



Water-Data Report 2009

01398000 NESHANIC RIVER AT REAVILLE, NJ

RARITAN RIVER BASIN

LOCATION.--Lat 40°28'24", long 74°49'40" referenced to North American Datum of 1983, Raritan Township, Hunterdon County, NJ, Hydrologic Unit 02030105, on left bank 50 ft downstream from bridge on Everitts Road, 0.6 mi southwest of Reaville, 1.5 mi downstream from Third Neshanic River, and 2.2 mi upstream from Back Brook.

DRAINAGE AREA.--25.7 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1930 to current year.

REVISED RECORDS.--WSP 1552: 1933, 1934(M), 1936(M), 1938, 1940(M), 1942(M), 1945-46, 1951, 1952(M).

GAGE.--Water-stage recorder. Concrete control since Sept. 26, 1935. Datum of gage is 109.46 ft above NGVD of 1929.

REMARKS.--Records good, except for discharges less than 2.0 ft³/s and estimated daily discharges, which are fair. Several measurements of water temperature, other than those published, were made during the year. Occasional regulation possibly due to irrigation pumpage. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft³/s and (or) maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|--------|------|--------------------------------|------------------|
| Dec 12 | 0315 | *2,980 | *9.29 |
| May 7 | 0600 | 2,000 | 8.13 |
| Aug 2 | 1545 | 2,620 | 8.91 |

01398000 NESHANIC RIVER AT REAVILLE, NJ—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated]

| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|--------------|-------|-------|-------|-------|-------|-------|-------|---------|---------|---------|-------|-------|
| 1 | e11 | 20 | 103 | 27 | 29 | e10 | 23 | 14 | 9.2 | 22 | 55 | 32 |
| 2 | 8.2 | 15 | 48 | 26 | 42 | e10 | 38 | 26 | 18 | 194 | 626 | 25 |
| 3 | 6.2 | 12 | 33 | 23 | 29 | e8.7 | 137 | 29 | 15 | 47 | 113 | 21 |
| 4 | 5.1 | 11 | 28 | 20 | 19 | e8.3 | 80 | 80 | 81 | 31 | 54 | 18 |
| 5 | 4.5 | 10 | 24 | 20 | 13 | 8.3 | 48 | 101 | 77 | 22 | 37 | 15 |
| 6 | 4.2 | 21 | 20 | 19 | 11 | 16 | 47 | 187 | 76 | 17 | 28 | 13 |
| 7 | 3.4 | 15 | 19 | 230 | 13 | 24 | 44 | 617 | 37 | 16 | 22 | 12 |
| 8 | 3.1 | 12 | 15 | 106 | 78 | 23 | 31 | 126 | 26 | 14 | 17 | 11 |
| 9 | 3.3 | 12 | 13 | 56 | 35 | 21 | 26 | 78 | 65 | 11 | 20 | 10 |
