

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 Highway 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)
Oct 09	0630	*3,140	*6.90
Oct 15	0830	1,940	5.22
Jan 19	0030	1,820	5.04
Jun 28	2230	2,020	5.35

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	33	428	528	400	495	160	82	213	119	870	91	262
2	32	414	426	384	445	145	83	191	141	627	83	261
3	31	388	371	676	576	143	81	180	191	496	73	357
4	30	369	344	701	671	137	107	167	225	387	73	314
5	30	354	319	622	706	136	121	154	200	374	66	250
6	30	341	299	596	606	137	104	143	164	354	59	229
7	28	325	273	530	539	134	95	129	171	307	54	201
8	901	302	248	483	491	134	175	120	395	259	53	171
9	2,750	278	247	454	451	134	254	112	318	225	47	157
10	1,650	295	241	433	415	134	206	106	250	210	44	138
11	926	273	232	418	388	150	179	103	209	191	45	117
12	1,390	251	225	510	375	144	170	258	180	183	46	100
13	1,710	232	210	475	356	158	153	280	157	227	42	89
14	1,700	219	e185	530	337	170	150	217	139	204	40	107
15	1,850	210	e180	678	321	153	172	188	139	179	45	360
16	1,410	215	362	558	326	130	161	285	124	165	48	433
17	953	363	485	527	344	119	143	450	106	142	44	345
18	712	328	391	1,020	331	108	128	334	98	125	41	269
19	582	275	341	1,470	277	103	120	288	91	113	39	222
20	501	250	312	1,030	261	100	109	276	101	101	39	195
21	439	238	286	790	246	97	102	236	95	134	37	167
22	429	314	265	686	235	94	116	209	86	224	35	141
23	630	335	253	690	231	91	496	184	81	282	33	127
24	570	295	247	703	226	89	667	163	140	198	33	119
25	710	268	255	635	211	89	536	144	179	156	33	113
26	907	242	436	565	199	97	431	151	431	132	54	103
27	728	232	445	493	179	96	363	165	695	118	93	94
28	614	235	380	471	175	90	313	141	1,350	143	379	88
29	549	229	382	464	---	87	268	124	1,770	133	358	145
30	490	600	515	491	---	84	238	115	1,280	117	512	142
31	451	---	455	491	---	82	---	127	---	100	352	---
Total	23,766	9,098	10,138	18,974	10,413	3,725	6,323	5,953	9,625	7,476	2,991	5,816
Mean	767	303	327	612	372	120	211	192	321	241	96.5	194
Max	2,750	600	528	1,470	706	170	667	450	1,770	870	512	433
Min	28	210	180	384	175	82	81	103	81	100	33	88
Cfsm	6.08	2.41	2.60	4.86	2.95	0.95	1.67	1.52	2.55	1.91	0.77	1.54
In.	7.02	2.69	2.99	5.60	3.07	1.10	1.87	1.76	2.84	2.21	0.88	1.72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2006, BY WATER YEAR (WY)

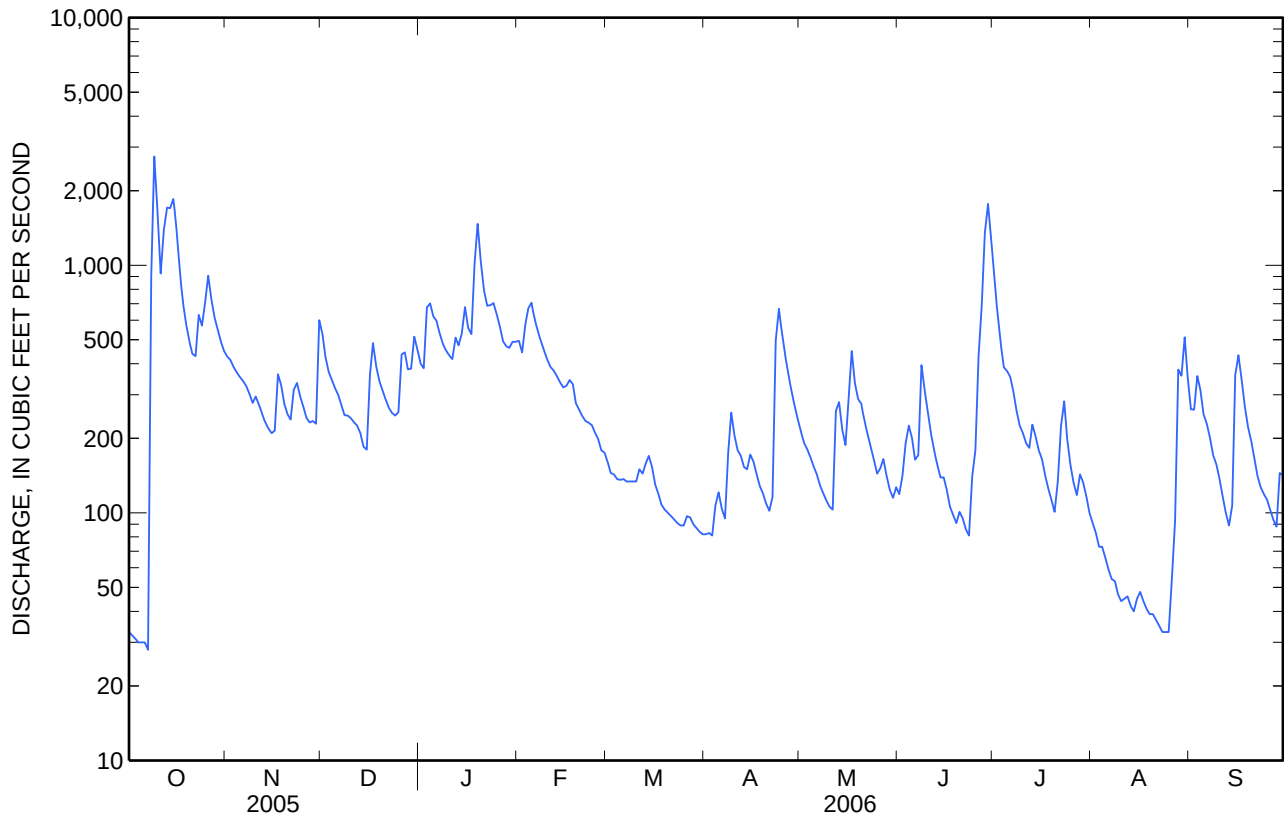
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	120	170	222	230	246	367	337	222	161	114	105	111
Max	767	479	862	712	516	963	930	650	773	527	663	626
(WY)	(2006)	(1933)	(1997)	(1979)	(1951)	(1936)	(1983)	(1989)	(2003)	(1945)	(1955)	(1933)
Min	20.5	22.1	35.5	37.8	47.3	65.0	106	54.6	41.0	19.4	19.6	18.2
(WY)	(1964)	(1965)	(1999)	(2002)	(2002)	(2002)	(1985)	(1941)	(1965)	(1955)	(1932)	(1964)

