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Water-Data Report 2010

**02086920 FALLS LAKE AT U.S. INTERSTATE 85 NEAR REDWOOD, NC**

Neuse Basin  
Upper Neuse Subbasin

LOCATION.--Lat 36°04'11", long 78°46'45" referenced to North American Datum of 1983, Durham County, NC, Hydrologic Unit 03020201, at bridge on U.S. Interstate 85, 1.7 mi north of Redwood.

DRAINAGE AREA.--512 mi<sup>2</sup>.

**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 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, samples for chlorophyll *a* were analyzed using a high-performance liquid chromatography method.

## 02086920 FALLS LAKE AT U.S. INTERSTATE 85 NEAR REDWOOD, NC—Continued

**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)	Temperature, water, °C (00010)
10-30-2009	1045	Surface water	Regular	--	--	--	--	--	--	--
10-30-2009	1050	Surface water	Regular	765	30	9.1	94	7.1	205	16.9
10-30-2009	1055	Surface water	Regular	765	--	8.1	84	7.1	206	16.9
10-30-2009	1100	Surface water	Regular	765	--	7.4	76	7.1	207	16.9
12-15-2009	1015	Surface water	Regular	--	--	--	--	--	--	--
12-15-2009	1020	Surface water	Regular	761	180	9.6	80	7.0	60	7.5
12-15-2009	1025	Surface water	Regular	761	--	9.5	79	7.2	67	7.4
12-15-2009	1030	Surface water	Regular	761	--	9.4	79	7.4	68	7.4
02-25-2010	1015	Surface water	Regular	--	--	--	--	--	--	--
02-25-2010	1020	Surface water	Regular	753	75	10.4	84	6.5	66	5.9
02-25-2010	1025	Surface water	Regular	753	--	10.3	84	6.5	66	5.9
02-25-2010	1030	Surface water	Regular	753	--	10.3	83	6.5	66	5.9
04-07-2010	1000	Surface water	Regular	--	--	--	--	--	--	--
04-07-2010	1005	Surface water	Regular	760	30	8.7	100	7.5	108	21.8
04-07-2010	1010	Surface water	Regular	760	--	5.8	62	7.3	88	18.6
04-07-2010	1015	Surface water	Regular	760	--	2.4	25	7.3	102	16.4
06-09-2010	0930	Surface water	Regular	--	--	--	--	--	--	--
06-09-2010	0935	Surface water	Regular	760	100	6.0	75	7.1	95	26.8
06-09-2010	0940	Surface water	Regular	760	--	5.8	73	7.1	92	26.6
06-09-2010	0945	Surface water	Regular	760	--	6.8	84	7.3	88	26.3
08-10-2010	1000	Surface water	Regular	--	--	--	--	--	--	--
08-10-2010	1005	Surface water	Regular	750	100	3.4	46	7.1	149	30.1
08-10-2010	1010	Surface water	Regular	750	--	.4	6	6.8	146	29.3
08-10-2010	1015	Surface water	Regular	750	--	.1	2	6.7	134	28.4

