



Water-Data Report 2010

**02086490 LAKE MICHIE AT DAM NEAR BAHAMA, NC**

Neuse Basin  
Upper Neuse Subbasin

LOCATION.--Lat 36°09'03", long 78°49'48" referenced to North American Datum of 1983, Durham County, NC, Hydrologic Unit 03020201, at dam, 3.0 mi southeast of Bahama.

DRAINAGE AREA.--167 mi<sup>2</sup>.

**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1989 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. Prior to October 1, 2005, samples 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; 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; <, 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)
10-07-2009	0930	Surface water	Regular	--	--	--	--	--	--
10-07-2009	0931	<i>QC sample - Surface water</i>	<i>Replicate</i>	--	--	--	--	--	--
10-07-2009	0932	<i>QC sample - Surface water</i>	<i>Replicate</i>	--	--	--	--	--	--
10-07-2009	0935	Surface water	Regular	750	40	3.5	40	6.5	71
10-07-2009	0940	Surface water	Regular	750	--	.2	3	6.3	76
10-07-2009	0945	Surface water	Regular	750	--	.3	3	6.0	70
04-08-2010	1045	Surface water	Regular	--	--	--	--	--	--
04-08-2010	1050	Surface water	Regular	755	40	9.1	99	6.9	64
04-08-2010	1055	Surface water	Regular	755	--	7.6	65	6.3	63
04-08-2010	1100	Surface water	Regular	755	--	6.5	54	6.6	60
06-18-2010	0915	Surface water	Regular	--	--	--	--	--	--
06-18-2010	0920	Surface water	Regular	760	35	8.2	109	7.9	65
06-18-2010	0925	Surface water	Regular	760	--	.2	2	6.2	65
06-18-2010	0930	Surface water	Regular	760	--	2.6	21	6.1	61
08-19-2010	1030	Surface water	Regular	--	--	--	--	--	--
08-19-2010	1035	Surface water	Regular	754	25	7.3	99	7.7	68
08-19-2010	1040	Surface water	Regular	754	--	.2	2	6.5	75
08-19-2010	1045	Surface water	Regular	754	--	.3	3	6.1	67

## 02086490 LAKE MICHIE AT DAM NEAR BAHAMA, 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 180 °C, water, filtered, mg/L (70300)	Hardness, water, mg/L as CaCO <sub>3</sub> (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 <sub>3</sub> (00419)
10-07-2009	--	1.10	2.2	--	--	--	--	--	--	--
10-07-2009	--	1.10	2.2	--	--	--	--	--	--	--
10-07-2009	--	1.10	2.2	--	--	--	--	--	--	--
10-07-2009	21.5	--	1.0	62	21.2	4.73	2.28	2.17	3.80	22.2
10-07-2009	20.5	--	6.0	--	--	--	--	--	--	--
10-07-2009	9.0	--	12.0	--	--	--	--	--	--	--
04-08-2010	--	.60	1.2	--	--	--	--	--	--	--
04-08-2010	18.9	--	1.0	53	18.7	4.41	1.86	1.47	4.20	11.6
04-08-2010	8.5	--	6.0	--	--	--	--	--	--	--
04-08-2010	6.4	--	12.0	--	--	--	--	--	--	--
06-18-2010	--	2.20	1.1	--	--	--	--	--	--	--
06-18-2010	29.4	--	1.0	60	19.9	4.57	2.06	1.92	3.71	18.1
06-18-2010	16.8	--	6.0	--	--	--	--	--	--	--
06-18-2010	6.9	--	13.0	--	--	--	--	--	--	--
08-19-2010	--	1.00	2.0	--	--	--	--	--	--	--
08-19-2010	31.0	--	1.0	51	22.0	5.04	2.27	2.15	4.05	18.7
08-19-2010	20.9	--	6.0	--	--	--	--	--	--	--
08-19-2010	7.7	--	12.0	--	--	--	--	--	--	--

## 02086490 LAKE MICHIE AT DAM NEAR BAHAMA, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

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; <, 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 <sub>2</sub> (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)
10-07-2009	--	--	--	--	--	.56	.082	< .016	< .002
10-07-2009	--	--	--	--	--	--	--	--	--
10-07-2009	--	--	--	--	--	--	--	--	--
10-07-2009	27.1	4.40	E .06	8.95	2.67	--	--	--	--
10-07-2009	--	--	--	--	--	.64	.159	< .016	< .002
10-07-2009	--	--	--	--	--	.82	.260	.028	.003
04-08-2010	--	--	--	--	--	.58	E .018	.074	.004
04-08-2010	14.2	5.40	< .08	8.60	4.82	--	--	--	--
04-08-2010	--	--	--	--	--	.41	.067	.268	.003
04-08-2010	--	--	--	--	--	.42	.108	.329	.003
06-18-2010	--	--	--	--	--	.33	E .011	< .016	E .002
06-18-2010	22.1	4.38	.08	9.64	3.31	--	--	--	--
06-18-2010	--	--	--	--	--	.66	E .013	.512	.002
06-18-2010	--	--	--	--	--	.33	E .012	.515	.002
08-19-2010	--	--	--	--	--	.64	.026	< .016	E .001
08-19-2010	22.8	4.21	.09	9.30	2.35	--	--	--	--
08-19-2010	--	--	--	--	--	.65	.066	< .016	.003
08-19-2010	--	--	--	--	--	.56	.193	.328	.002

