

Water-Data Report 2007

02086849 ELLERBE CREEK NEAR GORMAN, NC

Neuse Basin
Upper Neuse Subbasin

LOCATION.--Lat 36°03'33", long 78°49'58" referenced to North American Datum of 1927, Durham County, NC, Hydrologic Unit 03020201, on right bank 60 ft upstream of bridge on Secondary Road 1636, 1.6 mi northwest of Gorman, and 3 mi upstream of mouth.

DRAINAGE AREA.--21.9 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1982 to April 1989, October 1991 to September 1995, January 2006 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 255 ft above NGVD of 1929. Satellite telemetry at station.

REMARKS.--Records good except those for estimated daily discharges, which are poor. An average of 17.7 ft³/s was diverted from Flat River for Durham municipal water supply, of which 13.1 ft³/s was returned as treated effluent upstream of station. Minimum discharge for period of record and current water year, due to regulation.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	14	15	e28	111	32	22	22	18	14	12	14	12
2	12	16	e43	65	46	388	20	17	14	12	13	12
3	13	15	e35	31	28	64	20	17	194	12	11	12
4	13	15	e27	28	23	38	22	18	29	11	11	13
5	12	15	e24	26	21	30	20	19	19	11	13	12
6	51	15	e22	131	20	28	20	19	20	12	13	12
7	21	309	20	94	19	25	28	17	14	11	14	14
8	32	172	19	227	19	25	20	19	14	11	13	12
9	17	42	18	66	19	23	19	51	14	12	12	12
10	15	27	18	36	19	22	19	33	16	12	11	13
11	13	22	18	33	18	22	29	19	14	19	11	12
12	13	396	18	26	17	21	270	176	13	13	11	12
13	13	65	17	25	20	21	40	64	16	12	12	12
14	13	34	17	24	162	20	27	25	22	12	12	55
15	13	26	15	23	38	18	476	19	15	11	12	42
16	13	634	15	22	28	313	225	19	14	11	13	18
17	56	87	16	20	25	102	59	17	15	12	40	19
18	126	48	16	29	24	44	44	18	14	37	15	18
19	21	33	16	32	21	36	36	18	14	13	12	14
20	26	26	15	23	21	28	30	16	16	12	13	12
21	17	132	16	36	21	25	25	16	14	11	16	14
22	20	1,090	90	245	20	25	22	16	13	11	27	13
23	19	520	71	57	19	23	24	15	14	11	59	13
24	15	e202	28	37	19	23	22	14	12	12	15	14
25	15	e108	557	30	84	22	22	17	34	11	13	13
26	14	e69	124	26	56	21	20	16	13	11	13	12
27	36	e54	52	24	29	22	20	14	12	119	13	12
28	191	e46	35	23	24	44	21	14	13	60	14	12
29	26	e37	27	21	---	36	19	14	18	16	13	12
30	18	e31	24	20	---	26	19	14	24	12	13	12
31	16	---	23	19	---	22	---	14	---	12	13	---
Total	894	4,301	1,464	1,610	892	1,579	1,660	783	668	554	485	465
Mean	28.8	143	47.2	51.9	31.9	50.9	55.3	25.3	22.3	17.9	15.6	15.5
Max	191	1,090	557	245	162	388	476	176	194	119	59	55
Min	12	15	15	19	17	18	19	14	12	11	11	12
Cfsm	1.32	6.55	2.16	2.37	1.45	2.33	2.53	1.15	1.02	0.82	0.71	0.71
In.	1.52	7.31	2.49	2.73	1.52	2.68	2.82	1.33	1.13	0.94	0.82	0.79

