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U.S. Geological Survey Catskill/Delaware Water-Quality Network: Water-Quality Report Water Year 2006

Data Series 497

U.S. Department of the Interior
U.S. Geological Survey

Cover. Photograph shows Biscuit Brook tributary in the Catskill Mountains of New York.

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By Michael R. McHale and Jason Siemion

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U.S. Department of the Interior
KEN SALAZAR, Secretary

U.S. Geological Survey
Marcia K. McNutt, Director

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Conversion Factors, Datum, Abbreviations, and Units

Inch/Pound to SI

Multiply	By	To obtain
	Length	
inch (in.)	2.54	centimeter (cm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
	Area	
acre	0.4047	hectare (ha)
square mile (mi^2)	259.0	hectare (ha)
square mile (mi^2)	2.590	square kilometer (km^2)
	Flow rate	
foot per second (ft/s)	0.3048	meter per second (m/s)
cubic foot per second (ft^3/s)	0.02832	cubic meter per second (m^3/s)

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$°F=(1.8×°C)+32$$

Elevation data is referenced to the North American Vertical Datum of 1988.

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83).

Specific conductance is given in microsiemens per centimeter at 25 degrees Celsius (µS/cm at 25°C).

Concentrations of chemical constituents in water are given either in milligrams per liter (mg/L) or micromoles per liter (µmol/L).

ABBREVIATIONS

Abbreviation	Parameter or constituent
pH	pH is the negative logarithm of the hydrogen ion concentration
ANC	Acid neutralizing capacity
Spec Cond	Specific conductance
Temp C	Water temperature in degrees Celsius
Ca^{2+}	Calcium
Mg^{2+}	Magnesium
Na^{+}	Sodium
K^{+}	Potassium
NH_4^{+}	Ammonium
Cl^{-}	Chloride
NO_3^{-}	Nitrate
SO_4^{2-}	Sulfate
SiO_2	Silicon dioxide
DOC	Dissolved organic carbon
Al	Aluminum
Almono	Total monomeric aluminum
Alorg	Organic monomeric aluminum
Altd	Total aluminum
TDP	Total dissolved phosphorus, total phosphorus filtered through a 0.4 micron filter
SRP	Soluble reactive phosphorus
TP	Total phosphorus, unfiltered, acidified with 1 Normal sulfuric acid
TN	Total nitrogen, unfiltered
SSC	Suspended sediment concentration

UNITS

Variable	Units
pH	pH units
ANC	Microequivalents per liter
Spec Cond	millisiemens
Temp C	Water temperature in degrees Celsius
Ca^{2+}	milligrams per liter
Mg^{2+}	milligrams per liter
Na^{+}	milligrams per liter
K^{+}	milligrams per liter
NH_4^{+}	milligrams per liter
Cl^{-}	milligrams per liter
NO_3^{-}	milligrams per liter
SO_4^{2-}	milligrams per liter
SiO_2	milligrams per liter
DOC	milligrams per liter
Al	milligrams per liter
Almono	milligrams per liter
Alorg	milligrams per liter
Altd	milligrams per liter
TDP	milligrams per liter
SRP	milligrams per liter
TP	milligrams per liter
TN	milligrams per liter
Turbidity	nephelometric turbidity units (ntu)
SSC	milligrams per liter

U.S. Geological Survey Catskill/Delaware Water-Quality Network: Water-Quality Report Water Year 2006

By Michael R. McHale and Jason Siemion

Abstract

The U.S. Geological Survey operates a 60-station streamgaging network in the New York City Catskill/Delaware Water Supply System. Water-quality samples were collected at 13 of the stations in the Catskill/Delaware streamgaging network to provide resource managers with water-quality and water-quantity data from the water-supply system that supplies about 85 percent of the water needed by the more than 9 million residents of New York City. This report summarizes water-quality data collected at those 13 stations plus one additional station operated as a part of the U.S. Environmental Protection Agency's Regional Long-Term Monitoring Network for the 2006 water year (October 1, 2005 to September 30, 2006). An average of 62 water-quality samples were collected at each station during the 2006 water year, including grab samples collected every other week and storm samples collected with automated samplers. On average, 8 storms were sampled at each station during the 2006 water year. The 2006 calendar year was the second warmest on record and the summer of 2006 was the wettest on record for the northeastern United States. A large storm on June 26–28, 2006, caused extensive flooding in the western part of the network where record peak flows were measured at several watersheds.

Introduction

The U.S. Geological Survey, in cooperation with the New York City Department of Environmental Protection (NYC-DEP) and other agencies, operates a network of 60 streamgaging stations throughout the New York City Catskill/Delaware Water Supply System. In 1997, 13 of those stations were selected for a water-quality network to provide water-quality data at sites throughout the Catskill/Delaware Water Supply System. The four main tasks associated with the network are (1) collect stream water-quality samples, (2) analyze the water chemistry of the samples, (3) make the water-quality data available to NYC-DEP, and (4) evaluate the effects of land use and land cover on the water quality of streams in the region, identify potential sources of contamination, and quantify trends in water quality throughout the network. Although data collection, laboratory analyses, and data dissemination to NYC-DEP are essential components of the project, the goal of the project is to quantify the effect of NYC-DEP's watershed management program on surface-water quality and to determine the effects of land use on water quality in the region. The purpose of this report is to present data from 13 water-quality network stations and one Regional Long-Term Monitoring station in the Catskill/Delaware Water Supply System. The data were collected during water year 2006 (October 1, 2005, to September 30, 2006) and are presented in tables and hydrographs.

Network Description

The New York City Catskill/Delaware Water Supply System is located in the Catskill Mountains in southeastern New York (fig. 1). The system includes six surface-water reservoirs that supply about 85 percent of the drinking water to 9 million users in New York City. The streamgaging network is used to quantify the amount and the timing of water entering the reservoirs from different areas of the watershed. The water-quality network uses a nested design with small forested watersheds ("upper nodes") nested in larger multiple land use watersheds ("lower nodes"). The effect of land use on water quality can be assessed by examining differences in water quality between the upper and lower nodes as affected by the intervening land use. These data can also be used to investigate trends in water quality that are caused by changes in atmospheric deposition, climate, and land use. Water-quality stations are located in five of the six Catskill/Delaware reservoir watersheds.

Schoharie Watershed

Two water-quality stations are located on Batavia Kill which drains to Schoharie Creek about 3 mi upstream from the Schoharie Reservoir. The lower node station is Batavia Kill at Red Falls near Prattsville (USGS station number 01349950, site 1) and its corresponding upper node station is Batavia Kill

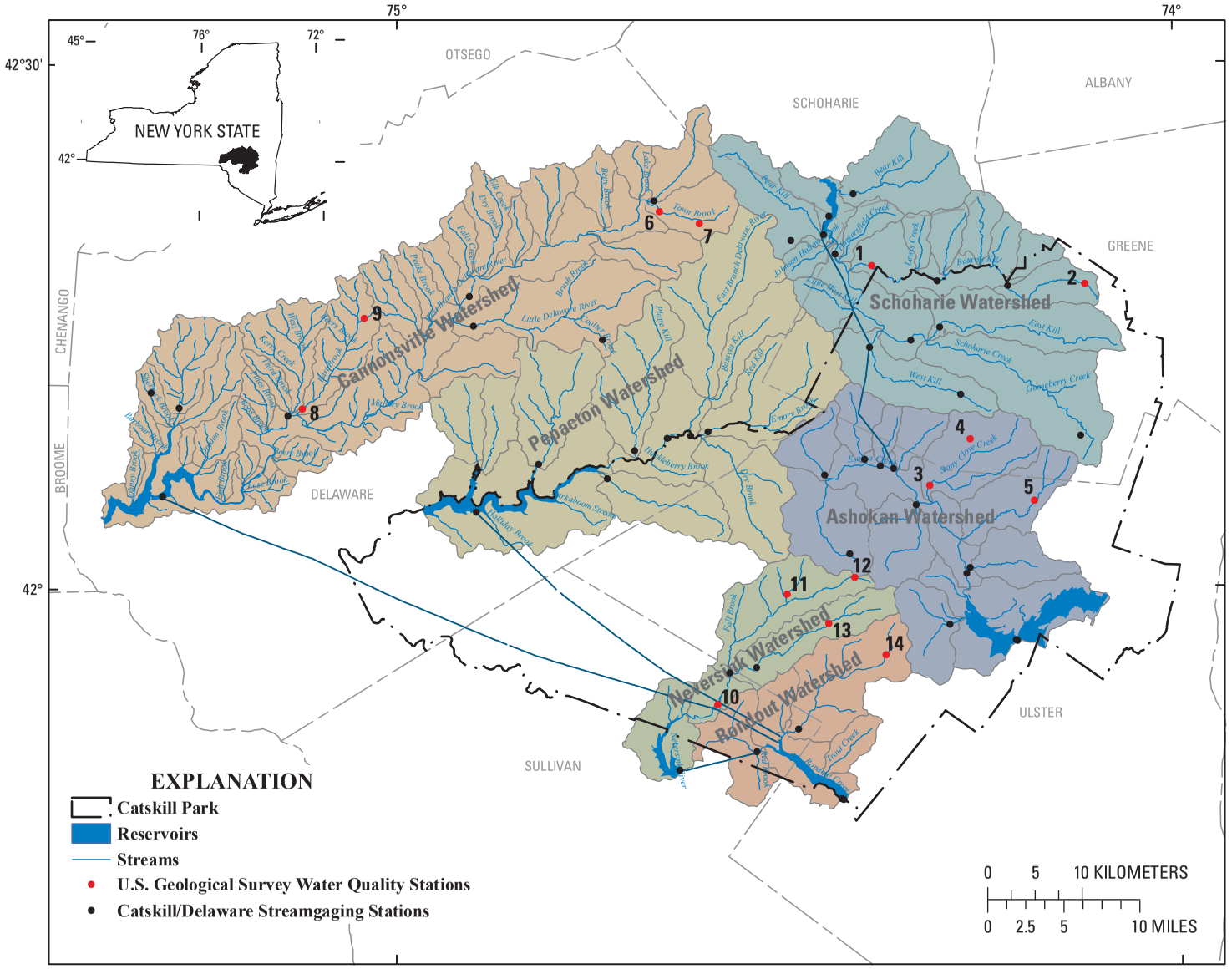


Figure 1. The New York City Catskill/Delaware Water Supply System and locations of water-quality sampling stations and streamgaging stations on selected streams in New York. (Numbers of water-quality sites coincide with numbers in table 1)

near Maplecrest (USGS station number 01349840, site 2). Batavia Kill near Red Falls (01349950) has been in operation since October 1997 and is located 2.2 mi southeast of Prattsville in Greene County, N.Y. The watershed is 80 percent forested, 19 percent agricultural, and 1 percent residential/commercial (table 1), including the town of Windham, the Windham Ski Resort, and the Windham Country Club golf course. Batavia Kill near Maplecrest has also been in operation since October 1997 and is located 4.1 mi northeast of Maplecrest in Greene County, N.Y. Batavia Kill near Maplecrest watershed is 100 percent forested most of which is designated as New York State Forest Preserve.

Ashokan Watershed

There are three water-quality stations in the Ashokan Reservoir watershed. The lower node site is Stony Clove Creek near Phoenicia (USGS station number 01362380, site 3), its corresponding upper node site is Hollow Tree Brook at Lanesville (USGS station number 01362342, site 4), and the third site is Beaver Kill Tributary above Lake Hill (USGS station number 01362465, site 5) (fig. 1). The Stony Clove Creek station has been in operation since February 1997 and is located about 1.3 mi upstream from Phoenicia in Ulster County and about 1.5 mi upstream from the confluence of Stony Clove Creek and Esopus Creek. The watershed is 98 percent forested and although there are no towns or villages, residences are located throughout the watershed. A streambank stabilization and restoration program was completed in Stony Clove upstream from the station in 2005. The Hollow Tree Brook station has been in operation since October 1997 and is located 1 mi upstream from the confluence of Hollow Tree Brook and Stony Clove Creek in Greene County; the watershed is 100 percent forested. The Beaver Kill Tributary station is located in Ulster County about 1.2 mi north of Lake Hill. There are a few residences located within the watershed, but it is 99 percent forested. The Beaver Kill Tributary station is not paired with any lower node station; the gage was added to the network in 2001 in anticipation of a forest harvesting project planned for the watershed. That project was never carried out, but the station provides data that can be compared to data from the Hollow Tree Brook watershed as a measure of the baseline water quality in the Ashokan Reservoir watershed. Water sampling at the Beaver Kill Tributary station was discontinued on September 30, 2006.

Cannonsville Watershed

There are four water-quality stations located in the Cannonsville Reservoir watershed. Two of the stations are located in the headwaters: Town Brook southeast of Hobart (USGS station number 01421618, site 6) and Town Brook Tributary (USGS station number 01421614, site 7). The Town Brook station, which has been in operation since October 1997, is located 1.4 mi upstream from the confluence of Town Brook and the West Branch Delaware River in Delaware County. The Town Brook watershed is 49 percent forested and 51 percent agricultural consisting of pasture, row crops, and hay associated with small family-owned dairy farms. There are many residences in the watershed, but no towns or villages. The Town Brook Tributary station is located 0.3 mi upstream from the confluence with Town Brook and is 100 percent forested. There is evidence of past agricultural land use in the small watershed, but no farming has occurred for about 80 years. The remains of a small water-supply reservoir that has been completely silted-in is less than 100 yards downstream from the station on Town Brook Tributary.

Further down the West Branch Delaware River valley, East Brook enters the West Branch Delaware River in the Village of Walton in Delaware County. There are two water-quality stations in the East Brook watershed: East Brook east of Walton (USGS station number 01422747, site 8) and Wolf Creek at Mundale (USGS station number 01422738, site 9). The East Brook station, which has been in operation since October 1998, is located 0.55 mi upstream from the mouth of the stream, and within the Village of Walton. The watershed is 54 percent forested and 45 percent agricultural land use; most of the agricultural land is used for pasture and grassland. The Wolf Creek watershed is located in the headwaters of East Brook; it is 75 percent forested and 24 percent agricultural land use. Wolf Creek is the only upper node station with more than 3 percent agricultural land use (table 1). The station is located 8 mi northeast of Walton, about 0.3 mi from the mouth of Wolf Creek.

Pepacton Watershed

There were no water-quality stations in the Pepacton Reservoir watershed during the 2006 water year.

Neversink Watershed

There are 4 water-quality stations in the Neversink Reservoir watershed—one lower node station, Neversink River near Claryville (USGS station number 01435000, site 10), and 3 upper node stations, Biscuit Brook above Pigeon Brook (USGS station number 01434025, site 11), West Branch Neversink River at Winnisook Lake (USGS station number 01434021, site 12) (referred to hereafter as the Winnisook station), and East Branch Neversink River northeast of Denning (USGS station number 0143400680, site 13) (referred to hereafter as the Tisons station). The Neversink River station has been in operation since 1937 and is located 2.2 mi downstream from the confluence of the East and West Branches and about 3.2 mi upstream from the Neversink reservoir. The Neversink River watershed is 98 percent forested and includes a few residences and a 6,000 acre residential camping, environmental education, and conference center. All of the upper node watersheds are

Table 1. Characteristics for water-quality stations in or associated with the U.S. Geological Survey Catskill/Delaware Water Quality Network in the Catskill Mountains, New York.

