



Water-Data Report 2009

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, NJ

RARITAN RIVER BASIN

LOCATION.--Lat 40°34'20", long 74°52'05" referenced to North American Datum of 1983, Franklin Township, Hunterdon County, NJ, Hydrologic Unit 02030105, on right bank at downstream side of bridge on Stanton Station Road at Stanton Station, 0.4 mi upstream from Prescott Brook, and 1.4 mi west of Stanton.

DRAINAGE AREA.--147 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--July 1903 to December 1906, July 1919 to current year. Monthly discharge only for some periods published in WSP 1302.

REVISED RECORDS.--WSP 561: Drainage area. WSP 1552: 1904, 1922-24(M), 1928-29(M), 1933-35(M). WDR NJ-88-1: 1982. WDR NJ-02-1: 2002(m).

GAGE.--Water-stage recorder. Datum of gage is 125.01 ft above NGVD of 1929. Prior to Aug 17, 1925, non-recording gage on downstream side of highway bridge at same site and datum.

REMARKS.--Records good, except for estimated daily discharges, which are fair. Flow regulated by Spruce Run Reservoir since September 1963 (see 01396790). Occasional regulation at low flows by ponds above station. Water diverted by Hamden Pumping Station, 4.0 mi upstream, into Round Valley Reservoir since February 1966 (see 01396920). Water can be released (maximum rate 186 ft³/s) from Round Valley Reservoir at Hamden Pumping Station since July 1990. 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 2,600 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 12	0530	3,570	7.66
Jul 2	1030	4,200	8.20
Aug 2	1700	*8,940	*11.17

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

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	87	166	336	267	e160	129	134	99	130	205	473	152
2	76	144	214	e242	164	132	173	117	115	2,110	2,910	170
3	72	120	155	243	169	e160	352	98	134	674	1,480	164
4	99	110	163	223	149	e197	451	110	523	404	545	158
5	100	103	148	219	e130	e170	240	136	359	298	428	154
6	97	115	136	215	e142	162	212	148	374	258	386	148
7	76	113	130	419	e135	149	236	882	238	245	353	145
8	70	102	118	417	226	197	190	282	186	247	331	132
9	83	99	111	264	271	196	177	251	216	204	322	105
10	91	93	156	228	200	189	165	332	263	187	153	99
11	107	84	505	225	245	156	176	242	268	178	147	117
12	126	82	2,410	e203	322	146	227	221	295	513	222	311
13	135	93	612	e186	284	135	172	203	263	257	286	202
14	133	136	377	e182	282	130	155	197	575	195	269	167
15	132	278	330	e165	264	129	199	235	333	163	261	200
16	143	467	291	e227	248	126	119	212	267	153	241	191
17	137	219	343	e286	241	122	99	321	226	150	229	190
18	136	162	331	e348	241	119	117	238	444	227	222	168
19	149	135	304	e300	269	121	86	188	624	164	187	133
20	165	121	304	e285	248	128	86	176	403	139	147	126
21	165	119	262	e220	e186	118	150	162	492	141	169	122
22	161	106	237	e168	e184	113	145	151	363	159	236	123
23	158	98	e230	e148	e179	113	121	144	290	248	567	124
24	158	98	387	150	e165	106	94	160	258	263	187	124
25	179	180	1,050	e135	e165	104	108	203	267	176	189	124
26	353	165	486	e131	160	107	103	152	240	185	174	114
27	131	126	401	e129	119	135	95	145	264	200	165	189
28	883	112	479	e150	134	126	93	143	217	155	284	180
29	647	105	478	e222	---	132	83	205	199	284	260	139
30	283	134	354	e175	---	218	85	197	188	346	208	120
31	186	---	314	e155	---	151	---	152	---	235	156	---
Total	5,518	4,185	12,152	6,927	5,682	4,416	4,843	6,502	9,014	9,363	12,187	4,591
Mean	178	140	392	223	203	142	161	210	300	302	393	153
Max	883	467	2,410	419	322	218	451	882	624	2,110	2,910	311
Min	70	82	111	129	119	104	83	98	115	139	147	99

