



Water-Data Report 2010

01367800 PAPAKATING CREEK AT PELLETTOWN, NJ

HUDSON RIVER BASIN

LOCATION.--Lat 41°09'46", long 74°40'31" referenced to North American Datum of 1983, Frankford Township, Sussex County, NJ, Hydrologic Unit 02020007, on upstream left wingwall of bridge on County Route 565 (Pellettown Road) in Pellettown, 1.5 mi southeast of Wykertown, 3.9 mi northeast of Branchville, and 4.5 mi upstream of West Branch Papakating Creek.

DRAINAGE AREA.--15.8 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1959-64, 1999-2003. October 2003 to current year.

GAGE.--Water-stage, precipitation, and air temperature recorder and crest-stage gage. Datum of gage is 414.28 ft above NAVD of 1988 (levels from New Jersey Geological Survey benchmark).

REMARKS.--Records fair, except for estimated daily discharges, which are poor. Some regulation from unknown sources upstream. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 3	0745	209	4.57
Dec 27	0600	239	4.76
Jan 25	1730	295	5.22
Mar 14	0400	*708	*7.16
Mar 23	0515	561	6.57
Mar 29	0645	215	4.68
Mar 30	1830	396	5.79

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

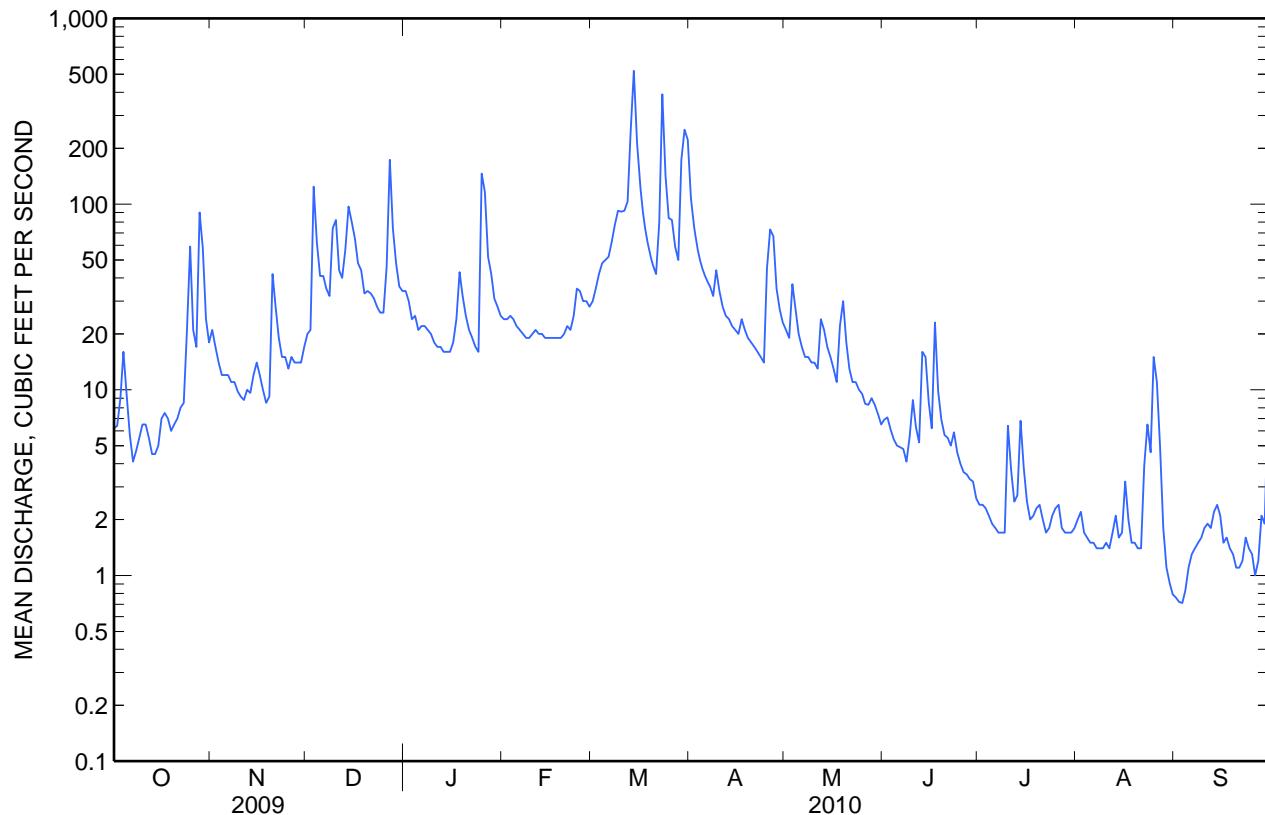
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	6.2	21	20	34	24	30	107	21	6.9	2.4	2.0	0.76
2	6.4	17	21	e30	24	35	75	19	7.1	2.4	2.2	0.72
3	9.0	14	124	e24	25	42	59	37	6.1	2.3	1.7	0.71
4	16	12	62	e25	24	48	49	27	5.4	2.1	1.6	0.83
5	9.4	12	41	e21	22	50	43	20	5.0	1.9	1.5	1.1
6	5.7	12	41	e22	21	52	39	17	4.9	1.8	1.5	1.3
7	4.1	11	35	e22	20	62	36	15	4.8	1.7	1.4	1.4
8	4.7	11	32	e21	19	77	32	15	4.1	1.7	1.4	1.5
9	5.5	9.8	74	e20	19	92	44	14	5.6	1.7	1.4	1.6
10	e6.5	9.2	82	e18	20	91	34	14	8.8	6.4	1.5	1.8
11	e6.5	8.8	e44	e17	21	92	28	13	6.3	3.7	1.4	1.9
