

01443500 PAULINS KILL AT BLAIRSTOWN, NJ

DELAWARE RIVER BASIN

LOCATION.--Lat 40°58'51", long 74°57'12" referenced to North American Datum of 1983, Blairstown Township, Warren County, NJ, Hydrologic Unit 02040105, on right bank 1,200 ft upstream from bridge on State Route 94 in Blairstown, 1,400 ft upstream from Blairs Creek, and 10 mi upstream from mouth.

DRAINAGE AREA.--126 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1921 to September 1976, October 1977 to current year.

REVISED RECORDS.--WSP 971: 1942. WSP 1382: 1952-53(M).

GAGE.--Water-stage recorder. Concrete control at current location since Aug 1941. Datum of gage is 335.86 ft above NGVD of 1929. Prior to May 23, 1922, a non-recording gage was located at former highway bridge 1,300 ft downstream of current location. From May 23, 1922 to Jun 24, 1931, a water-stage recorder was located 1,300 ft downstream at former highway bridge. Water-stage recorder was located 100 ft downstream of current location from Aug 8, 1931 to Jul 28, 1939 (same datum). Water-stage recorder was relocated to current site on Jul 28, 1939. A concrete control was 280 ft downstream of current location from Aug 1931 until it was destroyed on Jun 1941. Water-stage recorder was temporarily relocated to old site (100 ft downstream of current location) from Jun 9 to Aug 4, 1941 during construction of current control.

REMARKS.--Records good, except for estimated daily discharges, which are fair. Temporary fluctuations caused by unknown source and flow regulated slightly by Swartswood Lake and other lakes and ponds. Pumpage from limestone quarry entered tributary upstream from gage for about 60 years, but largely ceased in April 2004. Satellite gage-height telemetry at station. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov 9	0745	1,170	3.90
Mar 2	2100	1,210	3.97
Apr 16	1000	*4,400	*8.26

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	133	372	329	269	125	104	302	309	74	74	90	63
2	180	380	414	317	92	653	324	318	73	58	78	55
3	161	370	357	304	93	855	315	292	71	51	68	49
4	150	322	324	295	88	547	325	263	129	50	64	46
5	269	295	307	286	82	390	408	239	137	62	54	43
6	245	287	294	292	85	e300	343	224	112	61	47	40
7	197	281	285	287	88	252	300	203	90	53	46	39
8	175	427	270	418	87	e225	270	196	81	48	166	37
9	157	1,020	254	448	87	e195	251	190	80	43	216	37
10	158	785	241	468	84	187	229	186	73	38	271	37
11	146	604	233	405	80	223	212	184	68	55	345	40
12	223	513	222	366	65	263	e285	176	61	66	233	45
13	222	467	211	354	63	295	360	169	59	65	180	41
14	182	449	190	354	53	342	304	153	56	52	142	37
15	168	409	205	357	91	450	967	139	54	44	118	35
16	215	398	205	355	135	440	3,870	144	55	42	101	32
17	220	671	188	316	151	351	2,920	155	80	37	90	31
18	285	571	177	297	143	365	2,110	144	67	58	87	30
19	280	479	163	293	138	310	1,470	131	58	74	75	29
20	289	423	152	283	135	297	1,010	130	103	62	70	27
21	292	377	146	263	98	317	748	125	91	51	103	27
22	278	346	144	255	103	353	599	114	96	43	152	27
23	263	449	225	245	106	752	507	104	85	106	128	27
24	250	599	248	232	100	731	445	99	70	280	108	25
25	236	494	236	219	99	665	397	92	59	210	96	22
26	226	428	253	e190	103	575	416	88	55	143	104	21
27	214	389	242	e165	99	522	465	87	54	114	102	21
28	420	362	229	162	98	479	458	82	153	163	89	21
29	675	336	204	157	---	413	393	79	121	160	78	21
30	554	317	186	e140	---	362	347	73	92	131	71	20
31	434	---	180	141	---	327	---	69	---	110	72	---
Total	7,897	13,620	7,314	8,933	2,771	12,540	21,350	4,957	2,457	2,604	3,644	1,025
Mean	255	454	236	288	99.0	405	712	160	81.9	84.0	118	34.2
Max	675	1,020	414	468	151	855	3,870	318	153	280	345	63
Min	133	281	144	140	53	104	212	69	54	37	46	20
Cfsm	2.02	3.60	1.87	2.29	0.79	3.21	5.65	1.27	0.65	0.67	0.93	0.27
In.	2.33	4.02	2.16	2.64	0.82	3.70	6.30	1.46	0.73	0.77	1.08	0.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2007, BY WATER YEAR (WY)

