

**01381900 PASSAIC RIVER AT PINE BROOK, NJ**

PASSAIC RIVER BASIN

LOCATION.--Lat 40°51'45", long 74°19'18" referenced to North American Datum of 1983, Montville Township, Morris County, NJ, Hydrologic Unit 02030103, on left bank, 20 ft downstream from bridge on U.S. Route 46, 0.5 mi east of the community of Pine Brook, and 1.3 mi downstream from Rockaway River.

DRAINAGE AREA.--349 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1963-69, 1973. Annual maximum, water years 1966-75, 1978-79. Continuous-record gaging station, water years 1979 to current year. Feb 19 to Aug 24, 1939 in files of U.S. Army Corps of Engineers, New York District.

REVISED RECORDS.--WDR NJ-77-1: 1967(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 149.26 ft above NGVD of 1929. December 1965 to September 1979, crest-stage gage at same site at datum 10.00 ft higher. Feb 19 to Aug 24, 1939, water-stage recorder at present County Route 506 bridge, 1,600 ft upstream from gage. operated by U.S. Army Corps of Engineers, New York District at datum 13.05 ft higher.

REMARKS.--Records fair, except for estimated daily discharges, which are poor. Published flows include flow through left-bank bypass channel located about 2,000 ft southwest of gage. At gage heights between 21 and 22 ft and above, some flow will be lost to a 200-year old flood control channel on the right bank about 800 ft upstream of the gage. This flood control channel empties into Deepavaal Brook and eventually re-enters the Passaic River near Singac. This bypass flow is not included in published records. Water diverted from Passaic River and Canoe Brook upstream of gage near Summit by New Jersey-American Water Company for municipal supply (see 01379510 and 01379529). Flow regulated by Boonton (see 01380900) and Splitrock Reservoirs (see 01379990) and many small lakes. Water diverted from Boonton Reservoir for municipal supply of Jersey City (see 01380800). Flow includes sewage effluent from several treatment plants upstream of gage. Several measurements of water temperature were made during the year. Satellite telemetry at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1810 (according to State Geologist's report for 1904), 23.2 ft, Oct 10, 1903 (from King Survey of high-water marks; present datum; at bridge on County Route 506 (Bloomfield Avenue), 1,600 ft upstream from gage). Floods of Mar 13, 1936 and Sep 24, 1938 reached stages of 20.8 ft and 19.4 ft, respectively (present datum; at bridge on County Route 506). Flood of Jul 23, 1945 reached a stage of 22.3 ft (according to U.S. Army Corps of Engineers; present datum). Minimum discharge measured, 41 ft<sup>3</sup>/s, Sep 22, 1964.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft<sup>3</sup>/s and (or) maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar 1	2045	2,010	18.33
Mar 8	2100	3,970	20.09
Mar 12	2330	5,760	22.04
Apr 19	0045	3,970	20.09
May 20	0830	3,420	19.68
Aug 17	2030	2,070	18.40
Aug 30	0730	*7,110	*24.12
Sep 9	2130	5,540	21.73

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**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**  
**DAILY MEAN VALUES**

