

Water-Data Report 2011

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 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 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.

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

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]

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)
10-13-2010	1015	Surface water	Regular	--	--	--	--	--	--
10-13-2010	1020	Surface water	Regular	760	60	6.4	72	7.1	135
10-13-2010	1025	Surface water	Regular	760	--	2.0	21	6.6	118
10-13-2010	1030	Surface water	Regular	760	--	1.7	18	6.6	364
03-02-2011	0930	Surface water	Regular	--	--	--	--	--	--
03-02-2011	0935	Surface water	Regular	764	75	11.2	104	8.8	227
03-02-2011	0940	Surface water	Regular	764	--	11.0	102	8.6	228
03-02-2011	0945	Surface water	Regular	764	--	10.9	100	8.5	227
04-12-2011	0930	Surface water	Regular	--	--	--	--	--	--
04-12-2011	0935	Surface water	Regular	752	62	8.7	94	7.5	112
04-12-2011	0940	Surface water	Regular	752	--	8.6	93	7.5	113
04-12-2011	0945	Surface water	Regular	752	--	4.0	42	7.4	114
06-22-2011	0930	Surface water	Regular	--	--	--	--	--	--
06-22-2011	0935	Surface water	Regular	761	35	5.3	68	7.4	152
06-22-2011	0940	Surface water	Regular	761	--	5.4	69	7.5	158
06-22-2011	0945	Surface water	Regular	761	--	5.4	68	7.4	166

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 2 of 6

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Date	Sample start time	Temperature, water, °C (00010)	Trans-parency, water, in situ, Secchi disc, m (00078)	Sampling depth, m (00098)	Dissolved solids					
					180 °C, water, filtered, mg/L (70300)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)
10-13-2010	1015	--	.30	.60	--	--	--	--	--	--
10-13-2010	1020	21.6	--	1.0	101	28.6	7.41	2.46	3.79	15.2
10-13-2010	1025	19.6	--	2.0	--	--	--	--	--	--
10-13-2010	1030	19.3	--	4.0	--	--	--	--	--	--
03-02-2011	0930	--	.30	.60	--	--	--	--	--	--
03-02-2011	0935	12.2	--	1.0	130	42.8	11.0	3.71	4.16	26.6
03-02-2011	0940	11.9	--	2.0	--	--	--	--	--	--
03-02-2011	0945	11.9	--	3.0	--	--	--	--	--	--
04-12-2011	0930	--	.40	.80	--	--	--	--	--	--
04-12-2011	0935	18.6	--	1.0	71	31.3	7.73	2.92	2.40	9.59
04-12-2011	0940	18.6	--	2.0	--	--	--	--	--	--
04-12-2011	0945	17.1	--	4.0	--	--	--	--	--	--
06-22-2011	0930	--	.30	.60	--	--	--	--	--	--
06-22-2011	0935	28.2	--	1.0	93	37.0	9.16	3.44	3.24	13.6
06-22-2011	0940	27.9	--	2.0	--	--	--	--	--	--
06-22-2011	0945	27.6	--	4.0	--	--	--	--	--	--

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

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]

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 ₃ (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 ₂ (00955)	Sulfate, water, filtered, mg/L (00945)	nitrogen, water, unfiltered, mg/L as N (00625)			
10-13-2010	1015	--	--	--	--	--	--	.964	<.010		
10-13-2010	1020	28.5	34.8	13.4	.214	6.10	15.9	--	--		
10-13-2010	1025	--	--	--	--	--	--	.830	<.010		
10-13-2010	1030	--	--	--	--	--	--	.940	.0878		
03-02-2011	0930	--	--	--	--	--	--	1.27	<.010		
03-02-2011	0935	35.6	40.1	28.6	.205	.111	19.6	--	--		
03-02-2011	0940	--	--	--	--	--	--	1.59	<.010		
03-02-2011	0945	--	--	--	--	--	--	1.52	<.010		
04-12-2011	0930	--	--	--	--	--	--	.777	<.010		
04-12-2011	0935	24.7	30.1	10.5	.099	8.30	8.28	--	--		
04-12-2011	0940	--	--	--	--	--	--	.697	<.010		
04-12-2011	0945	--	--	--	--	--	--	.808	<.010		
06-22-2011	0930	--	--	--	--	--	--	1.07	<.010		
06-22-2011	0935	35.4	43.1	13.9	.191	3.73	10.4	--	--		
06-22-2011	0940	--	--	--	--	--	--	1.00	<.010		
06-22-2011	0945	--	--	--	--	--	--	1.09	<.010		

