

Water-Data Report 2008

02086624 KNAP OF REEDS CREEK NEAR BUTNER, NC

Neuse Basin
Upper Neuse Subbasin

LOCATION.--Lat 36°07'40", long 78°47'55" referenced to North American Datum of 1927, Granville County, NC, Hydrologic Unit 03020201, on left bank, 1.5 mi downstream of bridge on Secondary Road 1120, 2.3 mi west of Butner, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--43 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1982 to September 1995, February 2006 to current year.

GAGE.--Water-stage recorder. Datum of gage is 254.56 ft above North American Vertical Datum of 1988. Satellite telemetry at station.

REMARKS.--Records poor. Some diurnal fluctuation at low flow. The town of Butner diverted an average of 3.9 ft³/s for municipal water supply upstream from station and returned an average of 3.1 ft³/s upstream from station as treated effluent.

02086624 KNAP OF REEDS CREEK NEAR BUTNER, NC—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	e2.4	e2.5	4.1	e14	e74	e5.7	226	27	e4.5	7.8	e3.0	6.3
2	e2.3	e2.5	3.8	e8.8	e18	e5.9	77	17	e6.8	6.6	1.7	4.5
3	e2.2	e2.6	4.5	e6.9	e9.8	e5.2	41	11	e3.2	6.0	5.3	4.1
4	e2.2	e2.7	e3.3	e6.0	e7.6	25	87	8.3	e2.5	6.4	3.5	4.0
5	e6.3	e2.6	e3.0	e5.2	e5.8	168	285	7.0	e2.1	11	e2.7	4.3
6	e5.0	e2.5	e3.2	e4.9	e5.3	24	141	6.0	e1.8	30	e2.2	878
7	e3.0	e2.4	e2.9	e5.0	e5.2	114	76	3.7	e1.6	29	e2.1	248
8	e2.8	e2.4	e2.8	e4.5	e4.8	128	45	3.5	e1.4	5.3	e2.1	54
9	e2.7	e2.5	e2.7	e4.7	e4.5	28	33	3.9	e1.3	8.5	e2.3	33
10	e2.6	e2.6	e3.4	e4.6	e3.7	17	27	4.4	e1.2	17	e12	25
11	e2.6	e2.5	e3.0	e5.0	e4.3	12	23	11	e1.1	6.0	e7.5	18
12	e2.7	e2.6	e2.8	e4.4	e6.5	12	22	15	0.99	5.5	3.6	55
13	e2.6	e2.5	e2.7	e4.2	e96	8.7	20	9.5	1.2	3.3	2.7	21
14	e2.6	e2.5	e2.6	e4.2	e20	7.4	14	6.9	1.2	3.2	e2.7	12
15	e2.5	e13	e3.5	e4.1	e12	15	12	7.3	1.1	3.2	e2.4	9.1
16	e2.4	e5.7	e14	e3.7	e7.7	38	15	29	1.7	3.0	3.4	28
17	e2.6	e4.1	e4.7	e20	e6.5	14	14	24	e2.5	2.7	e2.2	30
18	e2.5	e3.9	3.3	e11	e28	8.3	14	16	1.6	2.7	e2.1	15
19	e2.5	e5.2	3.3	e8.8	e9.8	8.8	15	30	2.3	3.9	e2.2	8.9
20	e2.5	e3.9	3.7	e12	e7.8	19	24	16	3.1	7.2	e2.3	6.6
21	e2.6	e3.5	4.6	e6.1	e6.8	14	48	17	e5.3	3.2	e5.9	5.3
22	e2.5	e3.6	4.2	e5.4	e21	11	35	5.6	e8.8	2.9	e3.4	4.9
23	e2.4	e3.4	3.3	e6.0	e11	11	26	3.0	e6.4	2.6	e2.7	4.6
24	e3.4	4.3	4.3	e5.0	e7.8	13	19	2.1	4.0	e2.6	e2.3	4.7
25	e17	3.9	4.6	e4.5	e7.9	12	16	1.7	e3.7	2.9	e2.5	4.6
26	e18	4.3	23	e4.3	e29	12	12	1.5	e3.4	e2.3	12	153
27	e12	4.5	4.2	e4.3	e16	13	16	1.9	e3.0	e6.3	45	199
28	e4.4	4.1	1.3	e4.5	e9.7	17	137	6.1	e6.5	e7.9	152	74
29	e3.6	4.4	3.4	e4.3	e6.8	23	223	3.5	10	e4.1	20	34
30	e2.7	4.3	50	e5.3	---	27	47	2.1	91	e3.4	5.9	25
31	e2.5	---	19	e3.8	---	60	---	2.1	---	3.3	4.7	---
Total	128.1	111.5	199.2	195.5	453.3	877.0	1,790	303.1	185.29	209.8	324.4	1,973.9
Mean	4.13	3.72	6.43	6.31	15.6	28.3	59.7	9.78	6.18	6.77	10.5	65.8
Max	18	13	50	20	96	168	285	30	91	30	152	878
Min	2.2	2.4	1.3	3.7	3.7	5.2	12	1.5	0.99	2.3	1.7	4.0
Cfsm	0.10	0.09	0.15	0.15	0.36	0.66	1.39	0.23	0.14	0.16	0.24	1.53
In.	0.11	0.10	0.17	0.17	0.39	0.76	1.55	0.26	0.16	0.18	0.28	1.71

