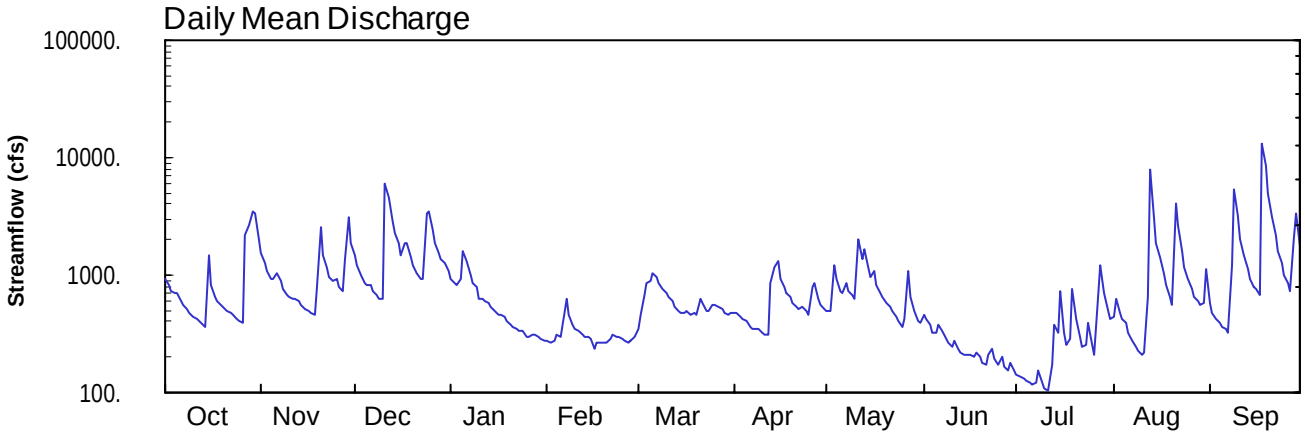
2004 Water Year

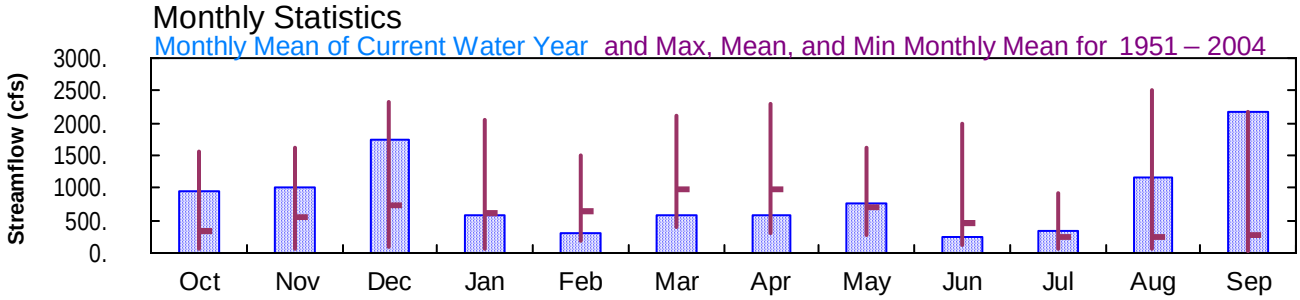
BRODHEAD CREEK BASIN

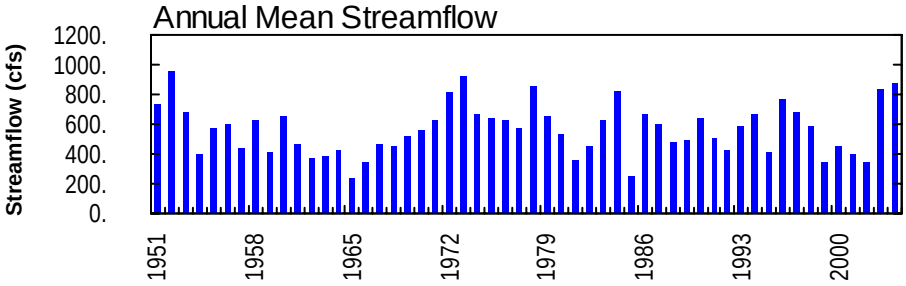
01442500 Brodhead Creek at Minisink Hills, PA