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	795	136	380	230	248	1,990	804	1,600	820	320	145	5,930
2	1,230	139	851	267	289	1,980	769	1,410	706	268	135	5,270
3	1,350	142	1,300	371	394	1,790	737	1,220	576	270	122	4,560
4	1,230	237	1,440	403	413	1,570	691	1,080	462	394	194	3,660
5	1,050	429	1,310	387	404	1,350	648	1,010	389	405	165	2,910
6	841	420	1,110	340	451	1,260	620	951	348	353	126	2,630
7	625	354	896	300	501	2,340	613	862	320	303	168	3,800
8	469	299	696	273	564	3,730	612	766	298	302	186	4,920
9	357	258	531	247	610	3,800	591	672	274	435	192	5,430
10	256	224	412	224	603	3,430	548	580	296	443	416	5,460
11	213	200	325	205	549	4,480	502	499	379	371	407	5,060
12	361	186	454	213	481	5,550	504	451	488	289	299	4,420
13	289	175	855	217	426	5,660	691	417	467	213	194	3,600
14	234	170	1,160	201	399	5,190	931	392	415	191	439	2,920
15	322	174	1,220	193	481	4,460	1,110	454	464	158	811	2,430
16	291	173	1,090	191	509	3,560	1,160	604	449	144	1,440	2,060
17	241	341	912	186	503	2,920	2,310	789	538	132	2,000	1,750
18	209	454	752	223	585	2,420	3,710	1,380	770	127	2,000	1,480
19	184	406	620	432	789	1,990	3,850	2,860	836	124	1,830	1,250
20	171	342	510	536	939	1,640	3,350	3,390	782	121	1,760	1,060
21	166	291	423	538	1,000	1,390	2,820	3,180	659	118	1,590	909
22	157	252	364	485	988	1,260	e2,410	2,800	528	115	1,500	804
23	152	231	320	429	907	1,200	e2,060	2,390	552	109	1,390	746
24	145	213	286	401	806	1,260	e1,860	2,120	656	103	1,200	841
25	142	195	264	344	892	1,360	e1,780	1,990	739	169	1,010	1,200
26	139	205	243	300	1,410	1,390	1,770	1,760	776	267	928	1,400
27	140	221	268	315	1,880	1,330	1,620	1,500	739	203	887	1,290
28	155	196	269	312	1,960	1,220	1,550	1,280	621	158	3,830	1,140
29	150	178	257	295	---	1,090	1,700	1,100	483	181	6,490	1,050
30	140	173	248	278	---	966	1,770	974	385	207	7,050	1,110
31	138	---	234	261	---	873	---	908	---	155	6,600	---
<b>Total</b>	12,342	7,414	20,000	9,597	19,981	74,449	44,091	41,389	16,215	7,148	45,504	81,090
<b>Mean</b>	398	247	645	310	714	2,402	1,470	1,335	540	231	1,468	2,703
<b>Max</b>	1,350	454	1,440	538	1,960	5,660	3,850	3,390	836	443	7,050	5,930
<b>Min</b>	138	136	234	186	248	873	502	392	274	103	122	746

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2011, BY WATER YEAR (WY)**

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	446	575	847	716	769	1,083	1,116	746	552	348	347	377
<b>Max</b>	1,822	1,590	2,286	1,516	1,631	2,541	2,842	2,537	1,946	1,485	1,468	2,703
<b>(WY)</b>	(2006)	(2007)	(1984)	(1996)	(2008)	(2010)	(1983)	(1989)	(2003)	(1984)	(2011)	(2011)
<b>Min</b>	114	127	107	105	148	272	161	270	146	98.1	117	91.0
<b>(WY)</b>	(2002)	(2002)	(1981)	(1981)	(2002)	(1981)	(1985)	(2005)	(1999)	(1999)	(1981)	(1980)