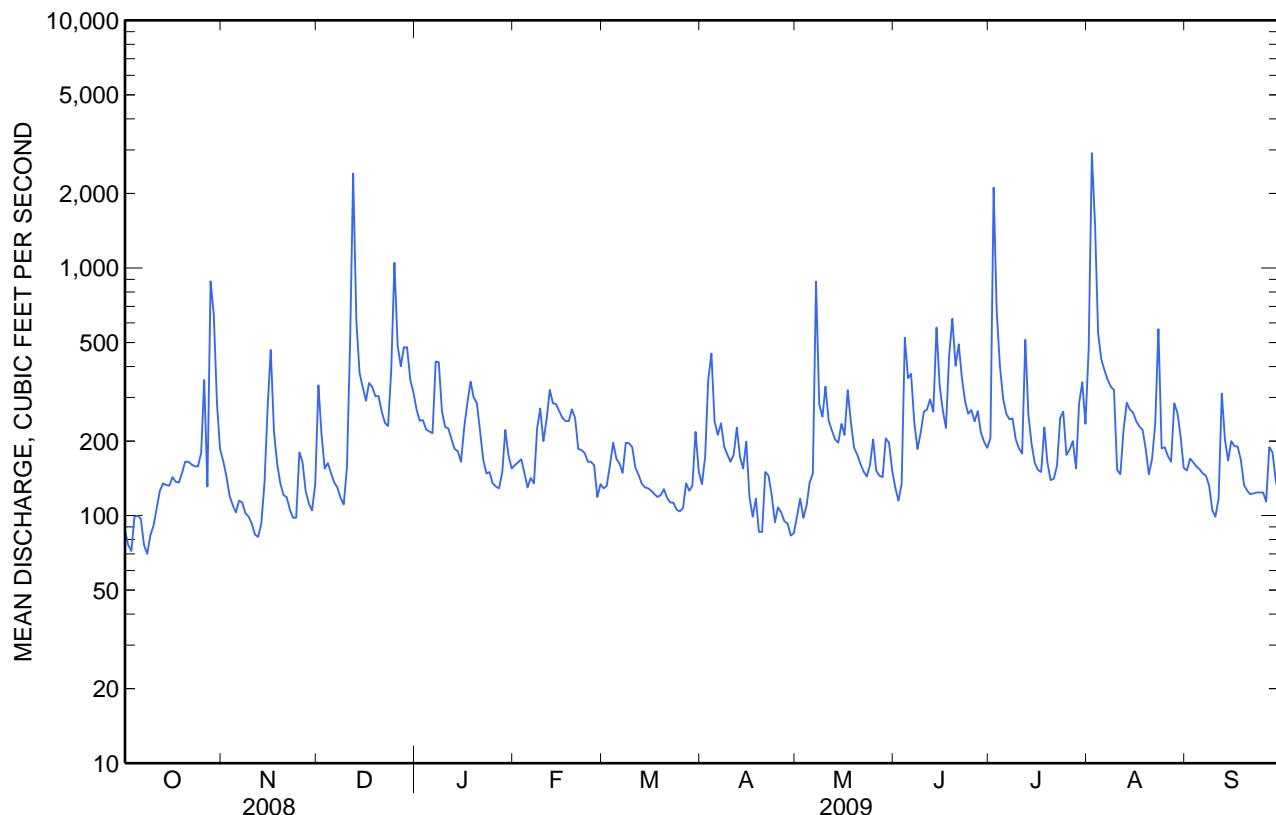
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	172	206	271	291	315	397	372	265	199	181	168	168
Max	641	659	1,026	1,099	807	1,057	1,137	750	967	752	793	554
(WY)	(1904)	(1952)	(1997)	(1979)	(1925)	(1936)	(1983)	(1989)	(1972)	(1975)	(1955)	(1989)
Min	34.1	46.2	58.3	55.0	61.2	61.3	58.5	80.3	60.1	40.7	30.1	31.0
(WY)	(1964)	(1965)	(1999)	(1966)	(1967)	(1981)	(1981)	(1965)	(1965)	(1955)	(1957)	(1957)

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, NJ—Continued**SUMMARY STATISTICS**

	Calendar Year 2008	Water Year 2009		Water Years 1904 - 2009	
Annual total	108,047		85,380		
Annual mean	295		234		250
Highest annual mean				413	1952
Lowest annual mean				95.0	1966
Highest daily mean	2,830	Mar 9	2,910	Aug 2	8,060 Aug 19, 1955
Lowest daily mean	70	Oct 8	70	Oct 8	12 Oct 18, 1963
Annual seven-day minimum	84	Oct 2	84	Oct 2	25 Sep 4, 1957
Maximum peak flow			8,940	Aug 2	^a 18,000 Aug 19, 1955
Maximum peak stage			11.17	Aug 2	15.22 Aug 19, 1955
Instantaneous low flow			64	Oct 8	9.0 Nov 7, 1931
10 percent exceeds	548		361		488
50 percent exceeds	196		176		169
90 percent exceeds	106		107		65

^a From rating curve above 6,400 ft³/s on basis of computation of flow over Clinton Dam, 6.5 mi upstream, at gage height 10.72 ft, contracted opening measurement 1.7 mi downstream, and slope-area measurement 0.4 mi downstream at gage height 15.22 ft, adjusted to present site.



