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Water-Data Report 2009

**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, velocity, and water temperature recorder 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 telemetry at station.

## Water-Data Report 2009

01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**  
**DAILY MEAN VALUES**  
[*e*, estimated]

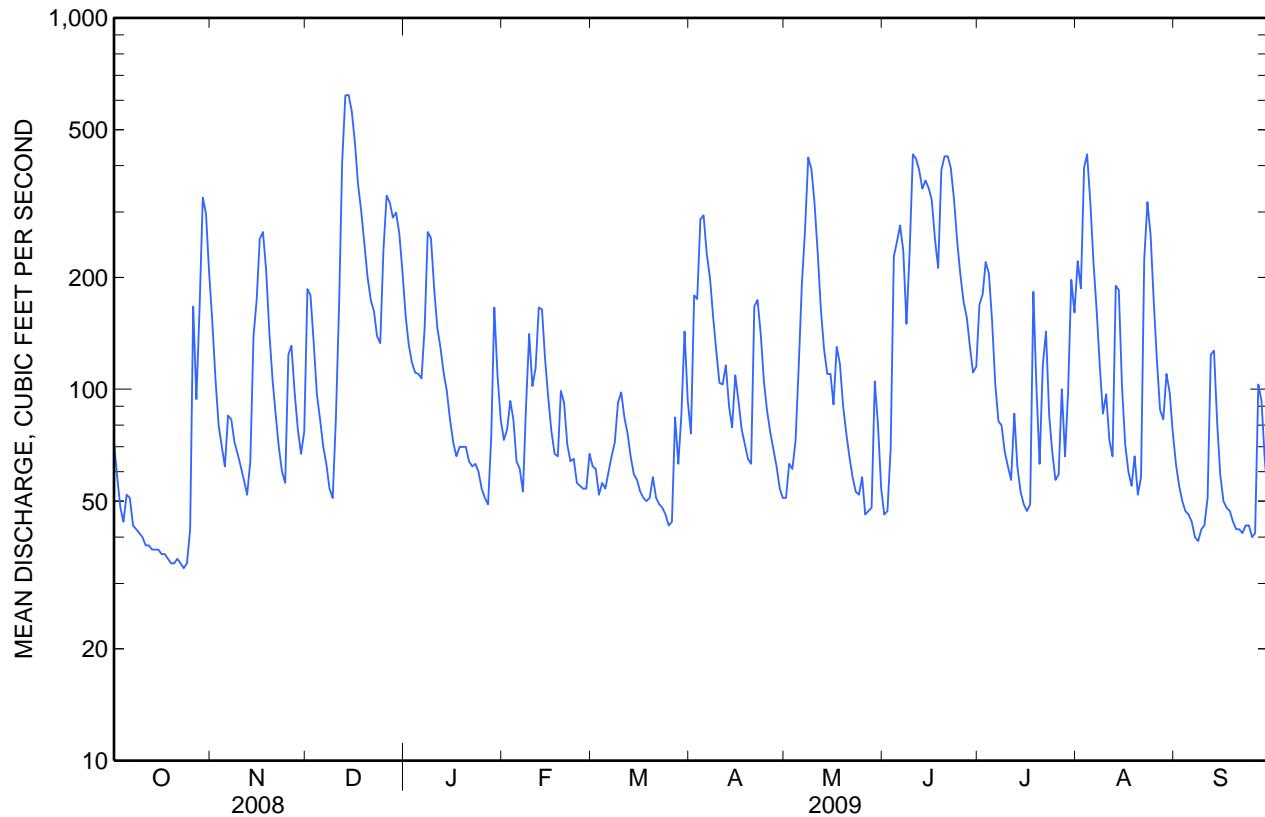
<b>Day</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>
<b>1</b>	72	153	186	157	73	62	76	51	46	169	221	63
<b>2</b>	58	107	179	132	78	61	179	63	47	180	187	55
<b>3</b>	48	80	134	118	93	52	175	61	69	220	395	50
<b>4</b>	44	70	97	111	83	56	287	73	228	205	429	47
<b>5</b>	52	62	83	110	64	54	294	114	250	153	319	46
<b>6</b>	51	85	70	107	61	60	231	191	276	103	219	44
<b>7</b>	43	83	63	148	53	66	199	269	236	82	162	40
<b>8</b>	42	72	54	265	92	72	156	421	150	80	114	39
<b>9</b>	41	67	51	255	141	92	127	391	236	68	86	42
<b>10</b>	40	62	84	187	102	98	104	318	429	62	97	43
<b>11</b>	38	57	170	146	114	84	103	234	418	57	73	51
<b>12</b>	38	52	409	129	166	76	116	164	390	86	66	124
<b>13</b>	37	64	618	111	164	66	90	128	347	62	e190	127
<b>14</b>	37	139	620	99	121	59	79	110	365	53	e185	81
<b>15</b>	37	175	561	83	95	57	109	110	348	49	102	59
<b>16</b>	36	254	460	72	77	53	93	91	323	47	71	50
<b>17</b>	36	265	357	66	67	51	78	130	254	49	60	48
<b>18</b>	35	209	302	70	66	50	71	117	212	183	55	47
<b>19</b>	34	142	246	70	99	51	65	90	389	102	66	44
<b>20</b>	34	106	200	70	92	58	63	76	424	63	52	42
<b>21</b>	35	86	174	64	71	51	167	66	424	116	58	42
<b>22</b>	34	70	162	62	64	49	174	58	394	143	224	41
<b>23</b>	33	60	139	63	65	48	141	53	325	85	319	43
<b>24</b>	34	56	133	60	56	46	105	52	250	68	259	43
<b>25</b>	42	124	237	54	55	43	88	58	203	57	174	40
<b>26</b>	167	131	332	51	54	44	77	46	172	59	120	41
<b>27</b>	94	98	318	49	54	84	69	47	156	100	88	103
<b>28</b>	166	78	290	75	67	63	62	48	131	66	83	93
<b>29</b>	328	67	299	166	---	85	54	105	111	98	110	65
<b>30</b>	297	77	263	109	---	143	51	80	115	197	98	51
<b>31</b>	208	---	207	83	---	93	---	54	---	161	77	---
<b>Total</b>	2,291	3,151	7,498	3,342	2,387	2,027	3,683	3,869	7,718	3,223	4,759	1,704
<b>Mean</b>	73.9	105	242	108	85.2	65.4	123	125	257	104	154	56.8
<b>Max</b>	328	265	620	265	166	143	294	421	429	220	429	127
<b>Min</b>	33	52	51	49	53	43	51	46	46	47	52	39

