



Water-Data Report 2010

02086569 LAKE BUTNER AT DAM NEAR BUTNER, NC

Neuse Basin
Upper Neuse Subbasin

LOCATION.--Lat 36°10'01", long 78°46'20" referenced to North American Datum of 1983, Granville County, NC, Hydrologic Unit 03020201, above dam, 2.1 mi northwest of Butner.

DRAINAGE AREA.--29.4 mi².

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 2007 to current year.

REMARKS.--Station operated to define water quality as part of a regional surface-water quality assessment. Samples for nutrient, chlorophyll *a*, and pheophytin *a* analyses were collected through a sampling zone equal to double the secchi disk depth using the depth-integration sampling technique.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 1 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Color, water, filtered, platinum cobalt units (00080)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, μS/cm at 25 °C (00095)
10-16-2009	0930	Surface water	Regular	--	--	--	--	--	
10-16-2009	0931	QC sample - Surface water	Replicate	--	--	--	--	--	
10-16-2009	0932	QC sample - Surface water	Replicate	--	--	--	--	--	
10-16-2009	0935	Surface water	Regular	752	75	7.8	83	6.8	
10-16-2009	0940	Surface water	Regular	752	--	6.2	63	6.6	
10-16-2009	0945	Surface water	Regular	752	--	.4	3	6.0	
04-20-2010	0915	Surface water	Regular	--	--	--	--	--	
04-20-2010	0920	Surface water	Regular	754	62	8.3	91	6.8	
04-20-2010	0925	Surface water	Regular	754	--	7.4	64	6.1	
04-20-2010	0930	Surface water	Regular	754	--	7.5	62	6.7	
06-11-2010	1151	QC sample - Artificial	Blank	--	--	--	--	--	
06-11-2010	1215	Surface water	Regular	--	--	--	--	--	
06-11-2010	1216	QC sample - Surface water	Replicate	--	--	--	--	--	
06-11-2010	1220	Surface water	Regular	760	75	8.3	108	7.5	
06-11-2010	1221	QC sample - Surface water	Replicate	--	75	--	--	--	
06-11-2010	1225	Surface water	Regular	760	--	2.1	19	5.9	
06-11-2010	1230	Surface water	Regular	760	--	4.8	40	5.8	
08-09-2010	1000	Surface water	Regular	--	--	--	--	--	
08-09-2010	1005	Surface water	Regular	756	35	7.5	100	7.3	
08-09-2010	1010	Surface water	Regular	756	--	.4	4	6.0	
08-09-2010	1015	Surface water	Regular	756	--	1.9	16	5.7	

02086569 LAKE BUTNER AT DAM NEAR BUTNER, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 2 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Temperature, water, °C (00010)	Trans- parency, water, in situ, Secchi disc, m (00078)	Sampling depth, m (00098)	Dissolved solids dried at 180 °C, water, filtered, mg/L (70300)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, filtered, mg/L (00915)	Magne- sium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, inflection- point, incremental titration method, field, mg/L as CaCO ₃ (00419)
10-16-2009	--	.90	1.8	--	--	--	--	--	--	--
10-16-2009	--	.90	1.8	--	--	--	--	--	--	--
10-16-2009	--	.90	1.8	--	--	--	--	--	--	--
10-16-2009	17.9	--	1.0	60	15.6	3.55	1.64	1.35	3.57	13.6
10-16-2009	16.0	--	5.0	--	--	--	--	--	--	--
10-16-2009	8.9	--	10.0	--	--	--	--	--	--	--
04-20-2010	--	1.40	2.8	--	--	--	--	--	--	--
04-20-2010	19.3	--	1.0	36	13.3	3.10	1.35	.926	3.38	6.8
04-20-2010	8.9	--	5.0	--	--	--	--	--	--	--
04-20-2010	7.0	--	10.0	--	--	--	--	--	--	--
06-11-2010	--	--	--	--	< .18	< .044	< .016	< .064	< .10	--
06-11-2010	--	1.00	2.0	--	--	--	--	--	--	--
06-11-2010	--	1.00	2.0	--	--	--	--	--	--	--
06-11-2010	28.7	--	1.0	58	14.2	3.35	1.43	1.11	3.31	11.7
06-11-2010	--	--	1.0	56	14.3	3.37	1.44	1.14	3.28	11.6
06-11-2010	12.1	--	5.0	--	--	--	--	--	--	--
06-11-2010	7.5	--	10.0	--	--	--	--	--	--	--
08-09-2010	--	1.60	3.2	--	--	--	--	--	--	--
08-09-2010	29.5	--	1.0	43	15.0	3.51	1.51	1.23	3.30	11.6
08-09-2010	12.4	--	5.0	--	--	--	--	--	--	--
08-09-2010	8.2	--	10.0	--	--	--	--	--	--	--