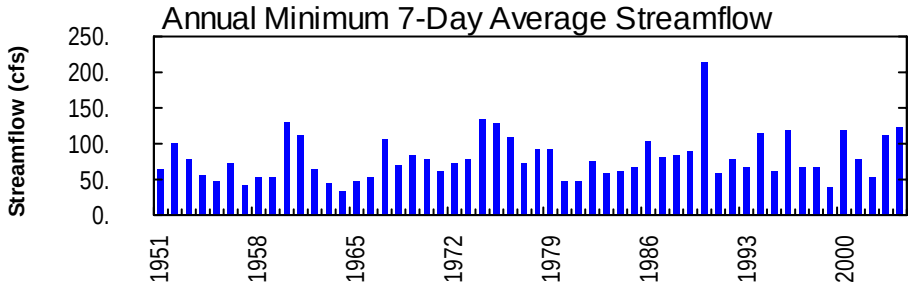
Latitude: 40° 59 ' 55" Longitude: 075° 08 ' 35" Hydrologic Unit Code: 02040104

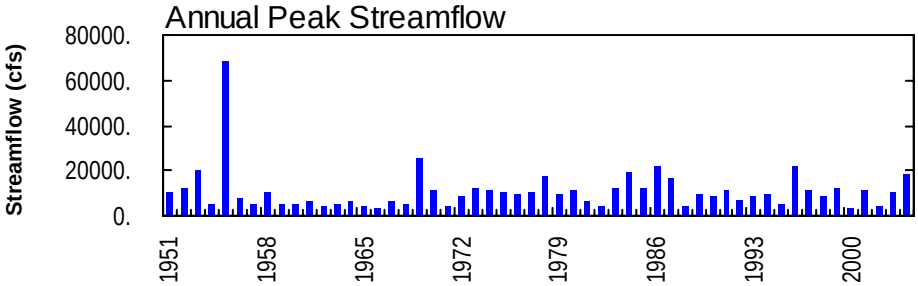
Monroe County Datum: 301.84 feet Drainage Area: 259. mi^2











BRODHEAD CREEK BASIN

01442500 BRODHEAD CREEK AT MINISINK HILLS, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°59'55", long 75°08'35", Monroe County, Hydrologic Unit 02040104, on left bank at end of township route 646 at Minisink Hills, 500 ft upstream from Marshall Creek, 0.8 mi upstream from mouth, and 3.0 mi southeast of East Stroudsburg.

DRAINAGE AREA.--259 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1950 to current year.

REVISED RECORDS.--WSP 1232: 1951(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 301.84 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 19, 1955, water-stage recorder, and Aug. 23 to Nov. 24, 1955, nonrecording gage at site about 1,300 ft upstream at datum 2.19 ft higher. Nov. 25, 1955, to July 24, 1956, nonrecording gage at site 40 ft upstream at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. 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 4,300 ft^3/s and maximum (*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Oct. 27	2030	4,680	6.13
Oct. 29	1415	4,690	6.14
Nov. 29	0015	4,620	6.10
Dec. 11	1700	12,200	9.35
Dec. 24	1845	5,540	6.60
Aug. 13	0215	11,400	9.05
Aug. 21	1530	6,940	7.28
Sept. 9	0045	6,540	7.09
Sept. 18	1315	*18,500	11.66
Sept. 19	0815	**a**	*18.23
Sept. 29	0145	5,150	6.39

