

Water-Data Report 2007

01377000 HACKENSACK RIVER AT RIVERVALE, NJ

HACKENSACK RIVER BASIN

LOCATION.--Lat 40°59'57", long 73°59'21" referenced to North American Datum of 1983, River Vale Township, Bergen County, NJ, Hydrologic Unit 02030103, on upstream right bank at bridge on Westwood Avenue in Rivervale, 1.5 mi upstream from Pascack Brook, 4.1 mi downstream of Lake Tappan, and 4.6 mi upstream from Oradell Dam.

DRAINAGE AREA.--58.0 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1941 to current year.

REVISED RECORDS.--WDR NJ-80-1: 1968-79(M).

GAGE.--Water-stage recorder, crest-stage gages, and concrete control. Datum of gage is 22.51 ft above NGVD of 1929.

REMARKS.--Records fair. Flow regulated by DeForest Lake (since 1956, see 01376700) and Lake Tappan (since 1965, see 01376950). Diversions from DeForest Lake (see 01376699) and West Nyack, NY (see 01376810), for municipal water supply. Several measurements of water temperature were made during the year. Satellite gage-height telemetry at station.

01377000 HACKENSACK RIVER AT RIVERVALE, NJ—Continued

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	176	31	75	399	33	128	70	101	48	58	52	19
2	155	36	129	404	32	554	69	106	48	58	51	19
3	108	32	102	164	32	1,120	68	94	49	56	52	19
4	53	31	90	117	31	390	99	85	90	53	55	18
5	44	30	77	95	31	131	140	80	59	59	51	19
6	32	30	65	87	34	43	119	77	53	50	50	19
7	32	30	61	82	42	50	98	68	52	51	49	19
8	32	189	55	296	42	56	81	60	52	46	111	19
9	31	515	44	319	42	54	72	57	52	45	44	19
10	30	530	40	168	42	54	64	55	52	51	39	29
11	36	237	39	119	41	65	58	62	52	76	26	63
12	102	171	37	96	45	68	185	64	52	73	23	47
13	100	143	38	94	52	68	367	59	52	80	23	45
14	89	137	45	96	52	68	246	46	52	157	22	41
15	70	104	48	98	53	73	995	39	52	181	22	36
16	68	37	48	95	54	118	4,380	52	50	170	21	38
17	66	121	43	83	53	178	2,350	112	51	165	22	48
18	66	171	42	73	52	142	723	78	50	130	23	60
19	31	131	38	70	58	108	240	63	87	55	21	60
20	42	101	35	69	51	103	71	58	210	91	21	59
21	33	84	33	60	55	117	108	53	210	171	43	56
22	30	77	32	56	59	134	117	46	191	165	27	57
23	29	113	117	53	59	279	110	42	130	205	23	56
24	28	252	123	49	54	306	103	38	103	178	23	56
25	27	153	105	46	53	280	99	35	59	165	22	56
26	27	112	127	43	53	202	104	30	57	163	22	56
27	27	94	113	40	52	151	355	29	58	130	21	56
28	174	83	89	39	56	123	347	39	69	43	21	56
29	44	76	76	37	---	103	166	49	65	43	19	56
30	34	71	66	35	---	86	123	48	59	46	19	56
31	32	---	60	33	---	76	---	48	---	53	19	---
Total	1,848	3,922	2,092	3,515	1,313	5,428	12,127	1,873	2,264	3,067	1,037	1,257
Mean	59.6	131	67.5	113	46.9	175	404	60.4	75.5	98.9	33.5	41.9
Max	176	530	129	404	59	1,120	4,380	112	210	205	111	63
Min	27	30	32	33	31	43	58	29	48	43	19	18

