



Water-Data Report 2008

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 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 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.

Water-Data Report 2008

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
 Part 1 of 4
 [Remark codes: <, less than; E, estimated.]

| Date | Time | Color, water, filtrd, 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) | Dis- solved oxygen, water, unfiltrd field, std units (00400) | pH, water, unfiltrd field, std units (00095) | Specif- ic conduc- tance, wat unf μS/cm 25 degC (00095) | | | Temper- ature, water, deg C (00010) | Hard- ness, water, mg/L as CaCO ₃ (00900) | Calcium water, filtrd, mg/L (00915) | Magnes- ium, water, filtrd, mg/L (00925) |
|------------|------|--|--|---|---|--|---|--|--|--|---|---|---|---|---|---|
| | | | | | | | | | | Specif- ic conduc- tance, wat unf μS/cm 25 degC (00095) | Temper- ature, water, deg C (00010) | Hard- ness, water, mg/L as CaCO ₃ (00900) | | | | |
| Oct | | | | | | | | | | | | | | | | |
| 03... | 1315 | 40 | 1.0 | .60 | 761 | 8.8 | 105 | 8.2 | 128 | 24.0 | 32 | 7.97 | 2.92 | | | |
| 03... | 1320 | -- | 2.0 | -- | 761 | 7.0 | 82 | 7.3 | 128 | 23.4 | -- | -- | -- | | | |
| 03... | 1325 | -- | 3.0 | -- | 761 | 4.3 | 51 | 7.0 | 130 | 23.0 | -- | -- | -- | | | |
| Dec | | | | | | | | | | | | | | | | |
| 11... | 1030 | -- | 1.0 | .50 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| 11... | 1035 | 50 | 1.0 | -- | 765 | 10.7 | 97 | 7.4 | 167 | 11.1 | 32 | 7.85 | 3.00 | | | |
| 11... | 1045 | -- | 2.0 | -- | 765 | 9.3 | 82 | 7.3 | 168 | 10.2 | -- | -- | -- | | | |
| Feb | | | | | | | | | | | | | | | | |
| 11... | 1430 | -- | 1.0 | .50 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| 11... | 1435 | 40 | 1.0 | -- | 768 | 11.9 | 106 | 8.1 | 172 | 10.6 | 35 | 8.68 | 3.20 | | | |
| 11... | 1440 | -- | 3.0 | -- | 768 | 11.0 | 96 | 7.6 | 172 | 9.7 | -- | -- | -- | | | |
| 11... | 1445 | -- | 7.0 | -- | 768 | 10.6 | 92 | 7.5 | 170 | 9.5 | -- | -- | -- | | | |
| Apr | | | | | | | | | | | | | | | | |
| 08... | 1200 | -- | 1.4 | .70 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| 08... | 1205 | 60 | 1.0 | -- | 763 | 9.8 | 95 | 7.3 | 119 | 14.2 | 28 | 6.86 | 2.54 | | | |
| 08... | 1210 | -- | 3.0 | -- | 763 | 9.5 | 92 | 7.3 | 119 | 14.2 | -- | -- | -- | | | |
| 08... | 1215 | -- | 6.0 | -- | 763 | 9.3 | 90 | 7.2 | 119 | 14.1 | -- | -- | -- | | | |
| Jun | | | | | | | | | | | | | | | | |
| 17... | 1230 | -- | 2.6 | 1.30 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| 17... | 1235 | 35 | 1.0 | -- | 754 | 8.1 | 110 | 8.1 | 112 | 30.6 | 30 | 7.39 | 2.84 | | | |
| 17... | 1240 | -- | 4.0 | -- | 754 | .1 | 2 | 6.9 | 128 | 24.3 | -- | -- | -- | | | |
| 17... | 1245 | -- | 9.0 | -- | 754 | .2 | 2 | 6.8 | 155 | 16.5 | -- | -- | -- | | | |
| Aug | | | | | | | | | | | | | | | | |
| 20... | 1245 | -- | 2.0 | 1.00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | |
| 20... | 1250 | 30 | 1.0 | -- | 760 | 7.2 | 93 | 7.5 | 114 | 28.2 | 32 | 7.87 | 2.99 | | | |
| 20... | 1255 | -- | 3.0 | -- | 760 | 1.4 | 18 | 6.8 | 119 | 26.6 | -- | -- | -- | | | |
| 20... | 1300 | -- | 5.0 | -- | 760 | .7 | 8 | 6.8 | 122 | 26.5 | -- | -- | -- | | | |

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
 Part 2 of 4
 [Remark codes: <, less than; E, estimated.]

