



Water-Data Report 2009

01482500 SALEM RIVER AT WOODSTOWN, NJ

DELAWARE RIVER BASIN

LOCATION.--Lat 39°38'38", long 75°19'49" referenced to North American Datum of 1983, Woodstown Borough, Salem County, NJ, Hydrologic Unit 02040206, on right end of Memorial Lake Dam at Woodstown, 0.3 mi upstream from Chestnut Run, and 0.3 mi downstream from Salem County railroad bridge.

DRAINAGE AREA.--14.6 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March to September 1940, December 1941 to January 1984, June to December 1989, October 2002 to current year. Operated as crest-stage gage 1985-95. Prior to 1952, published as "Salem Creek at Woodstown".

REVISED RECORDS.--WDR NJ-82-2: Drainage area.

GAGE.--Water-stage and precipitation recorder above concrete dam. Datum of gage is 29.49 ft above NGVD of 1929.

REMARKS.--Records fair, except for estimated daily discharges and daily discharges below 5 ft³/s, which are poor. Occasional regulation from lake gate operations or other activities upstream. 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 350 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 12	0345	*632	*12.08
Jan 7	1600	414	11.86
May 7	2015	397	11.84

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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	e4.2	3.8	38	9.5	15	e9.5	9.5	11	8.0	8.5	43	6.7
2	e3.4	3.1	16	8.5	23	e11	22	12	7.3	10	16	6.1
3	e3.3	3.2	10	8.5	20	e9.5	49	17	9.3	13	13	4.4
4	e3.3	e3.7	8.5	8.5	19	8.4	40	32	18	8.1	8.5	5.0
5	e3.3	e4.5	8.5	9.7	16	8.4	18	35	29	6.7	6.7	6.6
6	e3.7	e6.0	8.5	11	13	15	20	49	30	6.7	7.1	5.3
7	e3.8	e5.5	7.6	185	13	22	31	212	16	6.1	6.7	3.7
8	e3.5	e5.8	7.4	83	26	16	18	95	10	4.5	6.7	3.7
9	e3.7	e5.9	6.7	27	23	12	15	31	9.8	3.2	16	3.7
10	e3.7	e5.1	8.4	19	16	9.2	12	20	8.5	2.5	23	5.4
11	e3.7	e5.0	44	24	17	8.5	15	16	10	2.5	11	109
12	e3.4	e5.2	327	20	18	8.5	18	15	16	3.1	7.8	53
13	e3.4	16	39	16	14	7.4	13	12	25	3.7	15	18
14	e3.5	33	19	15	11	8.2	36	11	34	3.4	12	11
15	e3.2	36	15	12	11	8.5	42	11	14	3.4	9.0	6.6
16	e2.9	57	17	9.6	11	8.5	41	11	9.5	6.4	7.1	4.6
17	e2.7	19	69	7.8	11	8.5	22	11	8.5	21	6.7	4.6
18	e2.4	9.9	30	9.1	11	8.5	17	11	22	10	8.2	5.0
19	1.7	7.8	33	11	16	8.4	15	9.3	35	6.2	9.7	3.9
20	2.2	6.7	55	11	12	8.5	18	8.5	37	4.3	7.4	3.7
21	2.6	6.9	38	9.2	11	8.5	72	8.5	98	3.7	9.4	3.7
22	3.8	6.7	34	8.2	11	7.5	38	8.5	23	4.7	103	4.6
23	1.9	6.7	16	9.2	10	6.7	28	7.9	15	6.7	61	5.1
24	2.3	7.1	15	11	9.0	6.7	19	6.7	13	6.7	19	5.1
25	4.3	20	20	9.8	8.5	6.7	16	6.7	11	6.7	10	4.2
26	12	17	17	8.5	8.5	7.6	15	6.0	11	6.7	7.1	3.4
27	11	10	15	8.7	9.5	14	14	8.0	10	5.8	4.5	28
28	13	8.5	15	17	10	17	11	8.5	8.5	3.9	13	18
29	13	7.4	15	37	---	20	9.9	12	8.5	4.3	35	7.9
30	7.2	15	12	20	---	16	10	11	7.8	4.8	16	5.1
31	5.1	---	10	14	---	11	---	9.6	---	14	9.0	---
Total	141.2	347.5	974.6	657.8	393.5	326.2	704.4	723.2	562.7	201.3	527.6	355.1
Mean	4.55	11.6	31.4	21.2	14.1	10.5	23.5	23.3	18.8	6.49	17.0	11.8
Max	13	57	327	185	26	22	72	212	98	21	103	109
Min	1.7	3.1	6.7	7.8	8.5	6.7	9.5	6.0	7.3	2.5	4.5	3.4
Cfsm	0.31	0.79	2.15	1.45	0.96	0.72	1.61	1.60	1.28	0.44	1.17	0.81
In.	0.36	0.89	2.48	1.68	1.00	0.83	1.79	1.84	1.43	0.51	1.34	0.90