[Land-use percentages were calculated using the 1992 National Land Cover Dataset. Site ID corresponds to locations in figure 1. USGS, U.S. Geological Survey; mi^2, square miles; ft, feet]

Site ID	Station name	USGS gaging station number	Latitude	Longitude	Area (mi^2)	Elevation (ft)	Land use (in percent)		
							Forest	Agriculture	Residential
1	Batavia Kill at Red Falls	01349950	42°18′30″	74°23′25″	68.6	1,260	80	19	1
2	Batavia Kill near Maplecrest	01349840	42°17′22″	74°06′59″	2.03	2,160	100	0	0
3	Stony Clove near Phoenicia	01362380	42°05′53″	74°19′03″	31.5	900	98	1	1
4	Hollow Tree Brook at Lanesville	01362342	42°08′32″	74°15′55″	1.95	1,480	99	1	0
5	Beaver Kill Tributary above Lake Hill	01362465	42°04′59″	74°10′59″	0.98	1,300	99	0	1
6	Town Brook southeast of Hobart	01421618	42°21′40″	74°39′45″	14.3	1,670	49	51	0
7	Town Brook Tributary	01421614	42°20′58″	74°36′41″	0.76	1,900	97	3	0
8	East Brook east of Walton	01422747	42°10′22″	75°07′18″	24.7	1,240	54	45	1
9	Wolf Creek at Mundale	01422738	42°15′34″	75°02′32″	0.61	1,760	75	24	1
10	Neversink River at Claryville	01435000	41°53′24″	74°35′25″	66.6	1,522	98	1	1
11	Biscuit Brook above Pigeon Brook at Frost Valley	01434025	41°59′43″	74°30′05″	3.72	2,060	100	0	0
12	West Branch Neversink River at Winnisook Lake	01434021	42°00′40″	74°24′53″	0.77	2,680	100	0	0
13	East Branch Neversink River northeast of Denning	0143400680	41°58′01″	74°26′54″	8.93	2,140	100	0	0
14	Rondout Creek above Red Brook at Peekamoose	01364959	41°56′13″	74°22′30″	5.36	1,740	100	0	0

100 percent forested. The Biscuit Brook station has been in operation since 1983 and is located within the 6,000 acre residential camping complex, 0.6 mi upstream of the mouth of the brook (fig. 1). The Winnisook station, which has been in operation since 1991, is located on the West Branch Neversink River about 4.5 mi northeast of the Biscuit Brook station. This station measures drainage from the north face of Slide Mountain, the highest peak in the Catskill Mountains. The Tisons watershed drains the headwaters of the East Branch Neversink River, including the southern slopes of Slide Mountain. The station has been in operation since 1990 and is located 9.6 mi upstream from the confluence of the East and West Branches.

The Neversink watershed is the only watershed in the network that has multiple upper node stations associated with one lower node station. The Neversink watershed has been a focus of acid rain research since the early 1980s and is the most acidic of the West-of-Hudson reservoir streams. The three upper node stations in the Neversink watershed also are part of the Long-Term Monitoring (LTM) network operated by the USGS, in cooperation with the U.S. Environmental Protection Agency (USEPA). Data from the LTM network are used to measure changes in stream-water quality in response to reductions in acidic deposition as a result of the Title IV amendment of the Clean Air Act. The additional data collected for the LTM network are added to the data collected for the Catskill/Delaware Water Quality Network. As a result, baseline water-quality data in the Neversink watershed have been well characterized, and trends in water quality caused by trends in atmospheric deposition or changes in the climate are well documented. Wet-only atmospheric deposition is collected at a U.S. Geological Survey National Atmospheric Deposition Program (NADP) collector located 0.14 mi from the Biscuit Brook station. Samples are collected weekly and shipped to the NADP Central Analytical Laboratory in Champaign, Ill., for analyses of major ions. These data are available through the National Atmospheric Deposition Program website: http://nadp.sws.uiuc.edu/.

Rondout Watershed

No sites in the Catskill/Delaware network are located in the Rondout Reservoir watershed; however, one station in the watershed is part of the LTM network. Rondout Creek above Red Brook at Peekamoose (USGS station number 01364959, site 14) is located 0.8 mi upstream from the outlet of Peekamoose Lake and has been in operation since 1996. The watershed is 100 percent forested and is located on New York State Forest Preserve land. The Rondout Creek station is included in this report because it is typically included in interpretations of network data. The sampling strategy at this site is similar to the strategy at sites in the Catskill/Delaware Water-Quality Network and the water-quality analyses are almost identical.

Climate Summary

During the 2006 calendar year the average annual temperature for the contiguous United States was 54.9°F, the second warmest on record (1895 to 2006) (National Climatic Data Center (NCDC), 2007). The annual temperature in New York State was classified as "much above normal" during 2006 (NCDC, 2007). At the Slide Mountain meteorological station within the Neversink watershed the 30-year mean annual temperature was 41.3°F from 1971 to 2000, and the mean for 2006 was 44.4°F. In 2006, the northeastern United States had the wettest summer recorded, and the annual precipitation was considered "much above normal" (NCDC, 2007). Precipitation totaled 69.1 in. at Slide Mountain (fig. 1) during 2006 and 108.5 in. of snow fell during the winter of 2005–06.

Methods

This section presents a description of the field, laboratory, and statistical methods used for this study. Water-quality samples were collected at each site every other week and during storms, for an average 8 storms per site and 62 samples per site.

Field Methods

All water-quality sampling and field data collection were conducted by USGS personnel using standard USGS data collection protocols (USGS, variously dated). Field data collection was separated into two categories, streamflow data collection and water-quality data collection. Stream stage was recorded at 15-minute intervals using a datalogger and discharge measurements were made at 8 week intervals and during high flow. Stage-discharge relations were developed for each site to compute the discharge. A sampling hydrograph was drafted for each site showing the stream-flow hydrograph and the date and time each sample was collected.

Water-quality samples were collected every 2 weeks at each site. The sites were divided into two groups—a western field trip and an eastern field trip; the two field trips were completed on the same day whenever possible. Grab samples were collected in 1 liter acid-washed polypropelene bottles from the center of the channel whenever possible or from the streambank. The bottles were rinsed 3 times with streamwater, filled, and stored on ice until delivered to the laboratory in Troy, N.Y., where samples were refrigerated at 4°C until analyzed. Each site was equipped with a stage-activated automated sampler which collected water-quality samples during storms and winter thaws. Whenever possible automated samples were retrieved and processed within 24 hours of collection, though there were times when some samples were processed as long as 48 hours after collection. Field quality assurance and quality control were assessed through collection of triplicate samples and blanks.

Laboratory Methods

Streamwater samples were chilled at 4°C until analysis by ion chromatography for Cl^-, SO_4^{2-}, and NO_3^-. Inductively coupled plasma-optical emission spectrometry was used for Ca^{2+}, Mg^{2+}, SiO_2, and total dissolved Al (Altd), and atomic absorption spectrophotometry for Na^+ and K^+ (Lawrence and others, 1995). Dissolved organic carbon (DOC) was analyzed with a Dohrmann carbon analyzer. A pH electrode was used to determine pH, and an auto-titrator was used to determine ANC (acid neutralizing capacity) (Lawrence and others, 1995). Speciated Al was determined by complexation with pyrocatechol violet, according to a two-channel flow injection method (Henshaw and others, 1988). The first channel yields total monomeric Al (Almono) on an untreated aliquot, and the second channel yields organic monomeric Al (Alorg) after the sample passes through a cation exchange resin. All phosphorus fractions were analyzed at the USGS National Water Quality Laboratory in Denver, Colo. Total phosphorus aliquots were acidified with 1 milliliter of 4.5 N sulfuric acid and analyzed using semi-automated colorimetry. Total dissolved phosphorus and orthophosphate (soluble reactive phosphorus) were filtered through 0.4-micron polycarbonate filters and analyzed using colorimetry (Fishman, 1993). DOC samples were filtered through nominal 0.7-micron glass fiber filters prior to analysis. Sample aliquots for major cations (Ca^{2+}, Mg^{2+}, Na^+, and K^+), major anions (Cl^-, SO_4^{2-}, and NO_3^-), and aluminum species (Altd, Almono, and Alorg) were filtered through 0.4-micron polycarbonate filters prior to analysis.

Laboratory activities were subjected to the quality assurance and control procedures of the USGS Watershed Research Program which has been reviewed by the USEPA Office of Research and Development. The laboratory quality-assurance program includes quality-control samples, sample blanks, blind-audit samples, and sample triplicates. A detailed

description of the laboratory quality-assurance program can be found in the laboratory quality-assurance reports (Lincoln and others, 2006a and b).

Statistical Methods

Summary statistics were calculated for each water-quality parameter. For solutes that included censored values (values below the limit of quantification—TP, TDP, SRP, and SSC) means and medians were estimated. For less than 50 percent censored values the Kaplan-Meier statistic was used, but only the median was calculated because the lowest values were censored which causes the mean calculated by the Kaplan-Meier statistic to be biased high (Helsel, 2005). For 50 to 80 percent censored data maximum likelihood estimation was used (Helsel, 2005). For sites with greater than 80 percent censored values, no summary statistics were calculated indicated as NC in the summary statistics tables.

Water-Quality Station Summary

HUDSON RIVER BASIN

01349840 BATAVIA KILL NEAR MAPLECREST, NY

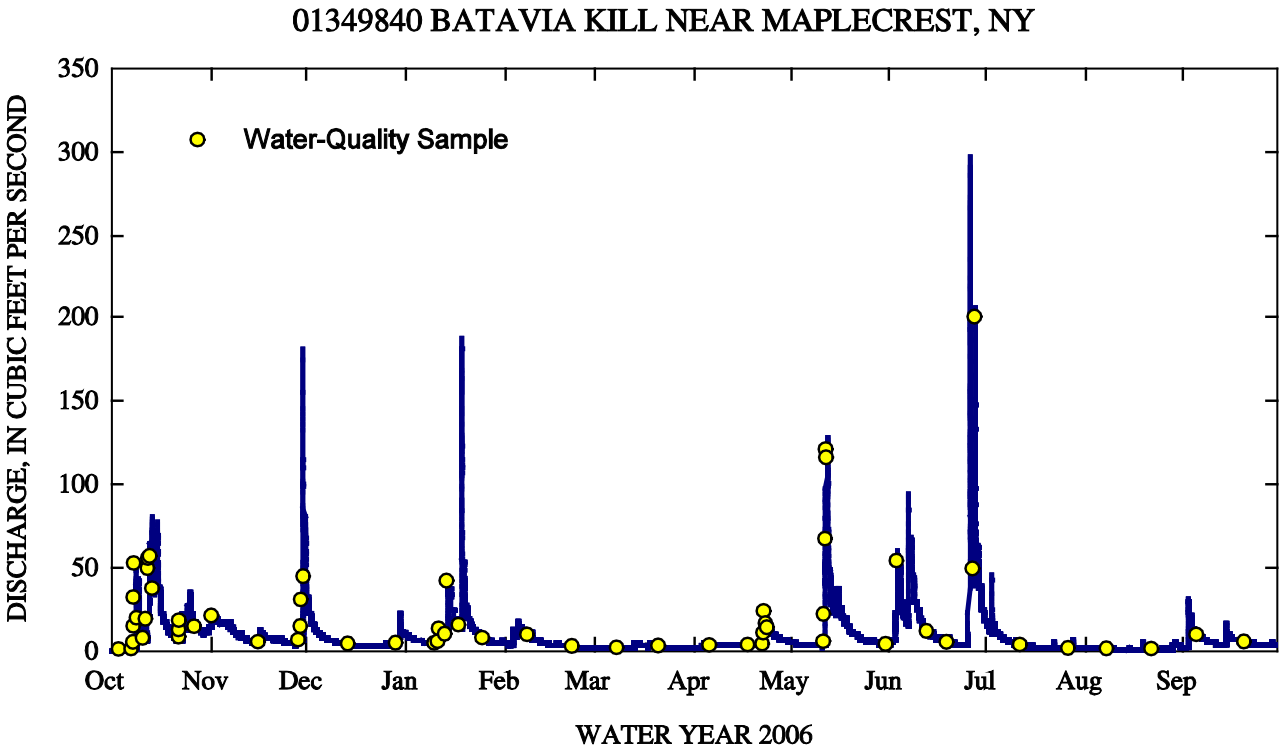
LOCATION. lat. 42°17′22″, long. 74°06′59″, Greene County, Hydrologic Unit 02020005, on left bank off County Route 56, 4.1 mi northeast of Maplecrest.
DRAINAGE AREA. 2.03 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD. October 1997 to September 2006.
GAGE. Water-stage recorder and crest-stage gage. Elevation of gage is 2,160 ft above sea level, from topographic map.

WATER-QUALITY RECORDS

PERIOD OF RECORD. October 1997 to September 2006.
REMARKS. There were 60 samples collected during the 2006 water year. Seven storms were sampled with 1–7 samples collected per storm. Acid neutralizing capacity reached a period of record high concentration at a discharge of 0.46 ft^3/s prior to a storm in early October 2005. Turbidity reached a period of record high concentration at a discharge of 18.4 ft^3/s during a storm in early October 2005. Soluble reactive phosphorus reached a period of record high on August 8, 2006, at a flow of 0.47 ft^3/s.



