



Water-Data Report 2009

01403400 GREEN BROOK AT SEELEY MILLS, NJ

RARITAN RIVER BASIN

LOCATION.--Lat 40°39'58", long 74°24'14" referenced to North American Datum of 1983, Watchung Borough, Somerset County, NJ, Hydrologic Unit 02030105, on right bank at Seeley Mills, 250 ft downstream from Blue Brook, 300 ft downstream from bridge on New Providence (Diamond Hill) Road, and 0.5 mi northwest of Scotch Plains.

DRAINAGE AREA.--6.23 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Annual maximum, water years 1927-38 (in files of Union County Park Commission), 1958-68 (in files of Union County Park Commission), 1969-79. Fragmentary records 1944-53 (in the files of the U.S. Geological Survey). Occasional low-flow measurements, water years 1959-64, 1969. Continuous-record gaging station, June 1979 to current year.

REVISED RECORDS.--WDR NJ-81-1:1979(M). WDR NJ-87-1:1971(M), 1973(M), 1975(M).

GAGE.--Water-stage recorder. Datum of gage is 184.44 ft above NGVD of 1929. From 1944 to 1953, water-stage recorder and masonry dam about 400 ft downstream, above lower Seeley Mills dam at different datum. From July 1969 to May 1979, crest-stage gage about 450 ft downstream below lower Seeley Mills dam (washed out May 29, 1968) at different datum.

REMARKS.--Records fair, except for estimated daily discharges and daily discharges below 3.0 ft³/s from Oct 1 to Dec 17, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 23, 1938 reached an elevation of 196.5 ft (New Jersey Geological Survey datum; above lower Seeley Mills dam), discharge, 5,840 ft³/s (computed by State Water Policy Commission).

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 12	0500	375	2.98
May 7	0200	309	2.79
Aug 2	1400	405	3.06
Aug 12	1600	264	2.65
Aug 22	0300	*417	*3.09