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2009, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	13.2	19.1	23.4	24.9	27.2	28.8	26.1	17.3	15.1	14.4	13.1	14.9
Max	43.0	50.9	52.6	82.7	55.7	52.4	72.6	38.5	45.6	66.1	47.5	172
(WY)	(2006)	(1973)	(1973)	(1978)	(1971)	(2003)	(2007)	(1983)	(1983)	(1984)	(1958)	(1940)
Min	3.11	3.91	4.99	5.22	11.5	9.33	7.67	4.99	2.75	0.98	0.55	1.97
(WY)	(1966)	(1966)	(1966)	(1966)	(1980)	(1966)	(1966)	(1955)	(1954)	(1955)	(1966)	(2007)

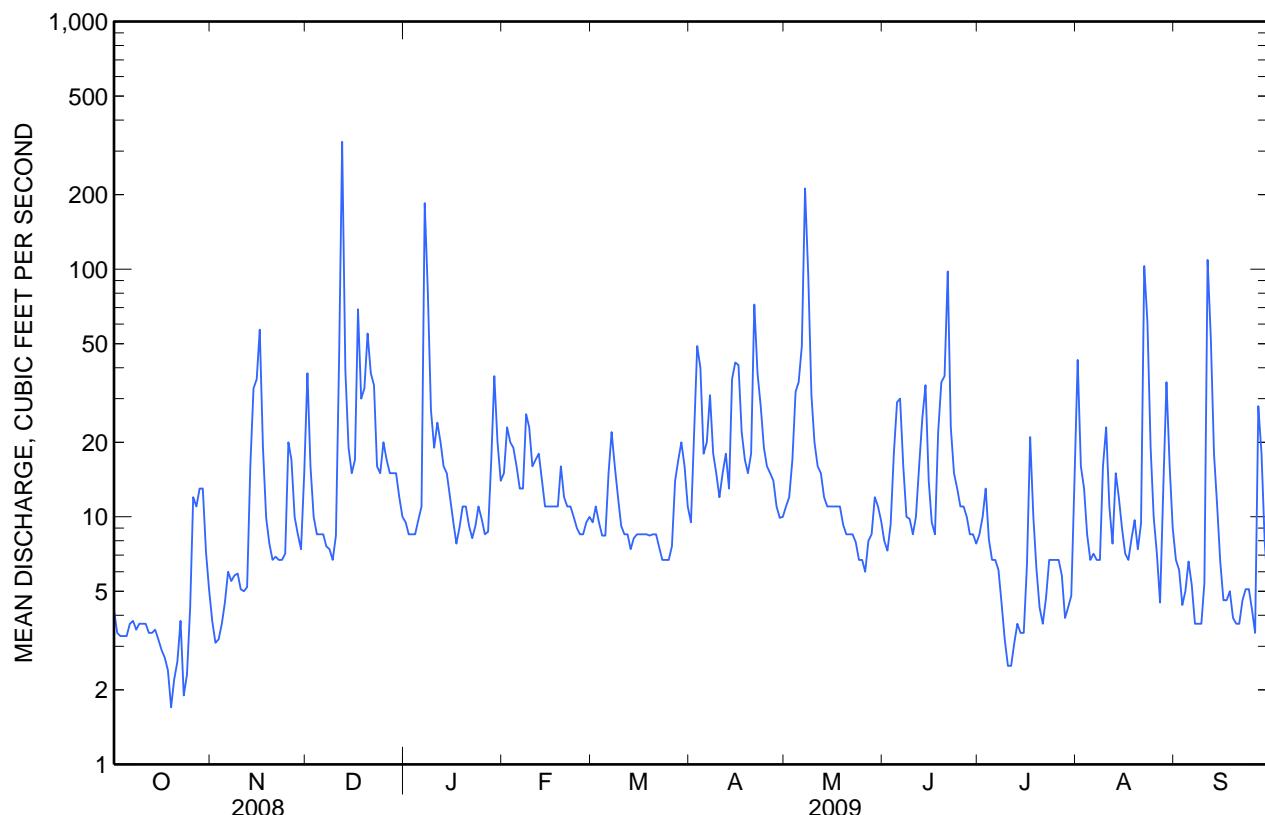
01482500 SALEM RIVER AT WOODSTOWN, NJ—Continued**SUMMARY STATISTICS**

	Calendar Year 2008		Water Year 2009		Water Years 1940 - 2009	
Annual total	5,076.9		5,915.1			
Annual mean	13.9		16.2		19.4	
Highest annual mean					30.8	1984
Lowest annual mean					5.71	1966
Highest daily mean	327	Dec 12	327	Dec 12	4,460	Sep 1, 1940
Lowest daily mean	1.3	Jul 22	1.7	Oct 19	0.00	Many days
Annual seven-day minimum	1.6	Sep 20	2.4	Oct 18	0.20	Jul 24, 1954
Maximum peak flow			632	Dec 12	^a 22,000	Sep 1, 1940
Maximum peak stage			12.08	Dec 12	^b 17.98	Sep 1, 1940
Instantaneous low flow			1.7	Many days	^c 0.00	Many days
Annual runoff (cfsm)	0.950		1.11		1.33	
Annual runoff (inches)	12.94		15.07		18.08	
10 percent exceeds	26		32		35	
50 percent exceeds	9.2		9.9		12	
90 percent exceeds	2.6		3.7		4.4	

^a From rating curve extended above 220 ft³/s on basis of slope-area measurement of peak flow at site 0.5 mi downstream.