01349840 BATAVIA KILL NEAR MAPLECREST, NY

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	55	60	60	60	60	60	60	60	55	60	60	56	59	60	60	60	60	60	60	43
Mean	8.1	20.88	6.36	63.63	2.42	0.46	0.20	0.67	0.32	1.21	0.02	0.00	0.53	3.63	2.78	1.50	0.06	0.01	0.00	4.71
Std Dev	4.3	3.27	0.27	31.59	0.43	0.08	0.09	0.17	0.18	0.65	0.02	0.00	0.12	0.43	1.51	0.31	0.03	0.01	0.01	9.79
Median	8.7	20.50	6.40	57.11	2.35	0.45	0.18	0.66	0.31	1.12	0.01	0.00	0.52	3.75	2.59	1.47	0.05	0.01	0.00	1.23
Min	-0.1	14.20	5.67	30.18	1.61	0.33	0.12	0.37	0.02	0.06	0.00	0.00	0.30	2.33	0.98	1.01	0.01	0.00	0.00	0.26
Max	16.1	33.40	6.85	200.10	4.00	0.77	0.50	1.25	0.80	3.01	0.18	0.00	0.98	4.54	6.78	2.40	0.14	0.06	0.03	58.80

SUMMARY STATISTICS, OCTOBER 1997 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	475	474	482	482	483	483	482	472	350	483	421	350	482	483	481	483	482	481	481	138
Mean	7.7	23.16	6.49	75.89	2.61	0.51	0.20	0.72	0.38	1.21	0.02	0.00	0.46	3.99	2.74	1.55	0.05	0.01	0.00	4.42
Std Dev	4.8	3.86	0.30	34.88	0.47	0.10	0.10	0.20	0.17	0.66	0.02	0.00	0.17	0.68	1.60	0.38	0.04	0.01	0.01	8.30
Median	7.9	22.85	6.53	69.90	2.53	0.50	0.17	0.71	0.36	1.12	0.02	0.00	0.45	4.02	2.36	1.54	0.03	0.01	0.00	1.23
Min	-0.3	11.52	5.54	10.70	1.61	0.29	0.07	0.23	0.00	0.00	0.00	0.00	0.01	0.16	0.96	0.11	0.01	0.00	0.00	0.17
Max	16.2	37.40	7.24	200.10	4.79	0.79	0.88	1.29	0.97	4.59	0.20	0.02	2.27	6.07	10.11	2.48	0.24	0.13	0.10	58.80

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	42	42	42	60
Censored	1	2	25	16
Mean	NC	NC	NC	NC
Std Dev	NC	NC	NC	NC
Median	0.009	0.005	NC	1
Min	< 0.002	< 0.002	< 0.003	< 0.5
Max	0.065	0.014	0.013	85

SUMMARY STATISTICS, OCTOBER 1997 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	314	319	314	261
Censored	14	16	160	35
Mean	NC	NC	0.004	NC
Std Dev	NC	NC	0.004	NC
Median	0.007	0.005	0.002	2
Min	< 0.002	< 0.002	< 0.001	0.2
Max	0.29	0.023	0.013	1000

HUDSON RIVER BASIN

01349950 BATAVIA KILL AT RED FALLS NEAR PRATTSVILLE, NY

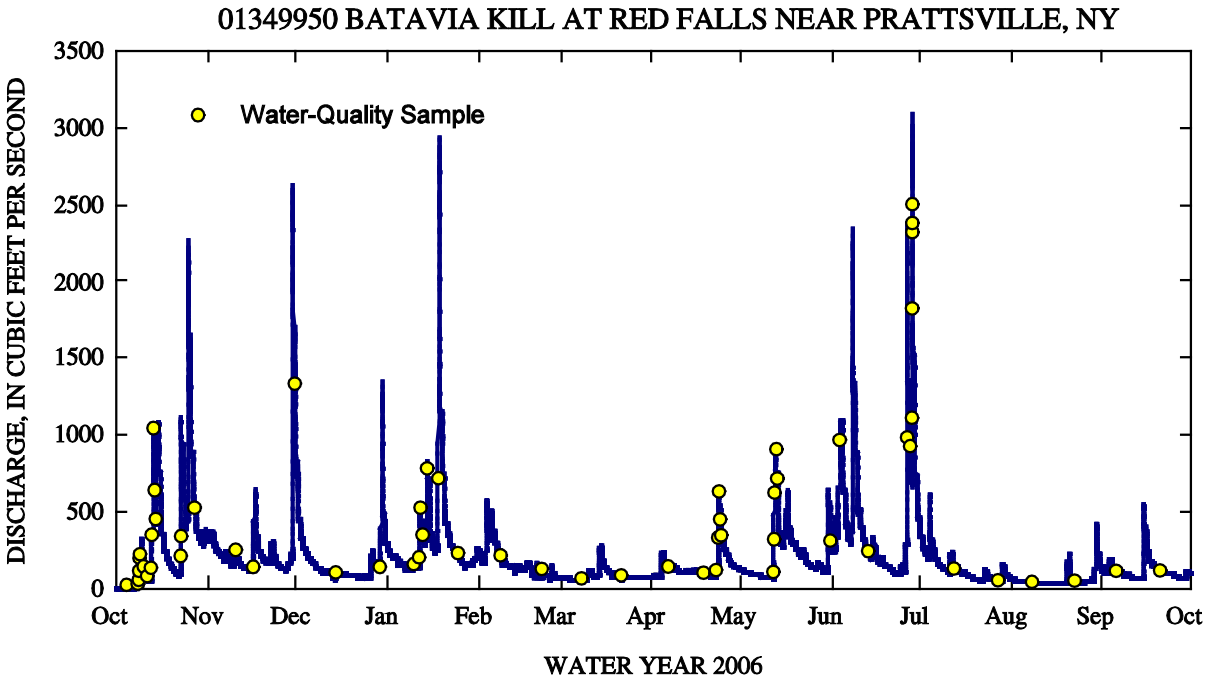
LOCATION. lat. 42°18′30″, long. 74°23′25″, Greene County, Hydrologic Unit 02020005, on right bank 200 ft southwest of State Highway 23 at Red Falls, 1.9 mi upstream from mouth, and 2.2 mi southeast of Prattsville.
DRAINAGE AREA. 68.6 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD. October 1997 to September 2006.
GAGE. Water-stage recorder and crest-stage gage. Elevation of gage is 1,260 ft above sea level, from topographic map.

WATER-QUALITY RECORDS

PERIOD OF RECORD. October 1999 to September 2006.
REMARKS. There were 60 samples collected during the 2006 water year. Nine storms were sampled with 1–7 samples collected per storm. SO_4 reached a period of record high concentration at a discharge of 203 ft^3/s during a storm in early October 2005. On the rising limb of a secondary peak of the same storm SRP and TDP also reached period of record high concentrations at a discharge of 330 ft^3/s.



01349950 BATAVIA KILL AT RED FALLS NEAR PRATTSVILLE, NY

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	59	60	60	60	60	60	60	60	59	60	60	59	59	60	60	60	60	60	60	40
Mean	10.9	85.76	6.97	270.61	6.43	1.33	0.61	7.43	0.36	0.99	0.03	0.00	12.71	6.35	2.73	1.69	0.03	0.02	0.01	30.11
Std Dev	6.3	26.23	0.19	100.33	1.79	0.42	0.22	2.28	0.14	0.48	0.02	0.00	5.27	1.76	1.02	0.23	0.02	0.01	0.01	38.01
Median	12.1	80.20	6.98	237.45	5.99	1.19	0.53	7.16	0.32	1.04	0.03	0.00	12.73	6.08	2.61	1.71	0.02	0.01	0.00	11.05
Min	-0.2	45.90	6.50	147.14	3.96	0.78	0.37	3.24	0.10	0.00	0.00	0.00	3.95	3.47	1.09	0.86	0.01	0.00	0.00	1.49
Max	24.8	164.10	7.47	529.64	11.92	2.67	1.48	13.78	0.96	1.96	0.08	0.01	32.53	12.01	4.56	2.18	0.14	0.07	0.05	149

SUMMARY STATISTICS, OCTOBER 1999 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	362	364	364	364	365	365	365	361	305	365	356	304	362	365	359	365	334	334	334	140
Mean	9.6	91.41	7.04	277.43	6.66	1.46	0.64	7.99	0.34	0.74	0.03	0.00	13.83	5.89	2.64	1.60	0.03	0.01	0.00	42.37
Std Dev	7.2	31.69	0.24	111.57	2.22	0.49	0.21	3.11	0.16	0.54	0.02	0.00	7.56	1.39	1.10	0.32	0.04	0.01	0.01	78.11
Median	9.2	85.05	7.02	247.37	6.18	1.37	0.57	7.49	0.32	0.72	0.03	0.00	12.32	5.80	2.43	1.63	0.02	0.01	0.00	9.78
Min	-0.7	44.00	6.47	101.55	3.69	0.71	0.30	2.70	0.00	0.00	0.00	0.00	0.00	1.10	0.92	0.43	0.00	0.00	0.00	1.12
Max	25.6	322.00	7.80	896.17	22.42	4.14	1.58	28.46	1.16	2.00	0.18	0.02	65.94	12.01	6.47	2.30	0.40	0.15	0.12	570

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	40	40	40	59
Censored	0	3	24	0
Mean	0.033	NC	NC	108
Std Dev	0.035	NC	NC	217
Median	0.014	0.005	NC	34
Min	0.003	< 0.002	< 0.003	1
Max	0.133	0.063	0.047	1000

SUMMARY STATISTICS, OCTOBER 1999 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	312	312	312	254
Censored	1	42	222	1
Mean	NC	NC	0.002	88
Std Dev	NC	NC	0.003	170
Median	0.015	0.005	0.001	17
Min	< 0.002	< 0.002	< 0.001	0.25
Max	0.456	0.063	0.047	1090

HUDSON RIVER BASIN

01362342 HOLLOW TREE BROOK AT LANESVILLE, NY

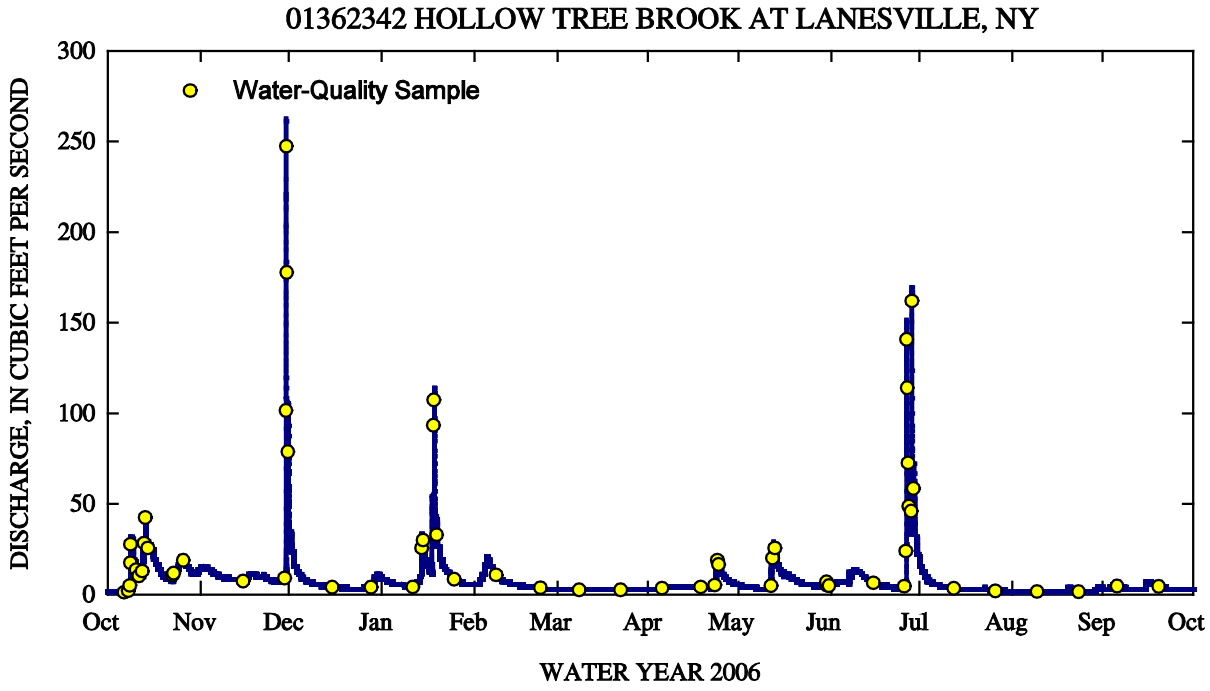
LOCATION. lat. 42°08′32″, long. 74°15′55″, Greene County, Hydrologic Unit 02020006, on left bank downstream from bridge on Diamond Notch Road, about 1.0 mi upstream from mouth, and 1.0 mi north of Lanesville.
DRAINAGE AREA. 1.95 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD. October 1997 to September 2006.
GAGE. Water-stage recorder and crest-stage gage. Elevation of gage is 1,480 ft above sea level, from topographic map.

WATER-QUALITY RECORDS

PERIOD OF RECORD. October 1997 to September 2006.
REMARKS. There were 60 samples collected during the 2006 water year. Seven storms were sampled with 2–9 samples collected per storm. Specific conductance, Ca^{2+}, TDN, and NO_3^- reached period of record high concentrations during a storm in early October 2005. Turbidity and TP reached period of record high concentrations during a large storm in late November 2005.



01362342 HOLLOW TREE BROOK AT LANESVILLE, NY

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	60	60	60	60	60	60	60	60	59	57	59	59	57	57	60	60	60	60	60	45
Mean	9.0	33.27	6.69	129.82	4.43	0.69	0.27	0.57	0.75	3.46	0.02	0.00	0.72	4.64	1.65	1.31	0.03	0.00	0.00	7.91
Std Dev	3.6	5.60	0.18	42.00	0.83	0.10	0.05	0.13	0.31	1.25	0.02	0.00	0.24	0.54	0.81	0.24	0.05	0.00	0.00	14.54
Median	10.0	33.05	6.66	124.70	4.40	0.68	0.27	0.56	0.71	3.13	0.01	0.00	0.69	4.69	1.60	1.30	0.01	0.00	0.00	0.77
Min	1.9	20.10	6.13	62.03	2.37	0.49	0.21	0.38	0.01	0.87	0	0.00	0.33	3.44	0.51	0.85	0.00	0.00	0.00	0.11
Max	15.1	48.40	7.05	247.49	6.51	0.95	0.45	0.90	2.06	9.03	0.11	0.01	1.73	5.72	3.82	1.94	0.33	0.01	0.01	77.50

SUMMARY STATISTICS, OCTOBER 1997 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	425	423	430	430	428	428	427	417	322	425	394	317	425	424	429	429	427	429	429	127
Mean	8.1	34.94	6.83	142.08	4.55	0.73	0.25	0.64	0.62	2.49	0.02	0.00	0.73	5.19	1.44	1.38	0.02	0.01	0.00	4.59
Std Dev	4.1	5.17	0.22	45.02	0.80	0.10	0.05	0.20	0.23	0.92	0.02	0.00	0.37	0.60	0.79	0.26	0.04	0.01	0.00	10.32
Median	7.9	34.40	6.84	138.88	4.46	0.71	0.23	0.63	0.62	2.44	0.01	0.00	0.69	5.23	1.22	1.33	0.01	0.00	0.00	0.50
Min	-0.8	19.70	6.13	49.81	1.64	0.40	0.16	0.25	0.00	0.00	0.00	0.00	0.10	2.89	0.46	0.49	0.00	0.00	0.00	0.04
Max	17.0	48.40	7.74	406.38	6.51	0.97	0.56	2.90	2.06	9.03	0.22	0.02	6.60	6.74	6.37	2.03	0.36	0.08	0.03	77.50

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	45	45	45	55
Censored	0	0	8	20
Mean	0.037	0.007	NC	NC
Std Dev	0.071	0.003	NC	NC
Median	0.011	0.007	0.005	18
Min	0.002	0.002	<0.003	< 0.5
Max	0.34	0.013	0.014	788

SUMMARY STATISTICS, OCTOBER 1997 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	281	288	283	250
Censored	15	10	91	60
Mean	NC	NC	NC	NC
Std Dev	NC	NC	NC	NC
Median	0.008	0.006	0.004	2
Min	0.002	< 0.001	< 0.001	0.1
Max	0.34	0.025	0.014	1480

