01403060 RARITAN RIVER BELOW CALCO DAM, AT BOUND BROOK, NJ

RARITAN RIVER BASIN

LOCATION.--Lat 40°33′04″, long 74°32′54″ referenced to North American Datum of 1983, Franklin Township, Somerset County, NJ, Hydrologic Unit 02030105, on right bank 1,000 ft downstream from Calco Dam and Cuckels Brook, 1,400 ft upstream from bridge on Interstate 287, 1.2 mi downstream from Millstone River, and 1.2 mi southwest of Bound Brook.

DRAINAGE AREA.--785 mi^2 of which 11 mi^2 probably is noncontributing, draining into the Delaware and Raritan Canal.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1903 to March 1909, October 1944 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1966 published as "Raritan River at Bound Brook" (station 01403000). Records prior to October 1966 are equivalent to the present records if the effluents from American Cyanamid Company and Somerset Raritan Valley Sewerage Authority and the discharge of Cuckels Brook are added.

REVISED RECORDS.--WSP 1552: 1903-07, 1946(M), 1949, 1952(P).

GAGE.--Water-stage recorder. Datum of gage is NGVD of 1929. Sep 12, 1903 to Mar 31, 1909, non-recording gages at highway bridge (Queens Bridge), 1.2 mi downstream at different datum. October 1944 to Sep 30, 1966, water-stage recorder and concrete control, 1,000 ft upstream at datum 18.06 ft higher.

REMARKS.--Records good. Water diverted for municipal supply 1.2 mi above station by New Jersey American Water Company (formerly Elizabethtown Water Company, see 01402915). Flow regulated by Spruce Run (see 01396790) and Round Valley (see 01397050) Reservoirs. Diversions to and releases from Round Valley Reservoir (see 01396920 and 01399690). Slight diurnal fluctuations at low flow. 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec 10	0100	17,100	27.67
Dec 27	1415	19,200	28.54
Jan 26	0645	15,000	26.75
Mar 14	1045	*45,900	*36.04
Mar 23	1200	12,300	25.48
Mar 29	1530	12,500	25.58
Mar 31	0430	20,700	29.11

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	355	1,560	526	1,860	1,060	2,250	7,900	773	668	159	233	179
2	278	1,310	497	1,860	900	3,300	4,680	700	939	150	345	152
3	275	1,020	4,310	1,380	878	3,680	3,030	3,280	705	152	228	186
4	286	846	2,660	1,190	858	3,940	2,440	2,350	383	181	185	221
5	243	749	1,570	1,110	785	3,590	2,090	1,250	271	166	162	204
6	215	672	2,100	973	800	3,010	1,870	964	241	139	164	160
7	207	596	1,640	868	695	2,630	1,710	809	211	175	157	122
8	201	560	1,350	827	711	2,540	1,520	704	193	176	167	159
9	178	519	8,520	711	706	2,430	1,800	673	211	238	153	184
10	207	504	10,800	575	706	2,150	1,510	553	574	350	155	166
11	220	445	4,470	645	854	1,860	1,200	503	413	404	155	175
12	212	413	2,230	697	795	1,890	1,080	939	305	184	188	222
13	191	410	2,420	619	722	8,500	982	868	337	504	191	279
14	194	532	6,110	601	677	38,500	937	654	1,120	1,840	162	277
15	240	563	3,420	581	643	18,800	872	697	538	1,980	188	244
16	499	521	2,390	597	688	9,270	843	614	318	631	251	239
17	494	454	1,810	780	673	5,590	1,180	482	421	439	266	399
18	534	402	1,490	2,400	615	3,680	909	713	321	237	200	243
19	438	383	1,320	1,650	631	2,790	777	1,420	199	193	156	202
20	338	1,210	1,250	1,170	807	2,290	699	856	180	264	128	164
21	294	1,280	1,200	899	940	1,950	647	637	178	201	169	157
22	264	761	1,090	776	1,010	2,060	657	517	182	321	612	158
23	237	607	998	712	1,840	10,000	614	473	291	179	617	314
24	1,100	552	833	641	6,480	5,460	569	457	208	172	379	232
25	6,330	522	843	4,130	6,810	3,300	1,010	431	186	189	224	167
26	2,460	540	4,300	10,700	5,450	2,600	3,520	386	150	276	196	150
27	2,060	528	15,500	4,190	3,400	2,110	3,340	361	169	170	149	192
28	6,780	475	8,130	2,450	2,380	1,810	1,900	568	136	133	153	230
29	5,740	426	4,180	1,750	---	8,850	1,270	479	146	286	139	214
30	2,920	434	2,210	1,300	---	11,100	929	416	182	383	123	516
31	1,760	---	1,880	1,160	---	16,400	---	362	---	194	148	---
Total	35,750	19,794	102,047	49,802	43,514	188,330	52,485	24,889	10,376	11,066	6,743	6,507
Mean	1,153	660	3,292	1,607	1,554	6,075	1,750	803	346	357	218	217
Max	6,780	1,560	15,500	10,700	6,810	38,500	7,900	3,280	1,120	1,980	617	516
Min	178	383	497	575	615	1,810	569	361	136	133	123	122

