01387500 RAMAPO RIVER NEAR MAHWAH, NJ

PASSAIC RIVER BASIN

LOCATION.--Lat 41°05′53″, long 74°09′46″ referenced to North American Datum of 1983, Mahwah Township, Bergen County, NJ, Hydrologic Unit 02030103, on left bank 350 ft downstream from State Highway 17, 0.6 mi downstream from Mahwah River, 1.0 mi west of Mahwah, and 1.2 mi downstream of New York-New Jersey State line.

DRAINAGE AREA.--120 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1902 to December 1906, September 1922 to current year. October 1902 to February 1905 monthly discharge only, published in WSP 1302. Figures of daily discharge Feb 10, 1903 to Dec 31, 1904, published in WSP 97 and 125, are unreliable and should not be used. Gage-height records for 1903-14 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 781: 1904(M). WSP 1031: 1938, 1940. WSP 1552: 1923(M), 1924, 1925-26(M), 1927-28, 1933, 1937. WRD-NJ 1971: 1968(M). WDR NJ-82-1: Drainage area. WDR-NJ-87-1: 1986.

GAGE.--Water-stage recorder. Datum of gage is 253.10 ft above NGVD of 1929. Prior to Dec 31, 1906, non-recording gage on former bridge at site 250 ft downstream at different datum. Sep 1, 1922 to Dec 23, 1936, water-stage recorder just below former bridge at present datum.

REMARKS.--Records good, except for estimated daily discharges, which are fair. Flow affected by diversion from United Water-New York well field upstream from station (see 01387420). Occasional regulation from lakes and ponds upstream from the station. 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 1,400 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)
Dec 27	1145	2,520	7.61
Jan 26	0300	2,700	7.76
Mar 14	0600	*11,500	*11.90
Mar 23	1500	1,620	7.20
Mar 30	2115	2,590	8.09

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

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	41	161	104	388	265	269	1,300	222	45	14	e15	26
2	38	141	98	347	242	288	836	197	59	15	e15	21
3	43	123	654	e278	234	325	633	300	53	19	15	20
4	44	108	628	e256	218	343	531	277	43	19	15	18
5	39	98	403	243	201	347	462	206	39	18	16	18
6	37	94	379	224	189	336	404	173	42	19	15	18
7	43	91	316	208	169	362	360	147	46	21	15	18
8	36	87	273	200	159	440	322	141	39	18	15	17
9	33	86	537	186	160	547	352	119	48	17	14	16
10	32	78	726	e165	176	653	313	99	80	22	14	16
11	29	72	517	160	188	708	261	91	63	39	14	16
12	28	67	381	153	161	915	233	152	48	28	13	18
13	26	64	427	144	148	e3,470	211	164	44	53	14	23
14	26	123	732	139	139	9,420	194	134	47	47	13	24
15	30	180	615	134	133	3,950	182	117	43	29	15	18
16	41	156	557	135	136	2,070	172	96	36	24	34	19
17	34	131	451	148	141	1,280	186	85	47	23	20	23
18	33	114	361	217	132	904	175	145	36	20	15	19
19	31	105	313	212	128	701	158	275	32	70	16	19
20	30	284	300	182	124	566	145	221	29	41	17	17
21	28	274	270	162	125	491	130	162	26	23	12	18
22	27	211	240	151	124	505	121	123	33	68	197	18
23	26	176	213	139	176	1,500	112	99	44	61	437	19
24	153	158	195	131	320	1,110	101	92	34	39	211	18
25	271	146	181	1,110	e410	684	239	86	27	e46	128	18
26	144	142	334	2,270	e440	600	388	76	24	43	106	16
27	100	134	2,280	985	358	516	e608	67	22	26	72	26
28	257	124	1,530	589	291	448	409	62	22	21	61	36
29	350	109	789	442	---	1,450	313	58	20	21	40	32
30	226	104	508	e340	---	2,010	255	54	16	18	32	142
31	171	---	428	e300	---	2,160	---	50	---	16	26	---
Total	2,447	3,941	15,740	10,738	5,687	39,368	10,106	4,290	1,187	938	1,642	727
Mean	78.9	131	508	346	203	1,270	337	138	39.6	30.3	53.0	24.2
Max	350	284	2,280	2,270	440	9,420	1,300	300	80	70	437	142
Min	26	64	98	131	124	269	101	50	16	14	12	16
Cfsm	0.66	1.09	4.23	2.89	1.69	10.6	2.81	1.15	0.33	0.25	0.44	0.20
In.	0.76	1.22	4.88	3.33	1.76	12.20	3.13	1.33	0.37	0.29	0.51	0.23

