01389500 PASSAIC RIVER AT LITTLE FALLS, NJ

PASSAIC RIVER BASIN

LOCATION.--Lat 40°53′05″, long 74°13′34″ referenced to North American Datum of 1983, Totowa Borough, Passaic County, NJ, Hydrologic Unit 02030103, on left bank 0.6 mi downstream from Beatties Dam in Little Falls, and 1.0 mi upstream from Peckman River.

DRAINAGE AREA.--762 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1897 to current year. Monthly discharge only for September 1897, published in WSP 1302. Published as "at Paterson", September 1897 to September 1955.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 120.00 ft above NGVD of 1929 (levels by Passaic Valley Water Commission). Prior to Jan 8, 1933, nonrecording gage operated by the Society for Establishing Useful Manufacturers and data were reviewed by the USGS. From Jan 8, 1933, to Sep 30, 1955, water-stage recorder, at site 3.7 mi downstream at NGVD of 1929 (levels from New Jersey Geological Survey benchmark).

COOPERATION.--Gage-height record collected in cooperation with the Passaic Valley Water Commission.

REMARKS.--Records good. Significant fluctuations at medium and low flow due to operation of hydroelectric plant at Beatties Dam. Flow regulated by reservoirs in Rockaway (see 01379990 and 01380900), Pequannock (see 01382100, 01382200, 01382300, 01382380, and 01382400), Wanaque (see 01383000, 01384002, and 01386990), and Ramapo River subbasins. Large diversions for municipal supply from Passaic River above Beatties Dam (see 01380800), and from Rockaway (see 01382370), Pequannock (see 01386980), Pompton (see 01388981), Ramapo (see 01388982), and Wanaque (see 01389490) Rivers. In addition, the New Jersey-American Water Company (formerly Commonwealth Water Company) diverts from Canoe Brook near Summit (see 01379529) and from Passaic River (see 01379510); that company, the city of East Orange, and others also divert water for municipal supply by pumping wells in the basin. Several measurements of water temperature, other than those published, were made during the year. National Weather Service rain gage and gage-height telephone telemetry and USGS satellite gage-height telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,400 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb 15	1630	5,970	6.52
Mar 10	2000	*7,570	*7.55

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	40	966	834	3,910	1,090	2,110	1,310	1,300	570	217	205	135
2	41	798	714	3,820	2,230	2,040	1,510	1,210	566	195	281	108
3	45	637	758	3,380	2,160	1,840	1,410	1,130	514	177	371	98
4	40	470	761	2,820	2,080	1,940	1,430	1,060	593	186	306	101
5	38	298	681	2,480	2,060	2,850	1,580	988	611	238	220	100
6	34	322	578	2,200	2,150	3,850	1,510	880	568	274	436	664
7	32	314	466	1,990	2,210	4,050	1,420	759	503	252	475	2,370
8	31	237	403	1,820	2,130	4,860	1,290	676	431	258	293	1,410
9	52	181	321	1,680	1,980	6,430	1,180	829	447	245	221	1,180
10	341	213	431	1,540	1,860	7,460	1,110	1,510	392	265	186	1,240
11	354	180	601	1,600	1,670	7,250	1,070	1,560	378	220	239	1,150
12	540	145	702	1,700	1,420	6,510	1,150	1,520	365	162	325	991
13	414	174	702	1,630	2,930	5,660	1,200	1,420	313	145	266	948
14	238	183	846	1,680	5,090	4,690	1,150	1,280	288	268	213	764
15	107	333	885	1,610	5,840	3,950	1,040	1,170	486	308	202	573
16	41	490	926	1,530	5,730	3,420	916	1,280	568	257	232	360
17	30	447	951	1,430	5,110	2,970	833	1,910	594	197	220	234
18	100	375	889	1,520	5,120	2,560	779	1,880	490	163	178	198
19	151	338	838	1,580	5,630	2,560	724	1,820	400	141	146	210
20	483	400	800	1,530	5,590	3,240	673	1,710	348	120	128	138
21	508	528	757	1,400	4,890	3,390	633	1,710	379	111	122	125
22	424	610	722	1,260	4,160	3,270	606	1,620	412	118	111	108
23	268	544	1,180	1,150	3,640	3,060	591	1,500	488	199	107	98
24	144	440	3,710	1,050	3,120	2,750	559	1,350	484	859	105	90
25	83	352	4,140	928	2,730	2,480	538	1,180	380	808	101	89
26	62	552	3,690	807	2,490	2,240	531	1,010	302	691	100	751
27	1,420	972	3,900	725	2,570	2,010	522	897	258	649	98	824
28	1,760	1,100	3,590	677	2,430	1,830	674	933	239	573	94	740
29	1,330	1,040	3,880	648	2,200	1,690	1,190	854	224	435	94	714
30	1,190	949	3,830	693	---	1,510	1,350	703	232	326	141	526
31	1,070	---	3,940	735	---	1,320	---	607	---	251	185	---
Total	11,411	14,588	47,426	51,523	92,310	105,790	30,479	38,256	12,823	9,308	6,401	17,037
Mean	368	486	1,530	1,662	3,183	3,413	1,016	1,234	427	300	206	568
Max	1,760	1,100	4,140	3,910	5,840	7,460	1,580	1,910	611	859	475	2,370
Min	30	145	321	648	1,090	1,320	522	607	224	111	94	89

