



Water-Data Report 2006

01403900 BOUND BROOK AT MIDDLESEX, NJ

RARITAN RIVER BASIN

LOCATION.--Lat 40°35'06", long 74°30'28" referenced to North American Datum of 1983, Green Brook Township, Somerset County, NJ, Hydrologic Unit 02030105, on downstream right wingwall of bridge on Sebrings Mills Road (Greenbrook Road) at Middlesex, 0.4 mi downstream of mouth of Green Brook, and 2.3 mi upstream of mouth.

DRAINAGE AREA.--48.4 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1972 to September 1977, April 1996 to September 1998, and February 2004 to current year. Prior to October 1977, located on right bank, 107 ft upstream of bridge on Sebrings Mill Road, published as "Green Brook at Middlesex, NJ." Operated as a crest-stage partial-record station water years 1992 to 1995, and 1999 to 2003.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 26.52 ft above NGVD of 1929. Continuous gage 1972-77 at site 130 ft upstream, datum at NGVD of 1929.

REMARKS.--Records good, except for estimated daily discharges, which are fair. Satellite gage-height, rain gage, and air-temperature 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 1,200 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 09	0445	*2,320	*9.14
Oct 12	1845	1,220	6.78
Oct 14	0730	1,290	6.96
Dec 16	1400	1,350	7.11

