



Water-Data Report 2010

**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 mi<sup>2</sup>.

**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 ft<sup>3</sup>/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 ft<sup>3</sup>/s and (or) maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct 24	2215	1,710	7.68
Dec 9	1115	2,690	8.99
Dec 26	2345	1,960	8.08
Jan 25	1430	2,370	8.61
Mar 13	2145	*4,620	*10.56
Mar 30	1515	1,980	8.11

## Water-Data Report 2010

## 01398000 NESHANIC RIVER AT REAVILLE, NJ—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**  
**DAILY MEAN VALUES**  
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	8.0	56	16	54	e22	100	105	15	8.5	0.95	5.0	0.05
2	7.6	40	14	44	e23	124	75	13	10	0.82	3.0	0.05
3	8.9	34	193	30	23	172	58	161	6.3	0.69	1.1	0.02
4	8.0	29	50	28	21	169	47	40	5.5	0.66	0.70	0.01
5	6.7	26	51	24	19	138	39	26	5.1	0.54	0.51	0.00
6	6.2	24	73	22	e19	114	34	21	4.8	0.39	0.36	0.00
7	5.7	21	44	21	e19	106	30	17	4.3	0.31	0.13	0.00
8	5.1	20	38	20	17	98	26	15	3.9	0.26	0.08	0.00
9	5.4	18	668	e20	16	80	39	13	6.9	0.27	0.04	0.00
10	5.4	17	122	16	15	62	24	12	15	3.1	0.01	0.00
11	5.1	16	65	15	23	54	21	11	6.4	2.3	0.00	0.00
12	4.8	15	46	15	17	55	19	34	5.0	1.4	0.00	0.00
13	4.9	16	199	14	16	1,550	17	15	16	20	0.00	0.00
14	4.6	18	127	13	15	973	16	14	16	13	0.00	0.00
15	7.9	16	77	13	15	271	15	15	6.6	6.0	0.00	0.02
16	14	14	54	13	16	150	15	11	4.8	3.0	0.01	0.68
17	16	13	42	54	15	93	18	9.4	8.2	2.0	0.40	3.0
18	15	12	35	80	15	70	14	32	4.7	1.4	0.29	0.52
19	11	12	e28	36	17	56	13	23	3.8	0.97	0.18	0.42
20	8.9	27	e30	29	22	45	13	14	3.2	1.2	0.10	0.22
21	7.9	17	29	24	23	38	12	11	2.8	0.83	0.02	0.10
22	7.3	15	26	22	24	152	11	9.7	2.5	0.69	5.5	0.50
23	7.1	14	23	20	126	302	10	10	2.8	0.55	5.5	3.6
24	278	14	e20	18	317	89	9.6	9.8	2.4	0.44	3.0	0.46
25	208	14	22	706	204	64	28	8.9	2.1	1.6	1.5	0.19
26	49	16	653	162	119	58	116	7.9	1.9	2.0	0.94	0.15
27	160	14	512	79	84	42	54	11	1.8	0.78	0.60	1.5
28	461	13	109	58	72	37	26	15	1.7	0.43	0.37	1.6
29	122	12	64	39	---	368	20	9.1	1.5	0.32	0.25	0.76
30	69	14	47	32	---	744	17	7.8	1.1	0.33	0.16	13
31	55	---	43	e25	---	232	---	6.5	---	0.23	0.12	---
<b>Total</b>	1,583.5	587	3,520	1,746	1,334	6,606	941.6	618.1	165.6	67.46	29.87	26.85
<b>Mean</b>	51.1	19.6	114	56.3	47.6	213	31.4	19.9	5.52	2.18	0.96	0.90
<b>Max</b>	461	56	668	706	317	1,550	116	161	16	20	5.5	13
<b>Min</b>	4.6	12	14	13	15	37	9.6	6.5	1.1	0.23	0.00	0.00
<b>Cfsm</b>	1.99	0.76	4.42	2.19	1.85	8.29	1.22	0.78	0.21	0.08	0.04	0.03
<b>In.</b>	2.29	0.85	5.10	2.53	1.93	9.56	1.36	0.89	0.24	0.10	0.04	0.04