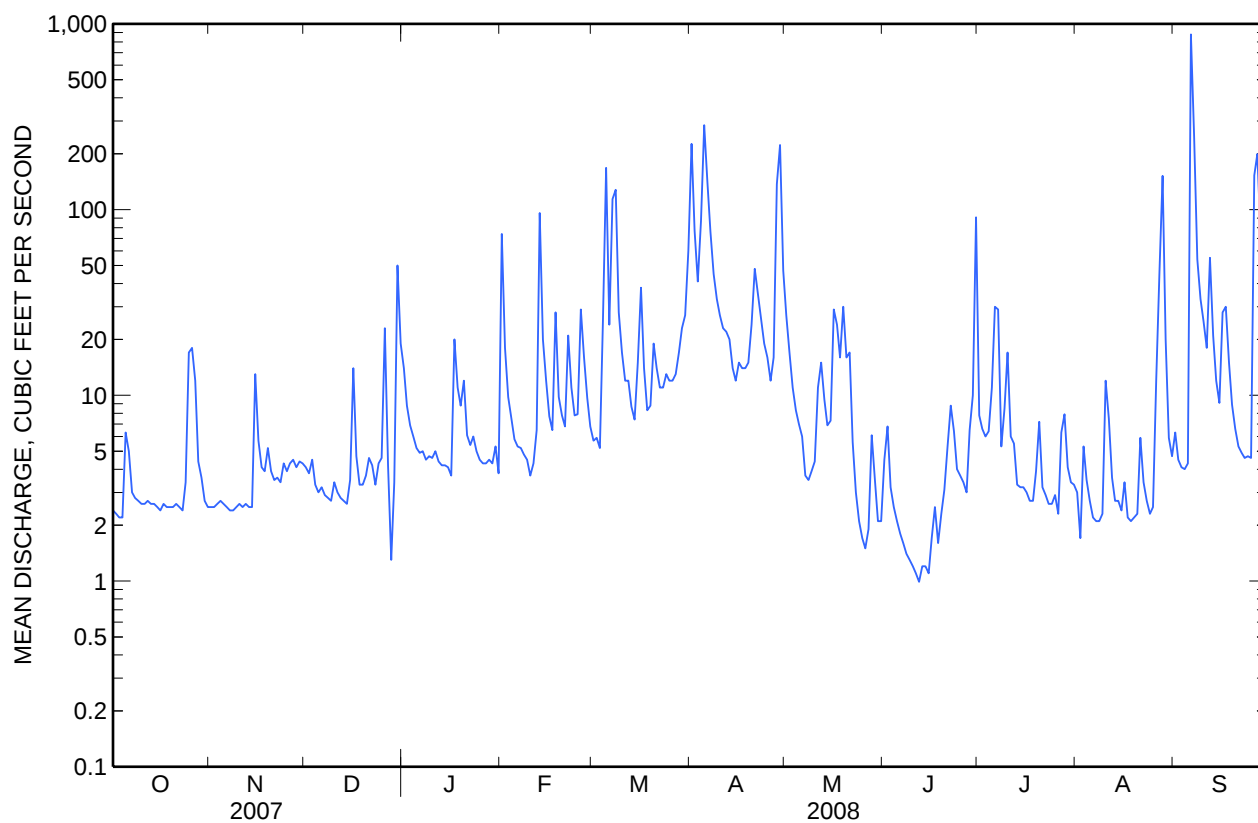
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2008^a, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	17.1	28.8	39.6	62.9	73.9	104	64.9	32.8	19.4	24.6	17.0	9.33
Max	105	147	124	164	170	253	190	109	151	166	113	65.8
(WY)	(1990)	(1986)	(1984)	(1991)	(1983)	(1993)	(1993)	(1989)	(1995)	(1989)	(1989)	(2008)
Min	3.65	3.72	6.43	6.00	14.8	6.57	5.83	5.33	2.41	2.12	3.04	2.44
(WY)	(1985)	(2008)	(2008)	(1989)	(1988)	(2006)	(1995)	(1986)	(1986)	(1985)	(1993)	(1984)