HUDSON RIVER BASIN

01362380 STONY CLOVE CREEK NEAR PHOENICIA, NY

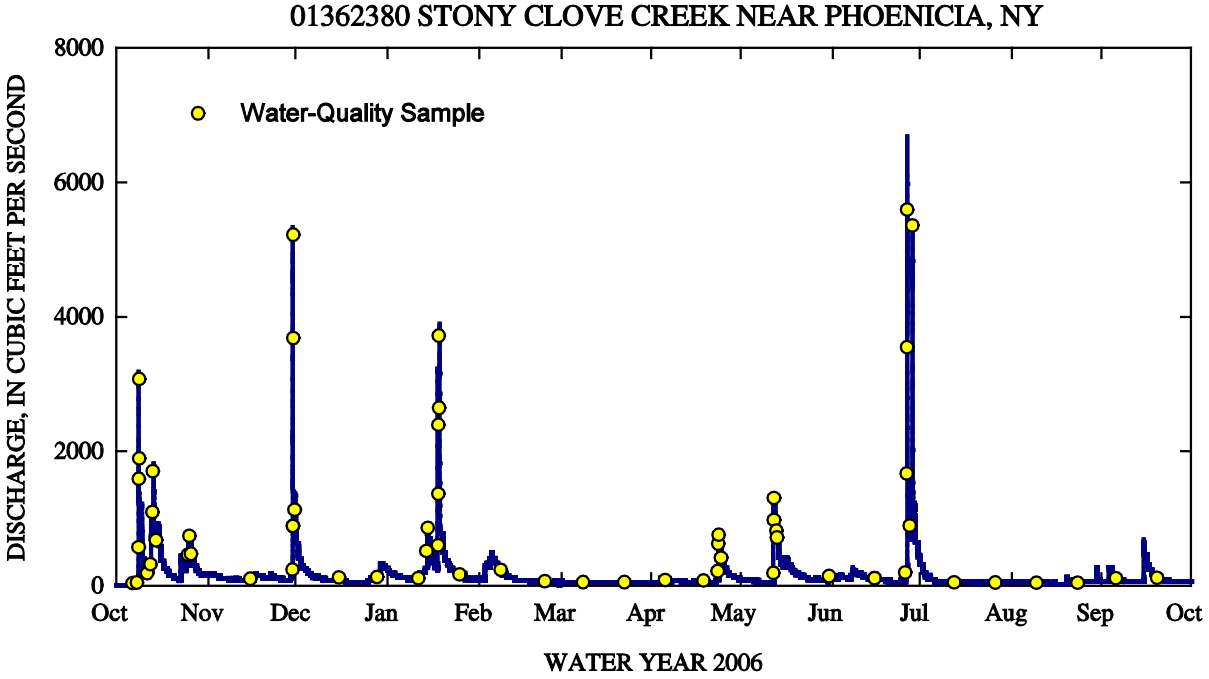
LOCATION. lat. 42°05′53″, long. 74°19′03″, Ulster County, Hydrologic Unit 02020006, on left bank 0.5 mi south of Chichester on State Highway 214, and 1.3 mi upstream from mouth.
DRAINAGE AREA. 31.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD. December 1996 to January 1997 (annual maximum only), February 1997 to September 2006.
REVISED RECORDS. WDR NY-99-1: 1997 (P), 1998 (P).
GAGE. Water-stage recorder and crest-stage gage. Elevation of gage is 900 ft above sea level, from topographic map.

WATER-QUALITY RECORDS

PERIOD OF RECORD. October 1999 to September 2006.
REMARKS. There were 62 samples collected during the 2006 water year. Eight storms were sampled with 3–8 samples collected per storm. Total dissolved nitrogen, NO_3^-, Almono, and Alorg reached period of record high concentrations during a storm in early October 2005. Ammonium and turbidity reached period of record high concentrations at a discharge of 5,564 ft^3/s during a storm in late June 2006.



01362380 STONY CLOVE CREEK NEAR PHOENICIA, NY

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	62	62	62	62	62	62	62	62	61	61	62	61	60	61	62	62	62	62	62	49
Mean	10.3	48.01	6.84	186.62	5.05	0.72	0.36	2.71	0.67	2.83	0.10	0.00	4.18	4.23	2.53	1.20	0.04	0.07	0.05	398.52
Std Dev	5.8	10.35	0.19	72.15	1.06	0.12	0.12	1.07	0.27	1.20	0.12	0.00	2.06	0.63	1.56	0.18	0.08	0.08	0.08	707.58
Median	9.9	46.40	6.81	175.48	4.95	0.70	0.34	2.63	0.64	2.79	0.04	0.00	3.79	4.36	2.30	1.17	0.02	0.04	0.03	78.10
Min	0.6	24.50	6.42	92.18	3.19	0.53	0.19	0.83	0.11	0.12	0.00	0.00	0.52	2.93	0.66	0.87	0.01	0.00	0.00	0.43
Max	23.1	78.50	7.44	431.68	8.64	1.14	0.71	5.62	1.47	6.10	0.57	0.01	10.07	5.38	7.76	1.88	0.52	0.38	0.38	3462

SUMMARY STATISTICS, OCTOBER 1999 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	356	353	353	353	353	353	353	350	295	352	350	292	348	352	347	353	325	326	326	145
Mean	9.9	53.65	6.94	215.18	5.46	0.80	0.32	3.27	0.43	1.51	0.04	0.00	4.98	4.78	2.07	1.29	0.04	0.03	0.02	171.41
Std Dev	6.6	13.45	0.26	89.44	1.40	0.17	0.11	1.32	0.24	1.07	0.06	0.00	3.00	0.69	1.22	0.29	0.08	0.05	0.04	446.93
Median	9.7	50.90	6.93	194.25	5.12	0.76	0.29	3.01	0.40	1.37	0.02	0.00	4.54	4.80	1.72	1.28	0.02	0.01	0.00	23.40
Min	-0.8	24.50	6.24	75.82	3.10	0.51	0.05	0.64	0.00	0.00	0.00	0.00	0.28	2.90	0.60	0.55	0.00	0.00	0.00	0.43
Max	25.7	117.10	8.00	478.53	9.94	1.69	1.01	9.45	1.47	6.10	0.57	0.02	24.14	6.74	8.96	5.22	0.55	0.38	0.38	3462

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	48	48	48	58
Censored	0	7	22	0
Mean	0.133	NC	NC	877
Std Dev	0.168	NC	NC	1264
Median	0.040	0.005	0.003	297
Min	0.005	< 0.002	< 0.003	3
Max	0.65	0.013	0.007	6340

SUMMARY STATISTICS, OCTOBER 1999 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	281	281	281	238
Censored	0	65	199	0
Mean	NC	NC	0.002	273
Std Dev	NC	NC	0.002	717
Median	0.014	0.004	0.002	34
Min	<0.002	< 0.002	< 0.001	1
Max	0.826	0.015	0.016	6340

DELAWARE RIVER BASIN

01421614 TOWN BROOK TRIBUTARY SOUTHEAST OF HOBART, NY

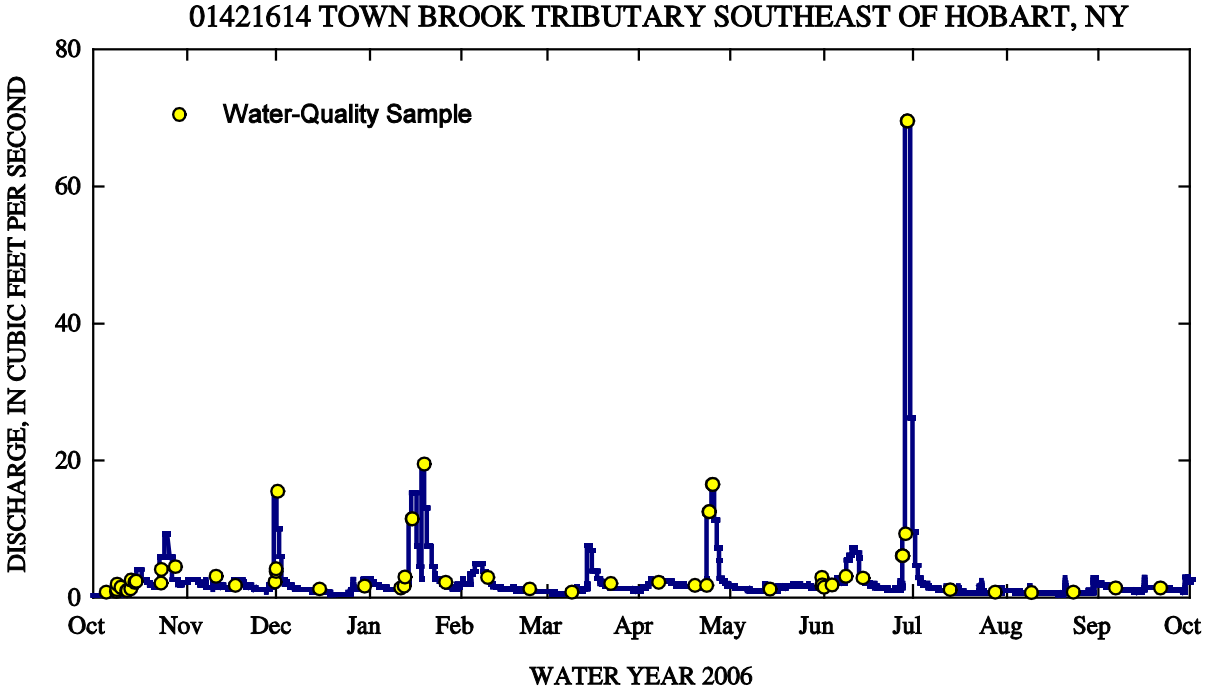
LOCATION. lat. 42°20′58″, long. 74°36′41″, Delaware County, Hydrologic Unit 02040101, on left bank 0.3 mi upstream from mouth, and 3.3 mi southeast of Hobart.
DRAINAGE AREA. 0.76 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD. October 1998 to September 2006.
GAGE. Water-stage recorder and crest-stage gage. Supplementary water-stage recorder about 15 ft upstream used for low-flow periods. Elevation of gage is 1,900 ft above sea level, from topographic map.

WATER-QUALITY RECORDS

PERIOD OF RECORD. September 1998 to September 2006.
REMARKS. There were 60 samples collected during the 2006 water year. Seven storms were sampled with 2–6 samples collected per storm. Monomeric aluminum, Alorg, and turbidity reached period of record high concentrations at a discharge of 2.48 ft^3/s during a small storm in late May 2006. During the 2006 water year a timber stand improvement was carried out on Town of Hobart land within the Town Brook Tributary watershed for commercial sale and to thin the trees to promote forest growth.



01421614 TOWN BROOK TRIBUTARY SOUTHEAST OF HOBART, NY

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	59	60	60	60	60	60	60	60	59	60	60	59	60	60	60	60	60	60	60	43
Mean	9.2	32.29	6.71	147.85	3.93	0.60	0.31	1.16	0.37	1.36	0.03	0.00	0.64	5.06	2.14	1.99	0.04	0.02	0.01	113.98
Std Dev	4.9	9.20	0.21	71.22	1.03	0.16	0.14	0.62	0.13	0.60	0.02	0.00	0.36	0.90	1.01	0.36	0.07	0.05	0.05	455.56
Median	10.4	29.55	6.76	126.50	3.48	0.54	0.26	0.93	0.37	1.29	0.02	0.00	0.50	5.16	1.89	1.91	0.02	0.00	0.00	6.22
Min	-0.2	19.75	6.27	55.34	1.98	0.36	0.17	0.47	0.08	0.00	0.00	0.00	0.19	2.38	0.81	1.36	0.01	0.00	0.00	0.52
Max	17.5	57.40	7.11	352.43	6.34	0.99	0.76	3.17	0.76	3.21	0.11	0.02	1.74	6.83	4.56	2.87	0.51	0.38	0.37	2949

SUMMARY STATISTICS, SEPTEMBER 1998 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	472	467	476	476	475	475	476	476	365	476	433	362	476	476	474	475	475	475	476	139
Mean	9.0	34.28	6.81	150.05	4.12	0.64	0.29	1.17	0.49	1.70	0.02	0.00	0.57	5.22	2.11	1.97	0.03	0.01	0.00	64.80
Std Dev	5.4	8.04	0.25	65.10	0.89	0.14	0.12	0.59	0.23	0.78	0.03	0.00	0.31	0.93	1.07	0.39	0.06	0.02	0.02	265.11
Median	9.9	32.40	6.84	135.04	3.95	0.61	0.25	0.98	0.45	1.60	0.02	0.00	0.49	5.29	1.79	1.93	0.02	0.00	0.00	3.89
Min	-0.3	17.34	5.96	11.19	1.98	0.36	0.15	0.40	0.00	0.00	0.00	0.00	0.16	2.03	0.80	1.00	0.00	0.00	0.00	0.28
Max	19.2	58.20	7.39	378.43	6.70	1.17	0.88	3.56	1.81	4.38	0.38	0.02	2.17	7.67	6.43	3.05	0.78	0.38	0.37	2949

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	43	43	43	59
Censored	1	1	2	6
Mean	NC	NC	NC	NC
Std Dev	NC	NC	NC	NC
Median	0.021	0.009	0.006	14
Min	< 0.002	< 0.002	< 0.003	< 0.5
Max	1.67	0.020	0.019	2140

SUMMARY STATISTICS, SEPTEMBER 1998 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	342	345	344	261
Censored	7	11	45	7
Mean	NC	NC	NC	NC
Std Dev	NC	NC	NC	NC
Median	0.015	0.009	0.006	7
Min	< 0.002	< 0.002	< 0.001	0.1
Max	2.06	0.053	0.023	3060

DELAWARE RIVER BASIN

01421618 TOWN BROOK SOUTHEAST OF HOBART, NY

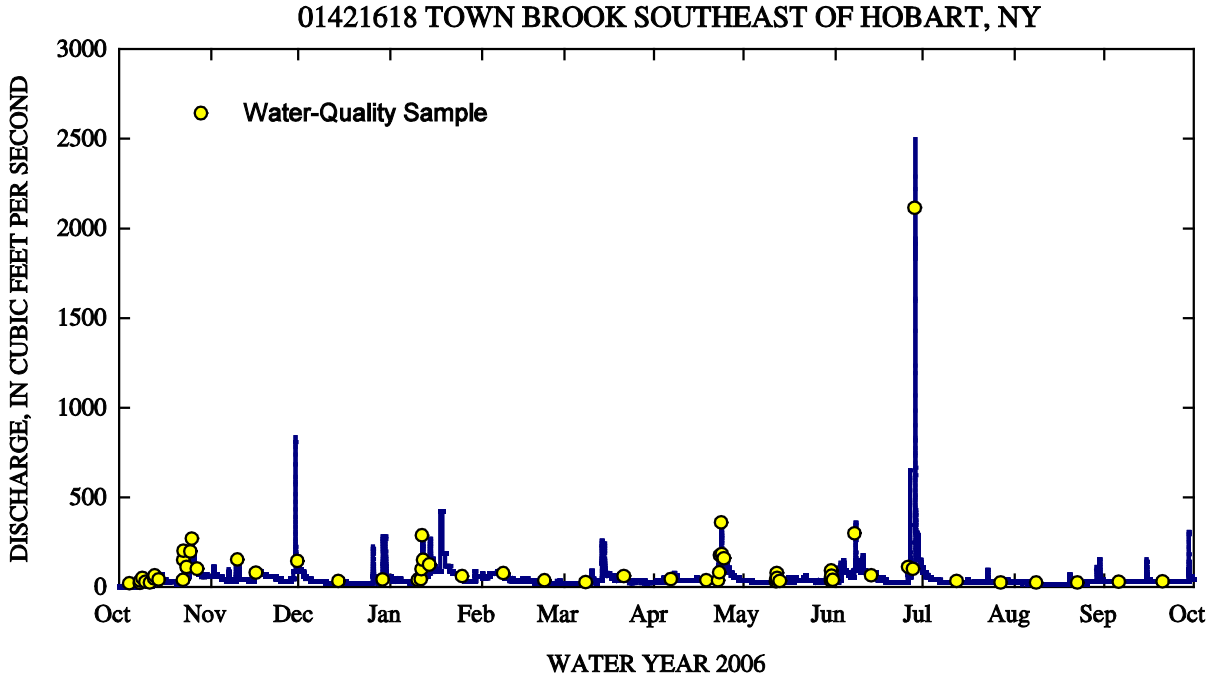
LOCATION. lat. 42°21′40″, long. 74°39′45″, Delaware County, Hydrologic Unit 02040101, on left bank 10 ft downstream from bridge on Clove Road, 0.9 mi southeast of Hobart, and 1.4 mi upstream from mouth.
DRAINAGE AREA. 14.3 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD. October 1997 to September 2006.
GAGE. Water-stage recorder and crest-stage gage. Elevation of gage is 1,670 ft above sea level, from topographic map.

