146	.099	.005	.008		
March 1-10	7,264	51							.190	.140	.207		.295	.119	.110	.005	.008		
March 11-20	2,389	53							.220	.156	.315		.410	.123	.147	.005	.006		
March 21-31	2,062	62							.289	.164	.421		.574	.115	.172	.005	.008		
April 1-10	1,231	66							.299	.189	.426	.038	.639	.129	.186	.005	.006		
April 11-20	1,825	68							.299	.189	.429		.623	.098	.180	.005	.011		
April 21-30	3,313	64							.235	.156	.354		.459	.100	.158	.005	.023		
May 1-10	1,259	62							.280	.189	.358		.525	.110	.164	.005	.023		
May 11-20	1,956	65							.284	.189	.505		.672	.110	.180	.005	.011		
May 21-31	1,405	71							.269	.181	.354		.508	.117	.152	.011	.016		
June 1-10	613	74							.344	.206	.595		.754	.133	.220	.011	.027		
June 11-20	390	81							.279	.197	.531		.672	.127	.186	.011	.011		
June 21-30	341	81							.319	.206	.696	.051	.852	.137	.271	.016	.013		
July 1-10	577	80							.314	.206	.652	.051	.819	.125	.231	.016	.018		
July 11-20	5,427	80							.259	.156	.426	.051	.574	.104	.183	.011	.002		
July 21-31	3,241	80							.190	.115	.206		.311	.100	.090	.005	.005		
Aug. 1-10	1,115	82							.245	.132	.280		.410	.096	.138	.005	.008		
Aug. 11-20	1,000	79							.279	.189	.572		.639	.121	.251	.016	.013		
Aug. 21-31	3,439	76							.180	.123	.208		.295	.087	.113	.005	.011		
Sept. 1-10	745	78							.230	.164	.400		.475	.110	.183	.016	.010		
Sept. 11-20	58,820	77							.220	.140	.305		.393	.121	.135	.005	.011		
Sept. 21-30	14,020	78							.210	.132	.220		.311	.117	.111	.005	.018		
Oct. 1-10		68							.215	.140	.284		.393	.100	.130	.005	.011		
Oct. 11-20		57							.240	.156	.378		.450	.125	.166	.011	.013		
Oct. 21-31		63							.259	.173	.392		.524	.106	.181	.005	.008		
Average		62							.250	.164	.391		.492	.121	.169	.005	.011		

CHEMICAL ANALYSES

DAN RIVER AT LEAKSVILLE, N. C.

LOCATION.—At the water-supply intake of the Marshall Field and Company Karastan Rug Mill just downstream from bridge on State Highway 87 at Leaksville, Rockingham County, and 0.4 mile upstream from gaging station.

DRAINAGE AREA.—1,150 square miles.

RECORDS AVAILABLE.—Chemical analyses: November 1944 to October 1945—Water temperatures: Nov. 1944 to Oct. 1945.

EXTREMES, 1944-45.—Dissolved solids: Maximum, 47 parts per million Sept. 1-10; minimum, 35 parts per million Sept. 11-20. Total hardness: Maximum, 17 parts per million Nov. 1-10, 11-20, July 1-10, Aug. 21-31, Sept. 1-10; minimum, 12 parts per million Jan. 1-10, July 21-31, Sept. 11-20.

Water temperatures: Maximum, 87°F. July 1; minimum, 32°F. Dec. 4, 15, 16, 18, Feb. 1, 2, 3, 4.

Chemical analyses, in parts per million, year November 1944 to October 1945

Date	Mean discharge (second-feet)	Temperature (° F.)	Suspended matter	Oxygen consumed		Color	Silica (SiO ₂)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Dissolved solids	Total hardness as CaCO ₃
				Unfiltered	Filtered														
Nov. 1-10, 1944	695	50	18	2.5	1.8	7	15	0.06	3.8	1.8	4.1	1.5	28	2.2	1.8	0.1	0.1	45	17
Nov. 11-20	670	48	11	2.1	1.7	11	15	.11	4.1	1.7	4.5		26	2.6	1.9	.1	.1	44	17
Nov. 21-30	1,193	41	91	3.3	1.8	3	13	.03	4.6	1.0	4.6		23	3.3	1.9	.1	.3	40	16
Dec. 1-10	1,157	36	36	2.6	1.7	7	13	.05	3.5	1.6	4.5		22	3.7	1.9	.1	.3	41	15
Dec. 11-20	1,485	34	64	3.2	1.7	2	13	.04	3.4	1.5	4.5		21	3.9	1.8	.1	.4	40	15
Dec. 21-31	881	37	17	1.7	1.3	1	14	.03	3.6	1.6	4.6		24	2.9	1.8	.1	.2	41	16
Jan. 1-10, 1945	2,591	38	192	5.4	2.6	9	11	.02	3.0	1.2	4.0	1.5	17	4.5	2.1	.1	.6	39	12
Jan. 11-20	1,355	38	26	2.4	2.0	7	12	.02	3.2	1.4	3.2	1.2	19	3.2	2.0	.0	.3	39	14
Jan. 21-31	1,005	39	12	1.6	1.2	3	14	.05	3.8	1.2	4.4		22	2.7	1.8	.1	.4	41	14
Feb. 1-10	871	34	14	1.4	1.2	2	15	.06	4.1	1.1	4.9		24	2.3	1.9	.1	.4	41	15
Feb. 11-19	2,340	45	176	6.3	2.4	7	12	.04	3.2	1.2	4.2		18	4.0	1.8	.1	.4	39	13
Feb. 20-28	2,370	45	94	3.4	1.4	5	11	.03	3.1	1.4	3.0		16	4.0	1.5	.1	.5	37	14
March 1-10	1,538	49	46	2.5	1.4	4	13	.03	3.4	1.5	3.3		19	3.4	1.6	.1	.4	40	15
March 11-20	1,095	54	56	2.4	1.2	5	14	.04	3.5	1.5	3.6		21	2.8	1.6	.1	.2	40	15
March 21-31	1,126	60	111	4.3	2.0	4	13	.01	3.5	1.7	3.9		23	2.6	1.6	.1	.2	41	16
April 1-10	948	60	27	2.4	1.6	10	15	.08	3.8	1.6	3.4	1.3	23	2.8	1.8	.1	.3	41	16
April 11-20	1,226	64	167	6.3	2.2	9	12	.03	3.6	1.3	4.8		22	4.0	1.6	.1	.2	41	14
April 21-30	1,395	60	140	4.6	1.8	7	13	.03	3.6	1.5	3.4		21	2.6	1.5	.1	.5	40	15
May 1-10	960	57	29	2.2	1.6	16	14	.15	4.0	1.5	4.3		24	2.6	1.9	.1	.4	45	16
May 11-20	1,009	65	204	5.6	1.7	2	13	.01	3.8	1.4	4.6		24	2.5	1.6	.1	.5	41	15
May 21-31	1,295	68	350	8.0	2.1	14	12	.04	3.2	1.3	4.5		20	3.3	1.6	.1	.9	41	13
June 1-10	792	67	51	2.8	1.6	12	14	.04	3.6	1.6	4.9		25	2.5	1.8	.1	.5	44	16
June 11-20	748	75	68	3.1	1.8	8	14	.01	3.7	1.6	4.6		25	2.4	1.6	.1	.4	46	16
June 21-30	613	76	84	3.7	2.0	2	14	.02	3.7	1.6	5.0		25	2.6	2.0	.1	.6	44	16
July 1-10	589	80	264	6.3	1.9	15	14	.02	4.3	1.5	3.0	1.3	24	2.8	1.6	.1	.8	44	17
July 11-20	726	74	322	4.5	2.3	9	14	.07	3.4	1.4	5.5		25	2.3	1.9	.2	.1	43	14
July 21-31	1,548	77	949	18	15	16	11	.04	2.9	1.1	4.0		17	3.1	1.5	.2	.6	42	12
Aug. 1-10	826	76	142	5.8	2.6	6	13	.03	3.4	1.3	4.1		21	2.8	1.5	.1	.4	42	14
Aug. 11-20	575	74	124	4.6	2.1	7	14	.01	3.8	1.6	4.1		24	2.6	1.6	.1	.3	43	16
Aug. 21-31	535	73	145	4.8	2.2	7	14	.03	3.9	1.7	4.2		25	2.7	1.5	.1	.2	43	17

