



Water-Data Report 2010

02087701 LAKE BENSON AT DAM NEAR GARNER, NC

Neuse Basin
Upper Neuse Subbasin

LOCATION.--Lat 35°39'45", long 78°36'41" referenced to North American Datum of 1983, Wake County, NC, Hydrologic Unit 03020201, at dam, 1.5 mi below Reedy Branch, 3.3 mi south of Garner.

DRAINAGE AREA.--66.3 mi².

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1990-95, 2005 to current year.

REMARKS.--Station operated to define water quality as part of a regional surface-water quality assessment. A GC/FID scan for trace organic compounds was performed on samples collected in October 1994 and April 1995. Results may be obtained from the USGS Water Science Center, Raleigh, NC. 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. Prior to October 1, 2005, sample for chlorophyll *a* were analyzed using a high-performance liquid chromatography method.

**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)
10-15-2009	1215	Surface water	Regular	--	--	--	--	--	
10-15-2009	1216	<i>QC sample - Surface water</i>	<i>Replicate</i>	--	--	--	--	--	
10-15-2009	1217	<i>QC sample - Surface water</i>	<i>Replicate</i>	--	--	--	--	--	
10-15-2009	1220	Surface water	Regular	753	62	5.0	55	6.8	
10-15-2009	1225	Surface water	Regular	753	--	5.0	55	6.8	
10-15-2009	1230	Surface water	Regular	753	--	4.9	54	6.9	
04-15-2010	1130	Surface water	Regular	--	--	--	--	--	
04-15-2010	1135	Surface water	Regular	771	30	7.2	77	7.0	
04-15-2010	1140	Surface water	Regular	771	--	6.1	64	6.8	
04-15-2010	1145	Surface water	Regular	771	--	2.1	22	6.5	
06-10-2010	1045	Surface water	Regular	--	--	--	--	--	
06-10-2010	1050	Surface water	Regular	758	62	6.7	86	7.3	
06-10-2010	1055	Surface water	Regular	758	--	3.8	48	6.9	
06-10-2010	1100	Surface water	Regular	758	--	.2	2	7.2	
08-12-2010	1115	Surface water	Regular	--	--	--	--	--	
08-12-2010	1120	Surface water	Regular	754	40	5.6	77	7.2	
08-12-2010	1125	Surface water	Regular	754	--	5.2	71	7.2	
08-12-2010	1130	Surface water	Regular	754	--	.3	4	6.8	

02087701 LAKE BENSON AT DAM NEAR GARNER, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 2 of 6

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Date	Temperature, water, °C (00010)	Trans- parency, water, in situ, Secchi disc, m (00078)	Sampling depth, m (00098)	Dissolved solids dried at		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)
				180 °C, water, filtered, mg/L (70300)							
10-15-2009	--	.60	1.2	--	--	--	--	--	--	--	--
10-15-2009	--	.60	1.2	--	--	--	--	--	--	--	--
10-15-2009	--	.60	1.2	--	--	--	--	--	--	--	--
10-15-2009	19.4	--	1.0	59	20.2	5.01	1.87	2.69	4.77	20.4	
10-15-2009	19.4	--	2.0	--	--	--	--	--	--	--	--
10-15-2009	19.4	--	4.0	--	--	--	--	--	--	--	--
04-15-2010	--	.60	1.2	--	--	--	--	--	--	--	--
04-15-2010	19.2	--	1.0	58	22.1	5.76	1.88	2.31	6.52	20.4	
04-15-2010	18.3	--	2.0	--	--	--	--	--	--	--	--
04-15-2010	17.5	--	4.0	--	--	--	--	--	--	--	--
06-10-2010	--	.80	1.6	--	--	--	--	--	--	--	--
06-10-2010	28.3	--	1.0	53	22.1	5.71	1.89	2.37	6.41	20.8	
06-10-2010	28.1	--	2.0	--	--	--	--	--	--	--	--
06-10-2010	20.8	--	4.0	--	--	--	--	--	--	--	--
08-12-2010	--	.50	1.0	--	--	--	--	--	--	--	--
08-12-2010	31.6	--	1.0	75	24.0	6.45	1.93	2.55	7.01	24.1	
08-12-2010	31.5	--	2.0	--	--	--	--	--	--	--	--
08-12-2010	29.6	--	4.0	--	--	--	--	--	--	--	--