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SUMMARY STATISTICS

	Calendar Year 2005		Water Year 2006		Water Years 1922 - 2006	
Annual total	105,814		114,298			
Annual mean	290		313		200	
Highest annual mean					362	1952
Lowest annual mean					67.4	1965
Highest daily mean	3,160	Apr 3	2,750	Oct 9	5,950	Aug 19, 1955
Lowest daily mean	16	Aug 7	28	Oct 7	5.0	Aug 13, 1930
Annual seven-day minimum	20	Aug 2	31	Oct 1	11	Aug 3, 1999
Maximum peak flow			3,140	Oct 9	8,750	Aug 19, 1955
Maximum peak stage			6.90	Oct 9	^a 11.12	Aug 19, 1955
Instantaneous low flow			27	Oct 7	2.8	Nov 1, 1922
Annual runoff (cfs)	2.30		2.49		1.59	
Annual runoff (inches)	31.24		33.75		21.57	
10 percent exceeds	589		617		420	
50 percent exceeds	220		225		134	
90 percent exceeds	30		83		35	

^a From high-water mark in gage house.



01443500 PAULINS KILL AT BLAIRSTOWN, NJ—Continued

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). Bacteria samples were collected synoptically over a 30-day period during the summer.

COOPERATIVE NETWORK SITE DESCRIPTOR: Undeveloped Land Use Indicator, New Jersey Department of Environmental Protection (NJDEP)
Watershed Management Area 1.

COOPERATION.--Physical measurements and samples for laboratory analyses were provided by personnel of the NJDEP. Bacteria samples were provided by the local county health department under the direction of the NJDEP through the County Environmental Health Act. Determinations of filtered ammonia, filtered orthophosphorus, BOD, total suspended residue, fecal coliform, E. coli, and enterococcus bacteria were performed by the NJ Department of Health and Senior Services.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 1 of 4

[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 uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
Nov 22...	1030	311	2.4	.173	.131	730	11.3	96	8.2	367	2.0	6.4	140
Feb 15...	1030	322	1.8	.086	.065	758	13.2	95	8.2	387	3.0	1.7	140
Jun 13...	1100	155	5.2	.224	.172	754	8.7	92	8.2	379	20.8	17.3	130
Aug 23...	1015	33	2.0	.126	.095	752	7.9	92	8.4	511	17.5	22.4	190

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 4

[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 at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
Nov 22...	34.8	12.0	1.59	23.4	101	37.6	E.07	5.4	17.9	196	202	3	.34
Feb 15...	35.6	13.2	1.29	26.9	111	44.7	E.05	4.8	15.3	211	224	2	.21
Jun 13...	33.5	12.0	1.08	22.6	119	39.5	E.07	5.6	11.3	198	219	4	.42
Aug 23...	43.4	18.9	1.56	30.7	168	54.0	E.07	2.5	14.5	268	282	1	.33

01443500 PAULINS KILL AT BLAIRSTOWN, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 3 of 4

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

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate 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)	BOD, water, unfltrd 5 day, 20 degC mg/L (00310)
Nov 22...	.011	.49	.04	.83	.87	E.007	.009	.025	.4	<.1	.4	4.5	<1.0
Feb 15...	.024	.68	.04	.90	.93	E.008	.006	.017	.3	<.1	.3	2.5	<1.0
Jun 13...	.058	.30	.27	.73	.99	.020	.032	.056	1.5	<.1	1.5	5.4	E1.6
Aug 23...	.014	.22	.05	.55	.60	.034	.021	.029	.4	<.1	.4	3.5	E2.1

**WATER-QUALITY
DATA**
**WATER YEAR
OCTOBER 2005 TO
SEPTEMBER 2006**

Part 4 of 4

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

Date	Boron, water, fltrd, ug/L (01020)
Nov 22...	13
Feb 15...	11
Jun 13...	14
Aug 23...	--

01443500 PAULINS KILL AT BLAIRSTOWN, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Date	Time	Instantaneous discharge, cfs (00061)	Temperature, water, deg C (00010)	Enterococci, m-E MF, water, col/ 100 mL (31649)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coliform, ECbroth water, MPN/ 100 mL (31615)
Aug						
10...	0815	44	21.8	270	50	170
17...	0815	46	21.1	260	120	500
24...	0945	33	21.8	290	80	170
31...	0845	362	20.2	1,400	40	1,300
Sep						
07...	0850	206	18.5	120	120	170