CHEMICAL CHARACTER OF SURFACE WATERS OF NORTH CAROLINA

Sept. 1-10	528	74	57	3.4	3.0	9	15	.02	4.0	1.7	5.0		28	2.3	1.5	.1	.2	47	17
Sept. 11-20	10,310	68	728	12	3.0	7	9.4	.02	2.9	1.2	3.3		15	4.1	1.2	.2	.7	35	12
Sept. 21-30	1,315	71	109	4.6	1.8	5	13	.02	3.4	1.5	4.2		21	3.3	1.6	.2	.5	41	15
Oct. 1-10	920	61	46	2.8	2.0	5	14	.01	3.6	1.5	4.4		23	2.8	1.6	.2	.2	40	15
Oct. 11-20	733	53	22	2.2	1.8	4	15	.06	3.6	1.6	4.7		25	2.3	1.6	.2	.1	41	16
Oct. 21-31	921	56	122	5.0	2.1	10	14	.02	3.6	1.5	5.0		25	2.6	1.6	.2	.1	41	15
Average	1,347	58	142	4.4	2.3	7	13	.04	3.6	1.5	4.3		22	3.0	1.7	.1	.4	41	15

Chemical analyses, in equivalents per million, year November 1944 to October 1945

Nov. 1-10, 1944	695	50							0.190	0.148	0.178	0.038	0.459	0.046	0.051	0.005	0.002		
Nov. 11-20	670	48							.205	.140	.196		.426	.054	.054	.005	.002		
Nov. 21-30	1,193	41							.230	.082	.198		.377	.089	.054	.005	.005		
Dec. 1-10	1,157	36							.175	.132	.195		.361	.077	.054	.005	.005		
Dec. 11-20	1,485	34							.170	.123	.194		.344	.081	.051	.005	.006		
Dec. 21-31	881	37							.180	.132	.200		.393	.060	.051	.005	.003		
Jan. 1-10, 1945	2,591	38							.150	.099	.174	.038	.279	.094	.059	.005	.005		
Jan. 11-20	1,355	38							.160	.115	.139	.031	.311	.067	.056	.000	.005		
Jan. 21-31	1,005	39							.190	.099	.190		.361	.056	.051	.005	.006		
Feb. 1-10	871	34							.205	.090	.211		.393	.048	.054	.005	.006		
Feb. 11-19	2,340	45							.160	.099	.181		.295	.083	.051	.005	.006		
Feb. 20-28	2,370	45							.155	.115	.130		.262	.083	.042	.005	.008		
March 1-10	1,538	49							.170	.123	.145		.311	.071	.045	.005	.006		
March 11-20	1,095	54							.175	.123	.157		.344	.058	.045	.005	.003		
March 21-31	1,126	60							.175	.140	.169		.377	.054	.045	.005	.003		
April 1-10	948	60							.190	.132	.148	.033	.377	.058	.051	.005	.005		
April 11-20	1,226	64							.180	.107	.210		.361	.083	.045	.005	.003		
April 21-30	1,395	60							.180	.123	.150		.344	.054	.042	.005	.008		
May 1-10	960	57							.200	.123	.189		.393	.054	.054	.005	.006		
May 11-20	1,009	65							.190	.115	.198		.393	.052	.045	.005	.008		
May 21-31	1,295	68							.160	.107	.195		.328	.069	.045	.005	.015		
June 1-10	792	67							.180	.132	.214		.410	.052	.051	.005	.008		
June 11-20	748	75							.185	.132	.199		.410	.050	.045	.005	.006		
June 21-30	613	76							.185	.132	.218		.410	.054	.056	.005	.010		
July 1-10	589	80							.215	.123	.130	.033	.393	.058	.045	.005	.013		
July 11-20	726	74							.170	.115	.240		.410	.048	.054	.011	.002		
July 21-31	1,548	77							.145	.090	.172		.279	.065	.042	.011	.002		
Aug. 1-10	826	76							.170	.107	.178		.344	.058	.042	.005	.006		
Aug. 11-20	575	74							.190	.132	.180		.393	.054	.045	.005	.005		
Aug. 21-31	535	73							.195	.140	.181		.410	.056	.042	.005	.003		
Sept. 1-10	528	74							.200	.140	.217		.459	.048	.042	.005	.003		
Sept. 11-20	10,310	68							.145	.099	.143		.246	.085	.034	.011	.011		
Sept. 21-30	1,316	71							.170	.123	.184		.344	.069	.045	.011	.008		
Oct. 1-10	920	61							.180	.123	.191		.377	.058	.045	.011	.008		
Oct. 11-20	733	53							.180	.132	.204		.410	.048	.045	.011	.002		
Oct. 21-31	921	56							.180	.123	.219		.410	.054	.045	.011	.002		
Average	1,347	58							.180	.123	.187		.361	.062	.048	.005	.006		

CHEMICAL ANALYSES

ROANOKE RIVER NEAR SCOTLAND NECK, N. C.

LOCATION.—At gaging station at bridge on U. S. Highway 258, 3 miles downstream from Bridgers Creek, and 5 1/4 miles north-east of Scotland Neck, Halifax County.

DRAINAGE AREA.—8,700 square miles.

RECORDS AVAILABLE.—Chemical analyses: October 1944 to September 1945—Water temperatures: Oct. 1944 to Sept. 1945.

EXTREMES, 1944-45.—Dissolved solids: Maximum, 173 parts per million April 1-10; minimum, 47 parts per million October 1-10.

Total hardness: Maximum, 57 parts per million April 1-10, minimum, 18 parts per million October 1-10.

Water temperatures: Maximum, 85°F. July 3, 4, 6, 7, 8; minimum, 35°F. January 31.

Chemical analyses, in parts per million, water year October 1944 to September 1945