01403900 BOUND BROOK AT MIDDLESEX, NJ—Continued

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

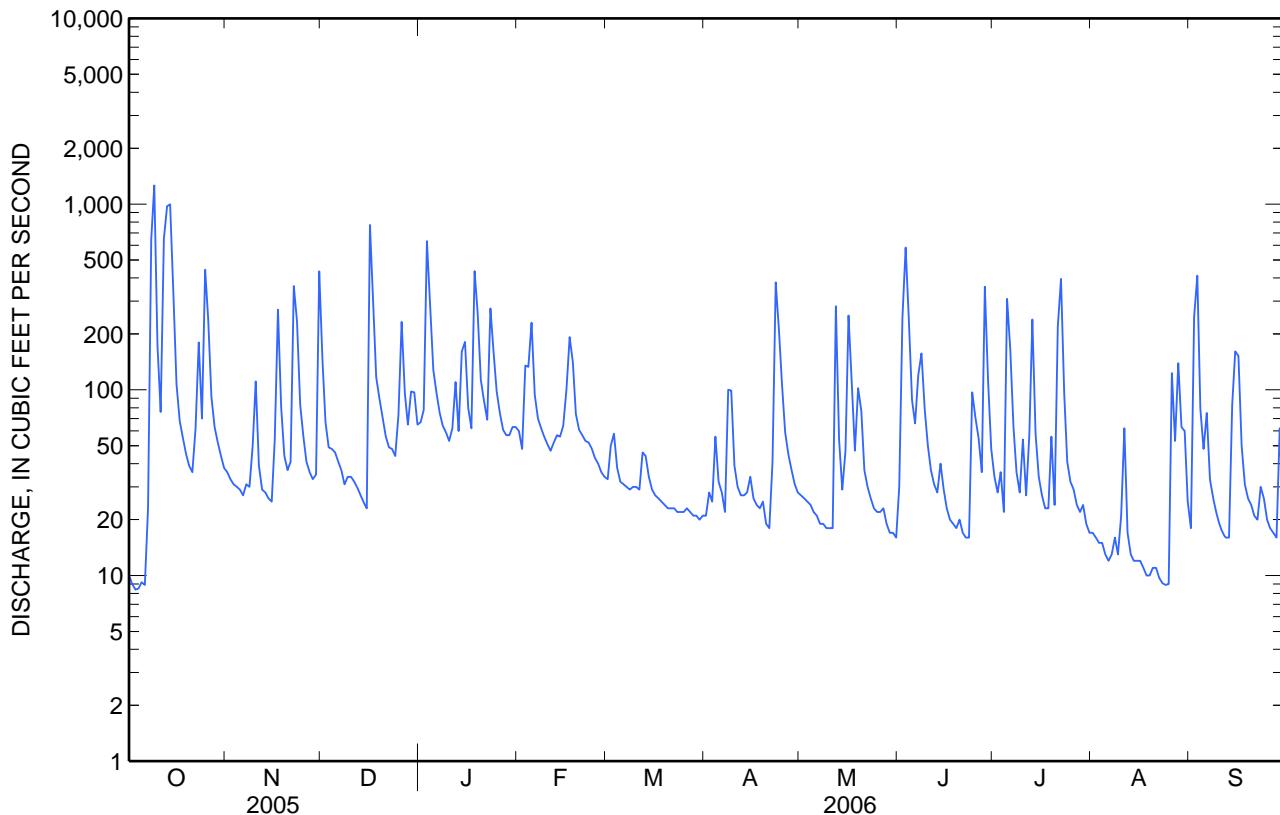
Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	10	36	146	67	60	33	21	27	30	34	17	18
2	9.0	33	67	78	48	50	28	26	245	28	16	247
3	8.4	31	49	632	135	58	25	25	584	36	15	412
4	8.5	30	48	285	133	38	56	24	238	22	15	79
5	9.2	29	46	128	230	32	32	22	88	309	13	48
6	8.9	27	41	96	94	31	28	21	66	165	12	75
7	23	31	37	75	70	30	22	19	120	63	13	33
8	645	30	31	64	62	29	100	19	157	36	16	26
9	1,260	50	34	59	56	30	99	18	79	28	13	22
10	173	111	34	53	51	30	39	18	50	54	21	19
11	76	39	32	62	47	29	30	18	37	27	62	17
12	650	29	30	110	e52	46	27	282	31	57	17	16
13	973	28	27	60	e57	44	27	54	28	239	13	16
14	997	26	25	161	56	34	28	29	40	58	12	83
15	337	25	23	181	64	29	34	47	29	34	12	161
16	107	54	772	80	100	27	26	251	23	27	12	152
17	68	270	309	62	192	26	24	110	20	23	11	50
18	55	81	117	435	141	25	23	47	19	23	10	31
19	45	44	90	260	74	24	25	102	18	56	10	26
20	39	37	71	113	61	23	19	77	20	24	11	24
21	36	41	56	87	57	23	18	37	17	219	11	21
22	62	362	49	69	53	23	41	30	16	396	9.7	20
23	180	234	48	274	52	22	379	26	16	96	9.1	30
24	70	83	44	162	48	22	211	23	97	41	8.9	26
25	443	56	73	98	43	22	108	22	71	32	9.0	20
26	240	41	232	75	40	23	59	22	55	29	123	18
27	92	36	96	61	36	22	45	23	36	24	53	17
28	63	33	65	57	34	21	37	19	359	22	139	16
29	52	35	98	57	---	21	31	17	113	24	63	62
30	44	434	97	63	---	20	28	17	48	19	60	23
31	38	---	65	63	---	21	---	16	---	17	25	---
Total	6,822.0	2,396	2,952	4,127	2,146	908	1,670	1,488	2,750	2,262	831.7	1,808
Mean	220	79.9	95.2	133	76.6	29.3	55.7	48.0	91.7	73.0	26.8	60.3
Max	1,260	434	772	632	230	58	379	282	584	396	139	412
Min	8.4	25	23	53	34	20	18	16	16	17	8.9	16
Cfsm	4.55	1.65	1.97	2.75	1.58	0.61	1.15	0.99	1.89	1.51	0.55	1.25
In.	5.24	1.84	2.27	3.17	1.65	0.70	1.28	1.14	2.11	1.74	0.64	1.39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2006, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	80.8	60.9	109	90.3	93.2	87.1	104	73.0	54.6	76.6	48.1	52.6
Max	220	125	210	133	170	117	178	165	128	263	258	198
(WY) (2006)	(220)	(125)	(210)	(133)	(170)	(117)	(178)	(165)	(128)	(263)	(258)	(198)
Min	15.6	17.4	30.6	16.5	41.7	29.3	55.7	27.3	22.8	9.45	11.4	8.75
(WY) (1998)	(15.6)	(17.4)	(30.6)	(16.5)	(41.7)	(29.3)	(55.7)	(27.3)	(22.8)	(9.45)	(11.4)	(8.75)

01403900 BOUND BROOK AT MIDDLESEX, NJ—Continued**SUMMARY STATISTICS**

	Calendar Year 2005	Water Year 2006	Water Years 1972 - 2006
Annual total	28,125.8	30,160.7	
Annual mean	77.1	82.6	77.1
Highest annual mean			112
Lowest annual mean			40.3
Highest daily mean	1,260	Oct 9	1,260
Lowest daily mean	5.7	Sep 11	8.4
Annual seven-day minimum	6.3	Sep 7	9.8
Maximum peak flow			2,320
Maximum peak stage			Oct 9
Instantaneous low flow			9.14
Annual runoff (cfsm)	1.59	1.71	
Annual runoff (inches)	21.62	23.18	21.65
10 percent exceeds	148	185	156
50 percent exceeds	36	38	37
90 percent exceeds	9.8	17	10



01403900 BOUND BROOK AT MIDDLESEX, NJ—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974, 1996-98, 2001 to current year.

