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 mi^2.

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 ft^3/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 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov 23	0745	*4,070	*8.09
Dec 8	0145	2,660	6.77

Suggested citation: U.S. Geological Survey, 2014, Water-resources data for the United States, Water Year 2012: U.S. Geological Survey Water-Data Report WDR-US-2012, site 01397000, accessed at http://wdr.water.usgs.gov/wy2012/pdfs/01397000.2012.pdf

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, NJ—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1,180	496	670	427	401	222	153	165	119	150	251	181
2	1,250	503	608	424	338	208	159	172	1,080	169	152	208
3	931	460	574	395	320	239	135	244	396	164	96	206
4	820	443	554	354	308	215	114	215	279	143	132	293
5	746	416	540	336	301	188	106	188	245	144	155	202
6	675	384	536	291	284	175	101	163	189	156	160	114
7	633	359	809	292	263	169	97	148	171	169	129	140
8	602	307	1,730	290	231	141	95	141	163	168	123	165
9	583	298	688	273	215	144	95	178	149	167	125	155
10	560	296	725	268	207	140	92	194	136	180	162	147
11	541	296	663	261	209	132	91	155	126	182	145	174
12	530	278	622	895	204	131	90	117	144	191	86	193
13	536	271	594	543	191	131	89	112	475	205	76	207
14	674	265	577	366	195	128	88	111	233	220	91	225
15	632	263	462	303	209	122	88	269	166	212	93	230
16	526	313	373	e230	218	121	88	393	137	262	92	236
17	506	504	515	303	236	120	85	228	122	296	143	243
18	489	332	498	321	218	118	91	153	115	305	232	330
19	542	286	483	266	216	117	146	130	105	285	122	464
20	690	274	487	257	205	117	142	118	96	237	97	125
21	427	280	484	250	196	115	113	134	120	114	129	99
22	351	442	512	e220	198	114	211	190	142	115	155	124
23	337	2,450	793	283	178	109	1,040	242	135	206	170	139
24	298	741	555	595	220	105	311	198	99	226	179	129
25	231	551	501	473	232	104	197	187	92	220	198	151
26	231	580	498	445	198	104	165	176	103	245	210	152
27	300	539	637	702	183	97	184	196	103	206	203	161
28	378	510	1,060	624	169	99	143	178	114	218	155	154
29	389	681	506	515	179	100	138	157	126	238	129	148
30	538	1,080	469	466	---	97	125	174	138	98	123	152
31	493	---	440	444	---	161	---	153	---	94	142	---
Total	17,619	14,898	19,163	12,112	6,722	4,283	4,772	5,579	5,818	5,985	4,455	5,647
Mean	568	497	618	391	232	138	159	180	194	193	144	188
Max	1,250	2,450	1,730	895	401	239	1,040	393	1,080	305	251	464
Min	231	263	373	220	169	97	85	111	92	94	76	99

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2012, BY WATER YEAR (WY)