Date	Mean discharge (second-feet)	Temperature (° F.)	Suspended matter	Oxygen consumed		Color	Silica (SiO ₂)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Dissolved solids	Total hardness as CaCO ₃	
				Unfiltered	Filtered															
Oct. 1-10, 1944	28,090	68	127	10	5.8	23	9.6	0.04	4.8	1.4	3.3	1.7	23	5.0	2.1	0.0	0.4	47	18	
Oct. 11-20	5,002	63	43	3.8	2.7	38	15	.06	7.8	2.8	7.7		41	7.0	4.2	.1	.8	71	31	
Oct. 21-31	17,350																			
Nov. 1-10	4,896	56	23	3.7	2.4	20	16	.25	8.8	3.0	8.5		47	7.5	4.2	.1	.3	74	34	
Nov. 11-20	4,486	51	16	3.2	2.2	9	14	.10	8.4	2.9	8.4		46	6.9	4.2	.1	.2	70	33	
Nov. 21-30	8,150																			
Dec. 1-10	13,230	40	56	5.4	3.1	17	14	.09	5.9	2.3	7.6		32	7.6	4.0	.1	.7	62	24	
Dec. 11-20	11,250	39	51	4.5	2.6	10	14	.02	5.7	2.3	6.0		29	6.6	3.6	.1	.8	57	24	
Dec. 21-31	6,456	38	17	3.1	1.8	7	14	.03	6.6	2.6	7.8		36	8.8	3.5	.1	.5	62	27	
Jan. 1-10, 1945	17,190	39	82	7.1	3.8	13	11	.04	6.0	1.9	4.5	1.6	26	6.6	3.5	.0	1.4	54	23	
Jan. 11-20	12,140	38	37	4.5	3.2	16	13	.07	6.2	2.1	5.6		27	7.1	3.8	.1	1.4	59	24	
Jan. 21-31	7,709	37	32	3.2	2.1	5	15	.03	7.2	2.6	8.6		36	7.7	4.5	.1	4.1	72	29	
Feb. 1-10	5,663	38	47	3.6	2.1	11	13	.04	7.0	2.4	8.4		36	8.3	4.2	.1	1.5	65	27	
Feb. 11-19	16,870	37	206	15	14	28	11	.06	6.2	2.0	12	3.2	11	10	9.1	.2	.5	184	24	
Feb. 20-28	22,300	40	87	20	16	20	11	.06	5.8	2.1	16	3.4	22	12	14	.2	1.1	95	23	
March 1-10	14,110	44	22	3.4	2.2	8	13	.06	7.0	3.3	7.3		35	6.4	5.2	.0	5.2	69	31	
March 11-20	8,340	44	36	18	20	15	13	.04	6.8	3.5	17	3.1	107	11	19	.2	.7	127	31	
March 21-31	6,709																			
April 1-10	5,956	57	98	66	11	80	13	3.3	13	5.9	16	13	124	2.1	16	.2	.0	173	57	
April 11-20	6,784	63	134	14	8.6	49	8.2	1.2	8.4	2.0	15	7.9	131	9.5	17	.2	.2	160	33	
April 21-30	10,740	64	54	4.9	2.8	18	14	.04	6.3	2.4	9.8		40	6.2	3.5	.0	3.3	68	26	
May 1-10	6,320	62	70	4.4	2.2	11	14	.03	7.3	2.8	6.5		39	5.9	3.6	.0	.7	63	30	
May 11-20	6,660	65	169	6.3	3.0	19	13	.03	6.8	2.4	8.5		37	6.2	4.9	.1	1.6	65	27	
May 21-31	11,730	72	214	8.0	3.9	20	12	.03	6.8	2.4	9.7		33	9.0	6.6	.2	2.0	75	27	
June 1-10	4,764	76	174	8.0	3.2	16	14	.05	7.6	2.7	13		23	8.9	6.6	.1	26	103	30	
June 11-20	4,394	81	191	7.7	2.9	15	14	.03	7.8	2.8	11		44	6.7	4.9	.0	5.3	80	31	
June 21-30	3,703	82	141	6.5	3.2	19	13	.02	7.1	2.5	7.9	2.2	41	6.8	4.4	.1	2.5	70	28	
July 1-10	2,815	84	300	10	4.0	19	10	.02	6.4	2.2	6.0	1.7	33	7.2	2.9	.1	1.8	60	25	
July 11-20	11,920	79	64	7.1	5.2	28	13	.04	6.0	2.1	6.1	2.1	31	6.5	4.2	.0	.7	64	24	
July 21-31	11,870	81	168	8.8	5.3	22	11	.03	5.0	1.8	7.6		28	5.7	4.2	.1	1.8	60	20	

Aug. 1-10	8,101	79	97	5.9	4.2	14	14	.02	6.8	2.4	9.1		34	8.1	5.4	.1	2.9	71	27
Aug. 11-20	4,760	79	168	9.2	3.8	13	14	.03	6.6	2.4	7.2		32	6.8	4.9	.1	1.8	69	26
Aug. 21-31	5,254	78	168	8.0	4.2	18	12	.02	6.3	2.4	7.9		36	6.1	4.1	.1	1.1	64	26
Sept. 1-10	3,123	81	56	5.8	3.8	17	12	.02	7.9	2.8	11		46	7.1	5.9	.1	.5	76	31
Sept. 11-20	17,160	76	216	11	6.2	28	8.6	.01	5.2	1.9	7.2		29	6.0	4.2	.0	5.5	57	21
Sept. 21-30	49,540	73	77	8.1	4.8	16	12	.03	6.5	1.9	5.9		29	6.7	3.4	.1	1.4	58	24
Average	10,640	61	104	9.3	5.0	20	13	.18	6.9	2.5	9.7		41	7.3	5.9	.1	2.2	76	28

Chemical analyses, in equivalents per million, water year October 1944 to September 1945

Oct. 1-10, 1944	28,090	68							0.240	0.115	0.144	0.043	0.377	0.104	0.059	0.000	0.006			
Oct. 11-20	5,002	63							.389	.230	.335		.672	.146	.118	.005	.013			
Oct. 21-31	17,350																			
Nov. 1-10	4,896	56							.439	.247	.368		.770	.156	.118	.005	.005			
Nov. 11-20	4,486	51							.419	.238	.367		.754	.144	.118	.005	.003			
Nov. 21-30	8,150																			
Dec. 1-10	13,230	40							.294	.189	.329		.525	.158	.113	.005	.011			
Dec. 11-20	11,250	39							.284	.189	.259		.475	.137	.102	.005	.013			
Dec. 21-31	6,456	38							.329	.214	.342		.590	.183	.099	.005	.008			
Jan. 1-10, 1945	17,190	39							.299	.156	.196	.041	.426	.137	.099	.000	.023			
Jan. 11-20	12,140	38							.309	.173	.244		.443	.148	.107	.005	.023			
Jan. 21-31	7,709	37							.359	.214	.375		.590	.160	.127	.005	.066			
Feb. 1-10	5,663	38							.349	.197	.364		.590	.173	.118	.005	.024			
Feb. 11-19	16,870	37							.309	.164	.522	.082	.180	.208	.257	.011	.008			
Feb. 20-28	22,300	40							.289	.173	.696	.087	.361	.250	.395	.011	.018			
March 1-10	14,110	44							.349	.271	.318		.574	.133	.147	.000	.084			
March 11-20	8,340	44							.339	.288	.739	.079	1.754	.229	.536	.011	.011			
March 21-31	6,709																			
April 1-10	5,956	57							.649	.485	.696	.333	2.032	.044	.451	.011	.003			
April 11-20	6,784	63							.419	.238	.652	.202	2.147	.198	.479	.011	.003			
April 21-30	10,740	64							.314	.197	.426		.656	.129	.099	.000	.053			
May 1-10	6,320	62							.364	.230	.281		.639	.123	.102	.000	.011			
May 11-20	6,660	65							.339	.197	.368		.606	.129	.138	.005	.026			
May 21-31	11,730	72							.339	.197	.421		.541	.187	.186	.011	.032			
June 1-10	4,764	76							.379	.222	.571		.377	.185	.186	.005	.419			
June 11-20	4,394	81							.389	.230	.464		.721	.139	.138	.000	.085			
June 21-30	3,703	82							.354	.206	.344	.056	.672	.142	.124	.005	.040			
July 1-10	2,815	84							.319	.181	.261	.043	.541	.150	.082	.005	.029			
July 11-20	11,920	79							.299	.173	.265	.054	.508	.135	.118	.000	.011			
July 21-31	11,870	81							.250	.148	.332		.459	.119	.118	.005	.029			
Aug. 1-10	8,101	79							.339	.197	.394		.557	.169	.152	.005	.047			
Aug. 11-20	4,760	79							.329	.197	.312		.524	.142	.138	.005	.029			
Aug. 21-31	5,254	78							.314	.197	.345		.590	.127	.116	.005	.018			
Sept. 1-10	3,123	81							.394	.230	.457		.754	.148	.166	.005	.008			
Sept. 11-20	17,160	76							.259	.156	.311		.475	.125	.118	.000	.008			
Sept. 21-30	49,540	73							.324	.156	.258		.475	.139	.096	.005	.023			
Average	10,640	61							.344	.206	.422		.672	.152	.166	.005	.036			

¹ Includes sulfur compounds from industrial wastes.

² Includes ammonium and sulfur compounds from industrial wastes.

TAR RIVER AT TARBORO, N. C.

LOCATION.—At gaging station at bridge on U. S. Highway 64 at Tarboro, Edgecombe County, and 6½ miles downstream from Fishing Creek.

DRAINAGE AREA.—2,100 square miles.

RECORDS AVAILABLE.—Chemical analyses; October 1944 to September 1945—Water temperatures: Oct. 1944 to Sept. 1945.

EXTREMES, 1944-45.—Dissolved solids: Maximum, 62 parts per million May 1-10, June 11-20; minimum, 45 parts per million February 20-28.