02086569 LAKE BUTNER AT DAM NEAR BUTNER, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 3 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Bi-carbonate, water, unfiltered, inflection-point, incremental titration method, field, mg/L (00450)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Silica, water, filtered, mg/L as SiO ₂ (00955)	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N (00625)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrite, water, filtered, mg/L as N (00613)
10-16-2009	--	--	--	--	--	.410	< .02	< .016	< .002
10-16-2009	--	--	--	--	--	--	--	--	--
10-16-2009	--	--	--	--	--	--	--	--	--
10-16-2009	16.6	3.21	< .08	6.00	4.93	--	--	--	--
10-16-2009	--	--	--	--	--	.457	< .02	< .016	< .002
10-16-2009	--	--	--	--	--	.508	.096	.0764	E .0015
04-20-2010	--	--	--	--	--	.457	.025	.0359	E .0018
04-20-2010	8.3	3.63	< .08	8.16	4.82	--	--	--	--
04-20-2010	--	--	--	--	--	.364	.066	.0768	E .0015
04-20-2010	--	--	--	--	--	.354	.075	.0884	E .0017
06-11-2010	--	< .12	< .08	< .058	< .18	< .10	< .02	< .016	< .002
06-11-2010	--	--	--	--	--	.500	< .02	< .016	< .002
06-11-2010	--	--	--	--	--	.480	< .02	< .016	< .002
06-11-2010	14.3	3.00	E .048	7.04	3.63	--	--	--	--
06-11-2010	14.2	3.00	< .08	7.28	3.59	--	--	--	--
06-11-2010	--	--	--	--	--	.381	E .015	.142	< .002
06-11-2010	--	--	--	--	--	.296	E .013	.207	< .002
08-09-2010	--	--	--	--	--	.410	< .02	< .016	< .002
08-09-2010	14.2	3.11	E .072	6.38	3.31	--	--	--	--
08-09-2010	--	--	--	--	--	.379	< .02	< .016	< .002
08-09-2010	--	--	--	--	--	.381	.021	.237	E .0012

02086569 LAKE BUTNER AT DAM NEAR BUTNER, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 4 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Orthophosphate, water, filtered, mg/L as P (00671)	Phosphorus, water, unfiltered, mg/L as P (00665)	Chlorophyll a, phytoplankton, chromatographic method, μg/L (70953)	Pheophytin a, phytoplankton, μg/L (62360)	Aluminum, water, unfiltered, recoverable, μg/L (01105)	Cadmium, water, unfiltered, μg/L (01027)	Chromium, water, unfiltered, recoverable, μg/L (01034)	Cobalt, water, unfiltered, recoverable, micrograms per liter (01037)	Copper, water, unfiltered, recoverable, μg/L (01042)
10-16-2009	< .008	.0207	6.32	E 1.77	--	--	--	--	--
10-16-2009	--	--	7.31	E 2.12	--	--	--	--	--
10-16-2009	--	--	7.42	E 1.50	--	--	--	--	--
10-16-2009	--	--	--	--	29.2	< .04	E .298	.278	E 1.01
10-16-2009	< .008	.0174	--	--	--	--	--	--	--
10-16-2009	.0120	.0411	--	--	--	--	--	--	--
04-20-2010	E .0057	.0203	E 1.36	E .61	--	--	--	--	--
04-20-2010	--	--	--	--	172	< .04	E .399	.143	E 1.11
04-20-2010	E .0077	.0193	--	--	--	--	--	--	--
04-20-2010	E .0080	.0235	--	--	--	--	--	--	--
06-11-2010	< .008	< .008	--	--	< 5.6	< .04	< .42	.139	< 1.4
06-11-2010	E .0052	.0257	6.73	E 1.52	--	--	--	--	--
06-11-2010	E .0050	.0262	7.32	E 1.77	--	--	--	--	--
06-11-2010	--	--	--	--	--	--	--	--	--
06-11-2010	--	--	--	--	--	--	--	--	--
06-11-2010	E .0068	.0257	--	--	--	--	--	--	--
06-11-2010	.0082	.0245	--	--	--	--	--	--	--
08-09-2010	E .0048	.0123	E 3.91	E 1.93	--	--	--	--	--
08-09-2010	--	--	--	--	--	--	--	--	--
08-09-2010	E .0058	.0223	--	--	--	--	--	--	--
08-09-2010	.0081	.0350	--	--	--	--	--	--	--