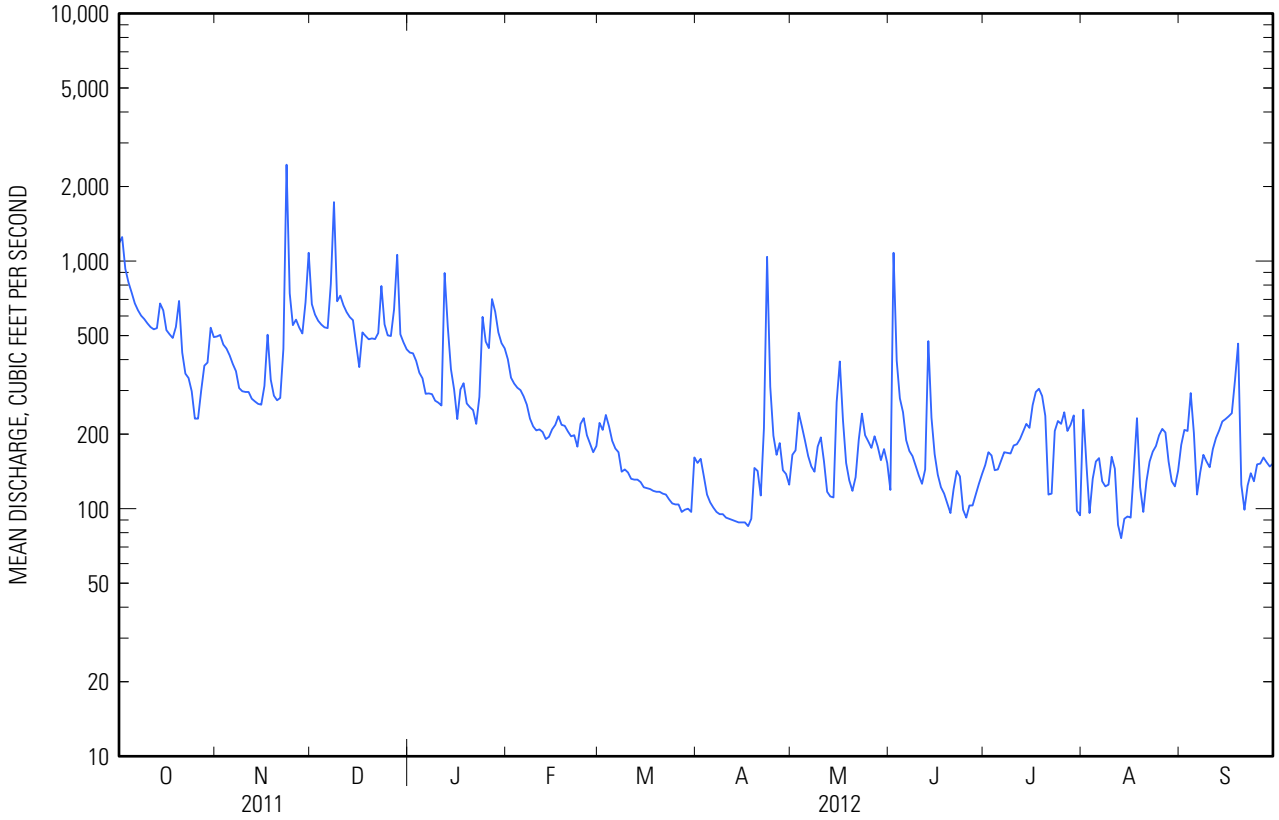
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	176	208	276	291	313	405	373	267	199	182	174	181
Max	641	659	1,026	1,099	807	1,057	1,137	750	967	752	793	1,349
(WY)	(1904)	(1952)	(1997)	(1979)	(1925)	(1936)	(1983)	(1989)	(1972)	(1975)	(1955)	(2011)
Min	34.1	46.2	58.3	55.0	61.2	61.3	58.5	80.3	60.1	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 2011		Water Year 2012		Water Years 1904 - 2012	
Annual total	193,899		107,053			
Annual mean	531		292		253	
Highest annual mean					433	2011
Lowest annual mean					95.0	1966
Highest daily mean	8,460	Aug 28	2,450	Nov 23	8,460	Aug 28, 2011
Lowest daily mean	95	Jan 31	76	Aug 13	12	Oct 18, 1963
Annual seven-day minimum	103	Jan 25	88	Apr 11	25	Sep 4, 1957
Maximum peak flow			4,070	Nov 23	[a]18,000	Aug 19, 1955
Maximum peak stage			8.09	Nov 23	15.22	Aug 19, 1955
Instantaneous low flow			71	Aug 13	9.0	Nov 7, 1931
10 percent exceeds	824		575		495	
50 percent exceeds	378		207		170	
90 percent exceeds	141		106		66	

[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.



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.

COOPERATION.--
COOPERATION: Physical measurements and samples for laboratory analysis were collected in cooperation with the NJ Department of Environmental Protection and the New Jersey Water Supply Authority. Determination of concentrations of ammonia in filtered water was performed by the NJ Department of Health and Senior Services, Environmental and Chemical Laboratory (DHSS-ECL). Determination of concentrations of suspended solids in unfiltered water was performed by the DHSS-ECL.