Total hardness: Maximum, 22 parts per million April 11-20; minimum, 11 parts per million October 1-10.

Water temperatures: Maximum, 84°F. July 2; minimum, 34°F. Dec. 20, Jan. 27, Feb. 2, 3, 4.

Chemical analyses, in parts per million, water year October 1944 to September 1945

Date	Mean discharge (second-foot)	Temperature (° F.)	Suspended matter		Oxygen consumed		Color	Silica (SiO ₂)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Dissolved solids	Total hardness as CaCO ₃	
			Unfiltered	Filtered	Unfiltered	Filtered															
Oct. 1-10, 1944	9,685	66	50	14	12	65	8.4	0.11	2.9	1.0	3.0	1.8	6.8	14	4.2	2.5	0.0	0.2	48	11	
Oct. 11-20	959	60	17	8.6	6.2	40	15	.25	4.4	1.4			8.8	24	4.1	5.2	.0	.4	58	17	
Oct. 21-31	2,097	54	44	10	7.1	90	15	.27	3.7	1.6			4.3	18	4.0	4.2	.0	.4	58	16	
Nov. 1-10	816	53	9	7.6	5.5	51	18	.39	4.2	1.9			5.6	25	3.1	4.6	.0	.3	61	18	
Nov. 11-20	956	51	9	6.5	4.7	28	17	.07	4.6	1.9			7.2	29	3.3	5.1	.1	.4	61	19	
Nov. 21-30	1,714																				18
Dec. 1-10	7,177	39	30	10	7.7	39	9.8	.04	3.0	1.3			5.2	14	6.2	4.0	.1	.4	50	13	
Dec. 11-20	3,951	37	24	7.3	6.0	32	11	.03	3.0	1.3			5.1	14	5.5	4.5	.0	.4	48	13	
Dec. 21-31	1,784	39	10	5.5	4.8	23	14	.02	3.6	1.4			6.4	20	4.7	4.9	.0	.6	52	15	
Jan. 1-10, 1945	3,465	40	34	7.3	6.8	30	13	.10	3.6	1.4			5.1	19	5.1	4.6	.0	.5	52	15	
Jan. 11-20	4,028	40	18	8.8	6.1	33	11	.05	3.2	1.3		1.4	5.8	17	5.3	4.4	.0	.5	49	13	
Jan. 21-31	2,145	39	12	5.4	4.1	20	14	.04	3.8	1.4			5.8	19	4.7	4.8	.0	.7	50	15	
Feb. 1-10	1,665	36	9	4.6	3.7	27	14	.26	3.8	1.5			7.3	24	4.2	4.9	.0	.8	54	16	
Feb. 11-19	4,966	46	46	9.1	6.7	38	11	.17	4.1	1.2			5.7	19	5.4	4.1	.0	.8	52	15	
Feb. 20-28	8,766	44	32	9.2	7.6	40	8.8	.09	3.0	1.2			4.7	14	5.8	3.4	.0	.5	45	12	
March 1-10	6,262	50	23	8.8	6.9	38	9.2	.02	3.5	1.3			4.7	16	4.9	3.9	.0	.8	46	14	
March 11-20	2,616	54	17	7.6	5.9	30	10	.04	4.0	1.8			5.0	21	4.1	4.4	.0	.7	49	17	
March 21-31	1,686	62	9	7.3	6.5	56	12	.53	4.9	1.7			6.4	28	3.3	4.5	.0	.6	59	19	
April 1-10	1,018	64	11	6.4	5.8	55	14	.67	5.2	1.9			6.3	33	3.0	4.2	.0	.6	60	21	
April 11-20	887	66	11	5.0	3.8	16	15	.06	5.4	2.1			6.9	34	2.5	4.4	.0	.6	58	22	
April 21-30	1,515	62	41	7.7	6.9	32	16	.07	4.8	1.9			6.4	29	3.5	4.0	.0	.9	60	20	
May 1-10	867	60	15	6.0	5.2	39	16	.27	5.0	1.9			6.3	29	3.1	4.2	.1	.9	62	20	
May 11-20	770	66	34	4.6	3.8	27	14	.11	5.0	1.8			7.2	31	2.8	4.5	.1	.7	56	20	
May 21-31	2,634	68	59	7.5	6.2	28	13	.03	4.4	1.6			5.2	24	3.7	3.5	.0	.6	53	18	
June 1-10	2,576	68	34	9.1	7.2	36	12	.05	4.1	1.5			4.6	20	4.6	3.4	.0	.5	55	16	
June 11-20	763	78	21	4.8	4.6	37	16	.29	4.7	1.8			6.5	28	4.1	4.0	.0	.5	62	19	
June 21-30	584	79	26	5.0	4.8	21	15	.04	5.0	1.9			7.1	30	3.6	4.2	.1	1.4	60	20	
July 1-10	478	80	28	5.5	4.2	26	15	.04	5.5	1.8			5.6	29	3.9	4.4	.1	1.4	59	21	
July 11-20	3,141	75	141	12	7.6	38	10	.02	3.6	1.4			3.7	17	4.3	3.1	.1	.7	51	15	
July 21-31	9,365	76	53	13	12	58	9.0	.04	3.6	1.3			3.2	17	4.3	2.4	.0	.2	53	14	

Aug. 1-10	5,950	75	58	13	11	63	10	.07	4.0	1.3			3.1	19	3.4	2.6	.0	.3	51	15
Aug. 11-20	2,812	74	46	12	9.9	45	13	.07	4.5	1.6			4.0	22	3.2	3.5	.0	.3	55	18
Aug. 21-31	2,523	74	33	11	7.8	37	14	.05	4.6	1.8			4.4	23	3.5	4.0	.0	.5	56	19
Sept. 1-10	1,231	74	22	6.2	5.2	28	16	.09	5.0	2.0			5.8	28	3.6	4.4	.0	.6	59	21
Sept. 11-20	6,571	73	49	12	9.8	58	11	.04	3.7	1.3			4.4	20	3.0	3.2	.0	.2	51	15
Sept. 21-30	14,930	73	17	13	11	63	9.5	.05	3.9	1.3			4.0	18	3.9	3.5	.0	.1	52	15
Average	3,403	60	31	8.3	6.7	39	13	.13	4.2	1.6			5.6	22	4.1	4.0	.0	.6	54	17

Chemical analyses, in equivalents per million, water year October 1944 to September 1945

Oct. 1-10, 1944	9,685	66							0.145	0.082	0.130	0.046	0.229	0.087	0.071	0.000	0.003				
Oct. 11-20	959	60							.220	.115			.303	.085	.147	.000	.006				
Oct. 21-31	2,097	54							.185	.132			.185	.098	.138	.000	.010				
Nov. 1-10	816	53							.210	.156			.244	.065	.130	.000	.005				
Nov. 11-20	956	51							.230	.156			.313	.075	.144	.005	.006				
Nov. 21-30	1,714																				
Dec. 1-10	7,177	39							.150	.107			.225	.129	.113	.005	.006				
Dec. 11-20	3,951	37							.150	.107			.220	.115	.127	.000	.006				
Dec. 21-31	1,784	39							.180	.115			.279	.098	.138	.000	.010				
Jan. 1-10, 1945	3,465	40							.180	.115			.222	.106	.130	.000	.008				
Jan. 11-20	4,028	40							.160	.107			.254	.110	.124	.000	.008				
Jan. 21-31	2,145	39							.190	.115			.250	.098	.135	.000	.011				
Feb. 1-10	1,665	36							.190	.123			.318	.087	.138	.000	.013				
Feb. 11-19	4,966	46							.205	.090			.248	.112	.116	.000	.013				
Feb. 20-28	8,766	44							.150	.090			.205	.121	.096	.000	.008				
March 1-10	6,262	50							.175	.107			.205	.102	.110	.000	.013				
March 11-20	2,616	54							.200	.148			.216	.085	.124	.000	.011				
March 21-31	1,686	62							.245	.140			.280	.069	.127	.000	.010				
April 1-10	1,018	64							.260	.156			.274	.062	.118	.000	.010				
April 11-20	887	66							.270	.173			.298	.052	.124	.000	.008				
April 21-30	1,515	62							.240	.156			.280	.073	.113	.000	.015				
May 1-10	867	60							.250	.156			.272	.065	.118	.005	.015				
May 11-20	770	66							.250	.148			.311	.058	.127	.005	.011				
May 21-31	2,634	68							.220	.132			.227	.077	.099	.000	.010				
June 1-10	2,576	68							.205	.123			.200	.085	.096	.000	.008				
June 11-20	763	78							.235	.148			.282	.075	.118	.005	.023				
June 21-30	584	79							.250	.156			.307	.081	.124	.005	.023				
July 1-10	478	80							.274	.148			.244	.075	.118	.005	.023				
July 11-20	3,141	75							.180	.115			.161	.081	.124	.005	.023				
July 21-31	9,365	76							.180	.107			.139	.090	.087	.005	.011				
Aug. 1-10	5,950	75							.200	.107			.135	.071	.073	.000	.005				
Aug. 11-20	2,812	74							.225	.132			.175	.067	.099	.000	.005				
Aug. 21-31	2,523	74							.230	.148			.193	.073	.113	.000	.008				
Sept. 1-10	1,231	74							.250	.164			.254	.075	.124	.000	.010				
Sept. 11-20	6,571	73							.185	.107			.191	.062	.090	.000	.003				
Sept. 21-30	14,930	73							.195	.107			.175	.081	.099	.000	.002				
Average	3,403	60							.210	.132			.244	.085	.113	.000	.010				