12	e5.5	10	e40	e17	20	103	25	24	5.2	2.5	1.7	e1.8
13	e4.5	9.6	57	16	20	245	24	21	16	2.7	2.1	e2.2
14	e4.5	12	97	16	19	521	22	17	15	6.8	1.6	e2.4
15	e5.0	14	80	16	19	214	21	15	8.6	3.8	1.7	e2.1
16	e7.0	12	65	18	19	127	20	13	6.2	2.5	3.2	e1.5
17	e7.5	10	e48	24	19	86	24	11	23	2.0	2.0	e1.6
18	e7.0	8.5	e44	43	19	67	21	22	9.8	2.1	1.5	e1.4
19	e6.0	9.2	33	32	19	55	19	30	6.9	2.3	1.5	e1.3
20	e6.5	42	34	25	20	47	18	18	5.7	2.4	1.4	e1.1
21	e7.0	28	33	21	22	42	17	13	5.5	2.0	1.4	e1.1
22	e8.0	19	31	19	21	80	16	11	5.0	1.7	3.9	e1.2
23	e8.5	15	28	17	25	390	15	11	5.9	1.8	6.5	e1.6
24	e21	15	26	16	35	142	14	10	4.6	2.1	4.6	e1.4
25	59	13	26	146	e34	84	45	9.5	4.0	2.3	15	e1.3
26	21	15	46	116	e30	82	73	8.4	3.6	2.4	11	e1.0
27	17	14	173	52	30	59	67	8.3	3.5	1.8	4.9	e1.2
28	90	14	74	42	28	50	35	9.0	3.3	1.7	1.8	e2.1
29	58	14	48	e31	---	173	27	8.3	3.2	1.7	1.1	e1.9
30	24	17	36	28	---	251	23	7.4	2.6	1.7	0.91	e8.8
31	18	---	34	25	---	222	---	6.5	---	1.8	0.79	---
Total	465.0	429.1	1,629	974	638	3,711	1,072	485.4	202.6	76.2	86.20	50.62
Mean	15.0	14.3	52.5	31.4	22.8	120	35.7	15.7	6.75	2.46	2.78	1.69
Max	90	42	173	146	35	521	107	37	23	6.8	15	8.8
Min	4.1	8.5	20	16	19	30	14	6.5	2.6	1.7	0.79	0.71
Cfsm	0.95	0.91	3.33	1.99	1.44	7.58	2.26	0.99	0.43	0.16	0.18	0.11
In.	1.09	1.01	3.84	2.29	1.50	8.74	2.52	1.14	0.48	0.18	0.20	0.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2010, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	35.4	32.7	51.0	41.9	37.5	57.4	44.0	20.9	21.4	10.9	12.6	16.7
Max	97.5	55.0	76.2	77.0	103	120	90.7	42.2	66.3	25.7	23.6	72.0
(WY)	(2006)	(2007)	(2004)	(2006)	(2008)	(2010)	(2007)	(2004)	(2006)	(2006)	(2009)	(2004)
Min	15.0	14.3	28.6	25.2	12.0	15.7	20.2	12.8	5.65	2.46	1.95	1.44
(WY)	(2010)	(2010)	(2007)	(2009)	(2007)	(2006)	(2009)	(2007)	(2005)	(2010)	(2005)	(2005)

