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 mi^2.

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 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb 14	0245	*2,540	*6.13
Feb 18	2245	2,400	5.93
Mar 5	1745	2,420	5.96
Mar 9	0700	2,390	5.91

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	20	257	273	643	223	465	391	269	142	61	39	20
2	20	224	248	604	441	439	426	251	126	55	42	19
3	20	195	257	454	373	410	368	237	113	52	65	19
4	19	176	281	397	324	507	395	231	130	59	57	17
5	20	153	246	360	318	1,900	434	215	137	68	48	17
6	19	146	225	346	422	1,780	388	194	124	74	63	27
7	18	144	206	345	513	1,260	354	178	116	63	85	140
8	18	130	197	350	454	1,510	333	166	115	56	71	118
9	25	119	195	343	396	2,180	314	193	123	53	54	107
10	87	128	221	323	375	1,640	300	307	113	49	47	163
11	94	134	237	311	324	1,200	287	268	137	44	55	127
12	236	124	245	325	295	911	304	229	119	40	76	97
13	268	129	253	298	1,080	749	308	204	104	38	71	96
14	195	134	249	302	2,170	654	275	182	98	53	57	87
15	132	226	241	305	1,550	639	250	171	110	56	59	77
16	112	331	e230	283	1,070	609	227	203	95	50	92	64
17	94	266	238	254	790	550	214	361	91	43	69	54
18	79	232	222	266	1,570	499	201	330	87	40	55	48
19	78	220	200	284	1,950	557	192	294	120	37	47	42
20	185	228	193	255	1,300	838	185	276	109	35	40	37
21	214	264	192	e205	916	715	176	286	117	36	36	35
22	156	246	186	e200	760	614	169	261	105	35	34	34
23	121	219	220	204	674	543	159	235	99	38	32	29
24	113	194	761	194	592	499	148	209	90	77	29	27
25	112	182	665	180	539	457	145	192	80	85	28	26
26	110	258	537	172	536	425	141	176	75	69	26	41
27	414	444	469	165	656	395	134	167	73	64	22	72
28	717	385	440	161	566	381	191	165	70	61	21	87
29	475	331	599	157	490	367	450	152	69	53	21	107
30	351	302	623	177	---	334	336	141	65	47	22	95
31	297	---	664	186	---	323	---	134	---	42	21	---
Total	4,819	6,521	10,013	9,049	21,667	24,350	8,195	6,877	3,152	1,633	1,484	1,929
Mean	155	217	323	292	747	785	273	222	105	52.7	47.9	64.3
Max	717	444	761	643	2,170	2,180	450	361	142	85	92	163
Min	18	119	186	157	223	323	134	134	65	35	21	17
Cfsm	1.23	1.73	2.56	2.32	5.93	6.23	2.17	1.76	0.83	0.42	0.38	0.51
In.	1.42	1.93	2.96	2.67	6.40	7.19	2.42	2.03	0.93	0.48	0.44	0.57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	122	174	223	231	251	372	341	221	159	113	105	109
Max	767	479	862	712	747	963	930	650	773	527	663	626
(WY)	(2006)	(1933)	(1997)	(1979)	(2008)	(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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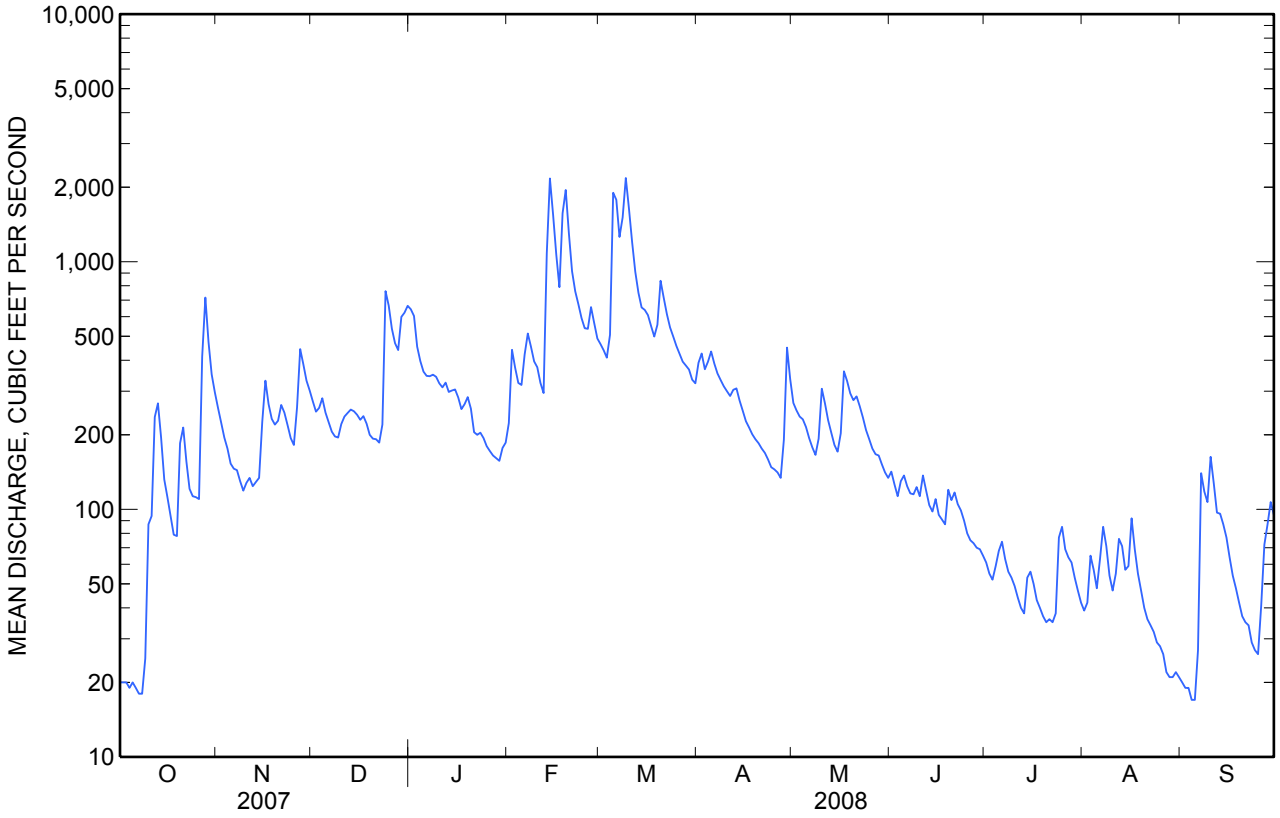
SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1922 - 2008	
Annual total	81,634		99,689			
Annual mean	224		272		201	
Highest annual mean					362	1952
Lowest annual mean					67.4	1965
Highest daily mean	3,870	Apr 16	2,180	Mar 9	5,950	Aug 19, 1955
Lowest daily mean	18	Oct 7	17	Sep 4	5.0	Aug 13, 1930
Annual seven-day minimum	19	Oct 2	19	Oct 2	11	Aug 3, 1999
Maximum peak flow			2,540	Feb 14	8,750	Aug 19, 1955
Maximum peak stage			6.13	Feb 14	[a]11.12	Aug 19, 1955
Instantaneous low flow			14	Oct 9	2.8	Nov 1, 1922
Annual runoff (cfsm)	1.78		2.16		1.60	
Annual runoff (inches)	24.10		29.43		21.72	
10 percent exceeds	427		574		423	
50 percent exceeds	144		192		135	
90 percent exceeds	43		38		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.--Cooperative Network Site Descriptor: Undeveloped Land Use Indicator, NJ 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 2007 TO SEPTEMBER 2008
Part 1 of 3
[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Time	Instantaneous discharge, ft3/s (00061)	Turbdty 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 µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
Dec													
11...	1030	241	1.7	.110	.082	760	12.7	94	8.1	431	4.0	3.1	140
Mar													
11...	1030	1,220	5.4	.106	.080	758	12.5	95	7.5	297	6.0	3.7	96
May													
28...	1030	165	3.1	.120	.091	760	9.4	97	8.2	415	17.0	17.0	150
Aug													
27...	1030	22	1.4	.107	.080	756	8.8	96	8.3	511	20.0	19.8	180