a Backwater from Delaware River.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	927	1510	1470	942	e280	349	485	491	464	142	445	590
2	817	1260	1210	852	e270	460	476	487	416	136	638	485
3	718	1080	994	810	e280	668	444	1210	382	131	480	430
4	709	929	869	925	e310	844	430	921	328	124	419	394
5	703	927	824	1630	e300	887	403	745	321	121	391	369
6	608	1030	822	1310	e380	1030	365	703	375	118	325	351
7	546	898	741	1000	621	959	355	849	333	121	276	324
8	506	768	675	860	452	847	349	721	288	156	246	1200
9	473	686	636	789	370	755	351	677	261	123	225	5400
10	446	647	635	636	352	699	327	625	250	110	207	3270
11	423	626	6070	e620	342	646	314	2050	276	105	217	2000
12	402	637	4560	e600	315	598	315	1390	235	175	647	1460
13	376	610	2920	e590	304	542	859	1670	216	378	7880	1140
14	356	553	2290	e530	298	499	1180	1170	213	323	3040	913
15	1500	518	1900	e500	287	483	1300	966	213	733	1890	795
16	807	494	1490	e460	e240	477	930	1090	211	322	1450	765
17	642	478	1840	e460	263	486	802	818	198	253	1020	688
18	601	461	1860	e440	267	465	712	697	222	284	814	e13000
19	556	765	1420	e410	267	480	645	645	202	757	647	e8500
20	515	2510	1210	e380	266	463	583	585	182	423	557	e5000
21	494	1460	1030	e360	285	634	538	531	171	294	4020	3160
22	477	1150	935	e350	313	590	509	490	210	243	2640	2190
23	451	974	918	e340	296	503	530	443	240	260	1600	1590
24	425	877	3360	e330	301	488	502	405	192	395	1160	1270
25	405	939	3500	e300	285	547	457	366	173	251	912	1010
26	394	794	2470	e300	271	561	803	424	198	213	753	865
27	2220	720	1890	e310	266	539	852	1070	164	619	657	735
28	2690	1360	1560	e310	276	517	631	663	153	1200	596	2050
29	3490	3130	1350	e300	304	480	552	493	181	713	565	3290
30	3340	1840	1250	e290	---	456	517	410	154	490	571	1780
31	1980	---	1080	e280	---	484	---	389	---	429	1100	---
TOTAL	28997	30631	53779	18214	9061	18436	17516	24194	7422	10142	36388	65014
MEAN	935	1021	1735	588	312	595	584	780	247	327	1174	2167
MAX	3490	3130	6070	1630	621	1030	1300	2050	464	1200	7880	13000
MIN	356	461	635	280	240	349	314	366	153	105	207	324
CFSM	3.61	3.94	6.70	2.27	1.21	2.30	2.25	3.01	0.96	1.26	4.53	8.37
IN.	4.16	4.40	7.72	2.62	1.30	2.65	2.52	3.47	1.07	1.46	5.23	9.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2004, BY WATER YEAR (WY)

MEAN	330	546	740	619	650	977	971	699	448	255	258	285
MAX	1560	1634	2321	2051	1498	2108	2293	1619	1988	923	2505	2167
(WY)	1956	1973	1997	1996	1951	1977	1983	1989	2003	1969	1955	2004
MIN	54.4	68.1	83.4	50.6	196	387	312	268	119	58.1	46.4	40.8
(WY)	1964	1965	1981	1981	1980	1985	1985	1962	1962	1999	1957	1964

e Estimated.

01442500 BRODHEAD CREEK AT MINISINK HILLS, PA--Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1951 - 2004	
ANNUAL TOTAL	340770		319794			
ANNUAL MEAN	934		874		564	
HIGHEST ANNUAL MEAN					957	1952
LOWEST ANNUAL MEAN					238	1965
HIGHEST DAILY MEAN	6830	Jun 22	**e**13000	Sep 18	30500	Aug 19 1955
LOWEST DAILY MEAN	178	Jul 31	105	Jul 11	30	Sep 26 1964
ANNUAL SEVEN-DAY MINIMUM	210	Aug 25	122	Jul 5	33	Sep 6 1964
MAXIMUM PEAK FLOW			**b**18500	Sep 18	**b**68800	Aug 19 1955
MAXIMUM PEAK STAGE			**a**18.23	Sep 19	**c**27.00	Aug 19 1955
INSTANTANEOUS LOW FLOW					29	Sep 27 1964
ANNUAL RUNOFF (CFSM)	3.60		3.37		2.18	
ANNUAL RUNOFF (INCHES)	48.94		45.93		29.60	
10 PERCENT EXCEEDS	2040		1700		1210	
50 PERCENT EXCEEDS	579		546		351	
90 PERCENT EXCEEDS	255		242		94	

a Backwater from Delaware River.
b From rating curve extended above 10,100 ft^3/s on basis of slope-area measurement of peak flow.
c From floodmark, at site about 1,300 ft upstream at datum 2.19 ft higher.
e Estimated.