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2009, BY WATER YEAR (WY)

	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>
<b>Mean</b>	138	127	215	170	170	189	210	150	153	90.3	92.0	97.7
<b>Max</b>	459	265	696	281	282	291	347	274	436	202	255	258
(WY)	(2006)	(2004)	(1997)	(2006)	(2008)	(1999)	(2005)	(1998)	(2003)	(2004)	(2000)	(1999)
<b>Min</b>	28.7	32.8	33.6	43.3	39.7	65.4	97.6	69.4	37.7	23.7	30.8	30.2
(WY)	(2002)	(2002)	(1999)	(2002)	(2002)	(2009)	(2002)	(2005)	(1999)	(1999)	(2005)	(2005)

**01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ—Continued****SUMMARY STATISTICS**

	<b>Calendar Year 2008</b>	<b>Water Year 2009</b>			<b>Water Years 1997 - 2009</b>	
<b>Annual total</b>	49,497		45,652			
<b>Annual mean</b>	135		125		150	
<b>Highest annual mean</b>					236	1997
<b>Lowest annual mean</b>					68.7	2002
<b>Highest daily mean</b>	658	Feb 15	620	Dec 14	1,820	Oct 20, 1996
<b>Lowest daily mean</b>	26	Aug 29	33	Oct 23	17	Aug 2, 1999
<b>Annual seven-day minimum</b>	28	Aug 23	34	Oct 18	17	Aug 2, 1999
<b>Maximum peak flow</b>			647	Dec 13	<sup>a</sup> 2,080	Oct 20, 1996
<b>Maximum peak stage</b>			7.71	Dec 13	<sup>b</sup> 10.09	Apr 17, 2007
<b>10 percent exceeds</b>	296		267		342	
<b>50 percent exceeds</b>	92		84		92	
<b>90 percent exceeds</b>	37		46		32	