| Date | Potassium, water, fltrd, mg/L (00935) | Sodium, water, fltrd, mg/L (00930) | ANC, wat unf infl pt | Bicar- bonate, wat unf infl pt | Chlor- ide, water, fltrd, mg/L (00940) | Fluor- ide, water, fltrd, mg/L (00950) | Silica, water, filtrd, mg/L as SiO2 (00945) | Sulfate water, fltrd, mg/L (00945) | Residue on 180degC wat flt (70300) | Ammonia + org-N, unfltrd mg/L (00625) | Ammonia water, mg/L as N (00608) | Nitrate + nitrite water, fltrd, mg/L as N (00631) | Nitrite water, fltrd, mg/L as N (00613) |
|------------|---|--|----------------------------|---|---|---|--|--|--|--|--|--|--|
| | | | | | | | | | | | | | |
| Oct | | | | | | | | | | | | | |
| 03... | 2.87 | 11.8 | 32 | 39 | 11.5 | .16 | 9.56 | 8.91 | 69 | 1.0 | <.020 | <.016 | <.002 |
| 03... | -- | -- | -- | -- | -- | -- | -- | -- | -- | .98 | <.020 | <.016 | <.002 |
| 03... | -- | -- | -- | -- | -- | -- | -- | 9.25 | -- | .99 | <.020 | <.016 | <.002 |
| Dec | | | | | | | | | | | | | |
| 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.2 | .090 | .032 | .002 |
| 11... | 3.54 | 17.9 | 31 | 38 | 17.4 | .20 | 7.18 | 17.7 | 121 | -- | -- | -- | -- |
| 11... | -- | -- | -- | -- | -- | -- | -- | 17.7 | -- | 1.3 | .092 | .031 | .003 |
| Feb | | | | | | | | | | | | | |
| 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.0 | E.014 | .412 | .006 |
| 11... | 3.90 | 18.1 | 27 | 33 | 17.0 | .15 | 4.38 | 21.4 | 108 | -- | -- | -- | -- |
| 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- | .98 | .020 | .406 | .006 |
| 11... | -- | -- | -- | -- | -- | -- | -- | 21.2 | -- | .94 | .030 | .403 | .005 |
| Apr | | | | | | | | | | | | | |
| 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | .83 | .023 | .206 | .005 |
| 08... | 2.74 | 10.3 | 16 | 20 | 10.8 | E.08 | 2.07 | 18.0 | 85 | -- | -- | -- | -- |
| 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | .82 | .028 | .211 | .005 |
| 08... | -- | -- | -- | -- | -- | -- | -- | 18.1 | -- | .76 | .036 | .208 | .005 |
| Jun | | | | | | | | | | | | | |
| 17... | -- | -- | -- | -- | -- | -- | -- | -- | -- | .64 | E.012 | <.016 | <.002 |
| 17... | 2.53 | 7.91 | 22 | 27 | 8.13 | E.09 | 1.74 | 11.3 | 77 | -- | -- | -- | -- |
| 17... | -- | -- | -- | -- | -- | -- | -- | -- | -- | .75 | .097 | <.016 | <.002 |
| 17... | -- | -- | -- | -- | -- | -- | -- | 7.14 | -- | 2.0 | 1.30 | <.016 | E.001 |
| Aug | | | | | | | | | | | | | |
| 20... | -- | -- | -- | -- | -- | -- | -- | -- | -- | .74 | .030 | <.016 | <.002 |
| 20... | 2.72 | 8.41 | 26.9 | 32.8 | 8.24 | E.10 | 4.98 | 8.58 | 81 | -- | -- | -- | -- |
| 20... | -- | -- | -- | -- | -- | -- | -- | -- | -- | .67 | .095 | <.016 | <.002 |
| 20... | -- | -- | -- | -- | -- | -- | -- | 8.77 | -- | .74 | .143 | <.016 | <.002 |

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
 Part 3 of 4
 [Remark codes: <, less than; E, estimated.]