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2010, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	732	1,044	1,544	1,595	1,660	2,159	1,772	1,220	812	676	649	669
Max	3,289	3,684	4,615	5,825	3,232	6,075	5,360	3,862	3,883	4,624	3,576	3,358
(WY)	(2006)	(1973)	(1997)	(1979)	(1971)	(2010)	(2007)	(1989)	(1972)	(1975)	(1955)	(1999)
Min	113	138	165	179	198	454	230	329	117	84.7	69.9	76.1
(WY)	(1958)	(1966)	(1999)	(1981)	(2002)	(1985)	(1985)	(1992)	(1965)	(1955)	(1957)	(1957)

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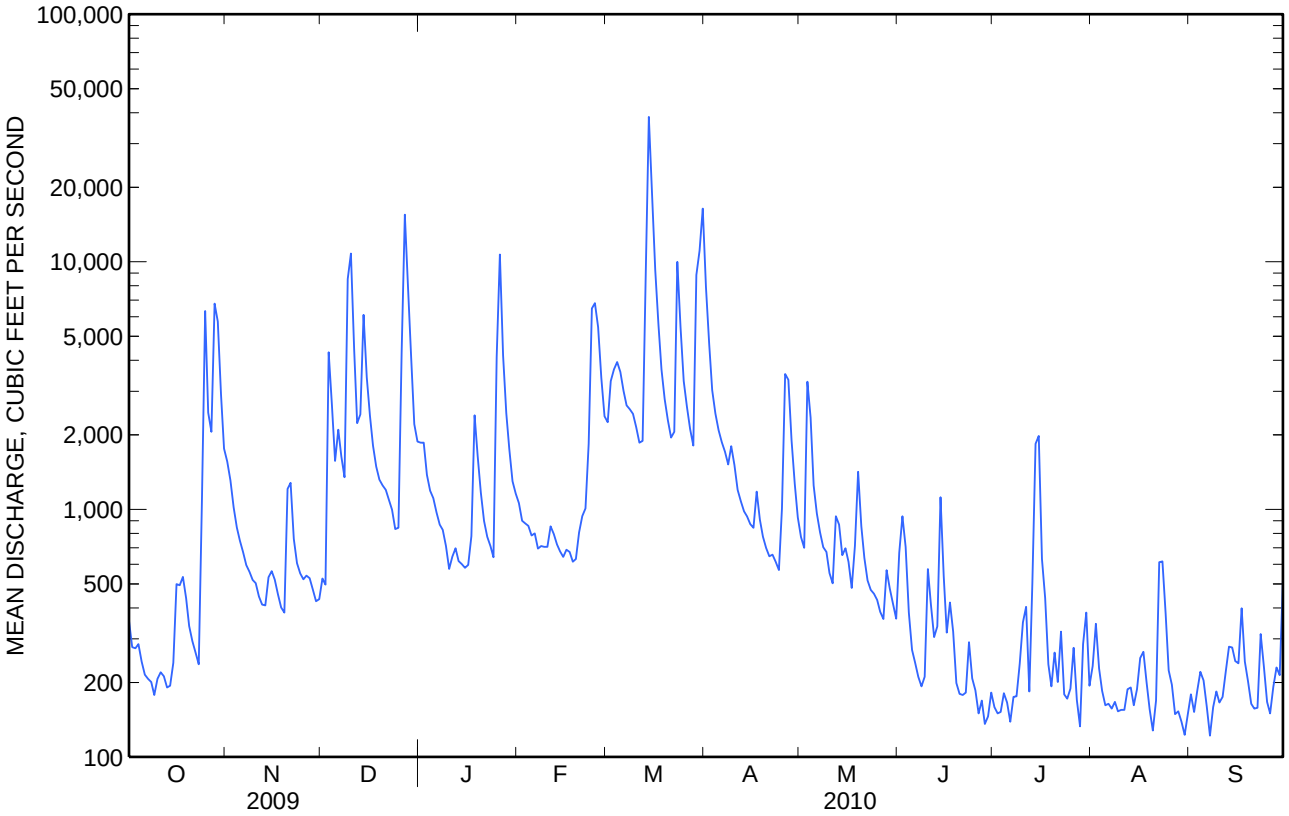
SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1903 - 2010	
Annual total	465,242		551,303			
Annual mean	1,275		1,510		1,208	
Highest annual mean					2,046	1975
Lowest annual mean					432	2002
Highest daily mean	15,500	Dec 27	38,500	Mar 14	61,000	Sep 17, 1999
Lowest daily mean	178	Oct 9	122	Sep 7	37	Sep 6, 1964
Annual seven-day minimum	200	Oct 8	149	Aug 27	46	Sep 4, 1957
Maximum peak flow			45,900	Mar 14	[a]82,900	Sep 17, 1999
Maximum peak stage			36.04	Mar 14	[b]42.13	Sep 17, 1999
Instantaneous low flow			80	Jul 28	26	Dec 31, 2001
10 percent exceeds	2,940		3,410		2,630	
50 percent exceeds	708		619		621	
90 percent exceeds	322		170		167	

[a] From rating extended above 46,000 ft³/s on basis of indirect computation of peak flow downstream at Fieldville Dam.

[b] From floodmark in gage house, highest since about 1700.