

Water-Data Report 2008

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 to 1995, 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 2007 TO SEPTEMBER 2008

Part 1 of 5

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

Date	Time	Sample medium and type	Color, water, fltrd, Pt-Co units (00080)	Sam- pling depth, meters (00098)	Trans- parency Secchi disc, meters (00078)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dis- solved oxygen, percent of sat- uration (00301)	pH, water, unfltrd field, std units (00400)
Oct									
03...	1015	Surface water, regular	40	1.0	.20	761	7.3	85	7.8
03...	1020	Surface water, regular	--	2.0	--	761	5.6	64	7.4
03...	1025	Surface water, regular	--	2.5	--	761	4.6	53	7.3
Feb									
13...	1000	Surface water, regular	--	.20	.10	--	--	--	--
13...	1005	Surface water, regular	88	1.0	--	745	10.3	87	6.9
Apr									
08...	0945	Surface water, regular	--	.60	.30	--	--	--	--
08...	0950	Surface water, regular	70	1.0	--	762	8.6	82	6.8
08...	0955	Surface water, regular	--	2.0	--	762	8.6	82	6.8
08...	1000	Surface water, regular	--	4.0	--	762	8.6	81	6.8
Jun									
17...	0945	Surface water, regular	--	.60	.30	--	--	--	--
17...	0950	Surface water, regular	100	1.0	--	751	3.9	51	7.1
17...	0955	Surface water, regular	--	2.0	--	751	3.6	48	7.1
17...	1000	Surface water, regular	--	4.0	--	751	.1	2	7.0
Aug									
20...	0930	Surface water, regular	--	.40	.20	--	--	--	--
20...	0931	QC - Surface water, replicate	--	.40	--	--	--	--	--
20...	0935	Surface water, regular	60	1.0	--	759	2.7	34	7.0
20...	0936	QC - Surface water, replicate	60	1.0	--	--	--	--	--
20...	0940	Surface water, regular	--	2.0	--	759	.3	4	6.9
20...	0945	Surface water, regular	--	3.0	--	759	.2	2	6.9
20...	1033	QC - Artificial, blank	--	--	--	--	--	--	--

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 5

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

Date	Specific conductance, wat unf $\mu\text{S}/\text{cm}$ 25 degC (00095)	Temperature, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium water, flt'd, mg/L (00915)	Magnesium, water, flt'd, mg/L (00925)	Potassium, water, flt'd, mg/L (00935)	Sodium, water, flt'd, mg/L (00930)	ANC, wat unf infl pt titr., field, mg/L as CaCO ₃ (00419)	Bicarbonate, wat unf infl pt titr., field, mg/L (00450)	Chloride, water, flt'd, mg/L (00940)	Fluoride, water, flt'd, mg/L (00950)	Silica, water, flt'd, mg/L as SiO ₂ (00955)	Sulfate water, flt'd, mg/L (00945)
Oct													
03...	389	22.2	49	13.2	3.78	9.08	53.1	63	77	46.3	.62	8.17	32.7
03...	400	21.5	--	--	--	--	--	--	--	--	--	--	--
03...	404	21.3	--	--	--	--	--	--	--	--	--	--	34.0
Feb													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	170	7.1	45	12.5	3.25	4.06	17.7	28	34	18.5	.14	5.64	20.3
Apr													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	73	13.1	20	4.88	1.96	1.77	4.83	13	16	5.50	<.12	9.00	8.83
08...	73	13.1	--	--	--	--	--	--	--	--	--	--	--
08...	72	13.1	--	--	--	--	--	--	--	--	--	--	8.96
Jun													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	163	28.8	42	10.7	3.64	3.30	13.4	40	49	12.9	.16	6.74	12.5
17...	159	28.6	--	--	--	--	--	--	--	--	--	--	--
17...	168	27.7	--	--	--	--	--	--	--	--	--	--	10.4
Aug													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	192	27.4	39	10.1	3.33	4.19	21.2	44.1	53.7	18.2	.24	8.73	14.3
20...	--	--	38	9.94	3.30	4.08	20.9	44.9	54.7	18.0	.24	8.84	14.3
20...	196	26.3	--	--	--	--	--	--	--	--	--	--	--
20...	208	26.2	--	--	--	--	--	--	--	--	--	--	14.3
20...	--	--	--	<.04	<.020	<.02	E.07	--	--	<.12	<.12	.08	<.18

