NESHAMINY CREEK BASIN

01465500 NESHAMINY CREEK NEAR LANGHORNE, PA
(Pennsylvania Water-Quality Network Station)

LOCATION.--Lat 40°10'26", long 74°57'26", Bucks County, Hydrologic Unit 02040201, on left bank at bridge on State Highway 213, 0.3 mi downstream from Mill Creek, and 1.7 mi west of Langhorne.

DRAINAGE AREA.--210 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1934 to current year.

REVISED RECORDS.--WSP 1332: 1949. WSP 1432: 1936-37. WDR PA-83-1: 1982(P).

GAGE.--Water-stage recorder. Datum of gage is 40.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation at low flow by mills above station. Flow regulated by upstream reservoirs on Little Neshaminy Creek, Robin Run, Pine Run, North Branch Neshaminy Creek, and Core Creek (combined flood control capacity, about 9,560 acre-ft). Occasional regulation by Springfield Lake, capacity, 2,000 acre-ft, completed in 1934; no significant regulation except during period May 1934 to January 1944, when the lake was filling, and in September 1949, July 1954, July through October 1957, and September, October 1961. Interceptor sewer installed along left bank during May and June 1966. Several measurements of water temperature were made during the year. Satellite and landline telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 23, 1933 reached a stage of 17.3 ft, from floodmark, discharge, about 30,000 ft^3/s, from rating curve extended as explained in footnotes on next page.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 4,500 ft^3/s and maximum(*****):

Date	Time	Discharge ft^3/s	Gage Height (ft)
Jan. 2	0130	5,130	7.60
Feb. 22	2030	Ice jam	*11.18
Feb. 23	0000	*7,380	9.48
June 4	1430	6,990	9.17
June 21	0100	6,380	8.67

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	247	186	1060	e125	261	372	174	494	203	120	107
2	57	172	167	2480	e130	1380	339	177	415	191	662	178
3	50	143	157	927	e120	2090	305	178	249	182	198	258
4	48	119	137	1080	e130	723	276	163	3920	176	163	216
5	47	107	126	628	e170	1220	262	154	2940	160	223	301
6	47	253	e120	511	e125	2910	257	161	1060	161	1010	158
7	45	248	e115	466	e110	1330	245	161	958	150	345	113
8	41	150	e110	393	e100	796	289	236	1690	144	378	101
9	40	123	e105	446	e90	1490	665	201	725	140	251	91
10	41	112	e100	373	e85	1270	997	173	491	133	1330	82
11	432	110	e300	314	e80	598	786	165	373	139	500	75
12	738	250	2330	272	e80	473	1190	155	354	138	367	71
13	246	913	1090	e244	e75	614	744	143	922	124	235	122
14	145	349	2580	e224	e75	704	467	132	1560	113	183	581
15	101	228	1080	e200	e70	466	377	127	708	106	149	483
16	114	197	589	e180	e65	460	335	121	407	99	127	1270
17	330	2220	394	e170	e65	533	294	137	326	93	120	353
18	173	1780	313	e165	e70	484	265	151	917	88	120	204
19	116	605	272	e160	e70	380	251	124	589	101	112	1070
20	93	365	661	e160	e75	588	237	115	3510	89	99	436
21	81	293	961	e155	e80	2680	225	116	4270	79	90	233
22	72	368	422	e150	e1700	934	224	126	1400	584	89	181
23	67	516	333	e140	e4800	583	252	117	823	304	88	1090
24	62	296	283	e135	2150	431	207	144	566	389	91	758
25	59	244	865	e135	907	361	194	145	420	246	74	293
26	390	215	1000	e130	507	333	228	1620	349	148	70	225
27	283	244	550	e130	348	384	252	855	303	117	83	195
28	145	281	408	e125	291	310	208	356	265	103	122	961
29	113	220	356	e120	---	314	188	283	241	103	85	577
30	310	200	343	e120	---	547	180	225	224	89	172	296
31	482	---	336	e115	---	567	---	214	---	80	196	---
TOTAL	5037	11568	16789	11908	12693	26214	11111	7349	31469	4972	7852	11079
MEAN	162	386	542	384	453	846	370	237	1049	160	253	369
MAX	738	2220	2580	2480	4800	2910	1190	1620	4270	584	1330	1270
MIN	40	107	100	115	65	261	180	115	224	79	70	71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2003, BY WATER YEAR (WY)