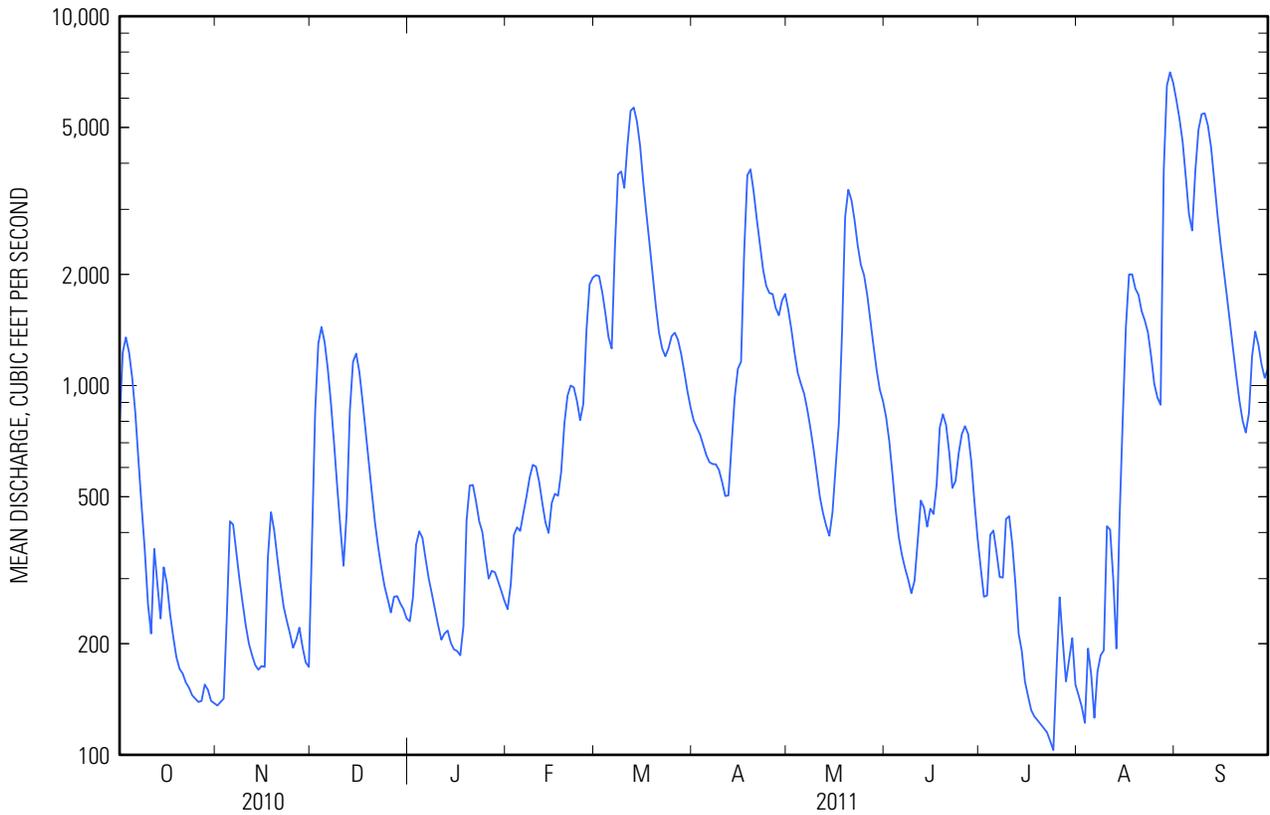
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SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1980 - 2011	
<b>Annual total</b>	243,039		379,220			
<b>Annual mean</b>	666		1,039		659	
<b>Highest annual mean</b>					1,125	1984
<b>Lowest annual mean</b>					257	2002
<b>Highest daily mean</b>	6,620	Mar 16	7,050	Aug 30	7,910	Apr 7, 1984
<b>Lowest daily mean</b>	88	Sep 6	103	Jul 24	72	Sep 29, 1980
<b>Annual seven-day minimum</b>	90	Sep 6	117	Jul 18	78	Oct 12, 1980
<b>Maximum peak flow</b>			7,110	Aug 30	<sup>a</sup> 8,000 Apr 7, 1984	
<b>Maximum peak stage</b>			24.12	Aug 30	24.12	Aug 30, 2011
<b>Instantaneous low flow</b>			101	Jul 24	<sup>b</sup> 70	Sep 29, 1980
<b>10 percent exceeds</b>	1,530		2,510		1,560	
<b>50 percent exceeds</b>	325		538		384	
<b>90 percent exceeds</b>	109		173		124	

<sup>a</sup> Estimated.

<sup>b</sup> Minimum instantaneous low flow measured between water years 1963-1979 was 41 ft<sup>3</sup>/s, Sep 22, 1964.



**01381900 PASSAIC RIVER AT PINE BROOK, NJ—Continued**

**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1963-68, 1979-80, 1992, 1994, 2001, 2008-09, and 2011.

REMARKS.--Post-Hurricane Synoptic for bacteria concentrations included stations 01381900, 01388000, 01388500, 01389500, 01389880, and 01391500.

COOPERATION.--Determination of concentrations of E. coli and total coliform bacteria was performed by the NJ Department of Health and Senior Services, Sanitary Bacteriology Laboratory.

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2010 TO SEPTEMBER  
2011**

[MF, membrane filter; col/100 mL, colonies per 100 milliliters]

<b>Date</b>	<b>Sample start time</b>	<b>Escherichia coli, m-TEC MF method, water, col/100 mL (31633)</b>	<b>Total coliform, water, most probable number per 100 milliliters (31686)</b>
<b>08-31-2011</b>	<b>1410</b>	1,000	4,900
<b>09-01-2011</b>	<b>1125</b>	1,100	7,000