REMARKS.--Samples were collected as part of the National Water Quality Assessment (NAWQA) Mercury Topical Study.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Part 1 of 2

Date	Time	Sample type	UV				Dis-	pH,	Specif.	Temper-	Sulfate
			Instan-	absorb-	SUVA,	Baro-					
			stanteous	254 nm,	254 nm,	Baro-	dissolved	unfiltrd	tance,	water,	
			dis-	wat flt	abs L/	pres-	oxygen,	field,	wat unf	water,	
			charge,	units	(mgDOC*)	ure,	oxygen,	std	uS/cm	water,	
			cfs	/cm	(50624)	mm Hg	mg/L	units	25 degC	deg C	
			(00061)	(50624)	(63162)	(00025)	(00300)	(00400)	(00095)	(00010)	(00945)
Aug											
17...	1345	Environmental	10	.094	2.2	756	8.2	98	7.4	569	23.7
17...	1400	Bed material	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Part 2 of 2

Date	Organic carbon, water, filtrd, mg/L (00681)	Mercury water, filtrd, ng/L (50287)	Mercury suspnd sedimnt ng/L (62976)	Mercury solids, total, ng/g (62978)	Methyl-mercury water, filtrd, ng/L (50285)	Methyl-mercury suspnd sedimnt ng/L (62977)	Methyl-mercury solids, total, ng/g (62979)	Methyl-mercury concen-tration mg/L (80154)	Sus-pended sediment, tons/d (80155)	Sus-pended sediment discharge, tons/d (80155)	Bed sediment, dry svd percent <.063mm (80164)
									suspended sediment	suspended sediment discharge, tons/d	Bed sediment, dry svd percent <.063mm
Aug											
17...	4.3	.50	1.01	--	.06	.019	--	8	.22	--	--
17...	--	--	--	42.1	--	--	.34	--	--	--	14

01403900 BOUND BROOK AT MIDDLESEX, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 1 of 4

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

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity white light, 90+/-30 det ang corrctd	UV absorbance, 254 nm, 254 nm, wat flt L/ units	SUVA, 254 nm, abs L/ (mgDOC*)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units	Specif. conductance, wat unf 25 degC (00095) uS/cm (000400)	Temperature, air, deg C (00020)
Oct 25...	1330	Environmental	461	30	.173	2.8	--	9.9	--	6.9	198	10.0
Nov 15...	1240	Environmental	22	2.2	.111	2.3	--	9.8	--	7.1	504	19.0
Dec 14...	1300	Environmental	27	5.3	.068	2.2	769	15.3	106	7.0	950	--
Jan 04...	1310	Environmental	252	62	.172	3.0	759	13.2	102	6.7	332	--
Feb 08...	1300	Environmental	61	5.2	.086	2.5	--	14.6	--	6.9	483	8.5
Mar 09...	1220	Environmental	29	3.3	.066	2.2	755	15.9	135	7.5	881	16.0
Apr 13...	1230	Environmental	26	2.9	.112	2.6	758	15.2	155	7.9	591	22.0
May 18...	1220	Environmental	44	4.8	.158	2.9	751	7.5	78	7.0	387	21.0
	1221	<i>Sequential Replicate</i>	--	--	--	--	--	--	--	--	--	--
	1222	<i>Sequential Replicate</i>	--	--	--	--	--	--	--	--	--	--
Jun 27...	1030	Environmental	33	4.4	.163	2.8	760	5.7	65	7.1	373	26.0
Jul 10...	1140	Environmental	49	12	.165	2.4	760	6.0	69	7.0	303	27.0
Aug 01...	0950	Environmental	17	4.2	.109	1.5	760	1.6	20	7.2	567	30.5
Sep 20...	1040	Environmental	23	2.2	.170	3.3	755	7.5	81	7.3	468	19.0