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	651	950	1,292	1,356	1,419	2,313	2,065	1,283	793	531	540	539
Max	5,613	4,757	4,497	4,039	3,787	6,755	5,761	4,554	4,290	3,124	2,859	3,561
(WY)	(1904)	(1908)	(1903)	(1979)	(1973)	(1936)	(1983)	(1989)	(1972)	(1945)	(1942)	(1971)
Min	44.5	56.5	44.8	42.3	31.0	131	167	227	64.5	60.3	30.4	28.9
(WY)	(1931)	(1999)	(1999)	(2002)	(2002)	(2002)	(2002)	(1965)	(1999)	(1954)	(1923)	(1964)

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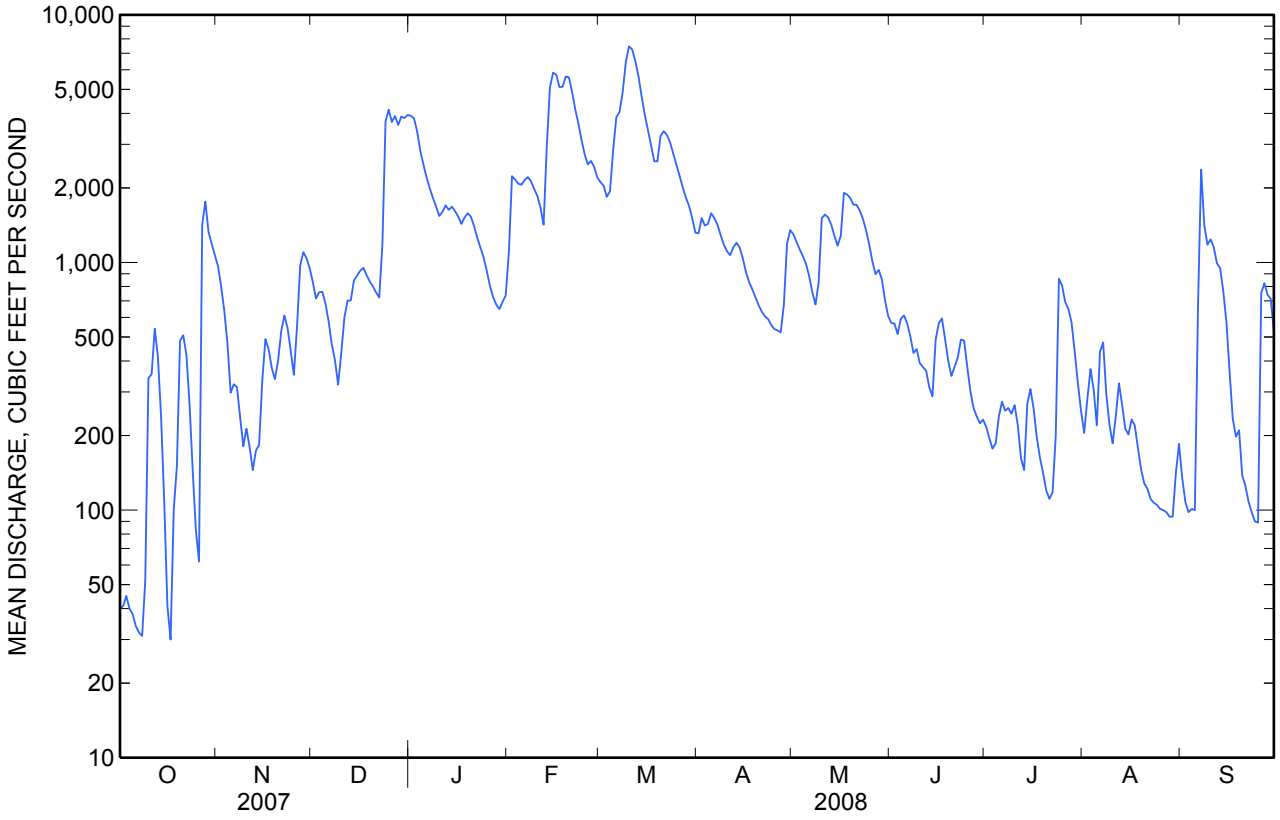
SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1898 - 2008	
Annual total	428,187		437,352			
Annual mean	1,173		1,195		1,143	
Highest annual mean					2,394	1903
Lowest annual mean					199	2002
Highest daily mean	15,500	Apr 18	7,460	Mar 10	28,000	Oct 10, 1903
Lowest daily mean	30	Oct 17	30	Oct 17	0.00	Jul 3, 1904
Annual seven-day minimum	37	Oct 2	37	Oct 2	13	Sep 19, 1932
Maximum peak flow			7,570	Mar 10	[a]31,700	Oct 10, 1903
Maximum peak stage			7.55	Mar 10	[b]12.91	Apr 7, 1984
Instantaneous low flow			6.0	Oct 16	0.00	Jul 3, 1904
10 percent exceeds	2,740		3,080		2,760	
50 percent exceeds	603		714		638	
90 percent exceeds	111		127		120	