02086569 LAKE BUTNER AT DAM NEAR BUTNER, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 5 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Iron, water, unfiltered, recover- able, μg/L (01045)	Lead, water, unfiltered, recover- able, μg/L (01051)	Manganes e, water, unfiltered, recover- able, μg/L (01055)	Mercury, water, unfiltered, recover- able, μg/L (71900)	Molybdenu m, water, unfiltered, recoverabl e, microgram s per liter (01062)	Nickel, water, unfiltered, recover- able, μg/L (01067)	Silver, water, unfiltered, recover- able, μg/L (01077)	Zinc, water, unfiltered, recover- able, μg/L (01092)	Arsenic, water, unfiltered, μg/L (01002)	Selenium, water, unfiltered, μg/L (01147)
10-16-2009	--	--	--	--	--	--	--	--	--	--
10-16-2009	--	--	--	--	--	--	--	--	--	--
10-16-2009	--	--	--	--	--	--	--	--	--	--
10-16-2009	324	.130	260	< .010	E .085	3.09	< .016	< 2	.493	.144
10-16-2009	333	--	242	--	--	--	--	--	--	--
10-16-2009	2,790	--	831	--	--	--	--	--	--	--
04-20-2010	--	--	--	--	--	--	--	--	--	--
04-20-2010	610	.278	59.3	E .0085	< .1	.473	< .016	E 1.3	.338	.118
04-20-2010	483	--	52.0	--	--	--	--	--	--	--
04-20-2010	528	--	70.4	--	--	--	--	--	--	--
06-11-2010	< 9.2	< .06	< .8	< .010	< .1	< .36	< .016	< 2	< .18	< .10
06-11-2010	--	--	--	--	--	--	--	--	--	--
06-11-2010	--	--	--	--	--	--	--	--	--	--
06-11-2010	785	--	49.8	--	--	--	--	--	--	--
06-11-2010	788	--	50.5	--	--	--	--	--	--	--
06-11-2010	762	--	268	--	--	--	--	--	--	--
06-11-2010	882	--	225	--	--	--	--	--	--	--
08-09-2010	--	--	--	--	--	--	--	--	--	--
08-09-2010	369	--	39.8	--	--	--	--	--	--	--
08-09-2010	1,210	--	1,040	--	--	--	--	--	--	--
08-09-2010	1,720	--	614	--	--	--	--	--	--	--

02086569 LAKE BUTNER AT DAM NEAR BUTNER, NC—Continued**WATER-QUALITY DATA
WATER YEAR OCTOBER
2009 TO SEPTEMBER
2010**

Part 6 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Organic carbon, water, unfiltered, mg/L (00680)
10-16-2009	--
10-16-2009	--
10-16-2009	--
10-16-2009	8.64
10-16-2009	--
10-16-2009	--
04-20-2010	--
04-20-2010	7.05
04-20-2010	--
04-20-2010	--
06-11-2010	< .6
06-11-2010	--
06-11-2010	--
06-11-2010	9.45
06-11-2010	9.41
06-11-2010	--
06-11-2010	--
08-09-2010	--
08-09-2010	8.63
08-09-2010	--
08-09-2010	--