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 3 of 5

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

Date	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L as P (00665)	Organic carbon, water, fltrd, mg/L (00681)	Organic carbon, water, unfltrd mg/L (00680)	Chloro- phyll a phyto- plank- ton, fluoro, µg/L (70953)	Pheo- phytin a, phyto- plank- ton, µg/L (62360)	Alum- inum, water, unfltrd recover- able, µg/L (01105)	Arsenic water, unfltrd µg/L (01002)
Oct													
03...	222	1.4	.077	1.53	.031	.417	.62	6.7	10.1	75.6	32.8	829	1.3
03...	--	1.4	.130	1.54	.033	.374	.62	--	--	--	--	--	--
03...	--	1.8	.196	1.71	.037	.398	.79	7.0	--	--	--	--	--
Feb													
13...	--	1.3	.286	1.19	.015	.062	.36	--	--	8.1	13.2	--	--
13...	117	--	--	--	--	--	--	6.7	11.8	--	--	--	--
Apr													
08...	--	.68	.028	.229	.003	.007	.082	--	--	--	--	--	--
08...	65	--	--	--	--	--	--	7.9	11.4	--	--	432	E.54
08...	--	.69	.027	.230	.003	.007	.077	--	--	--	--	--	--
08...	--	.63	.030	.228	.003	.007	.080	7.9	--	--	--	--	--
Jun													
17...	--	.95	<.020	<.016	<.002	E.004	.116	--	--	27.3	18.0	--	--
17...	110	--	--	--	--	--	--	10.4	12.2	--	--	--	--
17...	--	.97	<.020	<.016	<.002	.011	.127	--	--	--	--	--	--
17...	--	1.2	.125	<.016	<.002	E.006	.164	10.0	--	--	--	--	--
Aug													
20...	--	1.2	<.020	<.016	<.002	E.005	.157	--	--	39.6	29.8	--	--
20...	--	1.3	<.020	<.016	<.002	E.006	.158	--	--	42.1	31.2	--	--
20...	129	--	--	--	--	--	--	9.1	15.3	--	--	--	--
20...	136	--	--	--	--	--	--	9.2	13.8	--	--	--	--
20...	--	1.2	.114	E.011	.003	E.005	.165	--	--	--	--	--	--
20...	--	1.3	.158	.016	.009	E.005	.155	9.2	--	--	--	--	--
20...	--	--	<.020	<.016	<.002	<.006	--	E.4	--	--	--	--	--

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 4 of 5

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

Date	Cadmium water, unfltrd μg/L (01027)	Chrom- ium, water, unfltrd recover- able, μg/L (01034)	Cobalt water, unfltrd recover- able, μg/L (01037)	Copper, water, unfltrd recover- able, μg/L (01042)	Iron, water, unfltrd recover- able, μg/L (01045)	Lead, water, unfltrd recover- able, μg/L (01051)	Mangan- ese, water, unfltrd recover- able, μg/L (01055)	Mercury water, unfltrd ftrd, μg/L (71890)	Mercury water, unfltrd recover- able, μg/L (71900)	Molyb- denum, water, unfltrd recover- able, μg/L (01062)	Nickel, water, unfltrd recover- able, μg/L (01067)	Selen- ium, water, unfltrd μg/L (01147)	Silver, water, unfltrd recover- able, μg/L (01077)
Oct													
03...	.03	1.2	1.7	3.3	1,310	2.31	304	.012	.085	5.4	2.6	.18	.04
03...	--	--	--	--	1,600	--	332	--	--	--	--	--	--
03...	--	--	--	--	3,760	--	601	.016	.019	--	--	--	--
Feb													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	4,210	--	335	<.010	.030	--	--	--	--
Apr													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	E.01	.81	.55	2.4	865	.84	117	E.007	E.008	.1	.94	.15	<.02
08...	--	--	--	--	869	--	110	--	--	--	--	--	--
08...	--	--	--	--	899	--	105	E.006	E.008	--	--	--	--
Jun													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	1,230	--	1,060	E.006	.021	--	--	--	--
17...	--	--	--	--	1,370	--	1,120	--	--	--	--	--	--
17...	--	--	--	--	1,580	--	2,540	<.010	.014	--	--	--	--
Aug													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	1,290	--	672	<.010	.038	--	--	--	--
20...	--	--	--	--	1,300	--	677	<.010	E.006	--	--	--	--
20...	--	--	--	--	1,440	--	1,010	--	--	--	--	--	--
20...	--	--	--	--	1,430	--	1,100	<.010	E.005	--	--	--	--
20...	--	--	--	--	--	--	--	<.010	<.010	--	--	--	--

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO
SEPTEMBER 2008

Part 5 of 5

[QC, quality control sample. Remark codes:
 <, less than; E, estimated.]

Date	Zinc, water, unfiltrd recover -able, µg/L (01092)	Data base number	Medium code
Oct			
03...	22.6	01	WS
03...	--	01	WS
03...	--	01	WS
Feb			
13...	--	01	WS
13...	--	01	WS
Apr			
08...	--	01	WS
08...	5.4	01	WS
08...	--	01	WS
08...	--	01	WS
Jun			
17...	--	01	WS
17...	--	01	WS
17...	--	01	WS
17...	--	01	WS
Aug			
20...	--	01	WS
20...	--	04	WSQ
20...	--	01	WS
20...	--	04	WSQ
20...	--	01	WS
20...	--	01	WS
20...	--	04	OAQ