



Water-Data Report 2010

0208703650 FALLS LAKE AT NORTH CAROLINA HIGHWAY 50 NEAR SANDY PLAIN, NC

Neuse Basin
Upper Neuse Subbasin

LOCATION.--Lat 36°00'55", long 78°41'28" referenced to North American Datum of 1983, Wake County, NC, Hydrologic Unit 03020201, at bridge on North Carolina Highway 50, 3.3 mi south of Sandy Plain.

DRAINAGE AREA.--620 mi².

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1989-95, 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 May 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, samples for chlorophyll *a* were analyzed using a high-performance liquid chromatography method.

0208703650 FALLS LAKE AT NORTH CAROLINA HIGHWAY 50 NEAR SANDY PLAIN, NC—Continued

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; --, no data; <, 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)	Temperature, water, °C (00010)
10-29-2009	1045	Surface water	Regular	--	--	--	--	--	--	--
10-29-2009	1050	Surface water	Regular	767	20	9.9	103	7.7	112	17.6
10-29-2009	1055	Surface water	Regular	767	--	8.7	91	7.2	112	17.5
10-29-2009	1100	Surface water	Regular	767	--	7.7	80	6.9	109	17.1
12-15-2009	1230	Surface water	Regular	--	--	--	--	--	--	--
12-15-2009	1235	Surface water	Regular	759	125	9.6	83	7.3	69	8.6
12-15-2009	1240	Surface water	Regular	759	--	9.6	82	7.3	69	8.5
12-15-2009	1245	Surface water	Regular	759	--	9.6	82	7.5	68	8.5
02-25-2010	1230	Surface water	Regular	--	--	--	--	--	--	--
02-25-2010	1235	Surface water	Regular	755	88	11.7	94	6.7	72	5.5
02-25-2010	1240	Surface water	Regular	755	--	11.6	93	6.8	72	5.5
02-25-2010	1245	Surface water	Regular	755	--	11.5	92	6.8	72	5.5
04-07-2010	1230	Surface water	Regular	--	--	--	--	--	--	--
04-07-2010	1235	Surface water	Regular	760	35	9.7	109	7.7	87	20.9
04-07-2010	1240	Surface water	Regular	760	--	9.3	104	7.7	87	20.7
04-07-2010	1245	Surface water	Regular	760	--	5.1	50	7.6	87	14.6
06-09-2010	1200	Surface water	Regular	--	--	--	--	--	--	--
06-09-2010	1205	Surface water	Regular	762	50	7.1	90	7.4	94	27.4
06-09-2010	1210	Surface water	Regular	762	--	7.0	89	7.3	94	27.4
06-09-2010	1215	Surface water	Regular	762	--	6.3	80	7.2	94	27.2
08-10-2010	1215	Surface water	Regular	--	--	--	--	--	--	--
08-10-2010	1220	Surface water	Regular	750	30	9.1	124	8.6	96	31.0
08-10-2010	1225	Surface water	Regular	750	--	8.8	121	8.6	96	30.8
08-10-2010	1230	Surface water	Regular	750	--	.2	3	6.6	102	28.8

0208703650 FALLS LAKE AT NORTH CAROLINA HIGHWAY 50 NEAR SANDY PLAIN, 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; --, no data; <, less than; E, estimated]