SUMMARY STATISTICS

	Calendar Year 2009	Water Year 2010	Water Years 2003 - 2010	
Annual total	8,646.1	9,819.12		
Annual mean	23.7	26.9	31.9	
Highest annual mean			40.3	2006
Lowest annual mean			25.7	2009
Highest daily mean	173	Dec 27	521	Mar 14
Lowest daily mean	4.1	Oct 7	0.71	Sep 3
Annual seven-day minimum	5.3	Oct 7	0.83	Aug 29
Maximum peak flow			708	Mar 14
Maximum peak stage			7.16	Mar 14
Instantaneous low flow			0.68	Sep 1-3
Annual runoff (cfsm)	1.50	1.70	2.02	
Annual runoff (inches)	20.36	23.12	27.40	
10 percent exceeds	43	60	63	
50 percent exceeds	18	15	19	
90 percent exceeds	7.5	1.6	3.3	



01367800 PAPAKATING CREEK AT PELLETTOWN, NJ—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1959-63, 1999 to current year.

REMARKS.--Cooperative Network Site Descriptor: Agricultural Land Use Indicator, NJ Department of Environmental Protection Watershed Management Area 2.

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; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/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)	Temperature, air, °C (00020)	Absorbance, UV, 254 nm, 1 cm path length, water, filtered, units (50624)	Absorbance, UV, organic constituents, 280 nm, 1 cm path length, water, filtered, units (61726)	Discharge, instantaneous, ft ³ /s (00061)	Dissolved oxygen, water, mg/L (00300)		Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)
							per centimeter	per centimeter		
11-19-2009	0845	762	11.0	.122	.093	6.9	9.7	81	7.8	
03-03-2010	0900	742	5.0	.109	.085	38	11.7	83	7.6	
05-13-2010	0910	760	15.0	.143	.110	22	9.8	84	7.8	
09-14-2010	0845	752	16.5	.100	.077	E 2.4	7.1	72	7.9	

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

Part 2 of 5

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/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 conductance, water, unfiltered, µS/cm at 25 °C (00095)	Temperature, 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, mg/L (70300)	Dissolved solids, water, filtered, sum of constituents, milligrams per liter (70301)		Hardness, water, mg/L as CaCO ₃ (00900)	Suspended solids, water, unfiltered, mg/L (00530)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)
					Dissolved solids, water, filtered, mg/L	sum of constituents, milligrams per liter				
11-19-2009	367	7.5	2.7	204	E 199	124	10	40.7	5.41	
03-03-2010	359	1.4	7.3	216	186	81.9	10	26.2	3.99	
05-13-2010	302	8.8	2.6	179	162	92.5	5	30.6	3.93	
09-14-2010	448	16.2	7.7	264	E 255	185	8	60.9	8.00	

01367800 PAPAKATING CREEK AT PELLETTOWN, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 3 of 5

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/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	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, fixed endpoint (pH 4.5)	Carbon (inorganic plus organic), titration, laboratory, suspended sediment, total, mg/L (90410)	Chloride, water, filtered, mg/L (00694)	Fluoride, water, filtered, mg/L (00940)	Inorganic carbon, suspended sediment, total, mg/L (00688)	Silica, water, filtered, mg/L as SiO ₂ (00955)	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, filtered, mg/L as N (00623)
11-19-2009	1.84	24.1	92	.19	43.3	.09	<.06	7.3	19.4	.24
03-03-2010	1.80	30.7	56	.45	63.5	<.08	<.06	7.8	14.6	.22
05-13-2010	1.02	21.2	76	.26	37.8	.09	<.06	6.5	12.8	.26
09-14-2010	2.15	22.9	132	.46	43.9	E .07	<.06	9.7	25.3	.24

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 4 of 5

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO₂, silicon dioxide; cm, centimeter; ft³/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	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 in water, mg/L (49570)	Phosphoru s, water, filtered, mg/L as P (00666)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, filtered, mg/L (00602)	Total nitrogen, water, unfiltered, mg/L (00600)	Organic carbon, suspended sediment, total, mg/L (00689)
11-19-2009	E .008	.39	.010	<.03	.012	.022	.63	<.66	.19
03-03-2010	.050	.67	.017	.06	.022	.040	.89	.95	.45
05-13-2010	.024	.44	--	.04	.025	.038	.70	.74	.26
09-14-2010	.018	.59	--	.08	.028	.049	.84	.92	.46

01367800 PAPAKATING CREEK AT PELLETTOWN, NJ—Continued

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

Part 5 of 5
[%; percent; ANC, acid
neutralizing capacity;
CaCO₃, calcium carbonate;
N, nitrogen; NTRU,
nephelometric turbidity
ratio unit; P, phosphorus;
SiO₂, silicon dioxide; cm,
centimeter; ft³/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	Organic carbon, water, filtered, mg/L (00681)
11-19-2009	3.5
03-03-2010	3.0
05-13-2010	3.7
09-14-2010	2.9