## 02086920 FALLS LAKE AT U.S. INTERSTATE 85 NEAR REDWOOD, NC—Continued

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

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; <, 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 <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)
10-30-2009	.20	--	.40	--	--	--	--	--	--	--	--
10-30-2009	--	--	1.0	121	42.6	11.2	3.54	4.58	23.2	44.1	--
10-30-2009	--	--	2.0	--	--	--	--	--	--	--	--
10-30-2009	--	--	3.0	--	--	--	--	--	--	--	--
12-15-2009	.50	--	1.0	--	--	--	--	--	--	--	--
12-15-2009	--	--	1.0	42	18.5	4.38	1.85	1.98	3.20	12.7	--
12-15-2009	--	--	3.0	--	--	--	--	--	--	--	--
12-15-2009	--	--	5.0	--	--	--	--	--	--	--	--
02-25-2010	.40	--	.80	--	--	--	--	--	--	--	--
02-25-2010	--	--	1.0	49	18.6	4.41	1.84	1.48	4.63	12.6	--
02-25-2010	--	--	2.0	--	--	--	--	--	--	--	--
02-25-2010	--	--	5.0	--	--	--	--	--	--	--	--
04-07-2010	.30	--	.60	--	--	--	--	--	--	--	--
04-07-2010	--	--	1.0	74	27.4	6.87	2.49	2.01	8.53	23.7	--
04-07-2010	--	--	2.0	--	--	--	--	--	--	--	--
04-07-2010	--	--	4.0	--	--	--	--	--	--	--	--
06-09-2010	.20	.40	.40	--	--	--	--	--	--	--	--
06-09-2010	--	--	1.0	67	28.8	7.13	2.66	2.19	6.86	26.9	--
06-09-2010	--	--	2.0	--	--	--	--	--	--	--	--
06-09-2010	--	--	4.0	--	--	--	--	--	--	--	--
08-10-2010	.40	--	.80	--	--	--	--	--	--	--	--
08-10-2010	--	--	1.0	92	34.5	8.65	3.14	2.85	11.3	34.6	--
08-10-2010	--	--	2.0	--	--	--	--	--	--	--	--
08-10-2010	--	--	3.0	--	--	--	--	--	--	--	--

## 02086920 FALLS LAKE AT U.S. INTERSTATE 85 NEAR REDWOOD, 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)
10-30-2009	--	--	--	--	--	1.26	.027	.227	.0086
10-30-2009	53.7	19.4	.182	3.25	19.7	--	--	--	--
10-30-2009	--	--	--	--	--	1.21	.037	.223	.0088
10-30-2009	--	--	--	--	--	1.25	.056	.239	.0092
12-15-2009	--	--	--	--	--	.594	.065	.237	.0056
12-15-2009	15.5	4.06	<.08	9.44	5.51	--	--	--	--
12-15-2009	--	--	--	--	--	.653	.067	.230	.0057
12-15-2009	--	--	--	--	--	.653	.069	.247	.0058
02-25-2010	--	--	--	--	--	.577	E .012	.300	.0030
02-25-2010	15.4	7.04	E .057	9.11	5.71	--	--	--	--
02-25-2010	--	--	--	--	--	.521	E .017	.301	.0030
02-25-2010	--	--	--	--	--	.532	E .015	.299	.0031
04-07-2010	--	--	--	--	--	.730	<.02	<.016	<.002
04-07-2010	28.8	10.1	.081	7.55	8.43	--	--	--	--
04-07-2010	--	--	--	--	--	.732	E .014	.0381	.0025
04-07-2010	--	--	--	--	--	.606	<.02	.0658	.0029
06-09-2010	--	--	--	--	--	.799	<.02	<.016	<.002
06-09-2010	32.8	6.88	.086	6.67	5.97	--	--	--	--
06-09-2010	--	--	--	--	--	.855	<.02	<.016	<.002
06-09-2010	--	--	--	--	--	1.00	E .011	<.016	<.002
08-10-2010	--	--	--	--	--	1.05	E .011	<.016	<.002
08-10-2010	42.2	11.4	.144	8.79	9.22	--	--	--	--
08-10-2010	--	--	--	--	--	1.09	E .010	<.016	<.002
08-10-2010	--	--	--	--	--	1.04	<.02	<.016	<.002