[a] Maximum discharge recorded at present site, no peak stage available.

[b] Maximum stage recorded since 1956, at present site.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963-96, 1998 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to November 1986.
WATER TEMPERATURE: Water years 1963 to 1980 (once daily), September 1980 to November 1986.
DISSOLVED OXYGEN: October 1970 to September 1980 (once daily).
SUSPENDED-SEDIMENT DISCHARGE: August 1963 to July 1965.

REMARKS.--Cooperative Network Site Descriptor: Urban Land Use Indicator, NJ Department of Environmental Protection Watershed Management Area 4.

COOPERATION.--Physical measurements and samples for laboratory analysis were collected in cooperation with 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 2007 TO SEPTEMBER 2008
Part 1 of 3
[Remark codes: <, less than; E, estimated.]

Date	Time	Instantaneous discharge, ft3/s (00061)	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	UV absorbance, 254 nm, wat flt units /cm (50624)	UV absorbance, 280 nm, wat flt units /cm (61726)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
Nov													
14...	0910	181	5.5	.185	.143	761	13.1	110	7.4	591	7.5	8.0	150
Mar													
04...	1100	1,850	2.7	.100	.076	756	11.4	90	7.4	650	13.0	5.3	94
Jun													
16...	1210	555	4.9	.138	.103	754	8.1	98	7.1	586	30.0	24.9	130
Sep													
03...	1200	99	12	.103	.075	758	9.1	109	8.2	661	29.0	23.9	150

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 2 of 3
[Remark codes: <, less than; E, estimated.]

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L as SiO2 (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total non-filterable, mg/L (00530)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
Nov													
14...	37.3	12.8	4.70	51.6	90	102	E.10	15.1	28.1	E320	358	5	.58
Mar													
04...	25.4	7.43	1.92	79.0	48	154	E.08	8.2	18.0	E328	357	3	.26
Jun													
16...	34.1	11.6	4.17	55.0	81	106	E.10	11.3	26.2	E310	353	8	.50
Sep													
03...	38.4	13.1	5.93	66.6	84	117	.12	8.1	35.5	353	395	10	.46

01389500 PASSAIC RIVER AT LITTLE FALLS, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 3 of 3
[Remark codes: <, less than; E, estimated.]

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water fltrd, mg/L as N (00631)	Particulate nitrogen, susp, water, mg/L (49570)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L as P (00666)	Phosphorus, water, unfltrd mg/L as P (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inorganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Boron, water, fltrd, µg/L (01020)
Nov													
14...	.147	2.92	.06	3.5	3.6	.494	.51	.59	.4	<.04	.4	4.8	132
Mar													
04...	.066	1.02	.07	1.3	1.4	.044	.05	.07	.4	<.04	.4	3.2	40
Jun													
16...	.101	2.56	.13	3.1	3.2	.373	.40	.46	1.2	<.04	1.2	4.5	93
Sep													
03...	.020	3.65	.34	4.1	4.5	.465	.46	.53	2.0	<.04	2.0	3.8	118