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2010, BY WATER YEAR (WY)**

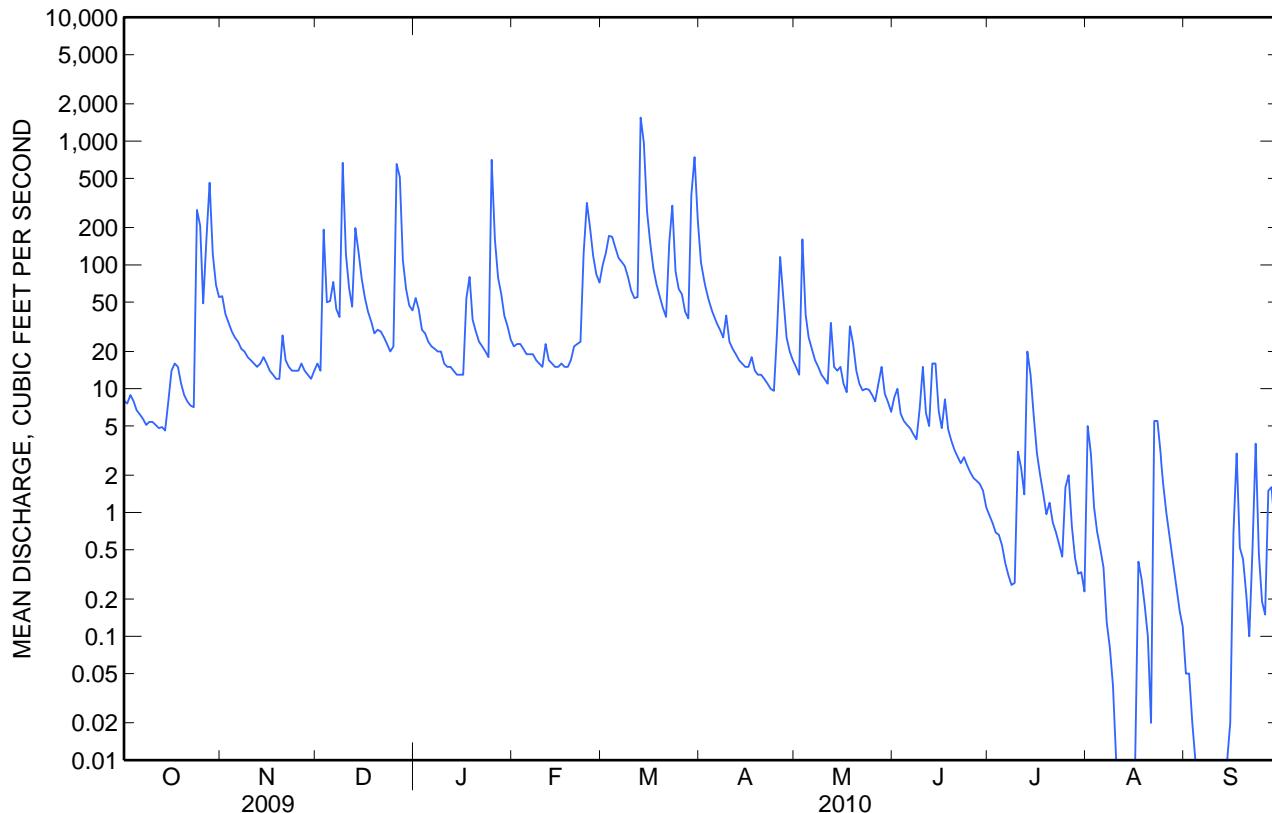
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	18.0	34.9	52.3	56.6	58.0	76.8	56.1	32.5	24.2	18.5	17.9	18.6
<b>Max</b>	147	139	206	280	147	213	219	135	144	138	216	283
(WY)	(1997)	(1933)	(1997)	(1994)	(1939)	(2010)	(2007)	(1989)	(2006)	(1938)	(1971)	(1999)
<b>Min</b>	0.67	0.90	1.42	1.14	3.92	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**

	<b>Calendar Year 2009</b>		<b>Water Year 2010</b>		<b>Water Years 1931 - 2010</b>	
<b>Annual total</b>	16,401.9		17,225.98			
<b>Annual mean</b>	44.9		47.2		38.6	
<b>Highest annual mean</b>					70.8	1994
<b>Lowest annual mean</b>					14.2	2002
<b>Highest daily mean</b>	668	Dec 9	1,550	Mar 13	7,000	Sep 16, 1999
<b>Lowest daily mean</b>	4.6	Oct 14	0.00	Many days	0.00	Many days
<b>Annual seven-day minimum</b>	5.0	Oct 8	0.00	Sep 5	0.00	Aug 4, 1966
<b>Maximum peak flow</b>			4,620	Mar 13	<sup>a</sup> 23,100	Sep 16, 1999
<b>Maximum peak stage</b>			10.56	Mar 13	<sup>b</sup> 15.33	Sep 16, 1999
<b>Instantaneous low flow</b>			0.00	Many days	0.00	Many days
<b>Annual runoff (cfsm)</b>	1.75		1.84		1.50	
<b>Annual runoff (inches)</b>	23.74		24.93		20.41	
<b>10 percent exceeds</b>	80		105		78	
<b>50 percent exceeds</b>	20		15		13	
<b>90 percent exceeds</b>	8.7		0.26		1.3	

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

<sup>b</sup> 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 2009 TO SEPTEMBER 2010**

