

Water-Data Report 2008

0208521324 LITTLE RIVER AT SECONDARY ROAD 1461 NEAR ORANGE FACTORY, NC

Neuse Basin
Upper Neuse Subbasin

LOCATION.--Lat 36°08'30", long 78°55'09" referenced to North American Datum of 1983, Durham County, NC, Hydrologic Unit 03020201, on right bank, 5 feet downstream from bridge on Secondary Road 1461, and 1.8 mi northwest of Orange Factory.

DRAINAGE AREA.--78.2 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1987 to current year. Prior to October 1987, equivalent records published as "Little River near Orange Factory, NC" (02085220), September 1961 to September 1987.

GAGE.--Water-stage recorder. Datum of gage is 382.89 ft above North American Vertical Datum of 1988. Satellite telemetry at station.

REMARKS.--No estimated daily discharges. Records fair. Maximum discharge for period of record from extension of rating curve above 2,300 ft³/s, based on contracted-opening measurement of peak flow; maximum gage height, 13.26 ft, from high-water mark in gage shelter. Maximum gage height for current water year from high-water mark near gage. No flow occurs periodically. Minimum discharge for current water year occurred on many days.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.00	0.22	0.05	59	20	14	317	56	18	8.2	1.0	256
2	0.00	0.14	0.04	22	78	11	145	34	11	6.5	0.57	61
3	0.00	0.11	0.04	12	39	9.5	68	23	8.8	2.8	0.37	20
4	0.00	0.10	0.05	7.9	22	94	193	18	8.0	1.6	0.24	8.6
5	0.01	0.09	0.05	6.0	16	759	641	15	6.8	1.8	0.19	4.6
6	0.01	0.08	0.04	4.5	15	143	296	14	5.7	12	0.17	4,190
7	0.01	0.11	0.04	3.7	13	240	166	13	4.5	26	0.16	572
8	0.01	0.10	0.04	3.2	10	413	94	11	3.7	9.1	0.16	77
9	0.01	0.09	0.04	2.6	8.5	126	58	15	3.2	4.2	0.14	38
10	0.00	0.09	0.04	2.6	6.6	63	42	14	2.8	3.3	0.13	25
11	0.00	0.08	0.04	2.7	4.5	44	32	12	2.3	2.6	0.16	36
12	0.00	0.07	0.04	2.4	4.6	33	28	20	1.7	1.9	0.17	30
13	0.00	0.06	0.04	2.2	94	26	24	17	0.75	1.2	0.12	21
14	0.00	0.05	0.04	1.8	91	22	20	13	0.61	1.1	0.10	16
15	0.00	0.06	0.04	1.5	55	22	18	10	1.2	1.1	0.08	12
16	0.00	0.06	0.17	1.2	41	95	14	24	0.96	16	0.06	17
17	0.00	0.06	0.12	1.6	27	66	13	22	0.81	6.1	0.05	32
18	0.00	0.05	0.14	10	22	37	12	17	0.66	0.88	0.04	26
19	0.01	0.05	0.15	13	17	31	11	34	0.55	0.48	0.04	15
20	0.00	0.05	0.13	15	14	33	15	28	0.49	0.35	0.03	11
21	0.00	0.05	0.12	9.7	12	29	46	38	0.47	0.21	0.03	10
22	0.00	0.05	0.11	7.5	11	24	36	25	0.46	29	0.02	9.0
23	0.00	0.05	0.09	6.8	11	18	26	15	0.56	19	0.02	6.7
24	0.02	0.04	0.08	5.9	9.7	16	20	11	0.59	2.5	0.02	6.5
25	2.1	0.05	0.08	5.0	9.9	14	16	9.6	0.46	1.2	0.02	6.1
26	2.7	0.06	2.1	4.6	13	13	13	7.9	0.41	0.70	0.02	126
27	20	0.05	6.3	5.0	24	11	12	6.8	0.31	0.51	175	296
28	2.7	0.05	2.5	3.9	28	11	416	13	0.32	0.56	547	93
29	0.84	0.05	1.7	3.3	18	11	587	15	0.32	0.48	103	44
30	0.44	0.05	40	3.2	---	12	122	14	11	0.40	36	29
31	0.30	---	153	2.8	---	53	---	12	---	1.9	24	---
Total	29.16	2.22	207.42	232.6	734.8	2,493.5	3,501	577.3	97.43	163.67	889.11	6,094.5
Mean	0.94	0.07	6.69	7.50	25.3	80.4	117	18.6	3.25	5.28	28.7	203
Max	20	0.22	153	59	94	759	641	56	18	29	547	4,190
Min	0.00	0.04	0.04	1.2	4.5	9.5	11	6.8	0.31	0.21	0.02	4.6
Cfsm	0.01	0.00	0.09	0.10	0.32	1.03	1.49	0.24	0.04	0.07	0.37	2.60
In.	0.01	0.00	0.10	0.11	0.35	1.19	1.67	0.27	0.05	0.08	0.42	2.90