MISCELLANEOUS STREAMS IN NORTH CAROLINA

Chemical analyses in parts per million

Source	Date	Mean Discharge (second-feet)	Suspended matter	Color	Silica (SiO ₂)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Dissolved solids	Total hardness as CaCO ₃
Aberdeen Creek at Aberdeen	May 25, 1945		4	16	1.8	0.02	0.7	0.3	2.1	4.0	1.1	2.1	0.0	0.2	13	3
Bear Creek at Robbins	Oct. 30, 1944	46	2	39	8.2	.04	2.2	.9	4.7	16	1.7	3.2	.0	.1	36	9
Beetree Creek near Swannanoa	April 14, 1945	9.1	1	4	7.9	.01	1.3	.6	2.1	7.0	3.1	.9	.0	.1	20	6
Big Laurel Creek near Stackhouse	May 9, 1945	235	30	8	9.3	.03	2.7	1.0	3.0	16	2.5	.6	.1	.6	28	11
Big Rockfish Creek near Hope Mills	Nov. 9, 1944	193	6	26	4.4	.04	.4	.4	3.4	6.0	1.3	2.5	.0	.3	19	3
Black Mountain Reservoir at Black Mountain	March 2, 1945		2	7	7.9	.02	1.8	.6	2.7	12	2.0	.6	.0	.1	23	7
Boylston Creek near Horseshoe	March 8, 1945	31	20	4	6.5	.03	2.4	1.0	2.0	13	1.9	.9	.1	.4	22	10
Broad River near Chimney Rock	Nov. 11, 1944	84	2	5	11	.01	2.2	.9	3.3	16	1.3	1.0	.1	.4	30	9
Broad River near Boiling Springs	Nov. 10, 1944	805	58	5	13	.07	2.2	1.1	4.5	19	1.7	1.5	.1	.2	35	10
Brown Creek near Polkton	Oct. 31, 1944	4.4	18	37	9.2	.02	3.7	2.1	4.5	17	0.3	4.9	.0	.3	53	18
Cane Creek at Fletcher	Aug. 9, 1945	34	35	9	13	.09	4.0	1.4	3.8	24	2.1	1.2	.1	.3	38	16
Cane River near Sioux	Sept. 27, 1945	162	6	4	10	.02	2.6	1.1	3.3	17	2.3	.9	.0	.8	29	11
Cape Fear River at Lillington ²	1944-45		29	28	11	.07	5.0	2.0	9.0	30	5.8	6.0	.1	.7	63	21
Cape Fear River at Lock 3, near Tarheel	Nov. 4, 1944	1,700	5	35	10	.32	2.8	1.4	5.1	14	4.7	4.9	.0	.8	46	13
Cataloochee Creek near Cataloochee	April 2, 1945	159	17	20	6.0	.01	1.2	.4	1.5	7.0	1.2	.5	.0	.2	19	5
Catawba River near Marion	Nov. 13, 1944	145	2	7	12	.03	2.4	1.0	3.7	17	1.9	1.2	.1	.2	31	10
Catawba River at Rhodhiss	Sept. 14, 1945			11	9.0	.01	3.3	1.2	4.4	20	2.6	2.6	.0	.1	35	13
Catheys Creek near Brevard	March 8, 1945	33	1	5	5.7	.02	.6	.4	2.2	7.0	1.1	.5	.1	.1	14	3
Clear Creek near Hendersonville	Sept. 26, 1945	59	28	3	13	.02	2.0	.7	3.1	13	1.7	1.4	.0	.4	32	8
Contentnea Creek near Wilson	Nov. 17, 1944	35	9	57	12	.17	2.7	1.2	6.6	20	2.9	4.0	.0	.1	53	12
Contentnea Creek at Hookerton	Oct. 26, 1944	501	26	56	8.0	.08	2.4	1.0	5.6	12	5.7	4.5	.0	.2	48	10
Crab Creek near Penrose	March 9, 1945	26	7	10	8.4	.04	.8	.4	2.9	9.0	1.0	.9	.1	.1	20	4
Crystal Lake at Lakeview	April 5, 1945		7	28	1.6	.01	1.0	.1	6.1	11	2.1	3.4	.0	.2	23	3
Dan River near Wentworth	Oct. 23, 1944	1,340	129	7	12	.04	3.2	1.2	5.6	22	3.8	2.1	.0	.2	40	13
Dan River at Leaksville ³	1944-45	1,347	142	7	13	.04	3.6	1.5	4.3	22	3.0	1.7	.1	.4	41	15
Davidson River near Brevard	March 9, 1945	113	0	7	5.9	.02	.9	.4	2.0	7.0	1.4	.5	.1	.1	15	4
Deep River at Rameur	Nov. 2, 1944	106	10	44	16	.05	6.0	2.6	7.6	31	6.9	5.8	.0	.8	74	26
Denson Creek near Troy	Jan. 3, 1945			100	14	.12	2.4	.9	3.5	11	4.1	2.8	.0	.2	56	10
Drowning Creek near Hoffman	Oct. 30, 1944	204	4	34	5.0	.04	2.0	.3	2.5	7.0	1.2	2.8	.0	1.0	26	6
Elk Creek near Elk Park	Sept. 26, 1945	67	4	8	9.2	.04	2.7	.9	2.9	15	2.0	1.0	.1	1.0	28	10
First Broad River near Lawndale	Nov. 10, 1944	154	5	3	12	.01	2.4	1.2	5.1	30	3.4	3.6	.1	.3	46	11
French Broad River at Rosman	March 8, 1945	202	6	8	5.9	.04	.7	.3	2.3	7.0	1.1	.5	.1	.1	14	3
French Broad River at Calvert	March 8, 1945	302	7	9	6.8	.05	1.0	.3	2.6	8.0	1.2	.8	.1	.1	17	4
French Broad River at Blantyre	March 9, 1945	848	17	38	7.1	.06	2.6	.5	7.6	21	3.6	2.9	.0	.1	40	9
French Broad River at Bent Creek	Aug. 9, 1945	1,000	34	25	9.7	.01	3.4	.9	8.0	24	3.7	4.2	.0	.4	45	12