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2007 ^a, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	21.8	49.0	35.9	46.3	65.4	75.2	43.6	32.4	28.9	23.6	29.4	20.9
Max	40.6	196	84.0	90.9	141	147	81.2	84.5	91.7	53.3	79.5	71.6
(WY)	(1995)	(1986)	(1984)	(1987)	(1985)	(1993)	(1984)	(1983)	(1995)	(1995)	(1986)	(1991)
Min	1.50	14.8	14.9	20.0	27.0	16.7	11.8	15.8	10.2	13.5	14.3	9.93
(WY)	(1996)	(1992)	(1995)	(1989)	(1988)	(1988)	(1985)	(1987)	(1993)	(1983)	(1983)	(1986)

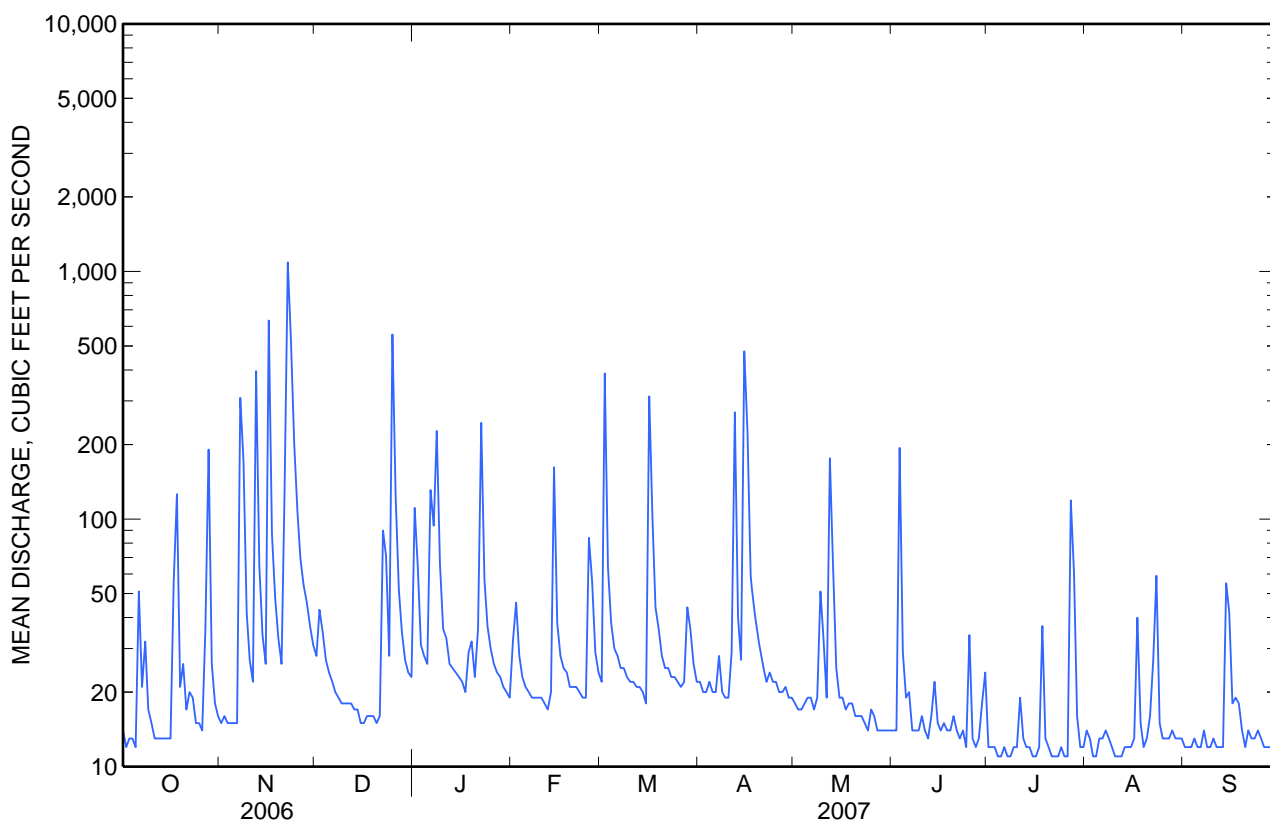
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SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1983 - 2007 ^a	
Annual total	14,775		15,355			
Annual mean	41.4		42.1		39.9	
Highest annual mean					71.6	1991
Lowest annual mean					1.50	1996
Highest daily mean	1,090	Nov 22	1,090	Nov 22	1,290	Jun 29, 1995
Lowest daily mean	12	Jan 16	11	Jul 4	1.5	Oct 1, 1995
Annual seven-day minimum	13	Aug 22	11	Jul 20	4.8	Jun 11, 1983
Maximum peak flow			2,010	Dec 25	2,830	Aug 20, 1993
Maximum peak stage			10.05	Dec 25	12.10	Aug 20, 1986
Instantaneous low flow			^b 3.5	Aug 3	^b 1.0	Jan 4, 1995
Annual runoff (cfsm)	1.89		1.92		1.82	
Annual runoff (inches)	25.10		26.08		24.74	
10 percent exceeds	76		64		75	
50 percent exceeds	17		19		16	
90 percent exceeds	13		12		9.4	

