

## Water-Data Report 2011

**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 mi<sup>2</sup>.

**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 2010 TO SEPTEMBER 2011**

Part 1 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; SiO<sub>2</sub>, 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; --, no data; <, less than]

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)
10-14-2010	1145	Surface water	Regular	--	--	--	--	--	--
10-14-2010	1150	Surface water	Regular	754	35	6.7	76	6.9	75
10-14-2010	1155	Surface water	Regular	754	--	6.7	76	7.0	75
10-14-2010	1200	Surface water	Regular	754	--	6.5	74	6.8	75
04-25-2011	1145	Surface water	Regular	--	--	--	--	--	--
04-25-2011	1150	Surface water	Regular	761	30	7.2	81	6.9	88
04-25-2011	1155	Surface water	Regular	761	--	6.5	72	6.8	88
04-25-2011	1200	Surface water	Regular	761	--	3.6	39	6.6	90
06-28-2011	1145	Surface water	Regular	--	--	--	--	--	--
06-28-2011	1150	Surface water	Regular	756	35	4.4	57	7.1	101
06-28-2011	1155	Surface water	Regular	756	--	4.2	54	7.0	101
06-28-2011	1200	Surface water	Regular	756	--	3.6	47	6.9	101

**02087701 LAKE BENSON AT DAM NEAR GARNER, NC—Continued**

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 2 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; SiO<sub>2</sub>, 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; --, no data; <, less than]

Date	Sample start time	Temperature, water, °C (00010)	Trans-parency, water, in situ, Secchi disc, m (00078)	Sampling depth, m (00098)	Dissolved solids						
					filtered, mg/L (70300)	dried at 180 °C, water, filtered, mg/L as CaCO <sub>3</sub> (00900)	Hardness, water, mg/L as CaCO <sub>3</sub> (00915)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)
10-14-2010	1145	--	.90	1.8	--	--	--	--	--	--	--
10-14-2010	1150	21.2	--	1.0	55	18.8	4.93	1.57	2.73	5.28	
10-14-2010	1155	21.2	--	2.0	--	--	--	--	--	--	
10-14-2010	1200	21.1	--	4.0	--	--	--	--	--	--	
04-25-2011	1145	--	1.00	2.0	--	--	--	--	--	--	
04-25-2011	1150	21.3	--	1.0	60	22.7	5.94	1.92	2.51	7.05	
04-25-2011	1155	20.8	--	2.0	--	--	--	--	--	--	
04-25-2011	1200	19.4	--	4.0	--	--	--	--	--	--	
06-28-2011	1145	--	.50	1.0	--	--	--	--	--	--	
06-28-2011	1150	28.5	--	1.0	74	27.8	7.32	2.31	2.82	7.81	
06-28-2011	1155	28.5	--	2.0	--	--	--	--	--	--	
06-28-2011	1200	28.5	--	4.0	--	--	--	--	--	--	

## 02087701 LAKE BENSON AT DAM NEAR GARNER, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 3 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; SiO<sub>2</sub>, 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; --, no data; <, less than]

Date	Sample start time	Bi-						Ammonia plus organic		Ammonia, water, filtered, mg/L as N (00608)
		ANC, water, unfiltered, inflection-point, incremental titration method, field, mg/L as CaCO <sub>3</sub> (00419)	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 <sub>2</sub> (00955)	Sulfate, water, filtered, mg/L (00945)	nitrogen, water, unfiltered, mg/L as N (00625)		
10-14-2010	1145	--	--	--	--	--	--	.79	.133	
10-14-2010	1150	18	22	7.15	.06	8.02	4.18	--	--	
10-14-2010	1155	--	--	--	--	--	--	.79	.078	
10-14-2010	1200	--	--	--	--	--	--	.87	.079	
04-25-2011	1145	--	--	--	--	--	--	.60	.086	
04-25-2011	1150	19.8	24.2	9.77	.10	4.77	4.49	--	--	
04-25-2011	1155	--	--	--	--	--	--	.64	.081	
04-25-2011	1200	--	--	--	--	--	--	.66	.107	
06-28-2011	1145	--	--	--	--	--	--	1.3	.104	
06-28-2011	1150	26.9	32.8	10.6	.07	6.58	3.08	--	--	
06-28-2011	1155	--	--	--	--	--	--	1.3	.123	
06-28-2011	1200	--	--	--	--	--	--	1.3	.137	