| Date | Ortho-phosphate, water, filtrd, mg/L as P (00671) | Phosphorus, water, unfltrd mg/L as P (00665) | Organic carbon, water, filtrd, mg/L (00681) | Organic carbon, water, unfltrd mg/L (00680) | Chlorophyll a phytoplankton, µg/L (70953) | Pheophytin, µg/L (62360) | Alum-inum, water, unfltrd recoverable, µg/L (01105) | Arsenic water, unfltrd µg/L (01002) | Cadmium water, unfltrd µg/L (01027) | Chromium, water, unfltrd recoverable, µg/L (01034) | Cobalt water, unfltrd µg/L (01037) | Copper, water, unfltrd µg/L (01042) | Iron, water, unfltrd µg/L (01045) |
|------------|---|--|---|---|---|--------------------------|---|-------------------------------------|-------------------------------------|--|------------------------------------|-------------------------------------|-----------------------------------|
| Oct | | | | | | | | | | | | | |
| 03... | E.003 | .055 | 6.5 | 11.0 | 46.5 | 8.4 | 69 | .61 | <.01 | <.40 | .22 | <1.2 | 290 |
| 03... | E.004 | .051 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 308 |
| 03... | E.004 | .061 | 6.5 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 380 |
| Dec | | | | | | | | | | | | | |
| 11... | <.006 | .067 | -- | -- | 23.0 | 16.0 | -- | -- | -- | -- | -- | -- | -- |
| 11... | -- | -- | 6.7 | 10.7 | -- | -- | -- | -- | -- | -- | -- | -- | 383 |
| 11... | <.006 | .066 | 6.9 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 386 |
| Feb | | | | | | | | | | | | | |
| 11... | <.006 | .068 | -- | -- | 36.4 | 18.7 | -- | -- | -- | -- | -- | -- | -- |
| 11... | -- | -- | 6.8 | 10.4 | -- | -- | -- | -- | -- | -- | -- | -- | 332 |
| 11... | <.006 | .068 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 362 |
| 11... | <.006 | .072 | 6.7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 446 |
| Apr | | | | | | | | | | | | | |
| 08... | <.006 | .062 | -- | -- | 35.0 | 16.4 | -- | -- | -- | -- | -- | -- | -- |
| 08... | -- | -- | 7.3 | 10.4 | -- | -- | 232 | E.46 | .01 | .46 | .27 | 1.7 | 377 |
| 08... | <.006 | .062 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 396 |
| 08... | <.006 | .062 | 7.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 412 |
| Jun | | | | | | | | | | | | | |
| 17... | <.006 | .037 | -- | -- | 14.7 | 7.6 | -- | -- | -- | -- | -- | -- | -- |
| 17... | -- | -- | 8.8 | 10.6 | -- | -- | -- | -- | -- | -- | -- | -- | 97 |
| 17... | <.006 | .051 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 518 |
| 17... | .021 | .070 | 8.7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4,670 |
| Aug | | | | | | | | | | | | | |
| 20... | E.003 | .037 | -- | -- | 21.1 | 10.7 | -- | -- | -- | -- | -- | -- | -- |
| 20... | -- | -- | 7.9 | 9.8 | -- | -- | -- | -- | -- | -- | -- | -- | 117 |
| 20... | E.004 | .037 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 218 |
| 20... | E.004 | .041 | 7.6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 289 |

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
 Part 4 of 4
 [Remark codes: <, less than; E, estimated.]

| Date | Mangan- Lead, water, unfltrd recover -able, μg/L (01051) | Manganese, water, unfltrd recover -able, μg/L (01055) | Mercury Mercury water, unfltrd recover -able, μg/L (71890) | Molyb- denum, water, unfltrd recover -able, μg/L (71900) | Nickel, water, unfltrd recover -able, μg/L (01062) | Selen- ium, water, unfltrd recover -able, μg/L (01067) | Silver, water, unfltrd recover -able, μg/L (01147) | Zinc, water, unfltrd recover -able, μg/L (01077) | Zinc, water, unfltrd recover -able, μg/L (01092) |
|------------|---|---|---|---|--|---|--|--|--|
| Oct | | | | | | | | | |
| 03... | .19 | 209 | .022 | .235 | .9 | .52 | .23 | <.02 | E1.8 |
| 03... | -- | 219 | -- | -- | -- | -- | -- | -- | -- |
| 03... | -- | 285 | E.008 | .027 | -- | -- | -- | -- | -- |
| Dec | | | | | | | | | |
| 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 11... | -- | 236 | .013 | .028 | -- | -- | -- | -- | -- |
| 11... | -- | 249 | E.008 | .010 | -- | -- | -- | -- | -- |
| Feb | | | | | | | | | |
| 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 11... | -- | 132 | <.010 | .012 | -- | -- | -- | -- | -- |
| 11... | -- | 142 | -- | -- | -- | -- | -- | -- | -- |
| 11... | -- | 157 | <.010 | <.010 | -- | -- | -- | -- | -- |
| Apr | | | | | | | | | |
| 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 08... | .42 | 93.0 | .020 | .020 | .4 | 1.1 | .15 | <.02 | 3.1 |
| 08... | -- | 88.1 | -- | -- | -- | -- | -- | -- | -- |
| 08... | -- | 96.5 | E.008 | E.008 | -- | -- | -- | -- | -- |
| Jun | | | | | | | | | |
| 17... | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 17... | -- | 74.5 | <.010 | <.010 | -- | -- | -- | -- | -- |
| 17... | -- | 1,540 | -- | -- | -- | -- | -- | -- | -- |
| 17... | -- | 1,990 | <.010 | <.010 | -- | -- | -- | -- | -- |
| Aug | | | | | | | | | |
| 20... | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 20... | -- | 97.8 | .019 | .030 | -- | -- | -- | -- | -- |
| 20... | -- | 278 | -- | -- | -- | -- | -- | -- | -- |
| 20... | -- | 490 | <.010 | .013 | -- | -- | -- | -- | -- |