<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.—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 2008 TO SEPTEMBER 2009**

Part 1 of 3

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

Date	Time	Baro-metric pressure, mm Hg (00025)	Temper-ature, air, deg C (00020)	UV absorb-ance, 254 nm, wat flt units (50624)	UV absorb-ance, 280 nm, wat flt units (61726)	Instan-taneous dis-charge, ft³/s (00061)	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfltrd field, std units (00400)	Specif-ic conduc-tance, μS/cm @ 25 degC (00095)	Turbdty white light, 90+/-30 NTRU (63676)	Dis-solved solids dried @ 180degC wat flt mg/L (70300)	
Dec 04...	1030	760	12.0	.222	.169	97	10.7	80	7.8	576	3.2	9.7	305
Mar 04...	1000	770	7.8	.086	.064	65	13.4	93	8.1	1,370	.3	6.4	725
May 20...	0930	770	20.6	.167	.128	76	7.0	66	7.9	667	15.2	8.7	421
Aug 26...	1100	758	25.5	.455	.352	117	5.3	62	7.2	496	22.3	4.0	273

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 2 of 3

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

Date	Dis-solved solids, sum of constituents, mg/L (70301)	Hard-ness, CaCO <sub>3</sub> mg/L (00900)	Sus-pended solids, water, unfltrd mg/L (00530)	Calcium water, fltrd, mg/L (00915)	Magnes-iun, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO <sub>3</sub> (90410)	Total carbon, suspnd sedimnt mg/L (00694)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	In-or-ganic carbon, suspnd sedimnt total, mg/L (00688)	Silica, water, fltrd, mg/L as SiO <sub>2</sub> (00955)
Dec 04...	E294	150	15	37.2	12.7	2.98	50.1	78	.7	102	E.09	E.03	13.6
Mar 04...	E668	220	6	57.5	18.9	3.41	173	93	1.0	309	E.07	<.04	12.9
May 20...	E344	160	13	42.4	13.6	2.90	60.9	80	1.1	134	E.07	<.04	14.3
Aug 26...	E255	130	6	33.7	10.6	2.93	41.4	78	.5	88.4	E.07	<.04	13.3

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

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Part 3 of 3

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

Date	Ammonia		Nitrate	Ortho-phosphate,	Partic-ulate	Phos-phorus,	Phos-phorus,	Total nitro-gen,	Total nitro-gen,	Organic carbon, suspnd	Organic carbon, water,	
	Sulfate water, filtrd, mg/L (00945)	org-N, water, filtrd, mg/L (00623)	Ammonia water, filtrd, mg/L (00608)	nitrite water, filtrd, mg/L (00631)	water, filtrd, mg/L (00671)	nitro-gen, susp, water, mg/L (49570)	mg/L (00666)	mg/L (00665)	water, filtrd, mg/L (00602)	water, unfiltrd mg/L (00600)	total, mg/L (00689)	sedimnt, mg/L (00681)
<b>Dec</b>												
04...	20.9	.63	.183	1.50	.041	.08	.054	.120	2.1	2.2	.71	5.4
<b>Mar</b>												
04...	27.4	.56	.064	2.18	.037	.15	.04	.12	2.7	2.9	.97	3.1
<b>May</b>												
20...	19.7	.59	.140	1.81	.040	.15	.06	.16	2.4	2.6	1.14	4.2
<b>Aug</b>												
26...	13.1	.74	.068	.99	.066	.06	.11	.17	1.7	1.8	.51	8.9