01442500 BRODHEAD CREEK AT MINISINK HILLS, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, µS/cm 25 degC (90095)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, unfltrd recoverable, mg/L (00927)
OCT 2003													
07...	1340	1028	9813	544	10.9	7.6	7.4	137	124	9.9	36	10.8	2.1
DEC													
16...	1440	1028	9813	1440	14.2	7.0	7.2	120	111	3.5	33	10.1	1.9
FEB 2004													
23...	1330	1028	9813	289	16.0	7.2	7.2	191	188	3.5	49	15.2	2.6
APR													
26...	1520	1028	9813	980	12.7	7.8	7.5	156	152	10.0	37	11.4	2.1
JUN													
21...	1600	1028	9813	173	9.8	8.4	8.0	191	173	20.6	51	16.1	2.5
AUG													
16...	1310	1028	9813	1430	9.6	7.3	6.7	114	115	18.5	28	8.7	1.6

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 105degC wat flt mg/L (00515)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water unfltrd mg/L as N (00620)	Nitrite water, unfltrd mg/L as N (00615)	Orthophosphate, water, unfltrd mg/L as P (70507)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Aluminum, water, unfltrd recoverable, µg/L (01105)	Copper, water, unfltrd recoverable, µg/L (01042)
OCT 2003													
07...	23	10.5	90	<2	.050	.49	<.040	.03	.046	.82	2.4	<200	<10
DEC													
16...	18	10.3	106	42	<.020	.48	<.040	.02	.045	.56	2.4	250	<10
FEB 2004													
23...	29	13.3	120	<2	.220	.60	<.040	.05	.056	.96	1.5	<200	<10
APR													
26...	22	10.4	108	12	.090	.41	<.040	.02	.047	.78	2.2	<200	<10
JUN													
21...	34	12.4	146	2	.040	.48	<.040	.05	.062	.77	1.6	<200	<10
AUG													
16...	22	8.6	112	4	.020	.33	<.040	.03	.031	.59	3.8	<200	<10

Date	Iron, water, unfltrd recoverable, µg/L (01045)	Lead, water, unfltrd recoverable, µg/L (01051)	Manganese, water, unfltrd recoverable, µg/L (01055)	Nickel, water, unfltrd recoverable, µg/L (01067)	Zinc, water, unfltrd recoverable, µg/L (01092)
OCT 2003					
07...	130	<1.0	20	<50	60
DEC					
16...	360	<1.0	40	<50	<10
FEB 2004					
23...	370	<1.0	20	<50	<10
APR					
26...	220	<1.0	40	<50	50
JUN					
21...	80	<1.0	20	<50	<10
AUG					
16...	220	<1.0	30	<50	20

01442500 BRODHEAD CREEK AT MINISINK HILLS, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 animal (approximate) subsamples.

Date	08/21/03
Benthic macroinvertebrate	Count
Platyhelminthes	
Turbellaria (FLATWORMS)	
Tricladida	
Planariidae	1
Nemertea (PROBOSCIS WORMS)	
Enopla	
Hoplonemertea	
Tetrastemmatidae	
Prostoma	2
Arthropoda	
Acariformes	
Hydrachnidia (WATER MITES)	2
Crustacea	
Amphipoda (SCUDS)	
Crangonyctidae	
Crangonyx	2
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Acentrella	39
Baetis	15
Ephemerellidae	
Serratella	1
Trichoptera (CADDISFLIES)	
Hydropsychidae	
Cheumatopsyche	1
Hydropsyche	9
Lepidoptera (MOTHS AND BUTTERFLIES)	
Pyralididae	
Petrophila	1
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Microcylloepus	8
Optioservus	3
Oulimnius	1
Stenelmis	7
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	19
Empididae (DANCE FLIES)	
Hemerodromia	1
Simuliidae (BLACK FLIES)	
Simulium	14
Total Organisms	126
Total Taxa	17