01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, NJ—Continued**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1923-25, 1959-81, 1983-84, 1991-97, 2004 to current year.

PERIOD OF DAILY RECORD.--

DISSOLVED OXYGEN: September 2009.

DISSOLVED OXYGEN, PERCENT SATURATION: September 2009.

PH: September 2009.

SPECIFIC CONDUCTANCE: September 2009.

WATER TEMPERATURE: September 2009.

REMARKS.--Cooperative Network Site Descriptor: Watershed Reconnaissance, NJ Department of Environmental Protection Watershed Management Area 8. The accuracy of continuous water-quality data is routinely verified through inspections for fouling and calibration drift. The New Jersey Water Science Center requires that either constant or prorated adjustments be made to the continuous water-quality record when the difference between a sensor's response and a known value exceeds the following criteria: Water Temperature, 0.2 degrees Celsius (+ or -); Specific Conductance, the greater of 5 microsiemens/cm (+ or -) or 3% of the measured value; Dissolved Oxygen, the greater of 0.3 mg/L (+ or -) or 5% of the measured value; pH, 0.3 units (+ or -). If the difference between a sensor's response and a known value is within specified criteria, the data are considered to be reliable and are not adjusted. Data from the following period(s) were adjusted - SPECIFIC CONDUCTANCE: Sep 18-22 2009.

COOPERATION.--Physical measurements 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. Determination of chlorophyll a was performed by the NJ Department of Environmental Protection, Bureau of Freshwater and Biological Monitoring Laboratory.

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

Part 1 of 4

[Remark codes: <, 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 /cm (50624)	UV absorb-ance, 280 nm, wat flt /cm (61726)	Instan-taneous dis-charge, ft³/s (00061)	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, field, std units (00400)	Specif-ic conduc-tance, wat unf µS/cm @ 25 degC (00095)	Temper-ature, water, deg C (00010)	Turbdty white light, 90+/-30 det ang (63676)	Dis-solved solids dried @ 180degC wat flt (70300)
Dec 04...	1330	759	6.5	.080	.061	166	14.5	111	7.6	293	4.0	2.7	166
Sep 22...	1000	760	22.0	--	--	122	10.6	111	8.1	317	17.3	4.6	--

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

Part 2 of 4

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

Date	Dis-solved solids, sum of constituents, mg/L (70301)	Hard-ness, water, mg/L CaCO ₃ (00900)	Sus-pended solids, water, unfltrd (00530)	Calcium water, fltrd, (00915)	Magnes-iun, water, fltrd, (00925)	Potas-sium, water, fltrd, (00935)	Sodium, water, fltrd, (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO ₃ (90410)	Total carbon, suspnd sedimnt total, mg/L as (00694)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Inor-ganic carbon, suspnd sediment total, mg/L (00688)	Silica, water, fltrd, mg/L SiO ₂ (00955)
Dec 04...	E157	90	--	21.4	8.85	1.69	19.1	63	.3	38.4	E.06	<.04	10.3
Sep 22...	--	--	1	--	--	--	--	76	--	--	--	--	--

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 3 of 4

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

Date	Sulfate water, filtd, mg/L (00945)	Ammonia + org-N, water, filtd, mg/L (00623)	Ammonia water, filtd, mg/L (00608)	Nitrate nitrite water, filtd, mg/L (00631)	Ortho-phosphate, water, filtd, mg/L (00671)	Particulate nitro- gen, susp, water, mg/L (49570)	Phos- phorus, water, mg/L (00666)	Phos- phorus, water, mg/L (00665)	Total nitro- gen, water, filtd, mg/L (00602)	Total nitro- gen, water, unfltrd, mg/L (00600)	Chloro- phyll a fluoro- metric method, uncorr, µg/L (32217)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, filtd, mg/L (00681)
Dec 04...	13.5	.21	<.040	1.30	.010	.03	.013	.139	1.5	1.5	--	.28	2.3
Sep 22...	--	--	--	1.17	--	--	--	.025	--	--	2.4	--	2.2

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008

TO SEPTEMBER 2009

Part 4 of 4

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

Date	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Dec 04...	2	.90
Sep 22...	--	--

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, NJ—Continued**HOURLY WATER-QUALITY-MONITOR VALUES
SEPTEMBER 18, 2009 TO SEPTEMBER 22, 2009**