02087701 LAKE BENSON AT DAM NEAR GARNER, 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)
10-15-2009	--	--	--	--	--	.76	.050	E .009	< .002
10-15-2009	--	--	--	--	--	--	--	--	--
10-15-2009	--	--	--	--	--	--	--	--	--
10-15-2009	24.9	5.64	E .07	9.51	3.13	--	--	--	--
10-15-2009	--	--	--	--	--	.74	.048	< .016	< .002
10-15-2009	--	--	--	--	--	.69	.060	E .008	< .002
04-15-2010	--	--	--	--	--	.54	< .020	< .016	< .002
04-15-2010	24.9	9.63	< .08	7.11	4.05	--	--	--	--
04-15-2010	--	--	--	--	--	.56	< .020	< .016	< .002
04-15-2010	--	--	--	--	--	.63	.118	< .016	< .002
06-10-2010	--	--	--	--	--	.65	.022	< .016	E .001
06-10-2010	25.4	8.38	E .06	6.44	3.42	--	--	--	--
06-10-2010	--	--	--	--	--	.69	.027	< .016	E .001
06-10-2010	--	--	--	--	--	2.1	1.28	< .016	.004
08-12-2010	--	--	--	--	--	.95	.108	E .012	E .002
08-12-2010	29.3	10.1	.10	12.1	2.92	--	--	--	--
08-12-2010	--	--	--	--	--	1.1	.099	E .012	E .002
08-12-2010	--	--	--	--	--	.98	.195	.020	.002

02087701 LAKE BENSON AT DAM NEAR GARNER, 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)
10-15-2009	< .008	.058	33.2	16.9	--	--	--	--	--
10-15-2009	--	--	34.3	15.7	--	--	--	--	--
10-15-2009	--	--	34.0	17.7	--	--	--	--	--
10-15-2009	--	--	--	--	71	< .04	< .42	.24	2.7
10-15-2009	E .004	.056	--	--	--	--	--	--	--
10-15-2009	< .008	.057	--	--	--	--	--	--	--
04-15-2010	E .006	.042	21.8	9.1	--	--	--	--	--
04-15-2010	--	--	--	--	66	< .04	E .21	.23	8.7
04-15-2010	E .006	.043	--	--	--	--	--	--	--
04-15-2010	E .006	.052	--	--	--	--	--	--	--
06-10-2010	E .006	.045	21.2	9.4	--	--	--	--	--
06-10-2010	--	--	--	--	--	--	--	--	--
06-10-2010	E .006	.049	--	--	--	--	--	--	--
06-10-2010	.009	.077	--	--	--	--	--	--	--
08-12-2010	E .007	.054	9.1	E 2.7	--	--	--	--	--
08-12-2010	--	--	--	--	--	--	--	--	--
08-12-2010	E .007	.051	--	--	--	--	--	--	--
08-12-2010	E .008	.054	--	--	--	--	--	--	--

02087701 LAKE BENSON AT DAM NEAR GARNER, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 5 of 6

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Date	Iron,	Lead,	Manganese,	Mercury,	Molybdenum,	Nickel,	Silver,	Zinc,	Arsenic,	Selenium,
	water, unfiltered, recoverable, μg/L (01045)	water, unfiltered, recoverable, μg/L (01051)	water, unfiltered, recoverable, μg/L (01055)	water, unfiltered, recoverable, μg/L (71900)	water, unfiltered, recoverable, micrograms per liter (01062)	water, unfiltered, recoverable, μg/L (01067)	water, unfiltered, recoverable, μg/L (01077)	water, unfiltered, recoverable, μg/L (01092)	water, unfiltered, μg/L (01002)	water, unfiltered, μg/L (01147)
10-15-2009	--	--	--	--	--	--	--	--	--	--
10-15-2009	--	--	--	--	--	--	--	--	--	--
10-15-2009	--	--	--	--	--	--	--	--	--	--
10-15-2009	553	.24	253	< .010	.2	E .26	< .02	E 1.6	.93	.12
10-15-2009	559	--	240	--	--	--	--	--	--	--
10-15-2009	625	--	250	--	--	--	--	--	--	--
04-15-2010	--	--	--	--	--	--	--	--	--	--
04-15-2010	496	.22	186	.015	.2	.42	< .02	< 2.0	.40	.12
04-15-2010	528	--	216	--	--	--	--	--	--	--
04-15-2010	1,000	--	1,230	--	--	--	--	--	--	--
06-10-2010	--	--	--	--	--	--	--	--	--	--
06-10-2010	546	--	195	--	--	--	--	--	--	--
06-10-2010	725	--	410	--	--	--	--	--	--	--
06-10-2010	9,020	--	3,600	--	--	--	--	--	--	--
08-12-2010	--	--	--	--	--	--	--	--	--	--
08-12-2010	625	--	378	--	--	--	--	--	--	--
08-12-2010	630	--	394	--	--	--	--	--	--	--
08-12-2010	624	--	495	--	--	--	--	--	--	--

02087701 LAKE BENSON AT DAM NEAR GARNER, NC—Continued**WATER-QUALITY DATA
WATER YEAR OCTOBER
2009 TO SEPTEMBER
2010**

Part 6 of 6

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Date	Organic carbon, water, unfiltered, mg/L (00680)
10-15-2009	--
10-15-2009	--
10-15-2009	--
10-15-2009	6.3
10-15-2009	--
10-15-2009	--
04-15-2010	--
04-15-2010	7.6
04-15-2010	--
04-15-2010	--
06-10-2010	--
06-10-2010	8.1
06-10-2010	--
06-10-2010	--
08-12-2010	--
08-12-2010	8.1
08-12-2010	--
08-12-2010	--