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

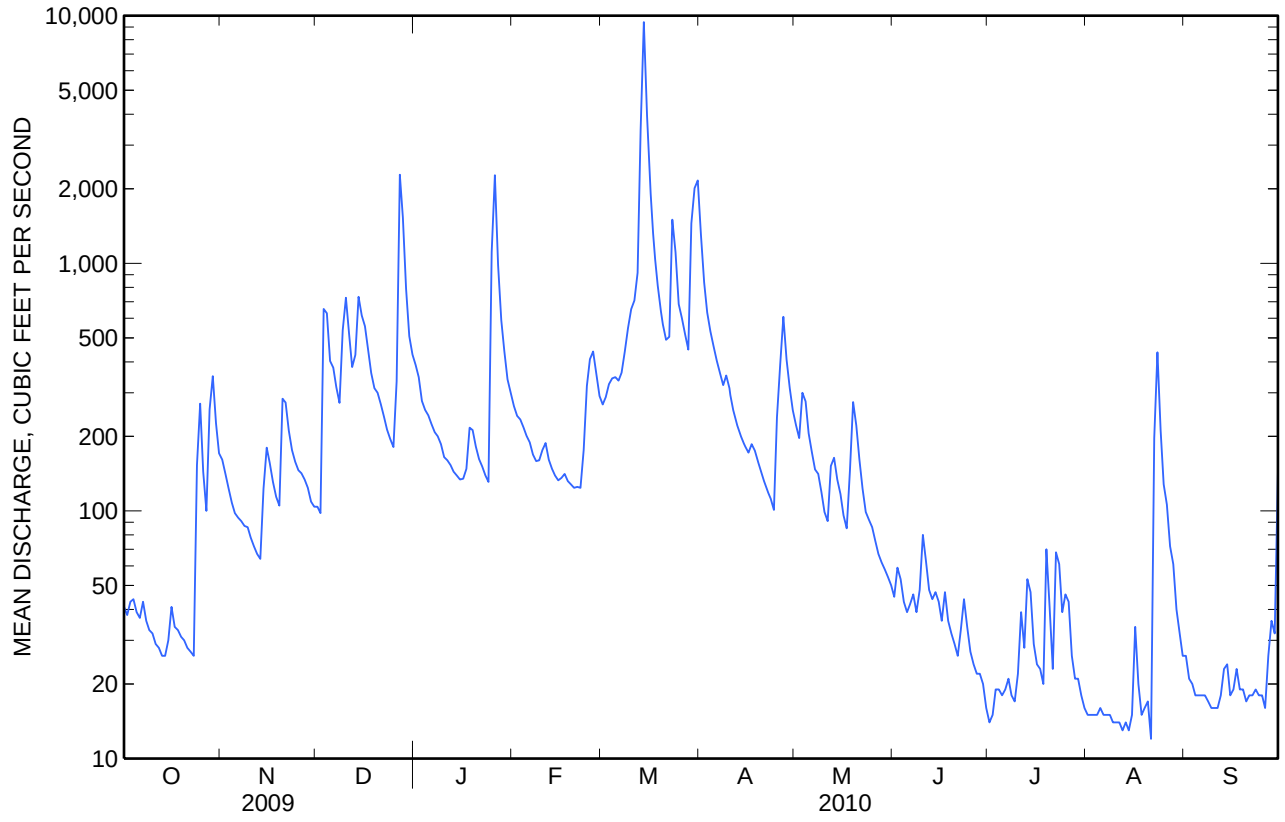
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	153	225	285	270	275	443	395	251	158	96.1	97.7	113
Max	1,119	736	873	877	701	1,270	1,055	994	735	602	755	641
(WY)	(2006)	(1978)	(1984)	(1979)	(1970)	(2010)	(1984)	(1989)	(1972)	(1945)	(1955)	(1999)
Min	13.8	17.9	19.8	16.5	42.7	113	88.4	79.5	29.6	15.8	11.3	11.1
(WY)	(1942)	(2002)	(1999)	(1981)	(2002)	(2006)	(1985)	(1905)	(1999)	(1993)	(1993)	(1964)

01387500 RAMAPO RIVER NEAR MAHWAH, NJ—Continued

SUMMARY STATISTICS

	Calendar Year 2009		Water Year 2010		Water Years 1903 - 2010	
Annual total	71,444		96,811			
Annual mean	196		265		230	
Highest annual mean					461	1903
Lowest annual mean					80.0	2002
Highest daily mean	2,280	Dec 27	9,420	Mar 14	9,420	Mar 14, 2010
Lowest daily mean	26	Oct 13	12	Aug 21	1.2	Aug 12, 1993
Annual seven-day minimum	29	Oct 9	14	Aug 8	3.7	Sep 7, 1995
Maximum peak flow			11,500	Mar 14	[a]15,500	Apr 5, 1984
Maximum peak stage			11.90	Mar 14	13.35	Apr 5, 1984
Instantaneous low flow			11	Aug 21	0.20	Aug 11, 1993
Annual runoff (cfsm)	1.63		2.21		1.92	
Annual runoff (inches)	22.15		30.01		26.04	
10 percent exceeds	363		541		503	
50 percent exceeds	142		128		138	
90 percent exceeds	51		18		26	

[a] From rating curve extended above 7,600 ft³/s.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: February 1964 to June 1965.