Chemical analyses in equivalents per million

Source	Date	Mean Discharge (second-feet)	Suspended matter	Color	Silica (SiO ₂)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Dissolved solids	Total hardness as CaCO ₃
Aberdeen Creek at Aberdeen	May 25, 1945					0.035	0.025	0.091	0.066	0.023	0.050	0.000	0.003			
Bear Creek at Robbins	Oct. 30, 1944	46				.110	.074	.205	.262	.035	.090	.000	.002			
Beetree Creek near Swannanoa	April 14, 1945	9.1				.065	.049	.093	.115	.065	.025	.000	.002			
Big Laurel Creek near Stackhouse	May 9, 1945	235				.135	.082	.129	.262	.052	.017	.005	.010			
Big Rockfish Creek near Hope Mills	Nov. 9, 1944	193				.020	.033	.148	.098	.027	.071	.000	.005			
Black Mountain Reservoir at Black Mountain	March 2, 1945					.090	.049	.119	.197	.042	.017	.000	.002			
Boylston Creek near Horseshoe	March 8, 1945	31				.120	.082	.087	.213	.040	.025	.005	.006			
Broad River near Chimney Rock	Nov. 11, 1944	84				.110	.074	.144	.262	.027	.028	.005	.006			
Broad River near Boiling Springs	Nov. 10, 1944	805				.110	.090	.196	.311	.035	.042	.005	.003			
Brown Creek near Polkton	Oct. 31, 1944	4.4				.185	.173	.195	.279	.131	.138	.000	.005			
Cane Creek at Fletcher	Aug. 9, 1945	34				.200	.115	.166	.393	.044	.034	.005	.005			
Cane River near Sioux	Sept. 27, 1945	162				.130	.090	.145	.279	.048	.025	.000	.013			
Cape Fear River at Lillington ²	1944-45					.250	.164	.391	.492	.121	.169	.005	.011			
Cape Fear River at Lock 3, near Tarheel	Nov. 4, 1944	1,700				.140	.115	.223	.229	.098	.138	.000	.013			
Cataloochee Creek near Cataloochee	April 2, 1945	159				.060	.033	.064	.115	.025	.014	.000	.003			
Catawba River near Marion	Nov. 13, 1944	145				.120	.082	.159	.279	.040	.034	.005	.003			
Catawba River at Rhodhiss	Sept. 14, 1945					.165	.099	.193	.328	.054	.073	.000	.002			
Catheys Creek near Brevard	March 8, 1945	33				.030	.033	.096	.115	.023	.014	.005	.002			
Clear Creek near Hendersonville	Sept. 26, 1945	59				.100	.058	.135	.213	.035	.039	.000	.006			
Contentnea Creek near Wilson	Nov. 17, 1944	35				.135	.090	.286	.328	.060	.130	.000	.002			
Contentnea Creek at Hookerton	Oct. 26, 1944	501				.120	.082	.244	.197	.119	.127	.000	.003			
Crab Creek near Penrose	March 9, 1945	26				.040	.033	.128	.148	.021	.025	.005	.002			
Crystal Lake at Lakeview	April 5, 1945					.050	.008	.265	.180	.044	.096	.000	.003			
Dan River near Wentworth	Oct. 23, 1944	1,340				.160	.099	.243	.361	.079	.050	.000	.003			
Dan River at Leaksville ³	1944-45	1,347				.180	.123	.187	.361	.062	.048	.005	.006			
Davidson River near Brevard	March 9, 1945	113				.045	.033	.087	.115	.029	.014	.005	.002			
Deep River at Rameur	Nov. 2, 1944	106				.299	.214	.332	.508	.144	.164	.000	.029			
Denson Creek near Troy	Jan. 3, 1945					.120	.074	.153	.180	.085	.079	.000	.003			
Drowning Creek near Hoffman	Oct. 30, 1944	204				.100	.025	.110	.115	.025	.079	.000	.016			
Elk Creek near Elk Park	Sept. 26, 1945	67				.135	.074	.128	.246	.042	.028	.005	.016			
First Broad River near Lawndale	Nov. 10, 1944	154				.120	.099	.457	.402	.071	.102	.005	.005			
French Broad River at Rosman	March 8, 1945	202				.035	.025	.099	.115	.023	.014	.005	.002			
French Broad River at Calvert	March 8, 1945	302				.050	.025	.111	.131	.025	.023	.005	.002			
French Broad River at Blantyre	March 9, 1945	848				.130	.041	.332	.344	.075	.082	.000	.002			
French Broad River at Bent Creek	Aug. 9, 1945	1,000				.170	.074	.350	.303	.077	.118	.000	.006			

¹ Measured discharge.

² Average of analyses of composites of daily samples (see pp. 4-5).

³ Average of analyses of composites of daily samples (see pp. 6-7).

⁴ Large proportion of organic matter; sum of material constituents 33 parts.

⁵ Includes equivalent of 1.2 parts of potassium (K).

MISCELLANEOUS STREAMS IN NORTH CAROLINA—Continued

Chemical analyses in parts per million

Source	Date	Mean Discharge (second-foot)	Suspended matter	Color	Silica (SiO ₂)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Dissolved solids	Total hardness as CaCO ₃
French Broad River at Asheville	Aug. 9, 1945	1,190	46	28	9.3	0.06	4.4	1.3	19	34	17	7.9	0.0	1.8	81	16
French Broad River at Marshall	May 7, 1945	2,230	28	10	11	.07	4.6	1.8	8.6	12	23	2.0	.1	.9	60	19
French Broad River at Hot Springs	May 8, 1945	2,400	28	19	9.3	0.6	2.6	1.4	9.1	13	16	2.8	.0	1.1	50	12
Green River near Mill Spring	Nov. 11, 1944	297	69	6	10	.01	1.9	1.0	3.6	16	1.3	1.2	.1	.3	28	9
Haw River near Pittsboro	Oct. 19, 1944	286	6	17	16	.02	5.8	2.4	21	54	9.5	11	.3	.3	95	24
Hominy Creek at Candler	Aug. 9, 1945	38	45	6	13	.03	3.8	1.4	4.9	24	3.2	1.5	.1	.0	40	15
Ivy River near Marshall	May 9, 1945	141	17	6	13	.07	3.6	1.7	3.4	22	3.0	1.0	.1	.7	39	16
Jonathan Creek near Cove Creek	April 2, 1945	236	95	20	7.4	.07	1.6	.5	1.5	8.0	1.5	.4	.0	.9	24	6
Linville River at Branch	Nov. 13, 1944	48	2	7	7.0	.01	1.8	.7	2.6	12	1.1	1.2	.1	.2	21	7
Little River (French Broad River Basin) near Penrose	March 9, 1945	130	3	9	6.4	.04	.7	.3	2.3	7.0	1.1	.6	.1	.1	16	3
Little River (Pee Dee River Basin) near Troy	Jan. 3, 1945	1148	13	75	14	.19	3.7	1.2	3.7	16	4.9	2.8	.0	.2	58	14
Little Rockfish Creek near Hope Mills	Nov. 9, 1944	1148	10	28	4.6	.19	.6	.5	3.8	7.0	1.7	2.9	.0	.3	22	4
Lovel Creek at Mount Airy	July 4, 1945	346	2	34	5.5	.01	1.0	.6	3.3	19	1.3	1.1	.1	.3	31	5
Lower Little River at Linden	Nov. 10, 1944	827	2	83	7.4	.06	.9	.7	4.1	7.0	2.1	2.9	.0	2.2	28	12
Lumber River at Boardman	Nov. 3, 1944	827	2	83	7.4	.06	.9	.7	5.0	11	2.3	3.2	.0	.2	38	5
Mackeys Creek (at highway bridge) at Mackeys	Dec. 12, 1944	10	220	10	.64	14	4.4	9.5	41	14	18			.2	*168	53
Mackeys Creek (at railway bridge) at Mackeys	Dec. 12, 1944	6	220		1.4	14	4.3	12	39	12	24			.1		53
Mills River near Mills Rivers	March 8, 1945	145	3	8	5.2	.03	.8	.4	2.1	7.0	1.4	.5	.1	.1	14	4
Mud Creek at Naples	Aug. 9, 1945	120	54	6	12	.02	2.6	.0	4.5	17	2.2	1.8	.1	1.2	36	10
Neuse River near Northside	Oct. 23, 1944	731	43	34	8.6	.05	4.2	1.5	4.5	19	5.1	3.5	.0	.8	49	17
Nolichucky River at Poplar	Sept. 27, 1945	764	56	6	9.3	.02	2.8	1.1	2.3	15	2.4	1.0	.0	.4	29	12
North Buffalo Creek near Greensboro ⁷	Oct. 23, 1944	32	53	33	14	.02	14	2.0	*165	*307	46	73	.0	.2	466	43
North Fork New River at Crumpler	May 12, 1945	495	6	7	9.2	.03	2.8	1.0	3.0	17	1.9	.5	.1	.8	29	11
North Fork Swannanoa near Black Mt. Mountain	April 14, 1945	31	1	2	7.0	.01	1.4	.5	1.7	8.0	1.6	.6	.0	.2	18	6
North Toe River at Altapass	May 14, 1945	238	21	12	7.9	.07	2.2	1.0	2.3	14	1.5	.6	.0	.8	24	10
Oconalufy River at Cherokee	Aug. 17, 1945	218	186	27	4.5	.01	1.2	.5	1.6	6.0	2.4	.4	.0	.7	20	5
Oconalufy River at Birdtown	Aug. 7, 1945	987	106	17	4.5	.02	1.6	.5	1.2	6.0	2.3	.4	.0	.9	20	6
Pee Dee River near Rockingham	Oct. 30, 1944	4,950	64	18	8.9	.06	3.8	1.4	5.0	19	4.0	3.0	.1	2.4	44	15
Pigeon River at Canton	April 14, 1945	250	7	6	2	.02	1.3	.6	2.2	9.0	1.6	.8	.0	.3	19	6
Pigeon River near Hepco	April 2, 1945	1,540	325	42	7.7	.02	10	1.0	11	38	7.6	9.0	.1	.4	76	29
Rays Mill Creek at Aberdeen	May 22, 1945	14.46	6	12	4.0	.04	1.6	.5	2.2	6.0	1.4	3.0	.0	.4	20	6
Reedy Fork near Gibsonville	Oct. 23, 1944	262	31	22	11	.10	3.6	1.6	4.6	22	3.8	2.2	.1	.2	46	16
Reems Creek near Weaverville	May 7, 1945	131.4	16	10	12	.08	2.4	1.0	3.3	15	2.8	1.2	.0	.4	34	10
Richland Creek at Waynesville	Apr. 2, 1945	232	478	12	7.7	.03	2.6	.8	2.9	13	2.5	.9	.1	1.7	27	10
Roanoke River near Scotland Neck ¹⁰	1944-45	10,640	104	20	13	.18	6.9	2.5	9.7	41	7.3	5.9	.1	2.2	76	28

