

Water-Data Report 2007

**01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ**

PASSAIC RIVER BASIN

LOCATION.--Lat 40°50'42", long 74°20'50" referenced to North American Datum of 1983, Parsippany-Troy Hills Township, Morris County, NJ, Hydrologic Unit 02030103, on left upstream wingwall of former bridge on Edwards Road, 200 ft downstream from bridges of Interstate 280, 0.4 mi upstream from Rockaway River, and 1.2 mi southwest of Pine Brook.

DRAINAGE AREA.--68.5 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--Low-flow partial-record station water years 1963-69, 1973, 1979-96. November 1992 to September 1996 (gage height and discharge measurements only), October 1996 to current year.

GAGE.--Water-stage recorder, velocity meter (since June 2004), and crest-stage gage. Datum of gage is 162 ft above NGVD of 1929 (from Corps of Engineers' topographic map).

REMARKS.--Records fair, except for estimated daily discharges, which are poor. Flow includes sewage effluent from several treatment plants upstream of gage. Discharges may be affected by backwater from the Passaic River when it reaches high stages. Records computed using a stage-discharge rating prior to Mar 17, 2005. Records for Mar 17, 2005 and thereafter, computed using an index-velocity rating. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

## 01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**  
**DAILY MEAN VALUES**

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	76	278	106	144	66	92	93	175	54	43	47	47
2	73	216	143	380	66	258	107	146	54	39	44	41
3	54	175	141	367	72	577	103	156	53	38	42	39
4	50	132	119	284	61	550	114	127	172	37	69	39
5	150	109	112	213	58	435	192	101	152	173	48	39
6	98	98	102	174	e58	e303	172	101	88	170	38	39
7	66	93	97	151	58	197	127	98	68	89	38	38
8	55	107	87	211	56	134	104	96	62	60	142	38
9	51	421	77	372	54	102	96	92	57	49	286	39
10	48	493	76	356	53	91	87	90	54	43	299	35
11	60	454	78	277	53	112	80	91	53	55	360	81
12	232	387	77	208	52	108	122	87	78	140	333	80
13	280	318	85	166	50	97	273	86	61	67	262	49
14	228	267	100	142	e50	98	249	78	52	49	196	41
15	156	228	88	132	66	119	239	74	51	41	143	39
16	105	183	82	128	55	147	774	82	58	38	106	37
17	93	214	76	117	e55	130	1,150	119	72	38	91	35
18	205	247	74	106	56	131	1,220	88	52	122	115	35
19	250	224	72	105	52	126	e1,150	76	48	214	73	34
20	214	180	68	102	55	136	e880	84	82	117	65	34
21	216	129	67	92	63	188	593	77	62	62	140	34
22	168	131	67	87	92	186	457	71	74	46	223	36
23	131	151	161	87	122	245	358	66	50	106	194	41
24	106	200	245	84	72	256	253	65	43	256	144	35
25	89	191	222	81	61	211	164	65	43	229	101	33
26	77	153	207	72	62	165	133	62	42	138	77	33
27	68	131	207	70	62	136	175	60	41	84	64	34
28	141	94	161	71	74	119	265	58	102	91	57	34
29	342	97	125	73	---	104	237	57	75	68	52	32
30	386	116	104	68	---	98	199	56	53	70	48	32
31	347	---	97	68	---	95	---	55	---	60	48	---
<b>Total</b>	4,615	6,217	3,523	4,988	1,754	5,746	10,166	2,739	2,006	2,832	3,945	1,203
<b>Mean</b>	149	207	114	161	62.6	185	339	88.4	66.9	91.4	127	40.1
<b>Max</b>	386	493	245	380	122	577	1,220	175	172	256	360	81
<b>Min</b>	48	93	67	68	50	91	80	55	41	37	38	32

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2007, BY WATER YEAR (WY)**

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	148	133	219	182	167	196	227	153	149	90.9	91.3	98.4
<b>Max</b>	459	265	696	281	274	291	347	274	436	202	255	258
<b>(WY)</b>	(2006)	(2004)	(1997)	(2006)	(1997)	(1999)	(2005)	(1998)	(2003)	(2004)	(2000)	(1999)
<b>Min</b>	28.7	32.8	33.6	43.3	39.7	66.8	97.6	69.4	37.7	23.7	30.8	30.2
<b>(WY)</b>	(2002)	(2002)	(1999)	(2002)	(2002)	(2006)	(2002)	(2005)	(1999)	(1999)	(2005)	(2005)