REMARKS.--Cooperative Network Site Descriptor: Mixed Land Use Indicator, NJ Department of Environmental Protection Watershed Management Area 3.

COOPERATION.--Physical measurements and samples for laboratory analyses were provided by personnel of the NJ Department of Environmental Protection. Determinations of dissolved ammonia, dissolved orthophosphate, and suspended residue were performed by the NJ Department of Health and Senior Services, Environmental and Chemical Laboratory.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
Part 1 of 5

[%, percent; ANC, acid neutralizing capacity; CaCO3, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO2, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	Absorbance, UV, 254 nm, 1 cm path length, water, filtered, units per centimeter (50624)	Absorbance, UV, organic constituents, 280 nm, 1 cm path length, water, filtered, units per centimeter (61726)	Discharge, instantaneous, ft³/s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)
11-04-2009	1030	764	10.0	.123	.095	107	10.0	88	7.7
02-01-2010	1000	763	-1.0	.070	.054	264	14.5	101	7.8
06-15-2010	0930	757	21.5	.083	.062	42	6.6	73	7.6
09-09-2010	1030	749	19.0	.080	.060	16	4.7	53	7.5

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010
Part 2 of 5

[%, percent; ANC, acid neutralizing capacity; CaCO3, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO2, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Specific conductance, water, unfiltered, µS/cm at 25 °C (00095)	Temperature, water, °C (00010)	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)	Dissolved solids dried at 180 °C, water, filtered, mg/L (70300)	Dissolved solids, water, filtered, sum of constituents, milligrams per liter (70301)	Hardness, water, mg/L as CaCO3 (00900)	Suspended solids, water, unfiltered, mg/L (00530)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)
11-04-2009	442	9.2	1.8	263	E 239	105	4	29.4	7.77
02-01-2010	368	.4	1.9	218	E 196	74.5	2	20.8	5.47
06-15-2010	738	19.8	1.9	414	385	160	6	44.2	12.1
09-09-2010	802	20.0	4.3	455	E 426	161	10	44.7	11.9

01387500 RAMAPO RIVER NEAR MAHWAH, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 3 of 5

[%, percent; ANC, acid neutralizing capacity; CaCO3, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO2, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, mg/L as CaCO3 (90410)	Carbon (inorganic plus organic), suspended sediment, total, mg/L (00694)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Inorganic carbon, suspended sediment, total, mg/L (00688)	Silica, water, filtered, mg/L as SiO2 (00955)	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, filtered, mg/L as N (00623)
11-04-2009	2.05	46.2	74	.17	81.5	E .07	< .06	9.2	12.7	.42
02-01-2010	1.21	38.8	51	.33	75.3	E .08	< .06	7.7	12.2	.19
06-15-2010	2.69	76.6	100	.48	154	.08	< .06	8.4	17.9	.59
09-09-2010	3.58	90.9	94	.46	177	E .06	< .06	6.1	21.2	.54

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 4 of 5

[%, percent; ANC, acid neutralizing capacity; CaCO3, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO2, silicon dioxide; cm, centimeter; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Orthophos-phate, water, filtered, mg/L as P (00671)	Particulate nitrogen, suspended in water, mg/L (49570)	Phosphorus, water, filtered, mg/L as P (00666)	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, filtered, mg/L (00602)	Total nitrogen, water, unfiltered, mg/L (00600)	Organic carbon, suspended sediment, total, mg/L (00689)
11-04-2009	.086	1.18	.106	E .03	.12	.13	1.6	E 1.6	.17
02-01-2010	.042	.88	.045	.05	.04	.06	1.1	1.1	.33
06-15-2010	.211	2.11	--	.07	.27	.31	2.7	2.8	.48
09-09-2010	.162	3.07	--	.06	.32	.35	3.6	3.7	.46

01387500 RAMAPO RIVER NEAR MAHWAH, NJ—Continued

WATER-QUALITY DATA WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 5 of 5

[%, percent; ANC, acid neutralizing capacity; CaCO3, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO2, silicon dioxide; cm, centimeter; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; <, less than; E, estimated]

Date	Organic carbon, water, filtered, mg/L (00681)
11-04-2009	5.0
02-01-2010	2.4
06-15-2010	2.7
09-09-2010	2.6