Chemical analyses in equivalents per million

Source	Date	Mean Discharge (second-foot)	Suspended matter	Color	Silica (SiO ₂)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Dissolved solids	Total hardness as CaCO ₃
French Broad River at Asheville	Aug. 9, 1945	1,190	46	28	9.3	0.220	0.107	0.836	0.557	0.354	0.223	0.000	0.029		81	16
French Broad River at Marshall	May 7, 1945	2,230	28	10	11	.230	.148	.374	.197	.479	.056	.005	.015		60	19
French Broad River at Hot Springs	May 8, 1945	2,400	28	19	9.3	.095	.082	.156	.262	.333	.079	.000	.018		50	12
Green River near Mill Spring	Nov. 11, 1944	297	69	6	10	.289	.197	.928	.885	.198	.310	.016	.005		28	9
Haw River near Pittsboro	Oct. 19, 1944	286	6	17	16	.095	.082	.156	.262	.333	.079	.000	.018		95	24
Hominy Creek at Candler	Aug. 9, 1945	38	45	6	13	.190	.115	.212	.393	.067	.042	.005	.010		40	15
Ivy River near Marshall	May 9, 1945	141	17	6	13	.180	.140	.147	.361	.062	.028	.005	.011		39	16
Jonathan Creek near Cove Creek	April 2, 1945	236	95	20	7.4	.080	.041	.067	.131	.031	.011	.000	.015		24	6
Linville River at Branch	Nov. 13, 1944	48	2	7	7.0	.090	.058	.114	.197	.023	.034	.005	.003		21	7
Little River (French Broad River Basin) near Penrose	March 9, 1945	130	3	9	6.4	.035	.025	.102	.115	.023	.017	.005	.002		16	3
Little River (Pee Dee River Basin) near Troy	Jan. 3, 1945	1148	13	75	14	.185	.099	.162	.262	.102	.079	.000	.003		58	14
Little Rockfish Creek near Hope Mills	Nov. 9, 1944	1148	10	28	4.6	.030	.041	.166	.115	.035	.082	.000	.005		22	4
Lovel Creek at Mount Airy	July 4, 1945	346	2	34	5.5	.160	.074	.145	.311	.027	.031	.005	.005		31	5
Lower Little River at Linden	Nov. 10, 1944	827	2	83	7.4	.050	.049	.177	.115	.044	.082	.000	.035		28	12
Lumber River at Boardman	Nov. 3, 1944	827	2	83	7.4	.045	.058	.218	.180	.048	.090	.000	.003		38	5
Mackeys Creek (at highway bridge) at Mackeys	Dec. 12, 1944	10	220	10	.64	.699	.362	.413	.672	.291	.508		.003		*168	53
Mackeys Creek (at railway bridge) at Mackeys	Dec. 12, 1944	6	220		1.4	.699	.362	.413	.672	.291	.508		.003			53
Mills River near Mills Rivers	March 8, 1945	145	3	8	5.2	.699	.354	.515	.639	.250	.677		.002			53
Mud Creek at Naples	Aug. 9, 1945	120	54	6	12	.040	.033	.092	.115	.029	.014	.005	.002			10
Neuse River near Northside	Oct. 23, 1944	731	43	34	8.6	.130	.074	.196	.279	.046	.051	.005	.019			17
Nolichucky River at Poplar	Sept. 27, 1945	764	56	6	9.3	.210	.123	.196	.311	.106	.099	.000	.013			12
North Buffalo Creek near Greensboro ⁷	Oct. 23, 1944	32	53	33	14	.140	.090	.100	.246	.050	.028	.000	.006			43
North Fork New River at Crumpler	May 12, 1945	495	6	7	9.2	.099	.164	7.187	5.031	.958	2.059	.000	.003			11
North Fork Swannanoa near Black Mt. Mountain	April 14, 1945	31	1	2	7.0	.140	.082	.129	.279	.040	.014	.005	.013			6
North Toe River at Altapass	May 14, 1945	238	21	12	7.9	.070	.041	.073	.131	.033	.017	.000	.003			10
Oconalufy River at Cherokee	Aug. 17, 1945	218	186	27	4.5	.110	.082	.098	.229	.031	.017	.000	.013			24
Oconalufy River at Birdtown	Aug. 7, 1945	987	106	17	4.5	.060	.041	.069	.098	.050	.011	.000	.011			20
Pee Dee River near Rockingham	Oct. 30, 1944	4,950	64	18	8.9	.080	.041	.051	.098	.048	.011	.000	.015			5
Pigeon River at Canton	April 14, 1945	250	7	6	2	.190	.115	.218	.311	.083	.085	.005	.039			6
Pigeon River near Hepco	April 2, 1945	1,540	325	42	7.7	.065	.049	.095	.148	.033	.023	.000	.005			29
Rays Mill Creek at Aberdeen	May 22, 1945	14.46	6	12	4.0	.499	.082	.465	.623	.158	.254	.005	.006			6
Reedy Fork near Gibsonville	Oct. 23, 1944	262	31	22	11	.080	.041	.097	.098	.029	.085	.000	.008			16
Reems Creek near Weaverville	May 7, 1945	131.4	16	10	12	.180	.132	.198	.361	.079	.062	.005	.003			10
Richland Creek at Waynesville	Apr. 2, 1945	232	478	12	7.7	.120	.082	.142	.246	.058	.034	.000	.006			27
Roanoke River near Scotland Neck ¹⁰	1944-45	10,640	104	20	13	.130	.066	.126	.213	.052	.125	.005	.027			28

¹ Measured discharge.