Date	Trans- parency, water, in situ, Secchi disc, m (00078)	Depth to 1 percent of surface light, meters (85328)	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)
10-29-2009	.80	--	1.6	--	--	--	--	--	--	--	--
10-29-2009	--	--	1.0	75	26.5	6.46	2.51	2.50	10.4	26.5	--
10-29-2009	--	--	2.0	--	--	--	--	--	--	--	--
10-29-2009	--	--	3.0	--	--	--	--	--	--	--	--
12-15-2009	.60	--	1.2	--	--	--	--	--	--	--	--
12-15-2009	--	--	1.0	50	19.9	4.82	1.90	2.34	4.18	14.5	--
12-15-2009	--	--	2.0	--	--	--	--	--	--	--	--
12-15-2009	--	--	4.0	--	--	--	--	--	--	--	--
02-25-2010	.70	--	1.4	--	--	--	--	--	--	--	--
02-25-2010	--	--	1.0	48	18.0	4.36	1.74	1.73	5.68	12.4	--
02-25-2010	--	--	5.0	--	--	--	--	--	--	--	--
02-25-2010	--	--	10.0	--	--	--	--	--	--	--	--
04-07-2010	1.10	--	2.2	--	--	--	--	--	--	--	--
04-07-2010	--	--	1.0	60	21.6	5.27	2.06	1.71	6.62	17.4	--
04-07-2010	--	--	3.0	--	--	--	--	--	--	--	--
04-07-2010	--	--	5.0	--	--	--	--	--	--	--	--
06-09-2010	.80	1.6	1.6	--	--	--	--	--	--	--	--
06-09-2010	--	--	1.0	69	26.4	6.33	2.58	2.02	7.37	23.9	--
06-09-2010	--	--	2.0	--	--	--	--	--	--	--	--
06-09-2010	--	--	4.0	--	--	--	--	--	--	--	--
08-10-2010	1.00	--	2.0	--	--	--	--	--	--	--	--
08-10-2010	--	--	1.0	--	27.0	6.46	2.65	2.21	6.87	22.2	--
08-10-2010	--	--	2.0	--	--	--	--	--	--	--	--
08-10-2010	--	--	4.0	--	--	--	--	--	--	--	--

0208703650 FALLS LAKE AT NORTH CAROLINA HIGHWAY 50 NEAR SANDY PLAIN, 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; --, no data; <, 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)
10-29-2009	--	--	--	--	--	.68	< .020	< .016	< .002
10-29-2009	32.3	9.94	.13	7.82	8.98	--	--	--	--
10-29-2009	--	--	--	--	--	.70	< .020	< .016	< .002
10-29-2009	--	--	--	--	--	.71	.021	E .009	E .001
12-15-2009	--	--	--	--	--	.72	.063	.191	.006
12-15-2009	17.6	4.91	< .08	8.38	6.33	--	--	--	--
12-15-2009	--	--	--	--	--	.67	.064	.193	.006
12-15-2009	--	--	--	--	--	.70	.066	.192	.005
02-25-2010	--	--	--	--	--	.55	.033	.298	.005
02-25-2010	15.2	8.84	E .07	8.51	6.06	--	--	--	--
02-25-2010	--	--	--	--	--	.52	.032	.295	.004
02-25-2010	--	--	--	--	--	.52	.031	.297	.004
04-07-2010	--	--	--	--	--	.57	.028	.076	.003
04-07-2010	21.2	9.47	E .05	6.58	7.05	--	--	--	--
04-07-2010	--	--	--	--	--	.53	.021	.074	.003
04-07-2010	--	--	--	--	--	.58	.065	.123	.003
06-09-2010	--	--	--	--	--	.59	E .014	< .016	E .001
06-09-2010	29.1	8.08	E .07	3.31	6.34	--	--	--	--
06-09-2010	--	--	--	--	--	.60	E .015	< .016	< .002
06-09-2010	--	--	--	--	--	.63	.083	E .009	E .001
08-10-2010	--	--	--	--	--	.58	< .020	< .016	< .002
08-10-2010	26.0	7.46	.10	5.01	4.87	--	--	--	--
08-10-2010	--	--	--	--	--	.60	< .020	< .016	< .002
08-10-2010	--	--	--	--	--	.61	E .010	< .016	< .002

0208703650 FALLS LAKE AT NORTH CAROLINA HIGHWAY 50 NEAR SANDY PLAIN, NC—Continued

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)
10-29-2009	< .008	.040	21.8	9.7	--	--	--	--	--
10-29-2009	--	--	--	--	71	< .04	< .42	.23	3.1
10-29-2009	< .008	.040	--	--	--	--	--	--	--
10-29-2009	< .008	.043	--	--	--	--	--	--	--
12-15-2009	.010	.066	6.7	5.2	--	--	--	--	--
12-15-2009	--	--	--	--	--	--	--	--	--
12-15-2009	.009	.065	--	--	--	--	--	--	--
12-15-2009	.011	.066	--	--	--	--	--	--	--
02-25-2010	.010	.055	7.1	E 3.3	--	--	--	--	--
02-25-2010	--	--	--	--	--	--	--	--	--
02-25-2010	.010	.055	--	--	--	--	--	--	--
02-25-2010	.010	.054	--	--	--	--	--	--	--
04-07-2010	E .006	.044	5.4	E 2.6	--	--	--	--	--
04-07-2010	--	--	--	--	158	.06	E .31	.25	1.7
04-07-2010	E .006	.039	--	--	--	--	--	--	--
04-07-2010	E .006	.054	--	--	--	--	--	--	--
06-09-2010	E .004	.041	14.5	6.2	--	--	--	--	--
06-09-2010	--	--	--	--	--	--	--	--	--
06-09-2010	E .005	.038	--	--	--	--	--	--	--
06-09-2010	E .004	.045	--	--	--	--	--	--	--
08-10-2010	E .005	.030	20.6	5.8	--	--	--	--	--
08-10-2010	--	--	--	--	--	--	--	--	--
08-10-2010	E .005	.030	--	--	--	--	--	--	--
08-10-2010	E .005	.032	--	--	--	--	--	--	--