WATER-QUALITY RECORDS

PERIOD OF RECORD. January 1999 to September 2006.
REMARKS. There were 61 samples collected during the 2006 water year. Nine storms were sampled with 1–7 samples collected per storm. SO_4 reached a period of record high concentration a discharge of 9.71 ft^3/s during low flow in early October 2005. Monomeric aluminum, Alorg, and SSC reached period of record high concentrations during a storm in late June at a discharge of 2,096 ft^3/s.



01421618 TOWN BROOK SOUTHEAST OF HOBART, NY

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	60	61	61	61	61	61	61	61	60	61	61	60	61	61	61	61	61	61	61	45
Mean	10.2	76.69	7.08	372.4	8.32	1.36	1.32	3.63	0.53	1.62	0.03	0.00	6.02	7.20	3.12	1.76	0.03	0.02	0.00	25.24
Std Dev	6.1	21.10	0.18	149.7	2.38	0.43	0.53	0.95	0.23	0.84	0.02	0.00	2.74	3.69	1.14	0.31	0.03	0.03	0.02	48.22
Median	11.0	69.30	7.07	330.6	7.43	1.20	1.15	3.34	0.52	1.53	0.02	0.00	5.35	6.20	2.91	1.77	0.02	0.01	0.00	3.79
Min	-0.3	50.00	6.76	182.6	5.23	0.84	0.54	1.69	0.00	0.31	0.00	0.00	0.57	0.53	1.28	1.11	0.01	0.00	0.00	0.53
Max	21.8	138.10	7.51	806.8	15.22	2.65	2.91	5.86	0.97	3.53	0.12	0.00	17.68	27.02	5.89	2.36	0.15	0.23	0.19	240

SUMMARY STATISTICS, JANUARY 1999 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	441	451	451	451	452	452	430	445	337	452	448	335	450	453	423	453	377	377	377	153
Mean	9.6	77.14	7.14	386.89	8.28	1.45	1.50	3.40	0.70	1.81	0.05	0.00	5.28	6.42	3.34	1.57	0.03	0.01	0.00	47.60
Std Dev	6.7	21.36	0.26	177.23	2.72	0.45	0.60	1.12	0.32	1.22	0.05	0.01	2.45	2.13	1.49	0.38	0.04	0.02	0.01	123.05
Median	9.6	72.00	7.12	339.73	7.62	1.35	1.35	3.18	0.67	1.53	0.03	0.00	4.66	6.00	2.99	1.57	0.02	0.01	0.00	5.10
Min	-0.8	34.00	5.69	115.64	3.60	0.61	0.20	0.80	0.00	0.00	0.00	0.00	0.20	0.53	1.28	0.02	0.00	0.00	0.00	0.53
Max	24.8	154.30	8.10	1258.99	20.06	3.03	4.10	9.30	2.24	5.69	0.41	0.04	20.36	27.02	9.02	2.43	0.52	0.23	0.19	833

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	45	45	45	61
Censored	0	0	3	4
Mean	0.062	0.020	NC	NC
Std Dev	0.090	0.010	NC	NC
Median	0.030	0.018	0.012	7
Min	0.004	0.006	< 0.003	< 0.5
Max	0.51	0.048	0.035	22,900

SUMMARY STATISTICS, JANUARY 1999 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	441	441	441	303
Censored	17	25	20	9
Mean	NC	NC	NC	NC
Std Dev	NC	NC	NC	NC
Median	0.044	0.025	0.018	10
Min	< 0.002	< 0.003	< 0.003	0.25
Max	3.48	0.21	0.203	22,900

DELAWARE RIVER BASIN

01422738 WOLF CREEK AT MUNDALE, NY

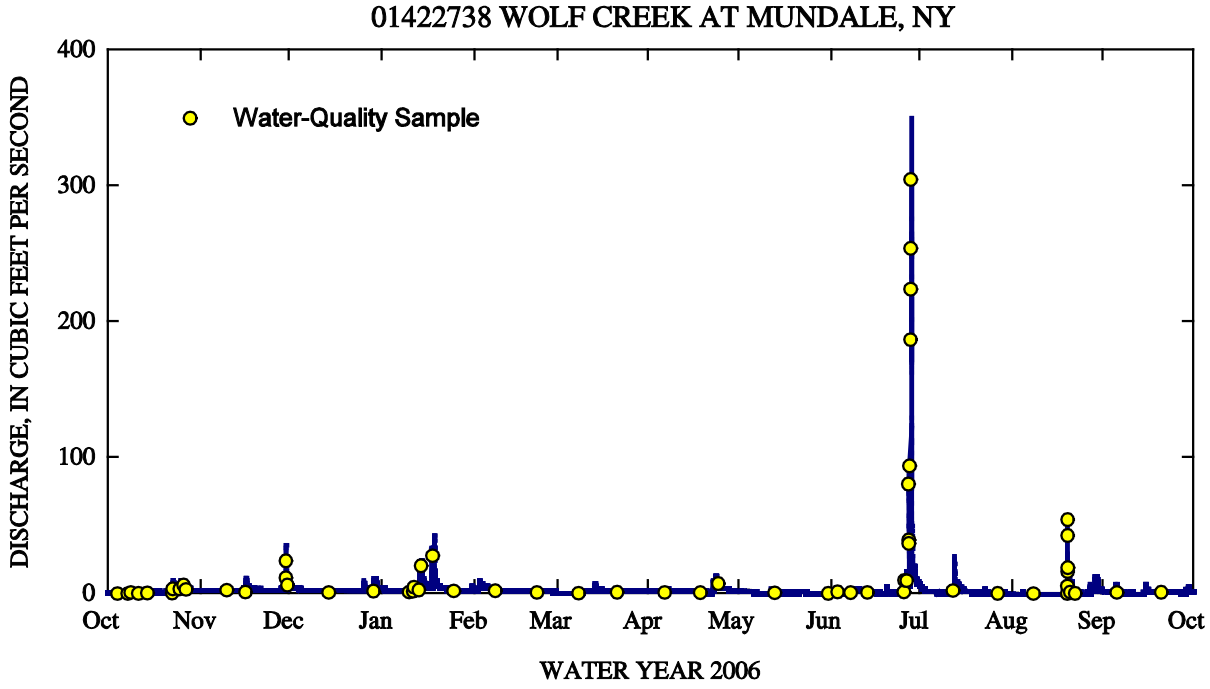
LOCATION. lat. 42°15′34″, long. 75°02′32″, Delaware County, Hydrologic Unit 02040101, on left bank 6 ft downstream from culvert on Munn Road, and 8 mi northeast of Walton.
DRAINAGE AREA. 0.61 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD. October 1998 to September 2006.
GAGE. Water-stage recorder and crest-stage gage. Elevation of gage is 1,760 ft above sea level, from topographic map.

WATER-QUALITY RECORDS

PERIOD OF RECORD. October 1999 to September 2006.
REMARKS. There were 60 samples collected during the 2006 water year. Five storms were sampled with 1–11 samples collected per storm. Specific conductance, ANC, Cl^-, SO_4^{2-}, and SiO_2 reached period of record high concentrations during a small storm in early October 2005. Monomeric aluminum, Alorg, TDP, and SRP reached period of record high concentrations during a large storm that occurred from June 26–28, 2006. This storm produced a period of record peak discharge of 350 ft^3/s on June 28, 2006. Sodium reached a period of record high concentration on June 7, 2006, and K^+ reached a period of record high concentration on August 19, 2006.



01422738 WOLF CREEK AT MUNDALE, NY

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	59	59	59	59	60	60	60	60	56	55	59	56	54	55	59	60	60	60	60	NA
Mean	10.8	38.52	6.69	134.21	3.76	1.07	0.90	1.17	0.29	0.72	0.03	0.00	2.84	6.03	2.47	1.83	0.04	0.02	0.02	NA
Std Dev	5.9	15.53	0.23	80.97	1.51	0.44	0.62	0.54	0.12	0.45	0.05	0.00	2.70	2.29	1.00	0.45	0.04	0.05	0.04	NA
Median	12.4	34.60	6.65	111.77	3.43	1.00	0.70	1.10	0.27	0.61	0.02	0.00	1.63	5.53	2.32	1.80	0.03	0.01	0.00	NA
Min	-0.3	17.40	6.23	39.67	1.62	0.43	0.16	0.47	0.00	0.00	0.00	0.00	0.58	2.85	1.03	1.03	0.01	0.00	0.00	NA
Max	18.4	93.30	7.24	398.82	8.51	2.31	2.79	3.58	0.58	1.78	0.25	0.02	15.25	16.60	4.56	2.75	0.27	0.32	0.29	NA

SUMMARY STATISTICS, OCTOBER 1999 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	368	365	366	366	368	368	368	367	307	363	354	304	362	363	366	368	365	367	367	NA
Mean	8.7	39.52	6.74	142.31	3.86	1.15	0.72	1.20	0.32	0.86	0.02	0.00	2.46	5.63	2.25	1.76	0.03	0.01	0.00	NA
Std Dev	5.5	12.30	0.28	79.36	1.30	0.38	0.42	0.39	0.16	0.58	0.03	0.00	1.91	1.47	0.86	0.40	0.03	0.02	0.02	NA
Median	8.6	35.90	6.75	117.33	3.55	1.06	0.60	1.13	0.29	0.73	0.02	0.00	1.80	5.59	2.06	1.78	0.02	0.01	0.00	NA
Min	-0.4	17.40	5.84	26.29	1.62	0.43	0.16	0.47	0.00	0.00	0.00	0.00	0.11	0.28	0.82	0.25	0.00	0.00	0.00	NA
Max	19.2	93.30	7.38	398.82	8.81	2.78	2.79	3.58	1.12	2.91	0.29	0.04	15.25	16.60	5.57	2.75	0.41	0.32	0.29	NA

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	35	35	35	NA
Censored	0	1	17	NA
Mean	0.036	NC	NC	NA
Std Dev	0.084	NC	NC	NA
Median	0.010	0.006	0.003	NA
Min	0.003	< 0.002	<0.003	NA
Max	0.44	0.033	0.016	NA

SUMMARY STATISTICS, OCTOBER 1999 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	279	279	279	NA
Censored	6	9	178	NA
Mean	NC	NC	0.003	NA
Std Dev	NC	NC	0.003	NA
Median	0.011	0.006	0.002	NA
Min	< 0.002	< 0.002	<0.001	NA
Max	0.48	0.033	0.016	NA

DELAWARE RIVER BASIN

01422747 EAST BROOK EAST OF WALTON, NY

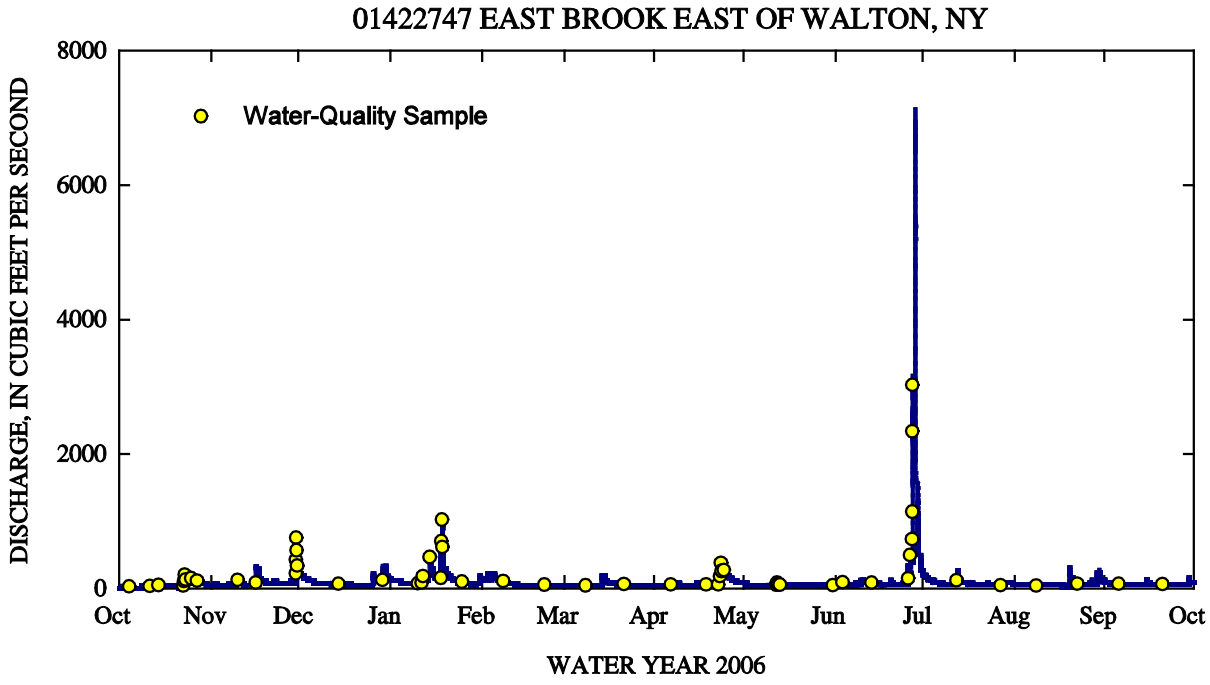
LOCATION. lat. 42°10′22″, long. 75°07′18″, Delaware County, Hydrologic Unit 02040101, on right bank 150 ft downstream from bridge on East Street, in Walton, and 0.55 mi upstream from mouth (at West Branch Delaware River).
DRAINAGE AREA. 24.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD. October 1998 to September 2006.
GAGE. Water-stage recorder and crest-stage gage. Elevation of gage is 1,240 ft above sea level, from topographic map.