| 10 | 2.9 | 10 | 45 | 42 | 24 | 18 | 22 | 52 | 33 | 9.6 | 22 | 9.1 |
| 11 | 2.5 | 8.7 | 322 | 40 | 37 | 17 | 34 | 38 | 50 | 8.7 | 16 | 31 |
| 12 | 2.2 | 8.0 | 1,130 | 32 | 53 | 14 | 28 | 31 | 61 | 51 | 33 | 79 |
| 13 | 2.1 | 16 | 113 | 27 | 34 | 12 | 21 | 24 | 356 | 12 | 51 | 32 |
| 14 | 1.9 | 29 | 69 | 24 | 25 | 11 | 22 | 22 | 264 | 9.2 | 31 | 20 |
| 15 | 1.9 | 168 | 55 | 18 | 22 | 11 | 78 | 24 | 82 | 7.6 | 20 | 16 |
| 16 | 1.7 | 152 | 51 | 16 | 19 | 11 | 42 | 18 | 75 | 6.8 | 16 | 14 |
| 17 | 1.5 | 56 | e120 | e13 | 17 | 11 | 33 | 44 | 47 | 16 | 13 | 13 |
| 18 | 1.5 | 37 | 82 | e13 | 17 | 10 | 28 | 20 | 132 | 27 | 13 | 12 |
| 19 | 1.6 | 27 | 114 | e12 | e26 | 12 | 23 | 15 | 85 | 9.0 | 17 | 10 |
| 20 | 1.5 | 23 | 128 | e11 | e18 | 11 | 24 | 13 | 99 | 7.1 | 11 | 8.9 |
| 21 | 1.6 | 19 | 84 | e10 | e14 | 9.7 | 39 | 12 | 84 | 14 | 11 | 8.5 |
| 22 | 1.5 | 15 | 57 | e8.7 | e13 | 9.2 | 32 | 10 | 59 | 10 | 208 | 8.0 |
| 23 | 1.5 | 12 | 40 | e8.8 | e9.1 | 8.7 | 24 | 9.4 | 42 | 41 | 61 | 7.7 |
| 24 | 1.6 | 12 | 161 | e9.4 | e5.3 | 8.1 | 19 | 14 | 34 | 25 | 34 | 9.8 |
| 25 | 9.0 | 59 | 351 | e8.5 | e8.4 | 7.8 | 17 | 19 | 29 | 13 | 25 | 7.5 |
| 26 | 25 | 29 | 102 | e8.0 | e8.3 | 8.9 | 15 | 9.5 | 29 | 19 | 20 | 6.4 |
| 27 | 6.5 | 22 | 85 | 8.7 | e8.7 | 15 | 13 | 9.6 | 31 | 73 | 16 | 30 |
| 28 | 475 | 19 | 78 | 18 | e11 | 12 | 12 | 9.1 | 20 | 21 | 402 | 15 |
| 29 | 133 | 17 | 56 | 33 | --- | 39 | 11 | 50 | 17 | 204 | 135 | 11 |
| 30 | 48 | 51 | 45 | 16 | --- | 62 | 11 | 18 | 22 | 93 | 78 | 9.1 |
| 31 | 27 | --- | 38 | 11 | --- | 26 | --- | 12 | --- | 61 | 43 | --- |
| Total | 800.0 | 917.7 | 3,629 | 915.1 | 638.8 | 473.7 | 1,022 | 1,731.6 | 2,055.2 | 1,112.0 | 2,248 | 515.0 |
| Mean | 25.8 | 30.6 | 117 | 29.5 | 22.8 | 15.3 | 34.1 | 55.9 | 68.5 | 35.9 | 72.5 | 17.2 |
| Max | 475 | 168 | 1,130 | 230 | 78 | 62 | 137 | 617 | 356 | 204 | 626 | 79 |
| Min | 1.5 | 8.0 | 13 | 8.0 | 5.3 | 7.8 | 11 | 9.1 | 9.2 | 6.8 | 11 | 6.4 |
| Cfsm | 1.00 | 1.19 | 4.56 | 1.15 | 0.89 | 0.59 | 1.33 | 2.17 | 2.67 | 1.40 | 2.82 | 0.67 |
| In. | 1.16 | 1.33 | 5.25 | 1.32 | 0.92 | 0.69 | 1.48 | 2.51 | 2.97 | 1.61 | 3.25 | 0.75 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2009, BY WATER YEAR (WY)