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

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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)
10-13-2010	1015	<.008	<.0010	.00658	.126	--	--	--	--
10-13-2010	1020	--	--	--	--	319	<.05	.737	.967
10-13-2010	1025	<.008	<.0030	.00651	.115	--	--	--	--
10-13-2010	1030	<.008	<.0010	.00659	.108	--	--	--	--
03-02-2011	0930	.470	.0244	<.004	.166	--	--	--	--
03-02-2011	0935	--	--	--	--	--	--	--	--
03-02-2011	0940	.482	.0247	<.004	.176	--	--	--	--
03-02-2011	0945	.482	.0249	<.004	.182	--	--	--	--
04-12-2011	0930	.124	.00746	.0096	.0920	--	--	--	--
04-12-2011	0935	--	--	--	--	275	<.05	.521	.708
04-12-2011	0940	.102	.00707	.00959	.0927	--	--	--	--
04-12-2011	0945	.134	.00865	.0380	.0994	--	--	--	--
06-22-2011	0930	<.008	<.0010	.00533	.115	--	--	--	--
06-22-2011	0935	--	--	--	--	--	--	--	--
06-22-2011	0940	<.008	<.0010	.00543	.133	--	--	--	--
06-22-2011	0945	<.008	<.0010	.00559	.146	--	--	--	--

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

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)	m, water, unfiltered, recoverable, microgram s per liter (01062)	Molybdenum, water, unfiltered, recoverable, µg/L (01067)	Nickel, water, unfiltered, recoverable, µg/L (01077)	Silver, water, unfiltered, recoverable, µg/L (01077)	Zinc, water, unfiltered, recoverable, µg/L (01092)
10-13-2010	1015	--	--	--	--	--	--	--	--	--	--
10-13-2010	1020	2.48	787	1.33	313	.0082	.754	.88	<.015	4.91	
10-13-2010	1025	--	863	--	406	--	--	--	--	--	
10-13-2010	1030	--	902	--	503	--	--	--	--	--	
03-02-2011	0930	--	--	--	--	--	--	--	--	--	
03-02-2011	0935	--	1,310	--	364	--	--	--	--	--	
03-02-2011	0940	--	1,420	--	380	--	--	--	--	--	
03-02-2011	0945	--	1,540	--	401	--	--	--	--	--	
04-12-2011	0930	--	--	--	--	--	--	--	--	--	
04-12-2011	0935	2.24	794	1.07	175	<.005	.320	.92	<.015	3.81	
04-12-2011	0940	--	754	--	157	--	--	--	--	--	
04-12-2011	0945	--	816	--	170	--	--	--	--	--	
06-22-2011	0930	--	--	--	--	--	--	--	--	--	
06-22-2011	0935	--	874	--	442	--	--	--	--	--	
06-22-2011	0940	--	1,180	--	499	--	--	--	--	--	
06-22-2011	0945	--	1,350	--	509	--	--	--	--	--	

02086920 FALLS LAKE AT U.S. INTERSTATE 85 NEAR REDWOOD, 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, µg/L (01002)	Selenium, water, unfiltered, µg/L (01147)	carbon, water, unfiltered, mg/L (00680)	Organic
10-13-2010	1015	--	--	--	
10-13-2010	1020	.861	.174	11.1	
10-13-2010	1025	--	--	--	
10-13-2010	1030	--	--	--	
03-02-2011	0930	--	--	--	
03-02-2011	0935	--	--	11.6	
03-02-2011	0940	--	--	--	
03-02-2011	0945	--	--	--	
04-12-2011	0930	--	--	--	
04-12-2011	0935	.688	.141	10.5	
04-12-2011	0940	--	--	--	
04-12-2011	0945	--	--	--	
06-22-2011	0930	--	--	--	
06-22-2011	0935	--	--	12.0	
06-22-2011	0940	--	--	--	
06-22-2011	0945	--	--	--	