## 02086920 FALLS LAKE AT U.S. INTERSTATE 85 NEAR REDWOOD, NC—Continued

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

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; <, 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)
10-30-2009	E .0051	.172	67.0	31.1	--	--	--	--	--
10-30-2009	--	--	--	--	780	E .039	1.18	1.63	3.15
10-30-2009	.0087	.167	--	--	--	--	--	--	--
10-30-2009	E .0046	.172	--	--	--	--	--	--	--
12-15-2009	.0143	.0853	E 1.52	E 1.51	--	--	--	--	--
12-15-2009	--	--	--	--	--	--	--	--	--
12-15-2009	.0154	.0904	--	--	--	--	--	--	--
12-15-2009	.0158	.0928	--	--	--	--	--	--	--
02-25-2010	E .0070	.0684	5.75	E 1.94	--	--	--	--	--
02-25-2010	--	--	--	--	--	--	--	--	--
02-25-2010	E .0074	.0676	--	--	--	--	--	--	--
02-25-2010	E .0075	.0649	--	--	--	--	--	--	--
04-07-2010	E .0065	.0756	15.4	8.52	--	--	--	--	--
04-07-2010	--	--	--	--	249	.049	.429	.871	2.01
04-07-2010	.0089	.0851	--	--	--	--	--	--	--
04-07-2010	E .0071	.0676	--	--	--	--	--	--	--
06-09-2010	.0089	.122	27.7	25.2	--	--	--	--	--
06-09-2010	--	--	--	--	--	--	--	--	--
06-09-2010	.0095	.128	--	--	--	--	--	--	--
06-09-2010	.0093	.159	--	--	--	--	--	--	--
08-10-2010	.0110	.140	47.8	25.6	--	--	--	--	--
08-10-2010	--	--	--	--	--	--	--	--	--
08-10-2010	E .0063	.144	--	--	--	--	--	--	--
08-10-2010	E .0067	.122	--	--	--	--	--	--	--

## 02086920 FALLS LAKE AT U.S. INTERSTATE 85 NEAR REDWOOD, NC—Continued

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

Part 5 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	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)
10-30-2009	--	--	--	--	--	--	--	--	--	--
10-30-2009	1,490	2.65	386	.0176	1.41	1.71	.0259	8.7	.877	.169
10-30-2009	1,420	--	386	--	--	--	--	--	--	--
10-30-2009	1,600	--	405	--	--	--	--	--	--	--
12-15-2009	--	--	--	--	--	--	--	--	--	--
12-15-2009	1,060	--	102	--	--	--	--	--	--	--
12-15-2009	1,080	--	102	--	--	--	--	--	--	--
12-15-2009	1,070	--	106	--	--	--	--	--	--	--
02-25-2010	--	--	--	--	--	--	--	--	--	--
02-25-2010	793	--	115	--	--	--	--	--	--	--
02-25-2010	826	--	117	--	--	--	--	--	--	--
02-25-2010	826	--	117	--	--	--	--	--	--	--
04-07-2010	--	--	--	--	--	--	--	--	--	--
04-07-2010	766	.982	200	E .0095	.293	.865	< .016	4.1	.494	.141
04-07-2010	978	--	323	--	--	--	--	--	--	--
04-07-2010	918	--	480	--	--	--	--	--	--	--
06-09-2010	--	--	--	--	--	--	--	--	--	--
06-09-2010	1,380	--	400	--	--	--	--	--	--	--
06-09-2010	1,430	--	414	--	--	--	--	--	--	--
06-09-2010	2,040	--	565	--	--	--	--	--	--	--
08-10-2010	--	--	--	--	--	--	--	--	--	--
08-10-2010	1,100	--	548	--	--	--	--	--	--	--
08-10-2010	1,270	--	666	--	--	--	--	--	--	--
08-10-2010	1,220	--	1,110	--	--	--	--	--	--	--

## 02086920 FALLS LAKE AT U.S. INTERSTATE 85 NEAR REDWOOD, NC—Continued

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

Part 6 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]

<b>Date</b>	<b>Organic carbon, water, unfiltered, mg/L (00680)</b>
10-30-2009	--
10-30-2009	9.20
10-30-2009	--
10-30-2009	--
12-15-2009	--
12-15-2009	10.8
12-15-2009	--
12-15-2009	--
02-25-2010	--
02-25-2010	6.82
02-25-2010	--
02-25-2010	--
04-07-2010	--
04-07-2010	7.90
04-07-2010	--
04-07-2010	--
06-09-2010	--
06-09-2010	11.7
06-09-2010	--
06-09-2010	--
08-10-2010	--
08-10-2010	8.61
08-10-2010	--
08-10-2010	--