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Mean | 17.5 | 35.1 | 51.5 | 56.6 | 58.1 | 75.1 | 56.5 | 32.7 | 24.4 | 18.7 | 18.1 | 18.8 |
| Max | 147 | 139 | 206 | 280 | 147 | 201 | 219 | 135 | 144 | 138 | 216 | 283 |
| (WY) | (1997) | (1933) | (1997) | (1994) | (1939) | (1994) | (2007) | (1989) | (2006) | (1938) | (1971) | (1999) |
| Min | 0.67 | 0.90 | 1.42 | 1.14 | 3.92 | 11.7 | 7.20 | 3.78 | 1.11 | 0.07 | 0.44 | 0.47 |
| (WY) | (1965) | (1966) | (1999) | (1981) | (1934) | (2006) | (1985) | (1963) | (1965) | (1999) | (1964) | (1965) |

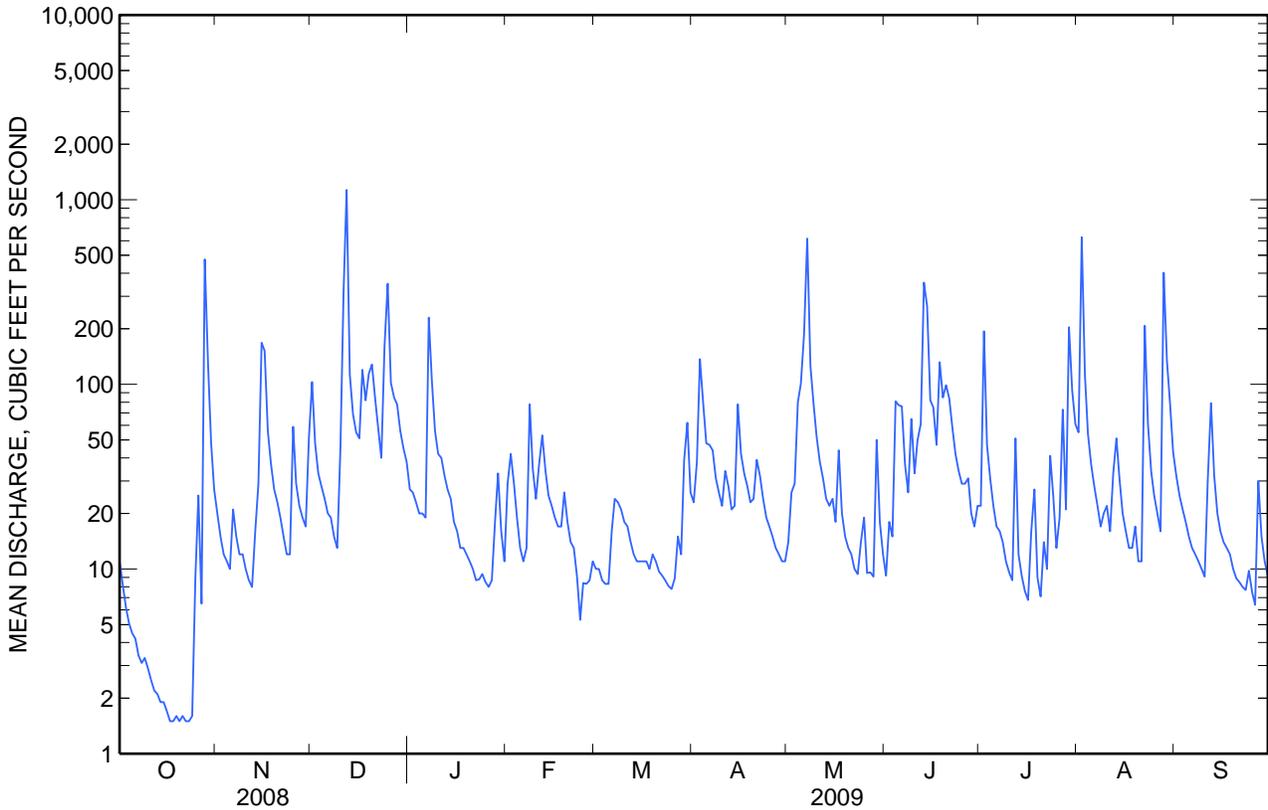
01398000 NESHANIC RIVER AT REAVILLE, NJ—Continued

SUMMARY STATISTICS

| | Calendar Year 2008 | | Water Year 2009 | | Water Years 1931 - 2009 | |
|---------------------------------|--------------------|--------|-----------------|------------|-------------------------|--------------|
| Annual total | 16,131.36 | | 16,058.1 | | | |
| Annual mean | 44.1 | | 44.0 | | 38.5 | |
| Highest annual mean | | | | | 70.8 | 1994 |
| Lowest annual mean | | | | | 14.2 | 2002 |
| Highest daily mean | 1,150 | Feb 13 | 1,130 | Dec 12 | 7,000 | Sep 16, 1999 |
| Lowest daily mean | 0.00 | Aug 29 | 1.5 | Many days | 0.00 | Many days |
| Annual seven-day minimum | 0.06 | Aug 23 | 1.5 | Oct 17 | 0.00 | Aug 4, 1966 |
| Maximum peak flow | | | 2,980 | Dec 12 | ^a 23,100 | Sep 16, 1999 |
| Maximum peak stage | | | 9.29 | Dec 12 | ^b 15.33 | Sep 16, 1999 |
| Instantaneous low flow | | | 1.2 | Oct 19, 20 | 0.00 | Many days |
| Annual runoff (cfsm) | 1.71 | | 1.71 | | 1.50 | |
| Annual runoff (inches) | 23.35 | | 23.24 | | 20.35 | |
| 10 percent exceeds | 88 | | 84 | | 78 | |
| 50 percent exceeds | 19 | | 20 | | 13 | |
| 90 percent exceeds | 1.2 | | 8.3 | | 1.4 | |

^a From rating curve extended above 3,300 ft³/s on basis of slope-area measurement 0.7 mi downstream (adjusted to present site) at gage height 11.90 ft.

^b From high-water mark in gage house.



01398000 NESHANIC RIVER AT REAVILLE, NJ—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957, 1962, 1979 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1997 to August 1998.

REMARKS.--Cooperative Network Site Descriptor: Agricultural Land Use Indicator, New Jersey Department of Environmental Protection Watershed Management Area 8.