WATER-QUALITY RECORDS

PERIOD OF RECORD. October 1999 to September 2006.
REMARKS. There were 57 samples collected during the 2006 water year. Five storms were sampled with 4–6 samples collected per storm. Sulfate reached a period of record high concentration at a discharge of 23 ft^3/s during low flow in mid-October 2005. Total phosphorus, Altd, Almono, and Alorg reached period of record high concentrations during a large storm that produced a period of record peak discharge of 7,110 ft^3/s on June 28, 2006. ANC reached a period of record high concentration at a discharge of 15 ft^3/s during low flow in early August 2006.



01422747 EAST BROOK EAST OF WALTON, NY

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	56	57	57	57	57	57	57	57	53	57	57	53	55	57	57	57	57	57	57	NA
Mean	9.3	57.36	6.91	209.07	4.65	1.33	0.88	3.48	0.34	1.05	0.03	0.00	5.74	6.39	2.19	1.75	0.04	0.02	0.01	NA
Std Dev	5.5	15.10	0.19	85.18	1.20	0.37	0.31	1.32	0.15	0.48	0.03	0.00	2.72	1.44	1.02	0.30	0.08	0.05	0.04	NA
Median	8.6	57.60	6.93	186.15	4.62	1.36	0.83	3.48	0.33	1.14	0.03	0.00	5.62	6.46	2.02	1.75	0.02	0.01	0.00	NA
Min	-0.3	29.80	6.44	84.94	2.33	0.48	0.18	0.72	0.00	0.00	0.00	0.00	0.36	3.62	0.85	1.07	0.00	0.00	0.00	NA
Max	19.1	95.20	7.36	460.57	7.13	2.15	1.67	7.07	0.61	2.12	0.17	0.01	13.54	9.63	4.72	2.44	0.49	0.26	0.22	NA

SUMMARY STATISTICS, OCTOBER 1999 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	374	374	373	373	375	375	374	370	293	372	367	292	370	374	366	375	341	341	341	NA
Mean	8.8	60.46	6.95	225.79	5.00	1.50	0.90	3.50	0.41	1.19	0.03	0.00	5.58	6.38	2.06	1.71	0.03	0.01	0.00	NA
Std Dev	5.8	13.34	0.24	78.97	1.12	0.34	0.27	1.28	0.18	0.71	0.03	0.00	2.34	1.15	0.96	0.31	0.04	0.02	0.02	NA
Median	8.2	59.00	6.96	215.48	5.00	1.50	0.82	3.25	0.40	1.14	0.02	0.00	5.13	6.40	1.83	1.70	0.01	0.01	0.00	NA
Min	-0.5	29.80	6.26	73.49	1.88	0.48	0.18	0.26	0.00	0.00	0.00	0.00	0.20	2.30	0.79	0.74	0.00	0.00	0.00	NA
Max	22.8	97.00	7.60	460.57	10.20	2.30	2.03	8.92	1.11	4.37	0.27	0.01	14.95	9.63	5.91	2.51	0.49	0.26	0.22	NA

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	44	44	44	NA
Censored	0	1	6	NA
Mean	0.155	NC	NC	NA
Std Dev	0.407	NC	NC	NA
Median	0.017	0.010	0.007	NA
Min	0.005	< 0.002	< 0.003	NA
Max	2.12	0.045	0.034	NA

SUMMARY STATISTICS, OCTOBER 1999 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	323	323	323	NA
Censored	2	11	98	NA
Mean	NC	NC	NC	NA
Std Dev	NC	NC	NC	NA
Median	0.014	0.009	0.005	NA
Min	< 0.002	< 0.002	< 0.001	NA
Max	2.12	0.052	0.037	NA

DELAWARE RIVER BASIN

01434025 BISCUIT BROOK ABOVE PIGEON BROOK AT FROST VALLEY, NY

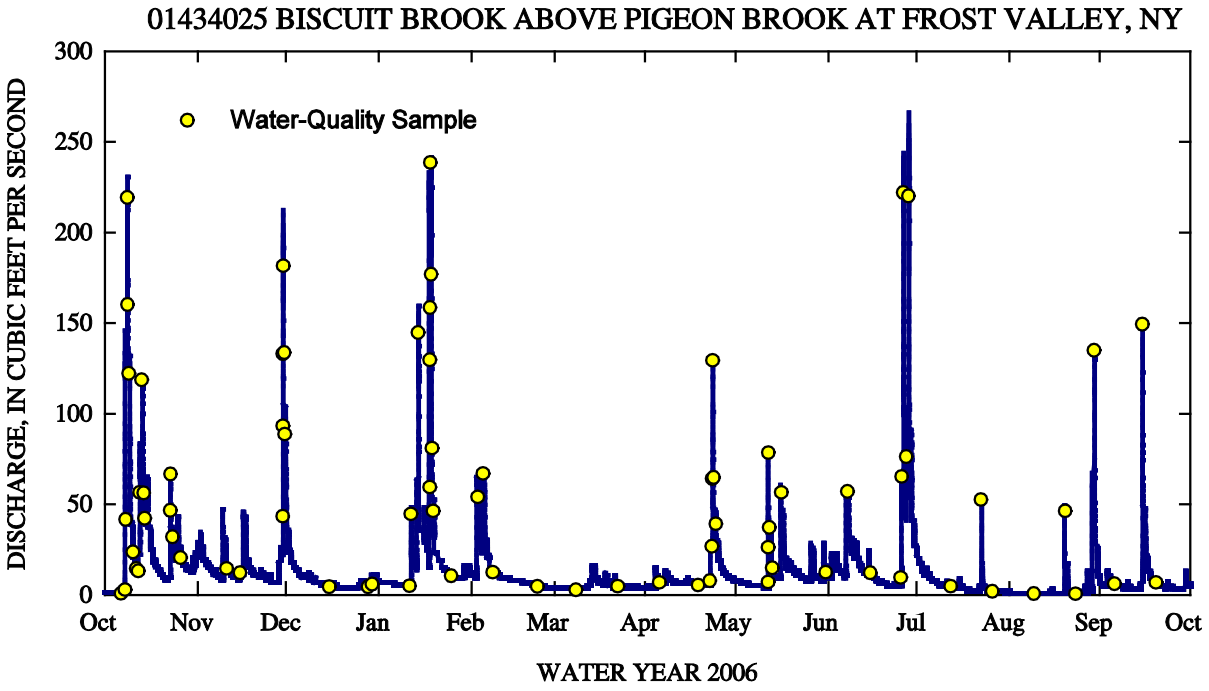
LOCATION. lat. 41°59′43″, long. 74°30′05″, Ulster County, Hydrologic Unit 02040104, on right bank 0.2 mi upstream from Pigeon Brook, 0.6 mi upstream from mouth, and 0.8 mi northeast of Frost Valley.
DRAINAGE AREA. 3.72 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD. June 1983 to September 2006. February to May 1983 (occasional discharge measurements).
GAGE. Water-stage recorder and crest-stage gage. Elevation of gage is 2,060 ft above sea level, from topographic map. Prior to September 11, 1987, at datum 1.00 ft higher.

WATER-QUALITY RECORDS

PERIOD OF RECORD. May 1991 to September 2006. Phosphorus concentrations began being analyzed in February 1998.
REMARKS. There were 77 samples collected during the 2006 water year. Sixteen storms were sampled with 1–8 samples collected per storm. Total dissolved phosphorus and SRP reached period of record high concentrations during a January 2006 thaw at a discharge of 10.1 ft^3/s. Total dissolved aluminum and Almono reached period of record high concentrations at a discharge of 177 ft^3/s during a storm in late June 2006.



01434025 BISCUIT BROOK ABOVE PIGEON BROOK AT FROST VALLEY, NY

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	77	77	77	77	77	77	77	77	77	75	77	77	75	75	77	77	77	77	77	NA
Mean	8.2	18.00	5.66	17.74	1.85	0.40	0.25	0.28	0.37	1.23	0.02	0.00	0.53	3.74	3.00	0.79	0.12	0.04	0.02	NA
Std Dev	4.9	1.67	0.39	12.71	0.32	0.06	0.12	0.06	0.15	0.64	0.02	0.00	0.17	0.48	1.47	0.16	0.08	0.04	0.02	NA
Median	8.1	17.83	5.68	19.61	1.89	0.40	0.22	0.28	0.37	1.32	0.01	0.00	0.50	3.70	2.87	0.78	0.11	0.03	0.02	NA
Min	0.3	14.15	4.66	-15.28	0.35	0.16	0.14	0.18	0.05	0.00	0.00	0.00	0.19	2.55	0.97	0.48	0.02	0.00	0.00	NA
Max	16.2	22.50	6.32	54.09	2.45	0.55	0.79	0.46	0.73	3.13	0.06	0.01	1.11	4.55	7.06	1.23	0.50	0.27	0.13	NA

SUMMARY STATISTICS, MAY 1991 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	1402	1296	1527	1522	1515	1530	1525	1535	557	1534	958	551	1534	1534	1534	1538	675	1535	1533	NA
Mean	7.7	20.75	6.01	24.10	2.17	0.49	0.22	0.33	0.37	1.25	0.02	0.00	0.52	4.87	2.19	0.96	0.08	0.03	0.02	NA
Std Dev	5.3	3.01	0.39	14.54	0.40	0.08	0.10	0.08	0.21	0.82	0.02	0.00	0.15	0.86	1.26	0.23	0.06	0.03	0.02	NA
Median	7.9	20.30	6.11	24.82	2.14	0.49	0.19	0.31	0.34	1.09	0.01	0.00	0.50	4.84	1.81	0.95	0.06	0.02	0.01	NA
Min	-0.7	14.01	4.60	-29.60	0.11	0.16	0.09	0.09	0.00	0.00	0.00	0.00	0.11	1.36	0.38	0.04	0.01	0.00	0.00	NA
Max	18.3	39.80	7.70	203.56	4.27	1.04	1.15	0.86	1.52	7.68	0.30	0.02	1.29	8.58	9.16	2.70	0.50	0.27	0.18	NA

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	52	52	52	NA
Censored	6	19	40	NA
Mean	NC	NC	NC	NA
Std Dev	NC	NC	NC	NA
Median	0.006	0.003	NC	NA
Min	< 0.002	< 0.002	< 0.003	NA
Max	0.176	0.040	0.033	NA

SUMMARY STATISTICS, FEBRUARY 1998 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	364	366	368	NA
Censored	98	148	310	NA
Mean	NC	NC	NC	NA
Std Dev	NC	NC	NC	NA
Median	0.004	0.003	NC	NA
Min	< 0.002	< 0.002	< 0.001	NA
Max	0.438	0.040	0.033	NA

DELAWARE RIVER BASIN

0143400680 EAST BRANCH NEVERSINK RIVER NORTHEAST OF DENNING, NY

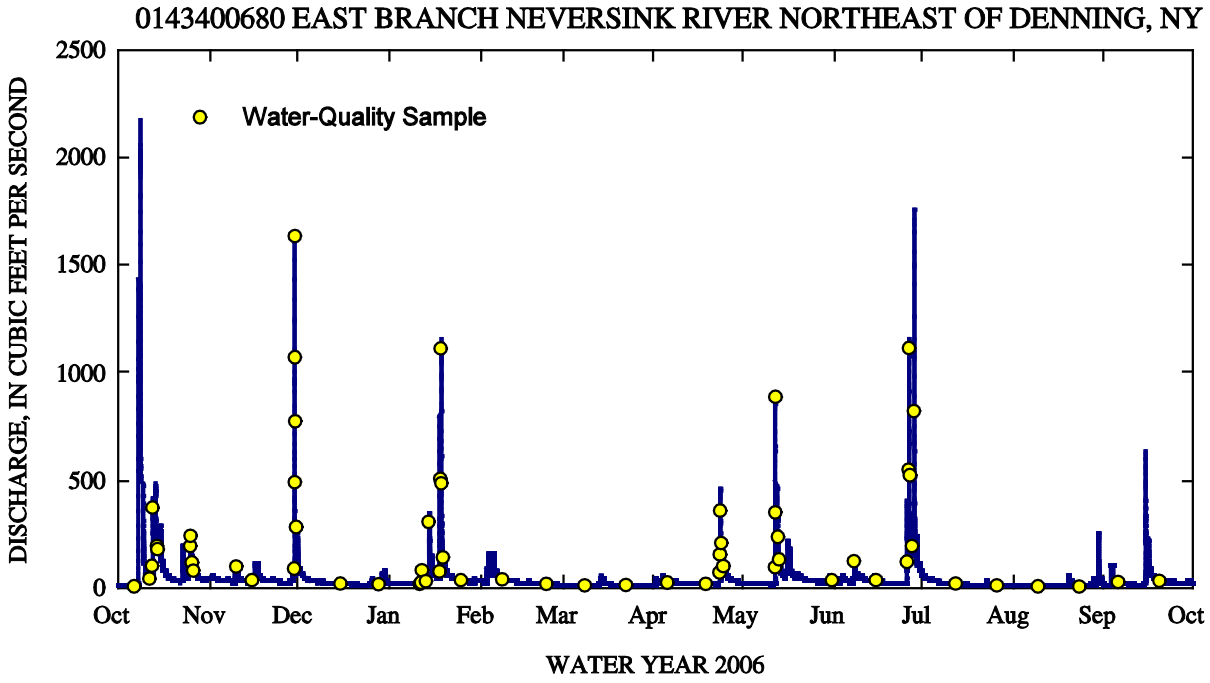
LOCATION. lat. 41°58′01″, long. 74°26′54″, Ulster County, Hydrologic Unit 02040104, on right bank 0.3 mi upstream from Tray Mill Brook, and 2.3 mi northeast of Denning.
DRAINAGE AREA. 8.93 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD. October 1990 to September 2006. Occasional discharge measurements, water years 1988–90.
GAGE. Water-stage recorder and crest-stage gage. Elevation of gage is 2,140 ft above sea level, from topographic map.

WATER-QUALITY RECORDS

PERIOD OF RECORD. May 1991 to September 2006. Phosphorus concentrations began being analyzed in February 1999.
REMARKS. There were 62 samples collected during the 2006 water year. Ten storms were sampled with 1–6 samples collected per storm. All sample concentrations were within the range of concentrations measured previously.