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**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 4 of 6

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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)
10-07-2009	E .004	.021	8.6	6.0	--	--	--	--	--
10-07-2009	--	--	7.9	5.2	--	--	--	--	--
10-07-2009	--	--	8.9	5.9	--	--	--	--	--
10-07-2009	--	--	--	--	19	< .04	< .42	.30	E .89
10-07-2009	E .004	.030	--	--	--	--	--	--	--
10-07-2009	.036	.088	--	--	--	--	--	--	--
04-08-2010	.013	.041	19.7	9.2	--	--	--	--	--
04-08-2010	--	--	--	--	93	E .03	E .22	.15	1.7
04-08-2010	E .008	.031	--	--	--	--	--	--	--
04-08-2010	E .013	.044	--	--	--	--	--	--	--
06-18-2010	E .007	.029	--	--	--	--	--	--	--
06-18-2010	--	--	--	--	--	--	--	--	--
06-18-2010	.010	.034	--	--	--	--	--	--	--
06-18-2010	.011	.033	--	--	--	--	--	--	--
08-19-2010	E .006	.025	14.3	E 2.6	--	--	--	--	--
08-19-2010	--	--	--	--	--	--	--	--	--
08-19-2010	E .006	.043	--	--	--	--	--	--	--
08-19-2010	.015	.057	--	--	--	--	--	--	--

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**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, $\mu$ g/L (01045)	water, unfiltered, recoverable, $\mu$ g/L (01051)	water, unfiltered, recoverable, $\mu$ g/L (01055)	water, unfiltered, recoverable, $\mu$ g/L (71900)	water, unfiltered, recoverable, micrograms per liter (01062)	water, unfiltered, recoverable, $\mu$ g/L (01067)	water, unfiltered, recoverable, $\mu$ g/L (01077)	water, unfiltered, recoverable, $\mu$ g/L (01092)	water, unfiltered, $\mu$ g/L (01002)	water, unfiltered, $\mu$ g/L (01147)
10-07-2009	--	--	--	--	--	--	--	--	--	--
10-07-2009	--	--	--	--	--	--	--	--	--	--
10-07-2009	--	--	--	--	--	--	--	--	--	--
10-07-2009	282	.10	333	.053	.2	E .30	< .02	E 1.9	.75	.14
10-07-2009	457	--	671	--	--	--	--	--	--	--
10-07-2009	3,240	--	985	--	--	--	--	--	--	--
04-08-2010	--	--	--	--	--	--	--	--	--	--
04-08-2010	446	.30	32.5	.013	E .1	.47	< .02	E 1.9	.44	.13
04-08-2010	575	--	68.5	--	--	--	--	--	--	--
04-08-2010	779	--	188	--	--	--	--	--	--	--
06-18-2010	--	--	--	--	--	--	--	--	--	--
06-18-2010	329	--	32.9	--	--	--	--	--	--	--
06-18-2010	803	--	312	--	--	--	--	--	--	--
06-18-2010	860	--	346	--	--	--	--	--	--	--
08-19-2010	--	--	--	--	--	--	--	--	--	--
08-19-2010	80	--	21.1	--	--	--	--	--	--	--
08-19-2010	1,230	--	800	--	--	--	--	--	--	--
08-19-2010	1,900	--	661	--	--	--	--	--	--	--

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WATER YEAR OCTOBER  
2009 TO SEPTEMBER  
2010**

Part 6 of 6

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<b>Date</b>	<b>Organic carbon, water, unfiltered, mg/L (00680)</b>
<b>10-07-2009</b>	--
<b>10-07-2009</b>	--
<b>10-07-2009</b>	--
<b>10-07-2009</b>	9.2
<b>10-07-2009</b>	--
<b>10-07-2009</b>	--
<b>04-08-2010</b>	--
<b>04-08-2010</b>	8.4
<b>04-08-2010</b>	--
<b>04-08-2010</b>	--
<b>06-18-2010</b>	--
<b>06-18-2010</b>	9.1
<b>06-18-2010</b>	--
<b>06-18-2010</b>	--
<b>08-19-2010</b>	--
<b>08-19-2010</b>	7.4
<b>08-19-2010</b>	--
<b>08-19-2010</b>	--