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES
[*e*, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	3.7	3.6	12	7.3	3.8	e3.5	6.0	6.0	2.2	e4.9	7.1	2.8
2	2.4	3.1	7.7	7.1	4.3	4.2	9.3	7.6	9.4	e7.2	51	2.4
3	2.2	3.1	5.1	6.9	5.2	3.5	51	8.8	6.1	e4.9	14	2.2
4	2.1	3.1	e4.7	6.2	4.4	3.3	26	16	26	e3.6	5.6	2.0
5	3.0	3.9	e4.6	6.3	3.5	3.4	12	17	19	e3.0	4.0	1.8
6	2.2	e6.9	e4.8	6.2	3.4	4.1	16	35	16	e2.8	3.3	1.7
7	2.1	e4.1	e5.3	59	3.5	4.5	16	111	6.7	e2.7	2.8	1.6
8	2.1	e4.1	e4.9	23	11	4.3	10	29	4.9	e2.5	2.3	1.6
9	2.0	e3.9	e5.1	11	7.2	5.6	8.3	21	8.2	e2.4	2.8	1.6
10	1.9	e3.4	12	9.1	5.9	4.8	7.8	13	5.4	e2.3	2.4	1.7
11	1.9	e3.1	59	8.9	7.5	4.2	11	9.8	6.0	e2.4	1.9	4.0
12	1.9	e2.7	168	7.5	9.0	3.9	9.6	8.4	6.6	e6.3	35	5.2
13	1.9	e7.1	23	6.8	6.4	3.7	7.2	7.3	6.1	e2.8	12	3.3
14	1.8	e9.0	e12	6.4	5.4	3.7	7.5	6.9	8.0	e2.4	5.2	2.5
15	1.8	e31	e11	5.8	5.1	3.7	12	6.5	7.9	e2.2	3.5	2.2
16	1.8	e24	e9.8	5.2	4.8	3.6	8.0	6.0	6.1	e2.2	2.7	2.1
17	3.0	e7.5	18	e4.9	4.3	3.5	6.8	14	4.7	e2.9	2.1	2.0
18	2.3	e5.4	11	5.1	4.5	3.3	6.2	6.4	69	e4.4	1.9	1.9
19	2.1	e4.6	10	5.4	6.6	3.7	5.8	5.5	28	e2.3	1.8	1.7
20	2.1	e4.6	11	5.3	5.0	3.6	14	4.9	17	e2.1	1.5	1.6
21	1.9	e4.1	11	4.8	4.2	3.3	46	4.5	14	e8.3	8.0	1.5
22	1.8	e4.0	8.1	e4.5	4.3	3.3	25	4.1	9.7	e3.8	65	1.4
23	1.8	e3.8	6.0	4.6	4.2	3.0	13	3.8	7.2	e3.0	9.5	1.5
24	1.8	e3.6	25	4.7	3.6	2.9	10	3.5	6.1	e3.0	4.0	2.5
25	5.9	11	69	4.1	3.6	2.9	9.2	3.3	5.5	e2.9	2.8	1.5
26	12	6.1	17	3.8	3.6	4.5	8.4	2.8	8.5	e11	2.6	1.4
27	2.9	4.7	14	3.9	3.7	5.5	7.5	2.7	6.4	11	2.3	10
28	41	4.2	16	11	3.9	4.0	6.9	2.7	4.9	2.8	9.0	2.9
29	19	3.9	13	9.8	---	9.7	6.2	6.6	4.3	25	8.3	2.3
30	8.6	9.2	11	5.5	---	12	5.8	3.9	e4.9	10	8.4	1.9
31	4.5	---	9.2	3.9	---	6.2	---	2.9	---	12	3.8	---
Total	145.5	192.8	598.3	264.0	141.9	135.4	388.5	380.9	334.8	159.1	286.6	72.8
Mean	4.69	6.43	19.3	8.52	5.07	4.37	12.9	12.3	11.2	5.13	9.25	2.43
Max	41	31	168	59	11	12	51	111	69	25	65	10
Min	1.8	2.7	4.6	3.8	3.4	2.9	5.8	2.7	2.2	2.1	1.5	1.4
Cfsm	0.75	1.03	3.10	1.37	0.81	0.70	2.08	1.97	1.79	0.82	1.48	0.39
In.	0.87	1.15	3.57	1.58	0.85	0.81	2.32	2.27	2.00	0.95	1.71	0.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	7.65	9.24	12.2	11.7	11.3	15.9	17.3	11.7	7.71	6.26	4.86	8.31
Max	31.9	22.4	46.9	27.1	22.3	40.9	47.1	42.0	28.3	18.9	16.1	97.1
(WY)	(1997)	(1986)	(1984)	(1996)	(1998)	(1994)	(2007)	(1989)	(2003)	(1984)	(1990)	(1999)
Min	1.21	1.48	1.62	1.67	2.24	4.37	3.50	2.44	0.35	0.32	1.16	1.46
(WY)	(1995)	(1999)	(1999)	(1981)	(2002)	(2009)	(1985)	(1999)	(1999)	(1999)	(2005)	(2007)

SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1979 - 2009	
Annual total	3,578.2		3,100.6			
Annual mean	9.78		8.49		10.3	
Highest annual mean					18.2	1984
Lowest annual mean					3.25	2002
Highest daily mean	168	Dec 12	168	Dec 12	1,470	Sep 16, 1999
Lowest daily mean	1.8	Aug 25	1.4	Sep 22, 26	0.00	Sep 11, 1981
Annual seven-day minimum	1.8	Aug 23	1.6	Sep 20	0.05	Sep 24, 1981
Maximum peak flow			417	Aug 22	^a 6,240	Aug 2, 1973
Maximum peak stage			3.09	Aug 22	^b 16.10	Aug 2, 1973
Instantaneous low flow			Unknown		0.00	Sep 11, 1981
Annual runoff (cfsm)	1.57		1.36		1.66	
Annual runoff (inches)	21.37		18.51		22.56	
10 percent exceeds	19		15		20	
50 percent exceeds	6.0		4.9		4.8	
90 percent exceeds	1.9		2.1		1.5	

^a From rating curve extended above 600 ft³/s on basis of slope area measurement of peak flow.

^b Site and datum then in use.