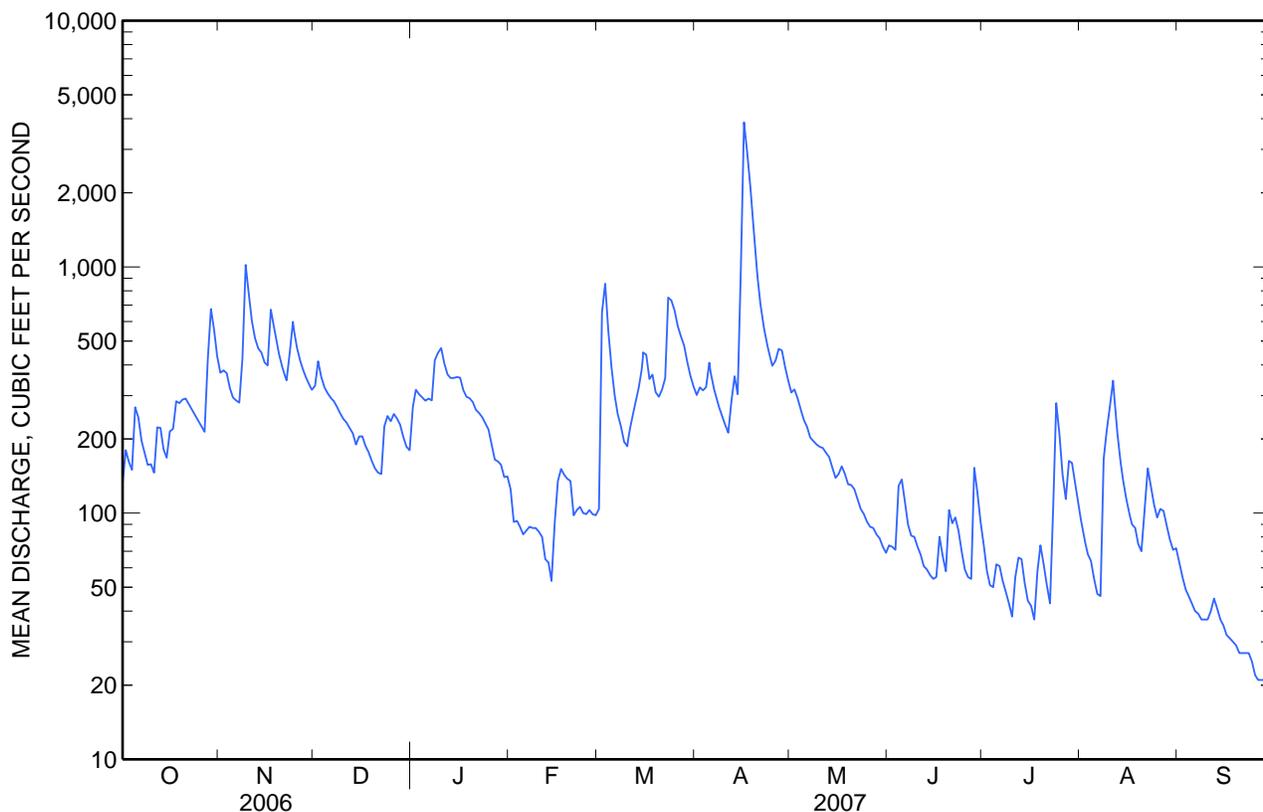
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	122	173	222	230	245	367	341	221	160	114	105	110
Max	767	479	862	712	516	963	930	650	773	527	663	626
(WY)	(2006)	(1933)	(1997)	(1979)	(1951)	(1936)	(1983)	(1989)	(2003)	(1945)	(1955)	(1933)
Min	20.5	22.1	35.5	37.8	47.3	65.0	106	54.6	41.0	19.4	19.6	18.2
(WY)	(1964)	(1965)	(1999)	(2002)	(2002)	(2002)	(1985)	(1941)	(1965)	(1955)	(1932)	(1964)