^a See Period of Record.

^b See Remarks.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1983-87, 1989-95, 2006-07.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1982 to September 1985.

WATER TEMPERATURE: October 1982 to September 1985.

INSTRUMENTATION.--Water-quality monitor from October 1982 to September 1985.

REMARKS.--Station operated to define water quality as part of a regional surface-water quality assessment. Samples for October 1994 and April 1995 were collected by the North Carolina Department of Environment, Health, and Natural Resources. A GC/FID scan for trace organic compounds was performed on these samples by the U.S. Geological Survey Water Quality Lab. Results may be obtained from the North Carolina Water Science Center, Raleigh, NC.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 858 microsiemens, January 30, 1985; minimum recorded, 24 microsiemens, May 20, 1983.

WATER TEMPERATURE: Maximum recorded, 33.5°C, June 21, 1985; minimum recorded, 0.0°C, January 21, 22, 1985.

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Part 1 of 4

Date	Time	Instantaneous discharge, cfs (00061)	Color, water, fltrd, Pt-Co units (00080)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd 25 degC (00095)	Temperature, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
Mar 02...	0845	953	125	747	9.4	92	5.7	57	13.3	26	7.24	1.99	2.90

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Part 2 of 4

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unfltrd, titr., mg/L as CaCO3 (00419)	Bicarbonate, wat unfltrd, titr., mg/L (00450)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue on evap. at 180degC, wat fltrd, mg/L (70300)	Ammonia + org-N, water, unfltrd, mg/L as N (00625)	Ammonia, water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite, water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)
Mar 02...	6.11	21	25	6.05	.14	4.59	7.08	62	1.6	.089	.529	.006	.078

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 4

Date	Phosphorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	Aluminum, water, unfltrd recover-able, µg/L (01105)	Arsenic, water, unfltrd µg/L (01002)	Cadmium, water, unfltrd µg/L (01027)	Chromium, water, unfltrd recover-able, µg/L (01034)	Cobalt, water, unfltrd recover-able, µg/L (01037)	Copper, water, unfltrd recover-able, µg/L (01042)	Iron, water, unfltrd recover-able, µg/L (01045)	Lead, water, unfltrd recover-able, µg/L (01051)	Manganese, water, unfltrd recover-able, µg/L (01055)	Mercury, water, unfltrd recover-able, µg/L (71900)	Molybdenum, water, unfltrd recover-able, µg/L (01062)
Mar 02...	.40	21.3	4,880	2.6	.24	8.5	5.66	22.3	5,780	32.8	409	.061	.3

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 4 of 4

Date	Nickel, water, unfltrd recover-able, µg/L (01067)	Selenium, water, unfltrd µg/L (01147)	Silver, water, unfltrd recover-able, µg/L (01077)	Zinc, water, unfltrd recover-able, µg/L (01092)	Suspended sediment concentration mg/L (80154)
Mar 02...	8.38	.24	1.00	93	834