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 2 of 3
[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

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 as SiO2 (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)
Dec													
11...	36.1	12.8	1.37	30.7	119	49.9	E.07	5.6	18.0	E229	237	1	.25
Mar													
11...	24.4	8.46	1.16	20.6	78	35.8	<.12	4.3	10.6	E154	160	9	.25
May													
28...	36.2	13.3	1.01	24.9	130	42.9	E.07	2.8	12.9	E213	222	5	.29
Aug													
27...	40.9	19.3	1.77	35.2	159	57.4	E.09	3.1	17.1	E271	278	6	.34

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 3 of 3
[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water fltrd, mg/L as N (00631)	Particulate nitrogen, susp, water, mg/L (49570)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L as P (00666)	Phosphorus, water, unfltrd mg/L as P (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inorganic 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)
Dec													
11...	.037	.69	.05	.94	.99	E.009	.008	.014	.4	<.04	.4	3.3	13
Mar													
11...	.013	.44	.09	.69	.78	E.006	.008	.025	.7	M	.6	3.0	8.6
May													
28...	E.007	.28	.07	.57	.64	E.005	.012	.025	.6	<.04	.6	3.7	12
Aug													
27...	.016	.14	E.03	.48	E.51	.020	.029	.037	.4	<.04	.3	3.6	18