Part 1 of 5

[%; percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; cm, centimeter; ft<sup>3</sup>/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Tempera-ture, air, °C (00020)	Absorbance, UV, 254 nm, 1 cm path length, water, filtered, units per centimeter (50624)		Discharge, instantane-ous, ft <sup>3</sup> /s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)		Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)
				Absorbance, UV, organic constituents, 280 nm, 1 cm path length, water, filtered, units per centimeter (61726)	Dissolved oxygen, water, unfiltered, mg/L (00300)					
11-12-2009	1000	764	8.9	.056	.044	15	11.7	100	7.8	
02-16-2010	1020	746	5.1	.040	.031	17	14.3	104	7.9	
05-17-2010	1000	764	16.9	.068	.053	9.4	10.0	100	7.8	
08-04-2010	1030	758	40.3	.139	.103	.69	6.9	86	8.4	

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 2 of 5

[%; percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; cm, centimeter; ft<sup>3</sup>/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Specific conduc-tance, water, µS/cm at 25 °C (00095)	Tempera-ture, water, °C (00010)	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)		Dissolved solids, dried at 180 °C, water, filtered, milligrams per liter (70300)	Dissolved water, filtered, sum of constituents, milligrams per liter (70301)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Suspended solids, water, unfiltered, mg/L (00530)	Calcium, water, filtered, mg/L (00915)	Magne-sium, water, filtered, mg/L (00925)
			Dissolved solids, water, filtered, mg/L (70300)	Suspended solids, water, unfiltered, mg/L (00530)						
11-12-2009	306	8.2	2.2	180	E 172	105	2	27.0	9.06	
02-16-2010	1,140	.4	4.0	603	E 537	149	3	38.7	12.8	
05-17-2010	322	14.4	2.9	199	176	100	3	26.2	8.48	
08-04-2010	353	25.4	3.0	214	198	123	4	32.0	10.5	

**01398000 NESHANIC RIVER AT REAVILLE, NJ—Continued**
**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 3 of 5

[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; cm, centimeter; ft<sup>3</sup>/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	ANC, water, unfiltered,						Ammonia plus organic			
	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	titration, laboratory, mg/L as CaCO <sub>3</sub> (90410)	Carbon endpoint (pH 4.5) plus inorganic (00694)	Chloride, suspended sediment, total, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Inorganic carbon, suspended sediment, total, mg/L (00688)	Silica, water, filtered, mg/L as SiO <sub>2</sub> (00955)	Sulfate, water, filtered, mg/L (00945)	nitrogen, water, filtered, mg/L as N (00623)
<b>11-12-2009</b>	2.03	18.2	73	.31	27.5	E .06	< .06	11.0	28.2	.19
<b>02-16-2010</b>	2.03	127	61	.18	275	E .07	< .06	10.1	27.9	.17
<b>05-17-2010</b>	1.69	20.9	75	.27	32.5	.10	< .06	10.0	26.9	.19
<b>08-04-2010</b>	2.79	22.3	92	.71	30.3	.14	E .07	8.1	36.4	.42

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 4 of 5

[%, percent; ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO<sub>2</sub>, silicon dioxide; cm, centimeter; ft<sup>3</sup>/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Nitrate plus Orthophos- phate, Particulate nitrogen, Phosphorus, Phosphorus, Total nitrogen, Total nitrogen, Organic carbon, suspended sediment, total, mg/L (00689)								
	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Orthophos- phate, water, filtered, mg/L as P (00671)	Particulate nitrogen, suspended sediment, mg/L (49570)	Phosphorus, water, filtered, mg/L as P (00666)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, unfiltered, mg/L (00602)	Total nitrogen, water, unfiltered, mg/L (00600)	Organic carbon, suspended sediment, total, mg/L (00689)
<b>11-12-2009</b>	.013	1.13	.023	.05	< .04	E .03	1.3	1.4	.31
<b>02-16-2010</b>	.022	1.50	.010	E .02	< .04	< .04	1.7	E 1.7	.17
<b>05-17-2010</b>	.023	.90	--	.04	.06	.05	1.1	1.1	.27
<b>08-04-2010</b>	.013	.09	--	.14	.10	.12	.51	.65	.65

**01398000 NESHANIC RIVER AT REAVILLE, NJ—Continued**

**WATER-QUALITY DATA  
WATER YEAR OCTOBER  
2009 TO SEPTEMBER  
2010**

Part 5 of 5  
[%; percent; ANC, acid  
neutralizing capacity;  
 $\text{CaCO}_3$ , calcium carbonate;  
N, nitrogen; NTRU,  
nephelometric turbidity  
ratio unit; P, phosphorus;  
 $\text{SiO}_2$ , silicon dioxide; cm,  
centimeter;  $\text{ft}^3/\text{s}$ , cubic  
feet per second; mg/L,  
milligrams per liter; mm  
Hg, millimeters of  
mercury; nm, nanometers;  
 $^{\circ}\text{C}$ , degrees Celsius;  
 $\mu\text{S}/\text{cm}$ , microsiemens per  
centimeter; <, less than; E,  
estimated]

Date	Organic carbon, water, filtered, mg/L (00681)
<b>11-12-2009</b>	2.0
<b>02-16-2010</b>	1.4
<b>05-17-2010</b>	2.1
<b>08-04-2010</b>	4.5