0208703650 FALLS LAKE AT NORTH CAROLINA HIGHWAY 50 NEAR SANDY PLAIN, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 5 of 6

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Date	Iron,	Lead,	Manganes	Mercury,	Molybdenu	Nickel,	Silver,	Zinc,	Arsenic,	Selenium,
	water,	water,	e, water,	water,	m, water,	water,	water,	water,		
	unfiltered,	unfiltered,	unfiltered,	unfiltered,	unfiltered,	unfiltered,	unfiltered,	unfiltered,	unfiltered,	unfiltered,
	recover-	recover-	recover-	recover-	recoverabl	recover-	recover-	recover-	unfiltered,	unfiltered,
	able,	able,	able,	able,	e,	able,	able,	able,	μg/L	μg/L
	μg/L	μg/L	μg/L	μg/L	microgram	μg/L	μg/L	μg/L		
	(01045)	(01051)	(01055)	(71900)	s per liter	(01067)	(01077)	(01092)	(01002)	(01147)
10-29-2009	--	--	--	--	--	--	--	--	--	--
10-29-2009	176	.23	138	< .010	.6	.51	< .02	E 1.0	.58	.19
10-29-2009	175	--	128	--	--	--	--	--	--	--
10-29-2009	240	--	145	--	--	--	--	--	--	--
12-15-2009	--	--	--	--	--	--	--	--	--	--
12-15-2009	624	--	54.3	--	--	--	--	--	--	--
12-15-2009	626	--	54.3	--	--	--	--	--	--	--
12-15-2009	633	--	57.4	--	--	--	--	--	--	--
02-25-2010	--	--	--	--	--	--	--	--	--	--
02-25-2010	599	--	58.7	--	--	--	--	--	--	--
02-25-2010	601	--	58.5	--	--	--	--	--	--	--
02-25-2010	604	--	58.9	--	--	--	--	--	--	--
04-07-2010	--	--	--	--	--	--	--	--	--	--
04-07-2010	439	.41	38.4	E .009	.2	.68	< .02	2.2	.37	.13
04-07-2010	440	--	38.6	--	--	--	--	--	--	--
04-07-2010	505	--	108	--	--	--	--	--	--	--
06-09-2010	--	--	--	--	--	--	--	--	--	--
06-09-2010	376	--	130	--	--	--	--	--	--	--
06-09-2010	376	--	128	--	--	--	--	--	--	--
06-09-2010	503	--	233	--	--	--	--	--	--	--
08-10-2010	--	--	--	--	--	--	--	--	--	--
08-10-2010	98	--	75.7	--	--	--	--	--	--	--
08-10-2010	96	--	74.9	--	--	--	--	--	--	--
08-10-2010	126	--	104	--	--	--	--	--	--	--

0208703650 FALLS LAKE AT NORTH CAROLINA HIGHWAY 50 NEAR SANDY PLAIN, 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; --, no data; <, less than; E, estimated]

Date	Organic carbon, water, unfiltered, mg/L (00680)
10-29-2009	--
10-29-2009	7.5
10-29-2009	--
10-29-2009	--
12-15-2009	--
12-15-2009	11.3
12-15-2009	--
12-15-2009	--
02-25-2010	--
02-25-2010	8.2
02-25-2010	--
02-25-2010	--
04-07-2010	--
04-07-2010	7.6
04-07-2010	--
04-07-2010	--
06-09-2010	--
06-09-2010	8.5
06-09-2010	--
06-09-2010	--
08-10-2010	--
08-10-2010	8.9
08-10-2010	--
08-10-2010	--