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 just upstream of Calco Dam, 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. 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 12	1730	*24,100	*30.35
May 7	1700	13,400	26.01
Aug 3	0730	15,100	26.79

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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	e820	727	2,470	1,080	556	437	708	406	359	622	2,100	838
2	520	559	1,680	957	814	454	869	701	313	3,370	4,730	646
3	357	439	1,050	916	972	379	1,490	718	444	2,480	11,500	543
4	271	361	814	801	744	472	3,090	1,550	2,350	1,080	3,630	462
5	253	323	695	764	495	457	1,650	3,240	2,060	783	1,750	405
6	229	430	585	750	436	490	1,270	3,880	3,180	592	1,180	362
7	198	503	531	3,370	447	571	1,530	9,400	1,610	512	912	320
8	161	481	428	5,030	877	701	1,220	6,510	949	489	750	306
9	152	453	408	2,980	1,620	771	941	3,570	1,070	413	685	271
10	134	385	516	1,710	928	806	766	1,990	1,370	340	612	251
11	134	321	2,120	1,390	924	639	906	1,380	1,130	320	423	364
12	138	287	18,000	1,130	1,420	567	1,370	1,070	1,560	1,630	598	1,240
13	151	343	10,400	941	1,270	493	1,080	884	1,530	788	686	1,070
14	157	808	4,450	840	984	454	824	761	5,670	461	1,120	636
15	149	1,980	2,300	703	830	433	1,290	834	3,140	344	633	485
16	152	3,990	1,760	492	726	424	1,200	835	1,600	282	483	422
17	150	2,010	2,760	626	652	408	883	1,420	1,140	255	392	388
18	142	1,210	3,180	730	624	388	731	848	1,760	824	351	351
19	131	842	2,390	769	787	385	649	633	3,140	371	463	299
20	146	666	3,780	676	810	406	584	521	1,960	258	323	262
21	162	534	2,980	576	588	382	1,570	455	2,790	538	393	233
22	150	446	2,450	495	543	352	1,790	393	2,430	597	5,610	213
23	158	376	1,560	466	512	330	1,270	358	1,690	762	7,260	200
24	156	341	2,120	500	455	317	853	356	1,340	2,010	3,500	227