^b From floodmark.

^c No flow short periods during many days just after waste gate was closed and water was below spillway.



01482500 SALEM RIVER AT WOODSTOWN, NJ—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

REMARKS.--Cooperative Network Site Descriptor: Agricultural Land Use Indicator, NJ Department of Environmental Protection Watershed Management Area 17.

COOPERATION.--Physical measurements and samples for laboratory analysis were collected in cooperation with the NJ Department of Environmental Protection. Determinations of carbonaceous biochemical oxygen demand for the sample collected on May 5; dissolved ammonia, dissolved orthophosphate; and suspended residue for samples collected on Nov 25, Feb 9, May 27, and Aug 24 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 4

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

Date	Time	Baro-metric pressure, air, 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, µS/cm @ 25 degC (00095)	Turbdty white light, det ang (90+/-30 NTRU) (63676)	Turbdty white light, det ang (90+/-30 NTRU) (63676)	CBOD, water, unfltrd 5 day, mg/L (80082)
Nov 25...	0950	753	6.5	.212	.165	18	13.1	100	7.2	294	4.2	14	--
Feb 09...	1220	767	10.5	.213	.205	23	12.9	97	7.0	258	3.8	28	--
May 05...	1000	764	13.0	--	--	36	9.7	95	6.9	240	14.3	35	<1.0
May 27...	1110	761	22.0	.216	.163	8.5	8.0	88	7.5	271	19.8	21	--
Aug 24...	0930	761	23.0	.528	.412	20	6.8	85	7.2	213	26.6	34	--

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 2 of 4

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

Date	Dis-solved solids dried @ 180degC wat flt mg/L (70300)	Dis-solved solids, sum of constituents, mg/L (70301)	Hard-ness, water, mg/L as CaCO ₃ (00900)	Sus-pended solids, water, unfltrd mg/L (00530)	Cal-cium 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 ₃ (90410)	Total carbon, suspnd sedimnt total, mg/L (00694)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Inor-ganic carbon, suspnd sedimnt total, mg/L (00688)
Nov 25...	177	162	98	8	21.2	10.9	6.96	10.1	35	1.0	26.9	.10	<.04
Feb 09...	146	E140	78	31	17.4	8.40	6.63	10.4	21	2.4	24.3	E.09	E.04
May 05...	153	--	--	35	--	--	--	--	33	--	22.1	--	--
May 27...	163	142	95	37	22.7	9.41	5.56	10.2	46	3.3	23.8	.12	E.02
Aug 24...	128	114	66	24	15.1	6.88	8.94	6.86	38	2.6	17.6	.12	<.04

01482500 SALEM RIVER AT WOODSTOWN, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 3 of 4

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

Date	Silica, water, filtrd, mg/L as SiO ₂ (00955)	Sulfate water, filtrd, mg/L (00945)	Ammonia + org-N, water, mg/L (00623)	Ammonia + org-N, water, unfiltrd, mg/L (00625)	Ammonia water, filtrd, mg/L (00608)	Nitrate + nitrite water, filtrd, mg/L (00631)	Ortho- phosphate, water, filtrd, mg/L (00671)	Partic- ulate nitro- gen, susp, water, mg/L (49570)	Phos- phorus, water, filtrd, mg/L (00666)	Phos- phorus, water, unfiltrd, mg/L (00665)	Total nitro- gen, water, filtrd, mg/L (00602)	Total nitro- gen, water, unfiltrd, mg/L (00600)	Chloro- phyll a phyto- plank- ton, fluoro- μg/L (70953)
Nov 25...	9.7	42.0	.95	--	.382	2.86	.026	.09	.044	.117	3.8	3.9	--
Feb 09...	7.6	35.2	1.8	--	.444	3.71	.041	.34	.069	.211	5.5	5.8	--
May 05...	--	--	--	1.4	.359	1.91	--	--	.07	.23	--	3.3	12.0
May 27...	3.2	34.8	.94	--	.238	.93	--	.54	.067	.202	1.9	2.4	--
Aug 24...	9.4	22.1	1.4	--	.491	.80	.115	.41	.188	.371	2.2	2.6	--

WATER-QUALITY DATA
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Part 4 of 4

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

Date	Pheo- phytin a, phyto- plank- ton, μg/L (62360)	Iron, water, unfiltrd recover -able, μg/L (01045)	Boron, water, unfiltrd recover -able, μg/L (01022)	Organic carbon, suspdn sedimnt total, mg/L (00689)	Organic carbon, water, filtrd, mg/L (00681)	Organic carbon, water, unfiltrd mg/L (00680)
Nov 25...	--	--	--	.99	6.2	--
Feb 09...	--	--	--	2.37	7.9	--
May 05...	16.4	1,830	17	--	--	10.3
May 27...	--	--	--	3.29	6.5	--
Aug 24...	--	--	--	2.56	12.0	--