⁶ Large proportion of organic matter; sum of mineral constituents 97 parts.

⁷ Water polluted with industrial wastes and sewage.

⁸ Includes equivalent of 10 parts of potassium (K).

⁹ Includes equivalent of 58 parts of carbonate (CO₃).

¹⁰ Average of analyses of composites of daily samples (see pp. 8-9).

MISCELLANEOUS STREAMS IN NORTH CAROLINA—Continued
Chemical analyses in parts per million

Source	Date	Mean Discharge (second-foot)	Suspended matter	Color	Silica (SiO ₂)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Dissolved solids	Total hardness as CaCO ₃
Rockfish Creek at Lakefield	May 22, 1945	1101	4	26	4.1	0.04	1.6	0.3	1.8	6.0	1.0	2.1	0.0	0.4	19	5
Rocky River near Norwood	Oct. 31, 1944	231	7	30	16	.29	7.8	3.9	22	61	10	16	.0	.2	110	36
Sandymush Creek near Alexander	May 7, 1945	50	17	8	16	.08	4.4	2.0	4.8	30	2.8	1.0	.1	.5	47	19
Scott Creek above Sylva	Aug. 6, 1945	116	887	2	9.6	.01	2.3	1.0	2.8	12	2.4	1.5	.1	1.6	28	10
Second Broad River at Cliffside	Nov. 11, 1944	202	8	6	15	.10	2.9	1.4	12	32	3.1	6.2	.1	.4	57	13
South Fork Catawba River at Lowell	Nov. 10, 1944	452	9	12	15	.14	3.6	1.9	6.2	26	2.5	3.9	.1	.8	48	17
South Fork Mills River at The Pink Beds	March 9, 1945	29	1	7	5.5	.03	.6	.3	2.0	6.0	1.2	.5	.1	.1	14	3
South Fork New River near Jefferson	May 3, 1945	482	14	11	8.0	.08	2.2	.8	2.2	13	1.4	.9	.0	.2	24	9
South Toe River at Newdale	May 14, 1945	184	7	13	5.8	.05	1.4	.6	1.9	9.0	1.7	.5	.0	.3	18	6
Spring Creek at Hot Springs	May 8, 1945	178.6	18	4	11	.03	2.8	.9	3.3	17	2.5	.5	.1	.5	31	11
Swannanoa River at Biltmore	April 14, 1945	130	8	6	8.5	.04	2.3	1.0	3.8	13	3.2	2.0	.0	1.6	32	10
Tar River at Tarboro ¹	1944-45	3,403	31	39	13	.13	4.2	1.6	5.6	22	4.1	4.0	.0	1.6	54	17
Tuckasegee River at Tuckasegee	Aug. 6, 1945	373	207	10	5.4	.02	1.2	.4	2.3	7.0	2.1	.6	.0	1.0	24	5
Tuckasegee River at Dillsboro	Aug. 6, 1945	728	525	7	7.0	.03	2.1	.7	2.4	10	2.8	.8	.0	1.5	27	8
Tuckasegee at Bryson City	Aug. 7, 1945	1,970	260	13	7.4	.04	2.0	.7	3.8	12	4.1	.8	.0	1.1	30	8
Uwharrie River near Eldorado	Oct. 31, 1944	91	6	41	16	.28	5.8	3.1	5.1	36	4.1	3.2	.0	.2	61	27
Waccamaw River at Freeland	Nov. 2, 1944	146	3	170	6.8	.05	2.8	1.0	6.2	14	1.6	8.0	.0	.1	180	11
Watauga River near Sugar Grove	Sept. 26, 1945	124	47	5	12	.03	4.8	1.8	3.8	25	3.3	1.5	.1	1.8	42	19
Yadkin River at Patterson	Nov. 13, 1944	18	155	3	10	.01	2.3	1.1	3.7	18	1.5	1.2	.1	.2	30	10

Chemical analyses in equivalents per million

Source	Date	Mean Discharge (second-foot)	Suspended matter	Color	Silica (SiO ₂)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Dissolved solids	Total hardness as CaCO ₃
Rockfish Creek at Lakefield	May 22, 1945	1101	4	26	4.1	0.04	1.6	0.3	1.8	6.0	1.0	2.1	0.0	0.4	19	5
Rocky River near Norwood	Oct. 31, 1944	231	7	30	16	.29	7.8	3.9	22	61	10	16	.0	.2	110	36
Sandymush Creek near Alexander	May 7, 1945	50	17	8	16	.08	4.4	2.0	4.8	30	2.8	1.0	.1	.5	47	19
Scott Creek above Sylva	Aug. 6, 1945	116	887	2	9.6	.01	2.3	1.0	2.8	12	2.4	1.5	.1	1.6	28	10
Second Broad River at Cliffside	Nov. 11, 1944	202	8	6	15	.10	2.9	1.4	12	32	3.1	6.2	.1	.4	57	13
South Fork Catawba River at Lowell	Nov. 10, 1944	452	9	12	15	.14	3.6	1.9	6.2	26	2.5	3.9	.1	.8	48	17
South Fork Mills River at The Pink Beds	March 9, 1945	29	1	7	5.5	.03	.6	.3	2.0	6.0	1.2	.5	.1	.1	14	3
South Fork New River near Jefferson	May 3, 1945	482	14	11	8.0	.08	2.2	.8	2.2	13	1.4	.9	.0	.2	24	9
South Toe River at Newdale	May 14, 1945	184	7	13	5.8	.05	1.4	.6	1.9	9.0	1.7	.5	.0	.3	18	6
Spring Creek at Hot Springs	May 8, 1945	178.6	18	4	11	.03	2.8	.9	3.3	17	2.5	.5	.1	.5	31	11
Swannanoa River at Biltmore	April 14, 1945	130	8	6	8.5	.04	2.3	1.0	3.8	13	3.2	2.0	.0	1.6	32	10
Tar River at Tarboro ¹	1944-45	3,403	31	39	13	.13	4.2	1.6	5.6	22	4.1	4.0	.0	1.6	54	17
Tuckasegee River at Tuckasegee	Aug. 6, 1945	373	207	10	5.4	.02	1.2	.4	2.3	7.0	2.1	.6	.0	1.0	24	5
Tuckasegee River at Dillsboro	Aug. 6, 1945	728	525	7	7.0	.03	2.1	.7	2.4	10	2.8	.8	.0	1.5	27	8
Tuckasegee at Bryson City	Aug. 7, 1945	1,970	260	13	7.4	.04	2.0	.7	3.8	12	4.1	.8	.0	1.1	30	8
Uwharrie River near Eldorado	Oct. 31, 1944	91	6	41	16	.28	5.8	3.1	5.1	36	4.1	3.2	.0	.2	61	27
Waccamaw River at Freeland	Nov. 2, 1944	146	3	170	6.8	.05	2.8	1.0	6.2	14	1.6	8.0	.0	.1	180	11
Watauga River near Sugar Grove	Sept. 26, 1945	124	47	5	12	.03	4.8	1.8	3.8	25	3.3	1.5	.1	1.8	42	19
Yadkin River at Patterson	Nov. 13, 1944	18	155	3	10	.01	2.3	1.1	3.7	18	1.5	1.2	.1	.2	30	10

¹ Measured discharge.
² Large proportion of organic matter; sum of mineral constituents 33 parts.
³ Average of analyses of composites of daily samples (see pp. 10-11).

TEMPERATURE (°F.) OF WATER OF CAPE FEAR RIVER AT LILLINGTON, N. C. 1944-45

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

TEMPERATURE (°F.) OF WATER OF DAN RIVER AT LEAKSVILLE, N. C., 1944-1945

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

TEMPERATURE (°F.) OF WATER OF ROANOKE RIVER NEAR SCOTLAND NECK, N. C., 1944-1945

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

TEMPERATURE (°F.) OF WATER OF TAR RIVER AT TARBORO, N. C., 1944-1945

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