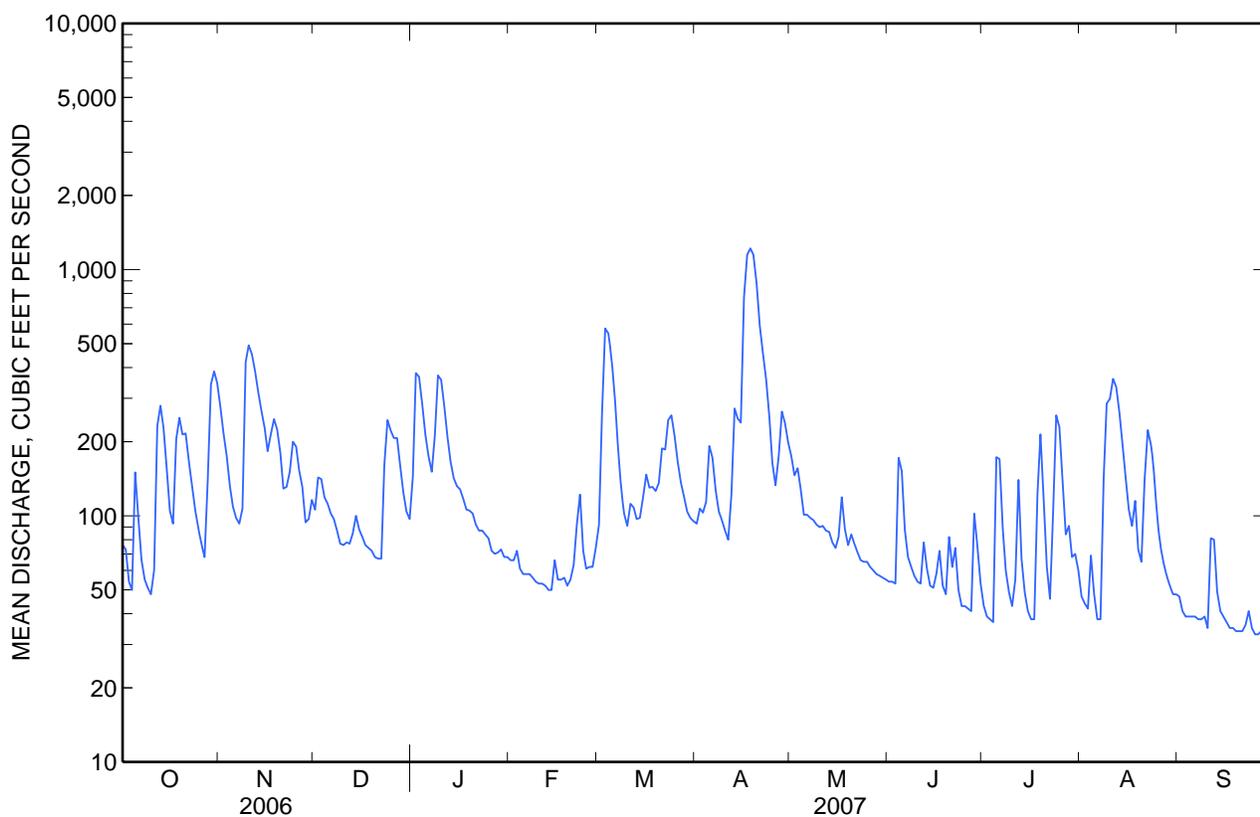
01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ—Continued

SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1997 - 2007	
<b>Annual total</b>	51,801		49,734			
<b>Annual mean</b>	142		136		154	
<b>Highest annual mean</b>					236	1997
<b>Lowest annual mean</b>					68.7	2002
<b>Highest daily mean</b>	536	Jun 4	1,220	Apr 18	1,820	Oct 20, 1996
<b>Lowest daily mean</b>	32	Aug 23	32	Sep 29, 30	17	Aug 2, 1999
<b>Annual seven-day minimum</b>	34	Aug 19	33	Sep 24	17	Aug 2, 1999
<b>Maximum peak flow</b>			1,260	Apr 18	<sup>a</sup> 2,080	Oct 20, 1996
<b>Maximum peak stage</b>			10.09	Apr 17	<sup>b</sup> 10.09	Apr 17, 2007
<b>10 percent exceeds</b>	290		260		354	
<b>50 percent exceeds</b>	103		92		94	
<b>90 percent exceeds</b>	49		42		31	

<sup>a</sup> Estimated.

<sup>b</sup> Stage on Oct 20, 1996 was probably higher.



01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ—Continued

**WATER-QUALITY RECORDS**

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

REMARKS.--Total nitrogen (00600) equals the sum of filtered ammonia-plus-organic nitrogen (00623), filtered nitrite-plus-nitrate nitrogen (00631), and total particulate nitrogen (49570). Cooperative Network Site Descriptor: Watershed Integrator, NJ Department of Environmental Protection Watershed Management Area 6.

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 2006 TO SEPTEMBER 2007**

Part 1 of 3

[Remark codes: <, less than; E, estimated.]

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity 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 25 degC μS/cm (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
Nov 15...	1100	223	2.5	.337	.262	756	3.6	34	7.1	316	18.0	12.9	84
Feb 07...	1045	59	4.8	.059	.044	756	13.2	91	7.7	793	-6.0	.2	200
May 09...	1130	92	4.7	.132	.101	760	7.7	79	7.5	560	27.0	16.7	150
Sep 10...	1000	30	2.3	.106	.081	758	6.6	78	8.1	783	25.1	23.9	200

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

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 (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 15...	22.5	6.82	2.71	26.9	56	51.5	<.10	10.3	10.3	167	181	4	.48
Feb 07...	49.6	17.8	3.64	76.3	92	158	E.10	18.0	29.7	421	423	10	.56
May 09...	38.5	13.2	2.61	50.0	77	110	E.08	9.5	20.5	297	329	3	.45
Sep 10...	51.3	17.8	4.36	62.5	100	145	.12	14.3	30.7	401	424	2	.46

## 01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Part 3 of 3

[Remark codes: &lt;, less than; E, estimated.]

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrate + nitrite water fltrd, mg/L as N (00631)	Particulate nitro- gen, susp, water, mg/L (49570)	Total nitro- gen, water, fltrd, mg/L (00602)	Total nitro- gen, water, unfltrd mg/L (00600)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, fltrd, mg/L (00666)	Phos- phorus, water, unfltrd mg/L (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inor- ganic 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)
<b>Nov</b> <b>15...</b>	.031	.47	.03	.95	.98	.041	.07	.08	.3	<.1	.3	6.6	35
<b>Feb</b> <b>07...</b>	.152	2.81	.07	3.4	3.4	.038	.04	.06	.5	<.1	.5	2.1	67
<b>May</b> <b>09...</b>	.076	1.36	.07	1.8	1.9	.027	E.03	.07	.6	<.1	.6	3.5	51
<b>Sep</b> <b>10...</b>	.100	3.27	.09	3.7	3.8	.067	.08	.12	.4	<.1	.4	2.8	94