0143400680 EAST BRANCH NEVERSINK RIVER NORTHEAST OF DENNING, NY

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	62	62	62	62	62	62	62	62	5	59	62		59	59	62	62	62	62	62	NA
Mean	8.5	19.64	4.90	-8.34	0.92	0.39	0.24	0.28	0.47	1.28	0.02		0.50	3.69	3.87	0.83	0.25	0.13	0.05	NA
Std Dev	4.8	2.34	0.28	10.72	0.24	0.08	0.08	0.05	0.13	0.58	0.01		0.20	0.61	2.17	0.19	0.11	0.06	0.04	NA
Median	8.9	19.11	4.94	-4.65	0.92	0.40	0.22	0.28	0.47	1.34	0.02		0.47	3.86	3.69	0.87	0.24	0.13	0.05	NA
Min	0.4	14.40	4.47	-30.52	0.57	0.24	0.17	0.17	0.32	0.33	0.00		0.22	2.21	1.09	0.45	0.10	0.03	0.00	NA
Max	16.9	26.80	5.50	11.43	2.16	0.52	0.60	0.38	0.63	2.53	0.06		1.19	4.66	9.23	1.18	0.72	0.23	0.14	NA

SUMMARY STATISTICS, MAY 1991 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	848	818	984	983	970	976	986	984	62	982	692	59	982	981	976	987	464	987	987	NA
Mean	7.8	20.99	4.87	-11.98	1.02	0.48	0.24	0.30	0.29	1.18	0.02	0.00	0.47	4.53	3.40	0.95	0.26	0.14	0.05	NA
Std Dev	5.1	3.12	0.23	11.10	0.21	0.09	0.09	0.06	0.15	0.74	0.03	0.00	0.15	0.77	2.22	0.24	0.12	0.08	0.04	NA
Median	7.8	20.49	4.88	-10.47	1.01	0.48	0.22	0.30	0.26	1.02	0.01	0.00	0.46	4.49	2.98	0.96	0.23	0.13	0.04	NA
Min	-0.8	14.40	4.34	-128.27	0.53	0.22	0.05	0.13	0.00	0.00	0.00	0.00	0.18	2.07	0.00	0.18	0.07	0.00	0.00	NA
Max	21.9	39.10	5.96	68.30	2.17	0.70	0.93	0.64	0.76	4.46	0.31	0.01	1.76	6.58	11.96	1.67	0.80	0.43	0.30	NA

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	50	50	50	NA
Censored	10	23	40	NA
Mean	NC	NC	NC	NA
Std Dev	NC	NC	NC	NA
Median	0.004	0.002	NC	NA
Min	< 0.002	< 0.002	< 0.003	NA
Max	0.092	0.012	0.007	NA

SUMMARY STATISTICS, FEBRUARY 1999 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	335	336	335	NA
Censored	122	191	290	NA
Mean	NC	0.003	NC	NA
Std Dev	NC	0.002	NC	NA
Median	0.003	0.002	NC	NA
Min	< 0.002	< 0.002	< 0.001	NA
Max	0.303	0.029	0.016	NA

DELAWARE RIVER BASIN

01434021 WEST BRANCH NEVERSINK RIVER AT WINNISOOK LAKE NEAR FROST VALLEY, NY

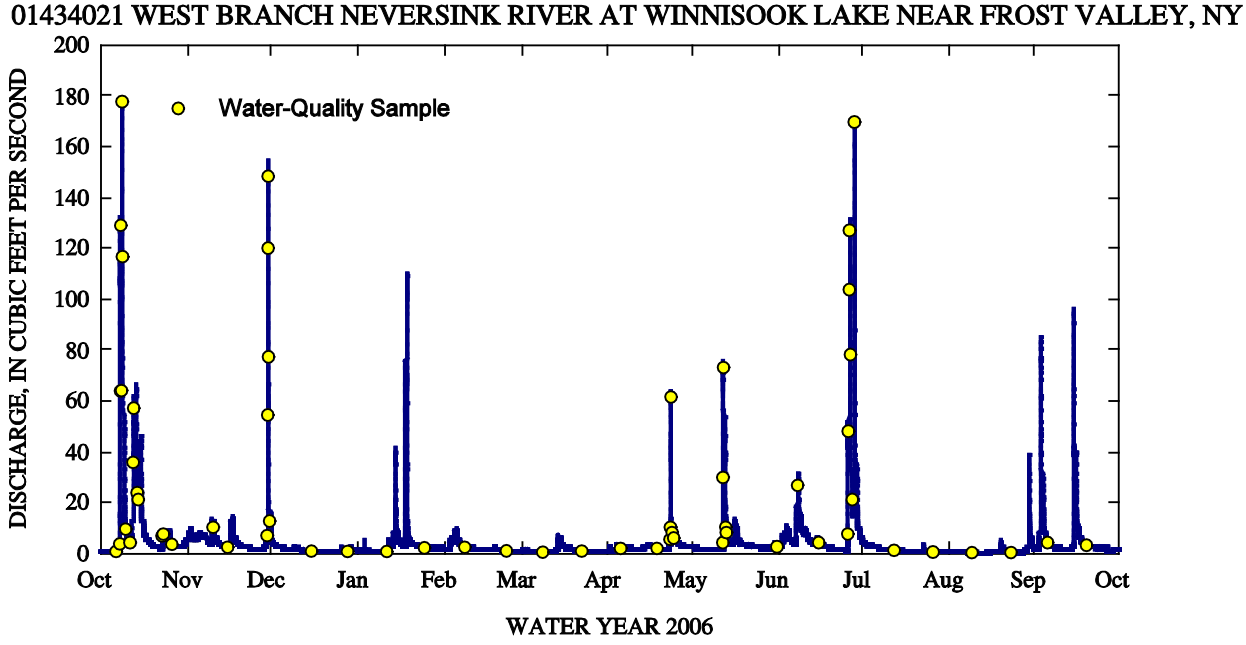
LOCATION. lat. 42°00′40″, long. 74°24′53″, Ulster County, Hydrologic Unit 02040104, on right bank 0.1 mi southwest of Winnisook Lake, and 4.5 mi northeast of Frost Valley.
DRAINAGE AREA. 0.77 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD. January 1991 to September 2006.
GAGE. Water-stage recorder and crest-stage gage. Elevation of gage is 2,680 ft above sea level, from topographic map.

WATER-QUALITY RECORDS

PERIOD OF RECORD. May 1991 to September 2006. Phosphorus concentrations began being analyzed in January 1999.
REMARKS. There were 60 samples collected during the 2006 water year. Nine storms were sampled with 1–7 samples collected per storm. All sample concentrations were within the range of concentrations measured previously.



01434021 WEST BRANCH NEVERSINK RIVER AT WINNISOOK LAKE NEAR FROST VALLEY, NY

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	60	60	60	60	60	60	60	60	4	59	60	4	59	59	60	60	60	60	60	NA
Mean	8.2	21.59	4.72	-17.40	0.71	0.30	0.20	0.25	0.61	1.26	0.02	0.00	0.49	3.86	3.82	0.78	0.39	0.23	0.07	NA
Std Dev	4.2	3.00	0.29	15.97	0.29	0.09	0.10	0.10	0.14	0.56	0.01	0.00	0.20	0.67	2.32	0.19	0.12	0.09	0.05	NA
Median	8.9	20.75	4.68	-15.74	0.67	0.30	0.16	0.24	0.64	1.19	0.02	0.00	0.42	3.99	3.20	0.82	0.42	0.23	0.06	NA
Min	0.5	17.29	4.28	-48.78	0.34	0.14	0.12	0.15	0.42	0.32	0.00	0.00	0.20	2.25	1.11	0.41	0.06	0.01	0.00	NA
Max	14.7	29.70	5.63	17.35	1.92	0.47	0.74	0.93	0.75	2.81	0.06	0.00	1.11	5.04	9.68	1.12	0.64	0.43	0.19	NA

SUMMARY STATISTICS, MAY 1991 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	889	506	1029	1028	949	1027	1026	1027	63	1029	684	56	1030	1029	1025	1030	428	1032	1030	NA
Mean	6.5	22.44	4.69	-20.66	0.82	0.39	0.19	0.25	0.32	1.16	0.02	0.00	0.44	4.80	2.83	0.93	0.39	0.24	0.05	NA
Std Dev	4.6	2.90	0.19	11.13	0.26	0.11	0.09	0.06	0.25	0.68	0.07	0.00	0.15	0.91	1.92	0.25	0.16	0.12	0.04	NA
Median	6.2	21.58	4.70	-19.78	0.82	0.41	0.18	0.25	0.25	1.06	0.01	0.00	0.43	4.90	2.26	0.96	0.38	0.23	0.05	NA
Min	-1.3	9.38	4.28	-56.50	0.27	0.13	0.03	0.03	0.00	0.00	0.00	0.00	0.02	0.18	0.14	0.00	0.06	0.00	0.00	NA
Max	15.2	33.60	6.53	96.96	3.22	1.46	0.74	0.99	1.50	4.48	1.30	0.01	2.22	6.53	11.65	2.29	0.98	0.69	0.31	NA

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	48	48	48	NA
Censored	7	16	35	NA
Mean	NC	NC	NC	NA
Std Dev	NC	NC	NC	NA
Median	0.004	0.003	NC	NA
Min	< 0.002	< 0.002	< 0.003	NA
Max	0.068	0.013	0.007	NA

SUMMARY STATISTICS, JANUARY 1999 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	323	324	322	NA
Censored	95	138	271	NA
Mean	NC	NC	NC	NA
Std Dev	NC	NC	NC	NA
Median	0.003	0.002	NC	NA
Min	< 0.002	< 0.002	< 0.001	NA
Max	0.141	0.019	0.008	NA

DELAWARE RIVER BASIN

01435000 NEVERSINK RIVER NEAR CLARYVILLE, NY

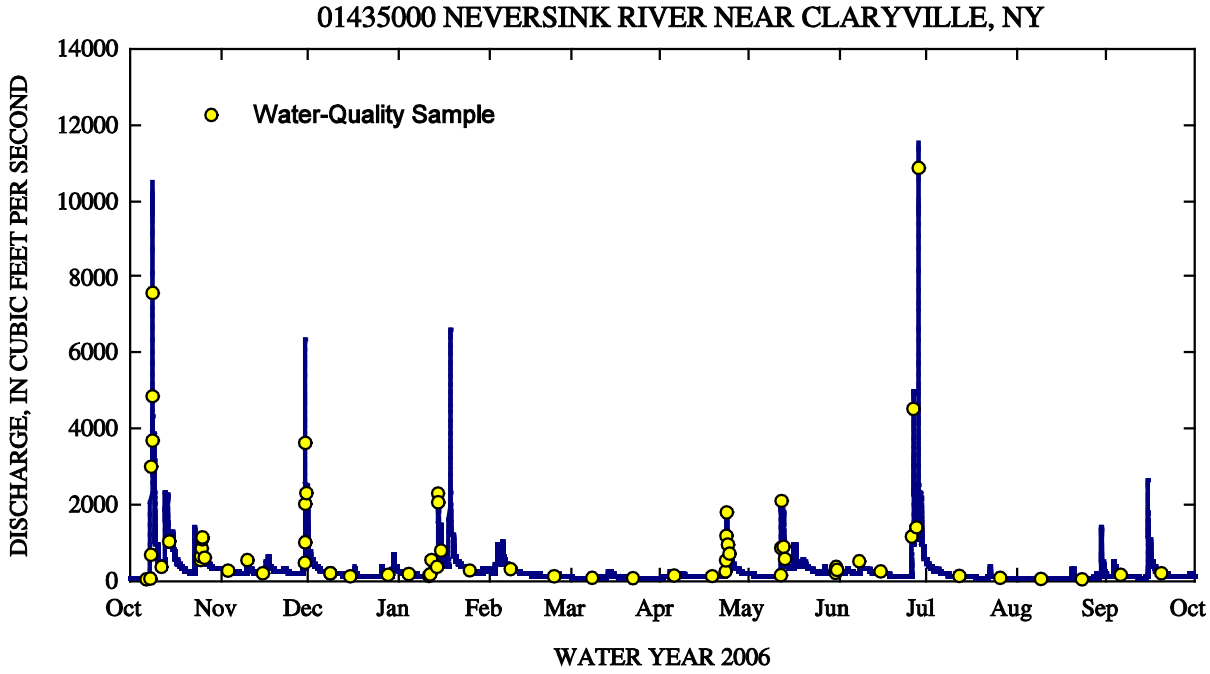
LOCATION. lat. 41°53′24″, long. 74°35′25″, Sullivan County, Hydrologic Unit 02040104, on left bank 50 ft downstream from covered bridge, 300 ft upstream from small tributary, 2.2 mi downstream from confluence of East and West Branches, and 2.2 mi southwest of Claryville.
DRAINAGE AREA. 66.6 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD (Revised). November 1937 to May 1949, July 1951 to September 2006. Prior to July 1951, published as "at Halls Mills near Curry" (01435500).
REVISED RECORDS (Revised). WDR NY-75-1: Gage datum. WDR NY-82-1: Drainage area.
GAGE. Water-stage recorder. Elevation of gage is 1,522.37 ft above sea level from topographic map. Prior to October 1, 1974, at datum 6.00 ft higher. October 1, 1974 to September 30, 1979, at datum 5.00 ft higher. November 1937 to May 1949, at site 1.3 mi downstream at elevation 1,470 ft, from topographic map.

WATER-QUALITY RECORDS

PERIOD OF RECORD. July 1991 to September 2006. Phosphorus concentrations began being analyzed in June 1998.
REMARKS. There were 70 samples collected during the 2006 water year. Nine storms were sampled with 2–7 samples collected per storm. Total dissolved aluminum reached a period of record high concentration at a discharge of 536 ft^3/s during a small storm in mid-November 2005.