02086624 KNAP OF REEDS CREEK NEAR BUTNER, NC—Continued

SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1983 - 2008 ^a	
Annual total	6,944.9		6,751.09			
Annual mean	19.0		18.4		42.1	
Highest annual mean					78.9	
Lowest annual mean					13.2	
Highest daily mean	365	Apr 16	878	Sep 6	2,920	Mar 4, 1993
Lowest daily mean	1.3	Dec 28	0.99	Jun 12	0.99	Jun 12, 2008
Annual seven-day minimum	2.1	Jul 20	1.2	Jun 9	1.2	Jun 9, 2008
Maximum peak flow			2,430	Sep 6	5,800	Mar 4, 1993
Maximum peak stage			7.71	Sep 6	8.31	Mar 4, 1993
Instantaneous low flow			NOT DETERMINED		NOT DETERMINED	
Annual runoff (cfs)	0.442		0.429		0.978	
Annual runoff (inches)	6.01		5.84		13.29	
10 percent exceeds	37		30		76	
50 percent exceeds	4.3		5.0		8.0	
90 percent exceeds	2.4		2.4		2.8	

^aSee Period of Record.

02086624 KNAP OF REEDS CREEK NEAR BUTNER, NC—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1983-87, 1989-1995, 2006-08.

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 the the U.S. Geological Survey Water Quality Lab. Results are available at the North Carolina Water Science Center, Raleigh, NC.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, >1,100 microsiemens, August 25, 30, 31, 1984; minimum recorded, 39 microsiemens, March 7, 1984.

WATER TEMPERATURE: Maximum recorded, 31.5°C, August 15, 1985; minimum recorded, 1.0°C, January 21, 29, February 9, 1985.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 1 of 4

[Remark codes: <, less than; E, estimated.]

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, μ S/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
Apr 01...	1100	269	60	761	9.4	89	7.0	77	13.0	22	5.19	2.21	1.81

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 4

[Remark codes: <, less than; E, estimated.]

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unfltrd, titr., field, mg/L as CaCO ₃ (00419)	Bicarbonate, wat unfltrd, titr., field, mg/L (00450)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L as SiO ₂ (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia, water, fltrd, mg/L as N (00608)	Nitrate + nitrite, water, fltrd, mg/L as N (00631)	Nitrite, water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)
Apr 01...	5.61	14	16	5.48	<.12	8.09	9.46	66	.59	.024	.415	.003	.037

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 3 of 4

[Remark codes: <, less than; E, estimated.]

Date	Phos- phorus, water, unfltrd mg/L as P (00665)	Organic carbon, water, fltrd, mg/L (00681)	Organic carbon, water, unfltrd mg/L (00680)	Alum- inum, water, unfltrd recover- able, µg/L (01105)	Arsenic water, unfltrd µg/L (01002)	Cadmium water, unfltrd µg/L (01027)	Chrom- ium, 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)	Mangan- ese, water, unfltrd recover- able, µg/L (01055)	Mercury water, fltrd, µg/L (71890)
Apr 01...	.094	8.0	11.3	465	E.39	E.01	1.5	.99	2.8	973	.86	138	<.010

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 4 of 4

[Remark codes: <, less than; E, estimated.]

Date	Mercury water, unfltrd recover- able, µg/L (71900)	Molyb- denum, water, unfltrd recover- able, µg/L (01062)	Nickel, water, unfltrd recover- able, µg/L (01067)	Selen- ium, water, unfltrd µg/L (01147)	Silver, water, unfltrd recover- able, µg/L (01077)	Zinc, water, unfltrd recover- able, µg/L (01092)	Sus- pended sedi- ment concen- tration mg/L (80154)
Apr 01...	E.006	.4	1.8	.14	<.02	6.2	32