MEAN	131	238	362	408	453	542	430	288	219	184	168	167
MAX	840	1170	1424	1509	1074	1246	1455	862	1049	1161	1694	1330
(WY)	1997	1973	1997	1979	1939	1936	1983	1989	2003	1938	1955	1999
MIN	13.8	23.2	34.3	47.2	75.9	105	89.8	54.5	33.7	21.8	15.1	15.4
(WY)	1958	1937	1966	1981	2002	1985	1985	1963	1965	1957	1966	1951

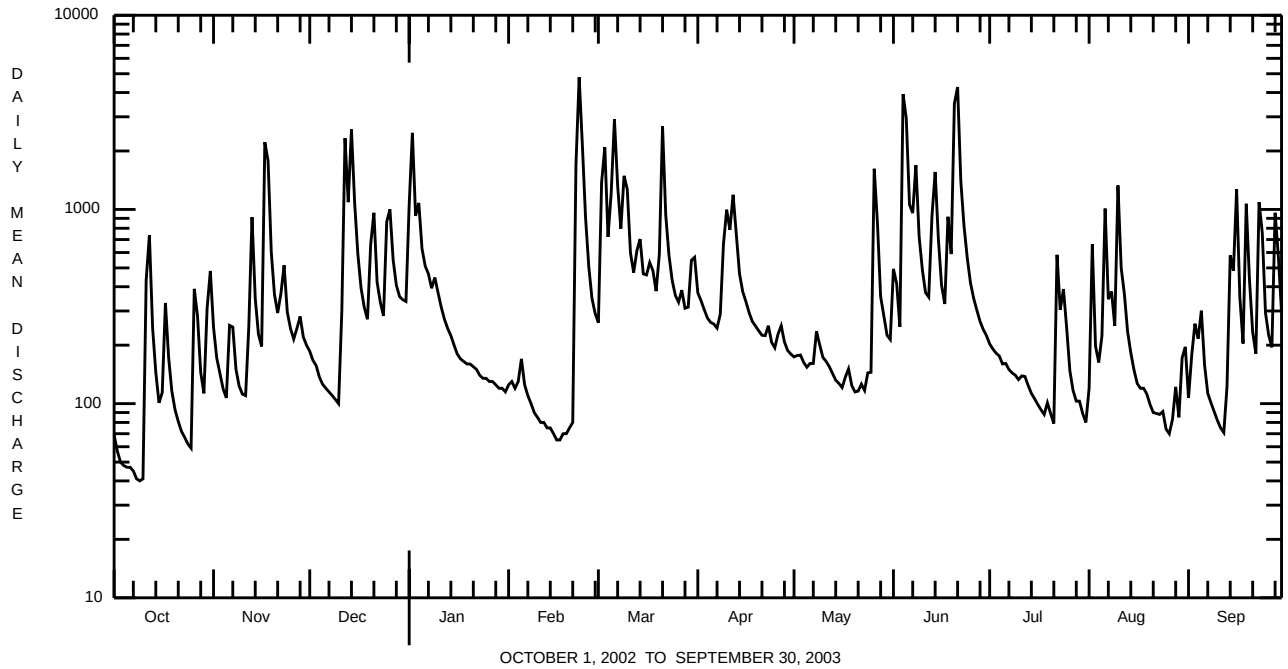
e Estimated.

NESHAMINY CREEK BASIN

01465500 NESHAMINY CREEK NEAR LANGHORNE, PA--Continued

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1935 - 2003	
ANNUAL TOTAL	73966		158041			
ANNUAL MEAN	203		433		298	
HIGHEST ANNUAL MEAN					565	1973
LOWEST ANNUAL MEAN					121	1985
HIGHEST DAILY MEAN	2580	Dec 14	**e**4800	Feb 23	27300	Aug 19 1955
LOWEST DAILY MEAN	30	Aug 11	40	Oct 9	2.9	Sep 8 1957
ANNUAL SEVEN-DAY MINIMUM	34	Sep 20	44	Oct 4	8.2	Aug 26 1944
MAXIMUM PEAK FLOW			**ab**7380	Feb 23	**a**49300	Aug 19 1955
MAXIMUM PEAK STAGE			**c**11.18	Feb 22	**d**22.84	Aug 19 1955
INSTANTANEOUS LOW FLOW			39	Oct 9	1.9	Sep 8 1957
10 PERCENT EXCEEDS	414		998		581	
50 PERCENT EXCEEDS	108		228		140	
90 PERCENT EXCEEDS	41		87		33	

a From rating curve extended above 6,720 ft^3/s on basis of slope-area measurement of peak flow at gage height 22.84 ft.
b At gage height 9.48 ft.
c Ice jam.
d From floodmark.
e Estimated.