## 02087701 LAKE BENSON AT DAM NEAR GARNER, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 4 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; P, phosphorus; SiO<sub>2</sub>, 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; --, no data; <, less than]

Date	Sample start time	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrite, water, filtered, mg/L as N (00613)	Orthophosphate, water, filtered, mg/L as P (00671)	Phosphorus, water, unfiltered, mg/L as P (00665)	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)
10-14-2010	1145	.042	< .003	.005	.057	--	--	--	--
10-14-2010	1150	--	--	--	--	81	< .05	.33	.24
10-14-2010	1155	.041	.002	.005	.050	--	--	--	--
10-14-2010	1200	.043	.002	.005	.060	--	--	--	--
04-25-2011	1145	.075	.004	.005	.040	--	--	--	--
04-25-2011	1150	--	--	--	--	101	< .05	.38	.19
04-25-2011	1155	.066	.003	.005	.035	--	--	--	--
04-25-2011	1200	.066	.003	.006	.040	--	--	--	--
06-28-2011	1145	< .008	< .001	.005	.059	--	--	--	--
06-28-2011	1150	--	--	--	--	--	--	--	--
06-28-2011	1155	.010	< .001	.005	.058	--	--	--	--
06-28-2011	1200	.008	< .001	.006	.066	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 5 of 6

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Date	Sample start time	Copper, water, unfiltered, recoverable, µg/L (01042)	Iron, water, unfiltered, recoverable, µg/L (01045)	Lead, water, unfiltered, recoverable, µg/L (01051)	Manganese, water, unfiltered, recoverable, µg/L (01055)	Mercury, water, unfiltered, recoverable, µg/L (71900)	Molybdenum, water, unfiltered, recoverable, micrograms per liter (01062)	Nickel, water, unfiltered, recoverable, µg/L (01067)	Silver, water, unfiltered, recoverable, µg/L (01077)	Zinc, water, unfiltered, recoverable, µg/L (01092)
10-14-2010	1145	--	--	--	--	--	--	--	--	--
10-14-2010	1150	1.8	426	.26	166	< .005	.2	< .12	.02	< 2.4
10-14-2010	1155	--	451	--	167	--	--	--	--	--
10-14-2010	1200	--	777	--	195	--	--	--	--	--
04-25-2011	1145	--	--	--	--	--	--	--	--	--
04-25-2011	1150	1.4	614	.33	141	< .005	.2	.40	< .01	< 2.4
04-25-2011	1155	--	657	--	160	--	--	--	--	--
04-25-2011	1200	--	750	--	223	--	--	--	--	--
06-28-2011	1145	--	--	--	--	--	--	--	--	--
06-28-2011	1150	--	595	--	316	--	--	--	--	--
06-28-2011	1155	--	622	--	352	--	--	--	--	--
06-28-2011	1200	--	688	--	407	--	--	--	--	--

**02087701 LAKE BENSON AT DAM NEAR GARNER, NC—Continued**

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

Part 6 of 6

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Date	Sample start time	Arsenic, water, unfiltered,	Selenium, water, unfiltered,	carbon, water, unfiltered,	Organic
		µg/L (01002)	µg/L (01147)	mg/L (00680)	
10-14-2010	1145	--	--	--	
10-14-2010	1150	.94	.10	9.1	
10-14-2010	1155	--	--	--	
10-14-2010	1200	--	--	--	
04-25-2011	1145	--	--	--	
04-25-2011	1150	.67	.12	8.1	
04-25-2011	1155	--	--	--	
04-25-2011	1200	--	--	--	
06-28-2011	1145	--	--	--	
06-28-2011	1150	--	--	11.7	
06-28-2011	1155	--	--	--	
06-28-2011	1200	--	--	--	