01435000 NEVERSINK RIVER NEAR CLARYVILLE, NY

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	70	70	70	70	70	70	70	70	69	69	69	69	69	69	70	70	70	69	70	NA
Mean	8.4	26.63	6.13	38.37	2.22	0.51	0.33	1.44	0.29	1.05	0.02	0.00	2.64	4.32	2.39	0.92	0.09	0.02	0.01	NA
Std Dev	5.2	4.16	0.32	17.13	0.36	0.08	0.10	0.41	0.11	0.41	0.01	0.00	0.92	0.44	1.55	0.12	0.07	0.03	0.02	NA
Median	7.9	26.75	6.17	37.43	2.25	0.52	0.29	1.45	0.30	1.06	0.01	0.00	2.70	4.43	1.96	0.92	0.07	0.01	0.00	NA
Min	0.1	16.62	5.39	11.22	1.42	0.31	0.24	0.65	0.00	0.39	0.00	0.00	1.04	3.13	0.76	0.61	0.01	0	0.00	NA
Max	16.8	34.60	6.63	86.54	3.09	0.67	0.84	2.33	0.58	2.60	0.07	0.00	4.83	5.19	7.22	1.14	0.40	0.13	0.09	NA

SUMMARY STATISTICS, JULY 1991 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	817	625	814	812	815	816	813	795	410	813	611	409	813	814	812	786	363	813	813	NA
Mean	8.1	28.06	6.20	40.48	2.33	0.58	0.33	1.46	0.34	1.05	0.03	0.00	2.46	4.81	2.26	0.98	0.08	0.03	0.01	NA
Std Dev	5.5	6.18	0.40	22.73	0.45	0.11	0.12	1.06	0.19	0.64	0.06	0.00	1.63	0.70	1.45	0.21	0.07	0.03	0.02	NA
Median	7.7	27.30	6.29	39.60	2.32	0.58	0.30	1.29	0.31	0.93	0.02	0.00	2.06	4.80	1.90	0.98	0.05	0.02	0.00	NA
Min	-0.1	14.15	5.02	-22.93	0.93	0.07	0.20	0.13	0.00	0.00	0.00	0.00	0.21	2.19	0.00	0.40	0.01	0.00	0.00	NA
Max	25.3	70.90	7.25	169.30	4.79	1.43	1.33	19.10	1.22	4.93	1.23	0.01	17.55	8.28	10.30	3.68	0.40	0.17	0.14	NA

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	62	53	62	NA
Censored	8	20	46	NA
Mean	NC	NC	NC	NA
Std Dev	NC	NC	NC	NA
Median	0.004	0.002	NC	NA
Min	< 0.002	< 0.002	< 0.003	NA
Max	0.165	0.008	0.005	NA

SUMMARY STATISTICS, JUNE 1998 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	395	386	373	NA
Censored	75	158	320	NA
Mean	NC	NC	NC	NA
Std Dev	NC	NC	NC	NA
Median	0.004	0.003	NC	NA
Min	< 0.005	< 0.001	< 0.001	NA
Max	0.797	0.032	0.027	NA

HUDSON RIVER BASIN

01362465 BEAVER KILL TRIBUTARY ABOVE LAKE HILL, NY

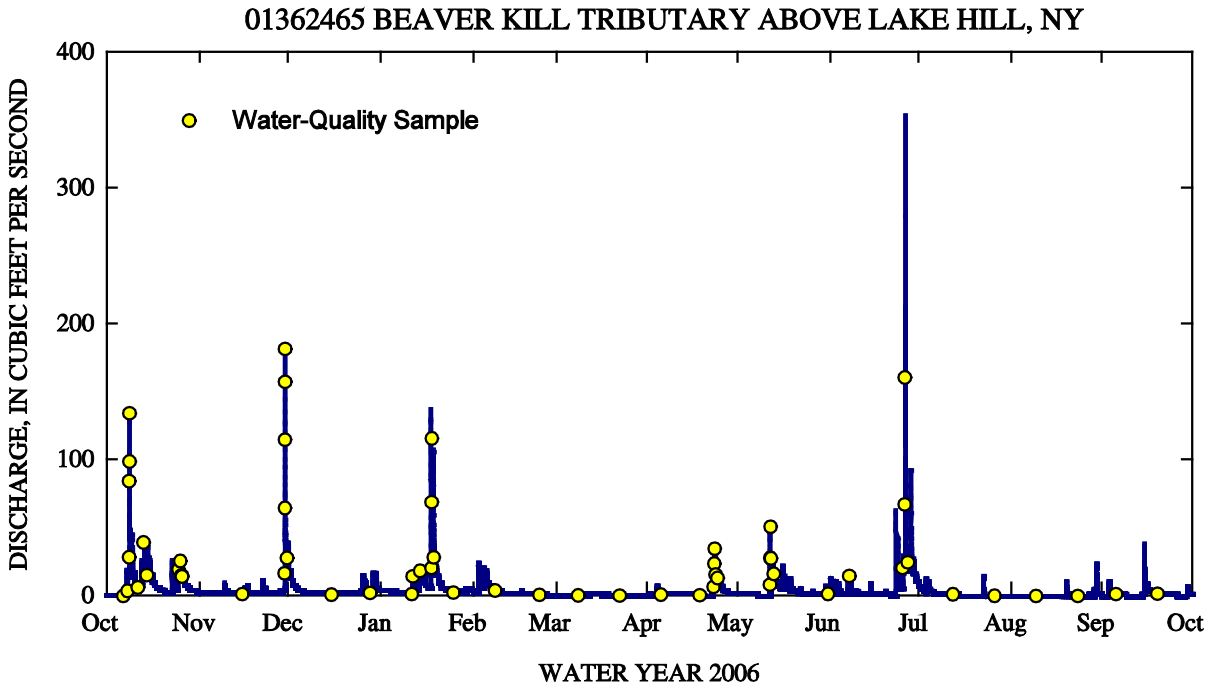
LOCATION. lat. 42°04′59″, long. 74°10′59″, Ulster County, Hydrologic Unit 02020006, on left bank about 500 ft upstream from confluence with Beaver Kill, and 1.2 mi north of Lake Hill.
DRAINAGE AREA. 0.98 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD. July 2000 to September 2006
GAGE. Water-stage recorder and crest-stage gage. Elevation of gage is 1,300 ft above NGVD of 1929, from topographic map.

WATER-QUALITY RECORDS

PERIOD OF RECORD. October 1997 to September 2006.
REMARKS. There were 58 samples collected during the 2006 water year. Nine storms were sampled with 1–6 samples collected per storm. Chloride reached a period of record high concentration at a discharge of 16.7 ft^3/s during a storm in late November. Nitrate reached a period of record high concentration at a discharge of 24.9 ft^3/s during a large storm in late June 2006. Sample water temperature reached a period of record high at a discharge of 0.06 ft^3/s in early August 2006.



01362465 BEAVER KILL TRIBUTARY ABOVE LAKE HILL, NY

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	58	58	58	58	58	58	58	58	52	58	58	52	58	58	58	58	58	58	58	46
Mean	9.6	22.39	6.40	76.52	2.39	0.57	0.31	0.73	0.15	0.38	0.02	0.00	0.72	4.10	2.69	1.54	0.04	0.01	0.00	18.6
Std Dev	6.0	5.23	0.32	53.52	0.71	0.14	0.19	0.16	0.07	0.39	0.01	0.00	0.39	0.69	1.60	0.35	0.03	0.01	0.01	32.4
Median	9.3	20.95	6.40	60.12	2.21	0.53	0.25	0.71	0.15	0.30	0.02	0.00	0.59	4.12	2.12	1.55	0.03	0.01	0.00	1.79
Min	0.1	15.48	5.74	21.50	1.39	0.36	0.13	0.45	0.00	0.00	0.00	0.00	0.38	2.69	0.70	0.84	0.01	0.00	0.00	0.39
Max	22.9	40.40	7.06	253.00	4.40	0.98	1.24	1.18	0.32	2.33	0.08	0.00	2.01	5.91	6.82	2.26	0.11	0.04	0.02	125

SUMMARY STATISTICS, OCTOBER 1997 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	343	348	348	348	347	347	347	347	314	343	347	312	343	343	348	347	346	348	348	139
Mean	10.0	25.05	6.52	93.26	2.69	0.64	0.28	0.83	0.17	0.29	0.02	0.00	0.62	4.64	2.62	1.70	0.04	0.01	0.01	12.6
Std Dev	6.3	5.02	0.32	50.73	0.68	0.14	0.22	0.19	0.12	0.34	0.02	0.00	0.25	1.00	1.69	0.32	0.06	0.08	0.06	35.9
Median	10.0	24.30	6.55	78.36	2.58	0.62	0.20	0.81	0.15	0.19	0.02	0.00	0.58	4.59	2.07	1.72	0.03	0.01	0.00	1.52
Min	-0.9	13.66	5.60	21.50	1.24	0.33	0.10	0.35	0.00	0.00	0.00	0.00	0.16	1.93	0.70	0.84	0.00	0.00	0.00	0.05
Max	22.9	45.30	7.15	355.91	6.25	1.31	2.04	1.45	0.77	2.33	0.14	0.05	2.01	7.95	8.78	2.37	0.45	1.19	1.01	348

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	47	47	47	57
Censored	2	6	30	11
Mean	NC	NC	NC	105
Std Dev	NC	NC	NC	371
Median	0.010	0.005	NC	7
Min	< 0.002	< 0.002	< 0.003	< 0.5
Max	0.300	0.016	0.006	2770

SUMMARY STATISTICS, OCTOBER 1997 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	255	255	255	262
Censored	11	39	226	23
Mean	NC	NC	NC	86.1
Std Dev	NC	NC	NC	1141
Median	0.006	0.004	NC	5
Min	< 0.002	< 0.002	< 0.003	< 0.1
Max	0.720	0.074	0.063	2770

HUDSON RIVER BASIN

01364959 RONDOUT CREEK ABOVE RED BROOK AT PEEKAMOOSE, NY

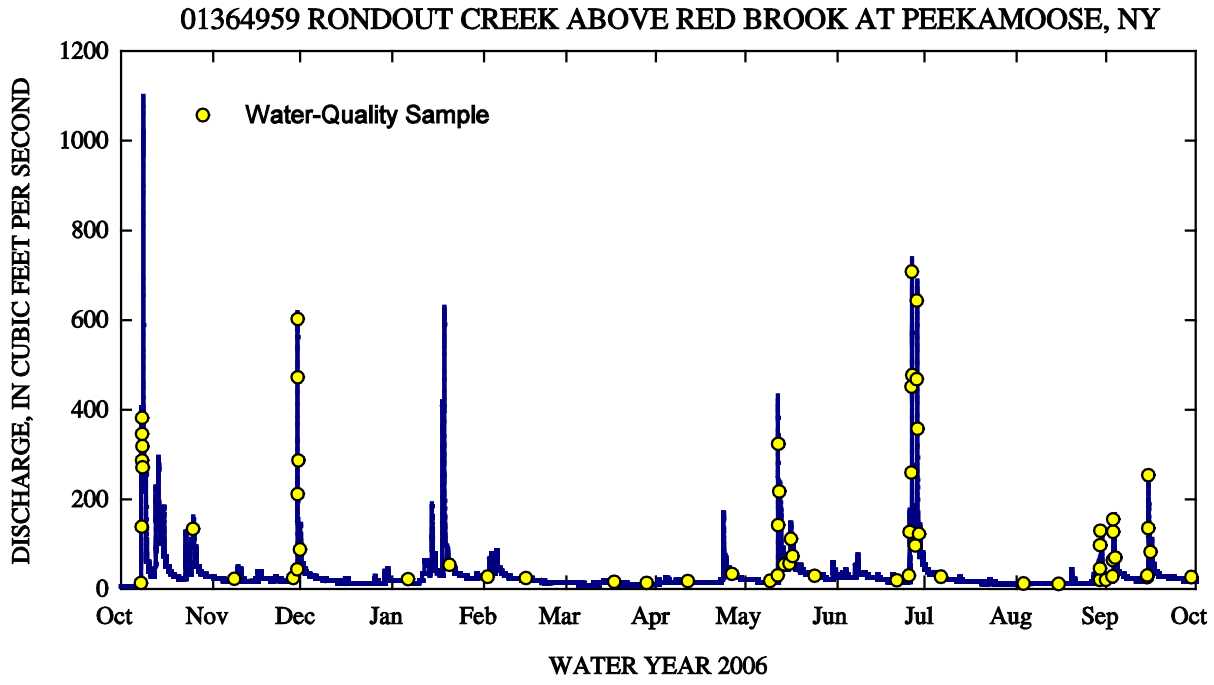
LOCATION. lat. 41°56′13″, long. 74°22′30″, Ulster County, Hydrologic Unit 02020007, 500 ft upstream from mouth of Red Brook, 0.8 mi upstream from outlet of Peekamoose Lake, and 0.8 mi north of Peekamoose.
DRAINAGE AREA. 5.36 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD. May 1996 to September 2006. Occasional discharge measurements, water years 1984–86, 1988–94.
GAGE. Water-stage recorder and crest-stage gage. Elevation of gage is 1,740 ft above sea level, from topographic map.

WATER-QUALITY RECORDS

PERIOD OF RECORD. May 1991 to September 2006.
REMARKS. There were 65 samples collected during the 2006 water year. Nine storms were sampled with a range of 1–13 samples collected per storm. Chloride reached a period of record high concentration in late June 2006 at a discharge of 11.6 ft^3/s. Sample water temperature reached a period of record high of 18.8°C at a discharge of 4.0 ft^3/s in early August 2006.



01364959 RONDOUT CREEK ABOVE RED BROOK AT PEEKAMOOSE, NY

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	65	65	65	65	65	65	65	65	1	57	65	NA	57	57	65	65	65	65	65	NA
Mean	11.1	18.55	5.12	-1.12	1.14	0.38	0.33	0.31	0.42	1.25	0.03	NA	0.58	3.89	3.30	0.85	0.23	0.10	0.04	NA
Std Dev	4.0	2.29	0.38	11.58	0.26	0.08	0.12	0.07		0.51	0.04	NA	0.26	0.54	1.72	0.23	0.11	0.07	0.04	NA
Median	12.6	17.78	5.03	-1.24	1.09	0.39	0.29	0.30	0.42	1.27	0.03	NA	0.49	3.85	3.24	0.85	0.22	0.09	0.03	NA
Min	1.2	15.54	4.59	-23.95	0.67	0.21	0.18	0.19	0.42	0.02	0.00	NA	0.37	2.83	0.83	0.25	0.06	0.01	0.00	NA
Max	18.8	23.80	6.24	41.50	1.95	0.57	0.83	0.50	0.42	2.80	0.36	NA	1.48	4.85	7.19	1.43	0.49	0.28	0.12	NA

SUMMARY STATISTICS, MAY 1991 TO SEPTEMBER 2006

	Temp °C	Spec Cond.	pH	ANC	Ca^{2+}	Mg^{2+}	K^{+}	Na^{+}	TDN	NO_3^{-}	NH_4^{+}	NO_2	Cl^{-}	SO_4^{2-}	DOC	SiO_2	Altd	Almono	Alorg	Turbidity
n	594	642	660	656	653	660	657	658	42	648	442	42	647	649	660	660	411	660	659	NA
Mean	9.6	19.85	5.30	1.44	1.36	0.47	0.30	0.35	0.32	1.30	0.03	0.00	0.49	4.55	2.63	0.99	0.21	0.09	0.03	NA
Std Dev	4.8	2.32	0.48	14.95	0.36	0.10	0.13	0.10	0.15	0.79	0.05	0.00	0.16	0.68	1.64	0.26	0.14	0.07	0.03	NA
Median	10.2	19.45	5.23	0.25	1.33	0.46	0.27	0.34	0.29	1.10	0.02	0.00	0.48	4.59	2.37	0.99	0.19	0.07	0.02	NA
Min	0.0	13.05	4.45	-34.80	0.10	0.00	0.06	0.00	0.15	0.00	0.00	0.00	0.17	1.86	0.04	0.22	0.02	0.00	0.00	NA
Max	18.8	31.10	6.44	118.84	3.87	0.86	1.00	1.07	0.97	5.03	0.57	0.00	1.48	6.20	15.70	1.96	1.32	0.32	0.18	NA

SUMMARY STATISTICS, OCTOBER 2005 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	NA	NA	NA	NA
Censored	NA	NA	NA	NA
Mean	NA	NA	NA	NA
Std Dev	NA	NA	NA	NA
Median	NA	NA	NA	NA
Min	NA	NA	NA	NA
Max	NA	NA	NA	NA

SUMMARY STATISTICS, MAY 1991 TO SEPTEMBER 2006 FOR SOLUTES WITH CENSORED VALUES

	TP	TDP	SRP	SSC
n	NA	NA	NA	NA
Censored	NA	NA	NA	NA
Mean	NA	NA	NA	NA
Std Dev	NA	NA	NA	NA
Median	NA	NA	NA	NA
Min	NA	NA	NA	NA
Max	NA	NA	NA	NA

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