COOPERATION.--Physical measurements and samples for laboratory analyses were provided by personnel of the NJ Department of Environmental Protection. Determinations of dissolved ammonia, dissolved orthophosphate, and suspended residue were performed by the NJ Department of Health and Senior Services, Environmental and Chemical Laboratory.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 1 of 3

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

| Date | Time | Baro- metric pres- sure, mm Hg (00025) | Temper- ature, air, deg C (00020) | UV absorb- ance, 254 nm, wat flt units /cm (50624) | UV absorb- ance, 280 nm, wat flt units /cm (61726) | Instan- taneous dis- charge, ft ³ /s (00061) | Dis- solved oxygen, mg/L (00300) | Dis- solved oxygen, percent of sat- uration (00301) | pH, water, unfltrd field, std units (00400) | Specif- ic conduc- tance, wat unf μS/cm @ 25 degC (00095) | Temper- ature, water, deg C (00010) | Turbdty white light, det ang 90+/-30 corrctd NTRU (63676) | Dis- solved solids dried @ 180degC wat flt mg/L (70300) |
|--------------|------|---|---|---|---|--|--|---|---|--|---|--|--|
| Nov 19... | 0700 | 764 | .0 | .093 | .070 | 29 | 13.3 | 100 | 8.2 | 270 | 3.2 | 2.9 | 153 |
| Feb 03... | 1000 | 754 | 4.8 | .121 | .096 | 24 | 13.9 | 96 | 8.0 | 496 | .2 | 11 | 256 |
| May 11... | 1000 | 764 | 16.6 | .082 | .062 | 39 | 10.4 | 98 | 8.6 | 291 | 12.2 | 4.7 | 179 |
| Aug 10... | 1000 | 758 | 30.7 | .136 | .104 | 22 | 9.9 | 110 | 8.0 | 273 | 20.7 | 5.8 | 164 |

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 2 of 3

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

| Date | Dis- solved solids, sum of consti- tuents, mg/L (70301) | Hard- ness, water, mg/L as CaCO3 (00900) | Sus- pended solids, water, unfltrd mg/L (00530) | Calcium water, fltrd, mg/L (00915) | Magnes- ium, water, fltrd, mg/L (00925) | Potas- sium, water, fltrd, mg/L (00935) | Sodium, water, fltrd, mg/L (00930) | ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410) | Total carbon, suspnd sedimnt total, mg/L (00694) | Chlor- ide, water, fltrd, mg/L (00940) | Fluor- ide, water, fltrd, mg/L (00950) | Inor- ganic carbon, suspnd sedimnt total, mg/L (00688) | Silica, water, fltrd, mg/L as SiO2 (00955) |
|--------------|--|---|---|--|--|--|--|--|--|---|---|---|---|
| Nov 19... | E151 | 85 | <1 | 21.7 | 7.56 | 2.08 | 15.4 | 57 | E.2 | 22.4 | E.08 | <.04 | 12.5 |
| Feb 03... | E243 | 95 | 5 | 25.4 | 7.70 | 2.42 | 51.7 | 39 | .8 | 102 | E.09 | <.04 | 7.0 |
| May 11... | E162 | 85 | 2 | 22.2 | 7.17 | 1.71 | 21.4 | 55 | .2 | 35.9 | E.06 | <.04 | 11.8 |
| Aug 10... | E155 | 87 | 6 | 22.4 | 7.41 | 2.34 | 17.6 | 69 | .3 | 26.4 | E.07 | <.04 | 12.5 |

01398000 NESHANIC RIVER AT REAVILLE, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 3 of 3

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

| Date | Sulfate water, fltrd, mg/L (00945) | Ammonia | Ammonia | Nitrate | Ortho- | Partic- | Phos- | Phos- | Total | Total | Organic | Organic |
|---------------------|--|--|---|---|--|---|--|---|---|--|---|--|
| | | + org-N, water, fltrd, mg/L as N (00623) | water, fltrd, mg/L as N (00608) | + nitrite water, fltrd, mg/L as N (00631) | phos- phate, water, fltrd, mg/L as P (00671) | ulate nitro- gen, susp, water, mg/L (49570) | phorus, water, fltrd, mg/L as P (00666) | phorus, water, unfltrd mg/L as P (00665) | nitro- gen, water, fltrd, mg/L (00602) | nitro- gen, water, unfltrd mg/L (00600) | carbon, suspnd sedimnt total, mg/L (00689) | carbon, water, fltrd, mg/L (00681) |
| Nov 19... | 26.5 | .23 | .013 | 1.83 | .050 | E.02 | .056 | .065 | 2.1 | E2.1 | .16 | 2.7 |
| Feb 03... | 19.0 | .38 | .028 | 1.06 | .049 | .12 | .06 | .08 | 1.4 | 1.6 | .78 | 3.9 |
| May 11... | 22.3 | .23 | <.010 | 1.31 | .036 | .03 | E.04 | .06 | 1.5 | 1.6 | .21 | 2.4 |
| Aug 10... | 20.6 | .34 | <.010 | 1.01 | .052 | .06 | .06 | .09 | 1.4 | 1.4 | .31 | 3.9 |