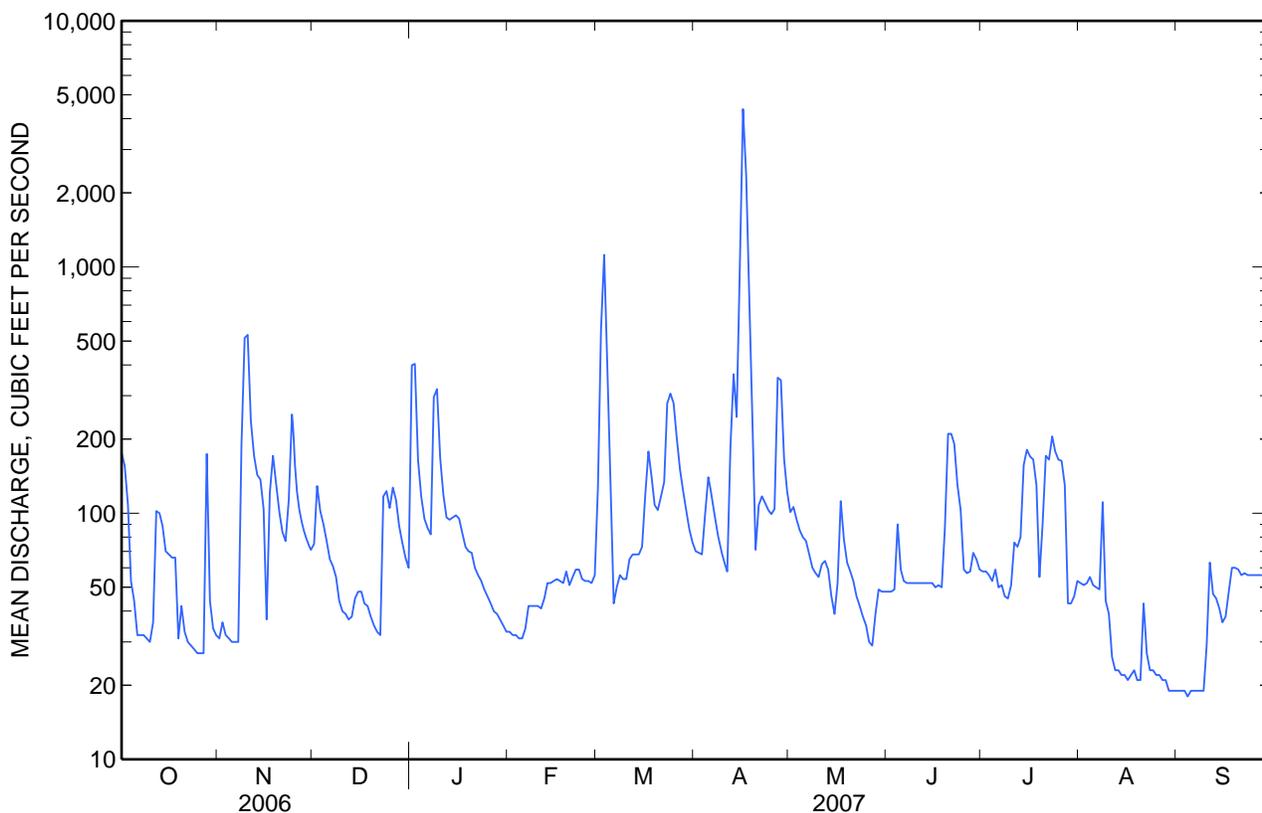
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	58.8	69.4	81.0	90.1	88.3	131	139	96.6	78.2	77.8	70.9	68.8
Max	312	240	248	251	221	379	438	310	319	339	197	325
(WY)	(1956)	(1956)	(1997)	(1949)	(1951)	(1953)	(1983)	(1989)	(1972)	(1945)	(1955)	(2004)
Min	12.1	16.6	12.6	22.6	19.9	11.2	14.5	20.4	13.4	11.6	11.4	7.87
(WY)	(1942)	(1996)	(1981)	(1982)	(2002)	(1981)	(1981)	(1981)	(1957)	(1954)	(1944)	(1953)

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SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1942 - 2007	
Annual total	33,662		39,743			
Annual mean	92.2		109		87.4	
Highest annual mean					156	1952
Lowest annual mean					30.9	1981
Highest daily mean	711	Jan 15	4,380	Apr 16	4,380	Apr 16, 2007
Lowest daily mean	27	Oct 25	18	Sep 4	4.4	Oct 10, 1995
Annual seven-day minimum	29	Oct 21	19	Aug 29	5.0	Oct 7, 1995
Maximum peak flow			4,620	Apr 16	4,620	Apr 16, 2007
Maximum peak stage			12.19	Apr 16	12.19	Apr 16, 2007
Instantaneous low flow			0.47	Sep 3	0.00	Jan 16, 1970
10 percent exceeds	173		171		165	
50 percent exceeds	58		57		60	
90 percent exceeds	39		30		21	



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962, 1964 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: Urban Land Use Indicator, NJ Department of Environmental Protection Watershed Management Area 5.

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 01...	0930	31	7.0	.156	.116	762	7.1	65	7.7	422	18.5	11.0	120
Feb 08...	0730	42	2.3	.113	.084	758	11.0	76	7.7	406	-10.5	.2	120
May 23...	0800	42	6.6	.114	.085	773	6.7	68	7.7	409	15.0	16.9	100
Aug 14...	0700	19	6.9	.116	.082	761	3.7	41	7.5	415	18.0	22.1	110

**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 01...	38.3	6.45	2.04	34.5	91	63.9	E.07	5.5	14.6	222	227	7	.41
Feb 08...	38.1	6.95	1.87	35.0	90	59.3	E.06	1.7	13.7	213	215	3	1.0
May 23...	31.9	5.70	1.58	36.2	79	66.0	E.06	3.2	12.4	206	237	8	.40
Aug 14...	33.5	6.53	1.68	37.4	85	69.0	E.07	6.8	12.1	221	247	8	.79

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

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 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)
Nov 01...	.064	.47	.20	.88	1.1	E.008	.014	.061	1.1	<.1	1.1	4.7	54
Feb 08...	.024	.63	.08	1.7	1.7	E.006	.010	.020	.6	<.1	.6	4.2	46
May 23...	.088	.46	.15	.85	1.0	.016	.023	.049	1.9	<.1	1.9	3.8	53
Aug 14...	.206	.66	.20	1.4	1.6	.025	.038	.084	1.1	<.1	1.1	4.6	50