25	189	953	7,600	416	435	317	695	727	1,120	911	1,010	326
26	844	1,040	3,990	383	440	314	607	448	947	651	687	269
27	507	706	2,560	390	420	453	532	376	1,100	1,810	536	657
28	2,810	564	2,490	484	442	470	463	358	858	869	4,540	897
29	5,330	481	2,340	1,280	---	602	415	735	693	1,810	4,030	647
30	1,950	590	1,700	955	---	1,630	371	746	546	3,250	2,200	476
31	1,040	---	1,410	637	---	1,010	---	497	---	1,380	1,330	---
Total	17,841	23,149	91,517	33,237	20,751	16,312	31,617	46,600	49,849	30,802	64,417	14,066
Mean	576	772	2,952	1,072	741	526	1,054	1,503	1,662	994	2,078	469
Max	5,330	3,990	18,000	5,030	1,620	1,630	3,090	9,400	5,670	3,370	11,500	1,240
Min	131	287	408	383	420	314	371	356	313	255	323	200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	726	1,049	1,520	1,595	1,661	2,104	1,772	1,226	819	681	656	675
Max	3,289	3,684	4,615	5,825	3,232	5,093	5,360	3,862	3,883	4,624	3,576	3,358
(WY)	(2006)	(1973)	(1997)	(1979)	(1971)	(1994)	(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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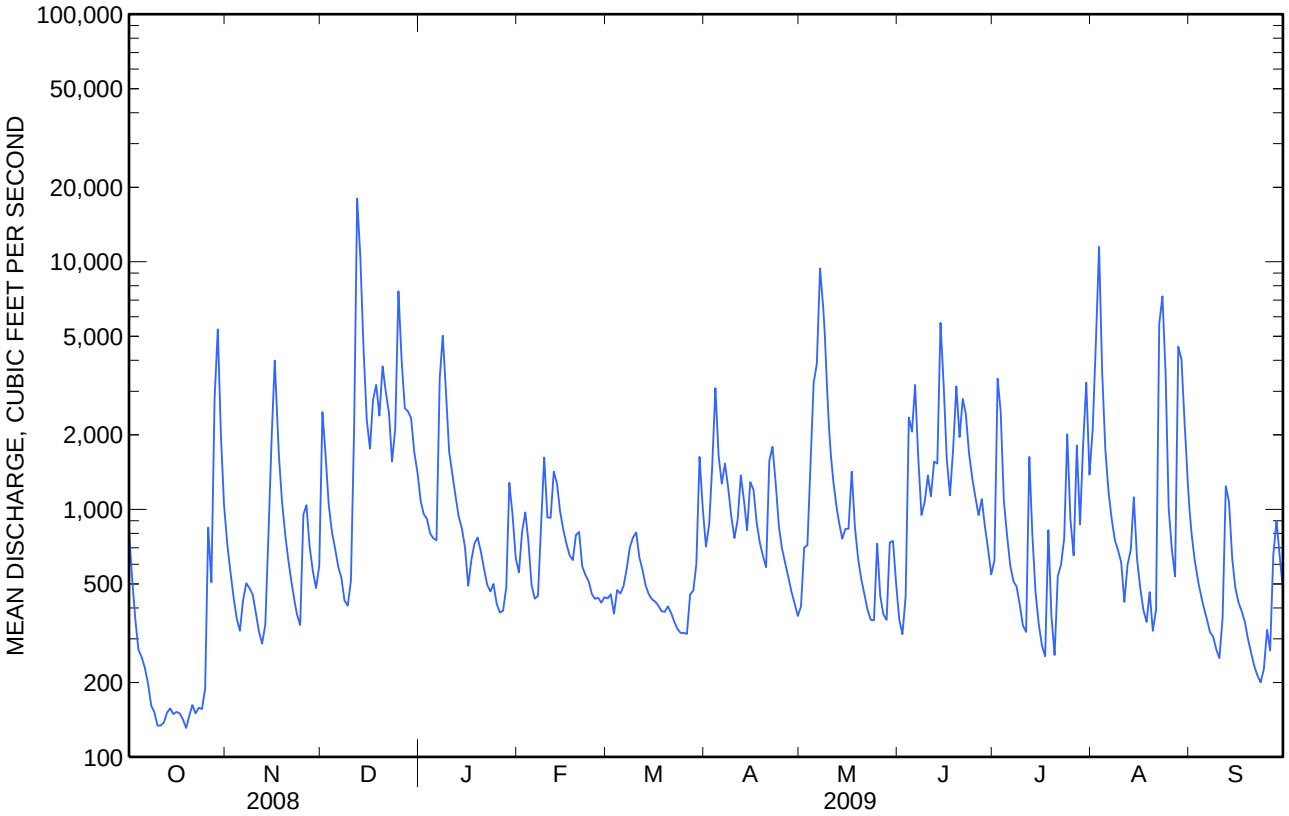
SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1903 - 2009	
Annual total	477,140		440,158			
Annual mean	1,304		1,206		1,204	
Highest annual mean					2,046	1975
Lowest annual mean					432	2002
Highest daily mean	18,300	Mar 9	18,000	Dec 12	61,000	Sep 17, 1999
Lowest daily mean	129	Sep 18	131	Oct 19	37	Sep 6, 1964
Annual seven-day minimum	138	Sep 17	145	Oct 9	46	Sep 4, 1957
Maximum peak flow			24,100	Dec 12	[a]82,900	Sep 17, 1999
Maximum peak stage			30.35	Dec 12	[b]42.13	Sep 17, 1999
Instantaneous low flow			82	Oct 10	26	Dec 31, 2001
10 percent exceeds	2,760		2,640		2,620	
50 percent exceeds	669		695		621	
90 percent exceeds	157		310		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.