01465500 NESHAMINY CREEK NEAR LANGHORNE, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

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

REMARKS.--Other data for the Water-Quality Network can be found on pages 430-470.

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 2002 TO SEPTEMBER 2003

Date	Time	Agency collecting sample, code (00027)	Agency analyzing sample, code (00028)	Instantaneous discharge, cfs (00061)	Sampling method, code (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf µS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, unfltrd recoverable, mg/L (00927)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (00417)
NOV 2002													
12...	1240	1028	9813	120	30	10.5	7.6	444	11.2	140	36.2	13.2	90
JAN 2003													
28...	1310	1028	9813	189	30	17.2	7.8	540	.1	150	37.2	13.7	78
MAR													
26...	1040	1028	9813	328	30	15.8	9.3	414	12.1	120	29.2	10.3	61
MAY													
08...	1030	1028	9813	203	30	7.7	7.2	453	16.3	140	33.1	12.7	75
JUL													
02...	1040	1028	9813	195	30	10.3	8.3	406	23.1	120	30.1	11.0	74
SEP													
04...	1030	1028	9813	201	30	8.8	7.7	354	20.1	100	25.7	9.1	74

Date	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)	Iron, water, unfltrd recoverable, µg/L (01045)
NOV 2002													
12...	41.0	292	6	<.020	2.43	<.040	.18	.206	3.6	4.2	<200	<10	100
JAN 2003													
28...	39.9	366	6	<.020	5.10	.140	.20	.293	5.7	3.3	<200	<10	130
MAR													
26...	28.1	266	8	<.020	1.74	<.200	.04	.085	2.1	3.9	<200	<10	210
MAY													
08...	29.9	310	12	.090	2.05	<.040	.10	.167	2.8	4.7	<200	<10	270
JUL													
02...	31.4	288	6	<.020	2.22	<.040	.09	.106	2.8	3.3	<200	<10	120
SEP													
04...	25.2	258	2	.040	1.59	<.040	.18	.227	1.8	4.3	200	<10	320

Date	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)
NOV 2002				
12...	<1.0	20	<50	<10
JAN 2003				
28...	<1.0	30	<50	<10
MAR				
26...	<1.0	30	<50	80
MAY				
08...	<1.0	90	<50	<10
JUL				
02...	<1.0	20	<50	90
SEP				
04...	<1.0	40	<50	--

01465500 NESHAMINY CREEK NEAR LANGHORNE, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using rapid bioassessment protocols for benthic macroinvertebrates using a D-Frame net with a mesh size of 500 µm. Samples represent counts per 100 (approximate) subsamples.

Date	8/26/02
Benthic Macroinvertebrate	Count
Mollusca	
Gastropoda (SNAILS)	
Basommatophora	
Hydrobiidae	5
Bivalvia (CLAMS)	
Veneroida	
Corbiculidae	
Corbicula fluminea	2
Arthropoda	
Crustacea	
Amphipoda (SCUDS)	
Gammaridae	
Gammarus sp	7
Insecta	
Ephemeroptera (MAYFLIES)	
Baetidae	
Baetis sp	7
Trichoptera (CADDISFLIES)	
Glossosomatidae	
Glossosoma sp	24
Hydropsychidae	
Cheumatopsyche sp	6
Hydropsyche sp	2
Hydroptilidae	
Hydroptila sp	2
Leucotrichia sp	1
Philopotamidae	
Chimarra sp	15
Coleoptera (BEETLES)	
Elmidae (RIFFLE BEETLES)	
Optioservus sp	3
Stenelmis sp	36
Diptera (TRUE FLIES)	
Chironomidae (MIDGES)	7
Total Organisms	117