REMARKS.--

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 1 of 5

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	Absorbance, UV, 254 nm, 1 cm path length, water, filtered, units per cm (50624)	Absorbance, UV, organic constituents, 280 nm, 1 cm path length, water, filtered, units per cm (61726)	Discharge, instantaneous, ft^3/s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)
11-15-2011	**1000**	753	16.0	0.061	0.045	263	10.9	98	7.8
02-16-2012	**1100**	764	3.0	.042	.032	214	13.9	105	7.9
05-23-2012	**1100**	752	21.0	.083	.064	205	9.9	109	8.0
08-01-2012	**1200**	757	--	.073	.055	174	9.0	107	8.1

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 2 of 5

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Specific conductance, water, unfiltered, µS/cm at 25°C (00095)	Temperature, water, °C (00010)	Turbidity, water, unfiltered, broad band light source (400-680 nm), detectors at multiple angles including 90 +/- 30 degrees, ratiometric correction, NTRU (63676)	Dissolved solids dried at 180°C, water, filtered, mg/L (70300)	Dissolved solids, water, filtered, sum of constituents, mg/L (70301)	Hardness, water, mg/L as $CaCO_3$ (00900)	Suspended solids, water, unfiltered, mg/L (00530)	Calcium, water, filtered, mg/L (00915)
11-15-2011	**1000**	290	10.2	2.7	167	E 157	99.8	14	23.7
02-16-2012	**1100**	294	3.6	2.8	160	160	94.2	< 1.0	22.0
05-23-2012	**1100**	266	19.8	9.6	152	E 145	90.3	9.0	21.5
08-01-2012	**1200**	270	24.1	4.0	155	137	91.4	< 1.0	21.7

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
Part 3 of 5

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, mg/L as $CaCO_3$ (90410)	Carbon (inorganic plus organic), suspended sediment, total, mg/L (00694)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Inorganic carbon, suspended sediment, total, mg/L (00688)	Silica, water, filtered, mg/L as SiO_2 (00955)
11-15-2011	**1000**	9.86	1.65	17.5	69.0	0.92	38.8	0.05	< .03	8.45
02-16-2012	**1100**	9.53	1.49	18.1	63.3	.41	39.9	.08	< .03	11.7
05-23-2012	**1100**	8.93	1.67	16.9	64.7	1.09	33.4	.07	< .03	8.08
08-01-2012	**1200**	9.06	1.81	17.2	66.0	.48	32.2	.07	< .03	--

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 4 of 5

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, filtered, mg/L as N (00623)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Orthophosphate, water, filtered, mg/L as P (00671)	Particulate nitrogen, suspended in water, mg/L (49570)	Phosphorus, water, filtered, mg/L as P (00666)	Phosphorus, water, unfiltered, mg/L as P (00665)
11-15-2011	**1000**	10.9	0.14	E .004	1.15	< .004	0.157	< .004	0.015
02-16-2012	**1100**	12.2	.10	.018	1.55	.019	.065	.006	.021
05-23-2012	**1100**	11.3	.18	E .022	.990	.017	.133	.024	.059
08-01-2012	**1200**	12.2	.28	.013	.684	.017	.062	.024	.039

WATER-QUALITY DATA
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

Part 5 of 5

[%, percent; ANC, acid neutralizing capacity; $CaCO_3$, calcium carbonate; N, nitrogen; NTRU, nephelometric turbidity ratio unit; P, phosphorus; SiO_2, silicon dioxide; cm, centimeter; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Total nitrogen, water, filtered, mg/L (00602)	Total nitrogen, water, unfiltered, mg/L (00600)	Boron, water, filtered, µg/L (01020)	Organic carbon, suspended sediment, total, mg/L (00689)	Organic carbon, water, filtered, mg/L (00681)
11-15-2011	**1000**	1.3	1.5	14	0.92	1.95
02-16-2012	**1100**	1.7	1.7	13	.40	1.33
05-23-2012	**1100**	1.2	1.3	16	1.09	2.61
08-01-2012	**1200**	.96	1.0	16	.48	3.03