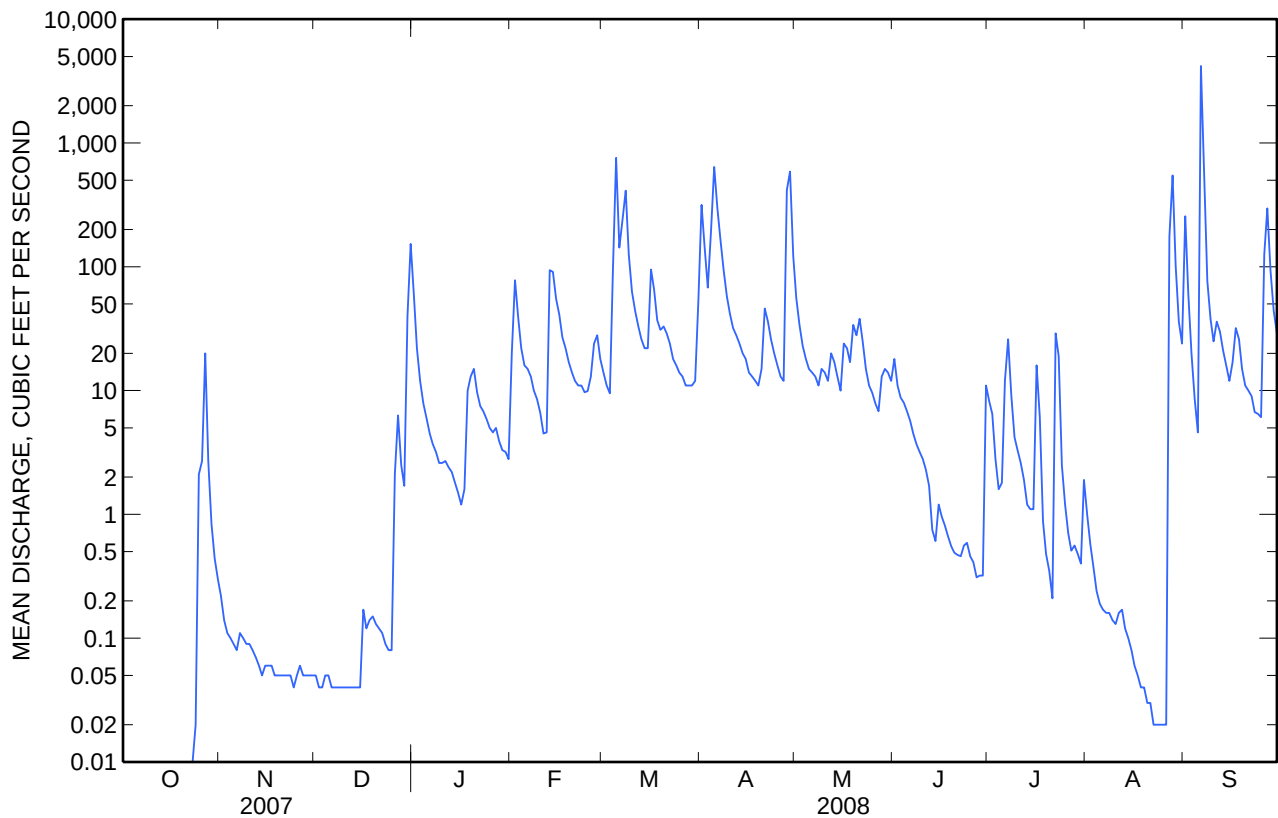
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	34.8	46.2	68.5	110	116	164	112	51.7	40.3	32.0	26.2	55.0
Max	222	171	215	257	379	456	346	203	194	141	125	329
(WY)	(2003)	(2007)	(2003)	(1998)	(1998)	(1993)	(2003)	(2003)	(1995)	(2003)	(2003)	(1996)
Min	0.14	0.07	5.06	7.50	22.4	12.7	17.1	7.48	2.08	0.31	0.19	0.01
(WY)	(1994)	(2008)	(2002)	(2008)	(2002)	(2006)	(1995)	(2002)	(2002)	(2002)	(2007)	(2007)