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SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1922 - 2007	
Annual total	100,127		89,112			
Annual mean	274		244		201	
Highest annual mean					362	1952
Lowest annual mean					67.4	1965
Highest daily mean	1,770	Jun 29	3,870	Apr 16	5,950	Aug 19, 1955
Lowest daily mean	33	Aug 23	20	Sep 30	5.0	Aug 13, 1930
Annual seven-day minimum	36	Aug 19	22	Sep 24	11	Aug 3, 1999
Maximum peak flow			4,400	Apr 16	8,750	Aug 19, 1955
Maximum peak stage			8.26	Apr 16	^a 11.12	Aug 19, 1955
Instantaneous low flow			19	Sep 30	2.8	Nov 1, 1922
Annual runoff (cfsm)	2.18		1.94		1.59	
Annual runoff (inches)	29.56		26.31		21.63	
10 percent exceeds	532		448		421	
50 percent exceeds	209		180		134	
90 percent exceeds	89		49		35	

^a From high-water mark in gage house.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1921, 1925, 1957-60, 1962-63, 1976 to current year.

REMARKS.--Total nitrogen (00600) equals the sum of filtered ammonia-plus-organic nitrogen (00623), filtered nitrite-plus-nitrate nitrogen (00631), and total particulate nitrogen (49570). Cooperative Network Site Descriptor: Undeveloped Land Use Indicator, New Jersey Department of Environmental Protection Watershed Management Area 1.

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 2006 TO SEPTEMBER 2007**

Part 1 of 3

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 corrctd NTRU (63676)	UV absorbance, 254 nm, wat flt units /cm (50624)	UV absorbance, 280 nm, wat flt units /cm (61726)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf 25 degC μS/cm (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
Nov 30...	1045	316	3.0	.127	.096	757	10.9	95	8.1	358	16.0	9.0	140
Feb 07...	1045	83	1.8	.063	.047	753	14.6	100	8.2	441	-7.0	1.8	180
May 21...	1045	126	2.2	.094	.070	755	9.8	100	8.3	456	14.0	16.3	180
Aug 28...	1030	88	2.4	.155	.115	756	8.5	97	8.2	424	24.5	22.1	150

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Part 2 of 3

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

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total non-filterable, mg/L (00530)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
Nov 30...	35.5	12.2	1.29	21.3	119	33.0	<.10	5.9	12.8	196	197	3	.29
Feb 07...	43.9	17.3	1.38	25.8	153	38.3	E.08	5.3	16.8	244	247	1	.25
May 21...	43.0	16.9	1.35	25.8	156	42.6	E.06	3.2	14.4	243	247	5	.28
Aug 28...	36.9	13.5	1.43	27.6	134	46.0	E.07	5.7	14.4	228	242	3	.33

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 3

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

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water fltrd, mg/L as N (00631)	Partic- ulate nitro- gen, susp, water, mg/L (49570)	Total nitro- gen, water, fltrd, mg/L (00602)	Total nitro- gen, water, unfltrd mg/L (00600)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inor- ganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Boron, water, fltrd, µg/L (01020)
Nov 30...	E.009	.58	.06	.88	.93	.011	.013	.027	.5	<.1	.5	3.5	12
Feb 07...	.019	.88	.04	1.1	1.2	E.009	.009	.017	.3	<.1	.3	2.1	12
May 21...	<.010	.47	.09	.75	.84	E.009	.016	.027	.8	<.1	.8	2.9	14
Aug 28...	.020	.36	.05	.69	.74	.025	.033	.040	.4	<.1	.4	4.3	16