01403900 BOUND BROOK AT MIDDLESEX, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 2 of 4

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

Date	Temper- ature, water, deg C (00010)	Hard- ness, water, mg/L as CaCO ₃ (00900)	Calci- um water, filtrd, mg/L (00915)	Magnes- ium, water, filtrd, mg/L (00925)	Potas- sium, water, filtrd, mg/L (00935)	Sodium, water, filtrd, mg/L (00930)	Alka- linity, wat flt fxd end	Chlor- ide, lab, mg/L as CaCO ₃ (29801)	Sulfate water, filtrd, mg/L (00945)	Residue water, sum of consti- tuents mg/L (70301)	Ammonia water, filtrd, mg/L as N (00608)	Nitrite + nitrate water, filtrd, mg/L as N (00631)	Nitrite water, filtrd, mg/L as N (00613)
Oct 25...	11.0	59	17.2	3.91	1.94	15.4	37	25.7	15.2	105	<.04	.76	.008
Nov 15...	11.8	180	50.2	12.7	2.57	30.2	88	67.1	48.1	268	.04	.85	E.007
Dec 14...	.7	210	60.3	15.5	2.49	94.3	95	191	47.5	476	.12	1.56	.008
Jan 04...	4.3	76	21.8	5.33	1.61	31.3	42	57.4	18.9	167	E.02	1.08	E.005
Feb 08...	4.4	130	36.2	10.1	1.61	35.9	74	78.4	36.5	249	.04	1.32	E.007
Mar 09...	7.7	190	54.4	14.2	2.12	82.8	92	180	50.0	443	E.02	1.11	.016
Apr 13...	16.0	170	48.4	12.3	1.85	47.6	85	104	44.4	312	<.04	.59	.014
May 18...	16.6	100	27.9	7.50	1.78	29.1	58	62.3	25.3	193	.10	.78	.022
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
Jun 27...	22.3	100	29.5	7.19	2.07	26.1	67	53.1	24.9	187	.118	.87	.042
Jul 10...	21.5	87	24.9	6.03	1.76	18.2	51	39.3	26.0	151	.063	.93	.024
Aug 01...	24.4	190	53.7	12.9	2.40	30.5	120	71.9	51.1	296	.017	.30	.020
Sep 20...	18.6	140	40.2	9.56	2.19	29.5	85	64.0	41.3	244	.042	1.30	.013

01403900 BOUND BROOK AT MIDDLESEX, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 3 of 4

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

Date	Organic nitro- gen, water, unfltrd mg/L (00605)	Partic- ulate nitro- gen, susp, water, mg/L (49570)	Total nitro- gen, wat unf by anal ysis, mg/L (62855)	Ortho- phos- phate, water, fltrd, mg/L (00660)	Ortho- phosphate, water, fltrd, mg/L as P (00671)	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)	Iron, water, fltrd, ug/L (01046)	Mercury water, fltrd, ng/L (50287)	Mercury suspnd sedimnt total, ng/L (62976)
Oct 25...	--	.16	1.23	.117	.038	.128	2.2	<.1	2.2	6.3	65	4.74	7.84
Nov 15...	.25	.06	1.14	.031	.010	.052	.3	<.1	.3	5.0	55	.79	.416
Dec 14...	.17	.04	1.86	--	E.004	.050	.4	<.1	.4	3.1	36	.52	1.53
Jan 04...	--	.06	1.37	.074	.024	.075	.8	<.1	.8	5.7	98	5.39	4.91
Feb 08...	.19	<.02	1.56	--	E.005	.042	.2	<.1	.2	3.4	74	2.48	1.53
Mar 09...	--	.06	1.42	--	E.004	.033	.4	<.1	.4	3.0	184	.58	.521
Apr 13...	--	.06	.88	.021	.007	.039	.4	<.1	.4	4.3	221	1.23	.546
May 18...	.33	.06	1.21	.092	.030	.080	.4	<.1	.4	5.5	107	2.17	1.51
18...	--	--	--	--	--	--	--	--	--	--	--	2.11	1.06
18...	--	--	--	--	--	--	--	--	--	--	--	2.24	1.20
Jun 27...	.41	.07	1.39	.136	.044	.115	.6	<.1	.6	5.7	52	1.81	1.41
Jul 10...	.43	.10	1.43	.101	.033	.102	.8	<.1	.8	7.0	39	3.90	5.99
Aug 01...	.60	.37	.92	--	E.004	.089	1.9	<.1	1.9	7.4	40	.67	.819
Sep 20...	.23	.02	1.57	.118	.038	.079	.2	<.1	.2	5.2	52	.89	.638

01403900 BOUND BROOK AT MIDDLESEX, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006

Part 4 of 4

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

Date	Methyl- mercury water filtrd, ng/L (50285)	Methyl- mercury suspnd sedimnt total, ng/L (62977)	Sus- pended sediment concen- tration mg/L (80154)	Sus- pended sediment dis- charge, tons/d (80155)
Oct				
25...	<.04	.066	32	40
Nov				
15...	.05	.012	2	.12
Dec				
14...	<.04	.025	6	.44
Jan				
04...	<.04	<.010	14	9.5
Feb				
08...	<.04	.014	6	.99
Mar				
09...	<.04	.026	4	.31
Apr				
13...	.05	.020	2	.14
May				
18...	.10	.029	5	.59
18...	.09	.026	--	--
18...	.14	.026	--	--
Jun				
27...	.11	.028	7	.62
Jul				
10...	.16	.082	17	2.2
Aug				
01...	.10	.073	12	.55
Sep				
20...	.04	<.010	2	.12