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SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1987 - 2008	
Annual total	13,709.33		15,022.71			
Annual mean	37.6		41.0		71.1	
Highest annual mean					195	
Lowest annual mean					14.8	
Highest daily mean	1,200	Apr 15	4,190	Sep 6	6,500	Sep 6, 1996
Lowest daily mean	0.00	Sep 7	0.00	Oct 1	0.00	Aug 19, 1988
Annual seven-day minimum	0.00	Sep 7	0.00	Oct 10	0.00	Aug 19, 1988
Maximum peak flow			^a 8,350	Sep 6	^a 11,600	Sep 6, 1996
Maximum peak stage			^a 10.74	Sep 6	^a 13.26	Sep 6, 1996
Instantaneous low flow			^a 0.00	Oct 1	^a 0.00	Aug 19, 1998
Annual runoff (cfs)	0.480		0.525		0.910	
Annual runoff (inches)	6.52		7.15		12.36	
10 percent exceeds	76		58		141	
50 percent exceeds	5.1		5.9		24	
90 percent exceeds	0.00		0.04		1.4	

^aSee Remarks

0208521324 LITTLE RIVER AT SECONDARY ROAD 1461 NEAR ORANGE FACTORY, NC—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1988 to current year.

REMARKS.--Station operated to define water quality as part of a regional surface-water quality assessment. For the period February 1988 through June 1989 the inorganic-chemical data and trace-metal data were analyzed by the city of Durham's Brown Water Treatment Laboratory. Samples for October 1994 and April 1995 were collected by the North Carolina Department of Environment, Health, and Natural Resources. A GC/FID scan for trace organic compounds was performed on these samples by the U.S. Geological Survey National Water Quality Lab. Results may be obtained from the District office in Raleigh, NC.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 1 of 4

[Remark codes: <, less than; E, estimated.]

Date	Time	Instantaneous discharge, cfs (00061)	Color, water, fltrd, Pt-Co units (00080)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, μ S/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
Apr 01...	0915	374	125	758	10.3	94	7.1	70	10.8	22	5.26	2.10	1.51
Sep 06...	1200	5,810	150	741	7.7	90	6.8	35	21.6	13	3.07	1.29	3.93

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 4

[Remark codes: <, less than; E, estimated.]

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unfl pt titr., mg/L as CaCO ₃ (00419)	Bicarbonate, wat unfl pt titr., mg/L (00450)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L as SiO ₂ (00955)	Sulfate, water, fltrd, mg/L (00945)	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)	Orthophosphate, water, fltrd, mg/L as P (00671)
Apr 01...	4.86	15	18	5.26	<.12	8.44	7.62	62	.78	<.020	.187	.003	.010
Sep 06...	1.30	--	--	1.97	--	5.58	3.05	63	1.7	E.011	.531	.006	.082

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 3 of 4

[Remark codes: <, less than; E, estimated.]

Date	Phos- phorus, water, unfltrd mg/L (00665)	Organic carbon, water, fltrd, mg/L (00681)	Organic carbon, water, unfltrd mg/L (00680)	Alum- inum, water, unfltrd recover- able, µg/L (01105)	Arsenic water, unfltrd µg/L (01002)	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, fltrd, µg/L (71890)
Apr 01...	.113	8.4	12.9	660	.67	.01	.81	.96	2.6	1,550	1.11	204	E.005
Sep 06...	.29	14.5	26.8	2,420	1.5	.03	2.4	3.9	17.4	4,380	5.13	412	<.010

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 4 of 4

[Remark codes: <, less than; E, estimated.]

Date	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)	Zinc, water, unfltrd recover- able, µg/L (01092)	Sus- pended sedi- ment concen- tration mg/L (80154)
Apr 01...	E.008	E.1	.71	.17	<.02	4.4	60
Sep 06...	E.008	E.1	1.9	.16	.03	16.8	393