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 mi^2.

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 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 ft^3/s, which are poor. Occasional regulation from lake gate operations or other activities upstream. Satellite gage-height telemetry at station. Several measurements of water temperature were made during the year.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar 8	1900	*359	*11.83
No other peak greater than base discharge			

01482500 SALEM RIVER AT WOODSTOWN, NJ—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1.6	6.9	e6.6	20	42	14	14	9.2	14	3.0	3.0	2.5
2	1.3	5.9	e8.1	13	78	13	16	8.4	12	3.0	3.3	2.5
3	1.3	5.4	44	e8	23	11	14	7.0	9.9	2.7	3.0	2.8
4	1.3	5.4	16	8.1	15	12	28	7.0	47	2.9	3.0	3.0
5	1.3	5.4	9.4	8.8	14	30	25	7.0	42	3.1	3.0	3.5
6	1.4	7.4	8.8	9.1	15	24	20	7.0	21	4.1	2.6	9.8
7	1.5	e6.1	7.0	10	15	19	22	7.0	15	4.1	2.1	30
8	1.3	e5.5	9.4	9.6	13	152	17	7.0	11	4.1	2.1	9.5
9	2.8	e5.2	11	9.3	12	77	15	51	9.6	3.6	2.1	5.6
10	11	e5.0	9.8	8.8	12	26	14	46	8.0	3.4	6.8	5.7
11	7.4	e5.0	10	24	e9	21	14	18	7.0	3.7	21	5.0
12	3.9	e5.1	8.8	33	11	18	14	32	7.0	3.6	9.8	4.5
13	1.8	e6.8	9.4	15	83	16	14	56	6.5	3.0	5.1	8.6
14	1.3	e6.0	14	16	67	16	12	20	5.6	3.0	3.9	6.5
15	1.3	e6.8	10	15	25	16	10	15	6.2	3.0	49	4.2
16	1.3	e6.6	57	12	19	16	10	20	5.3	3.0	16	3.0
17	1.3	e5.6	29	12	16	15	10	29	4.8	3.0	7.1	2.7
18	1.9	e5.4	13	59	18	14	10	19	4.1	2.7	3.9	2.1
19	2.4	e8.2	9.6	26	17	18	10	19	4.1	2.1	3.0	1.7
20	5.3	e7.6	8.8	14	15	41	9.8	21	4.1	2.1	2.6	1.3
21	5.4	e6.5	8.8	e10	14	23	8.8	33	4.1	1.8	2.1	1.3
22	5.4	e5.9	7.3	9.2	15	17	8.8	19	4.1	1.3	2.1	2.1
23	4.7	e5.6	9.8	12	20	15	8.8	15	4.1	7.9	2.1	1.8
24	7.4	e5.4	20	11	23	14	8.8	11	4.1	80	2.1	1.8
25	17	e5.5	12	8.9	19	14	8.8	10	4.1	16	2.1	1.6
26	15	e7.9	9.6	8.7	18	13	7.9	9.6	4.1	7.1	2.1	1.4
27	73	e9.0	13	8.8	18	14	7.3	9.2	3.7	6.8	2.1	3.2
28	30	e6.9	12	8.8	15	14	9.6	15	3.0	11	2.1	7.1
29	10	e6.3	60	8.8	13	13	15	14	3.1	6.9	2.1	8.4
30	7.0	e6.1	27	11	---	11	12	11	3.0	4.9	2.1	e3.6
31	6.8	---	35	10	---	11	---	12	---	3.7	2.3	---
Total	234.4	186.4	514.2	437.9	674	728	394.6	564.4	281.6	210.6	175.7	146.8
Mean	7.56	6.21	16.6	14.1	23.2	23.5	13.2	18.2	9.39	6.79	5.67	4.89
Max	73	9.0	60	59	83	152	28	56	47	80	49	30
Min	1.3	5.0	6.6	8.0	9.0	11	7.3	7.0	3.0	1.3	2.1	1.3
Cfsm	0.52	0.43	1.14	0.97	1.59	1.61	0.90	1.25	0.64	0.47	0.39	0.34
In.	0.60	0.47	1.31	1.12	1.72	1.85	1.01	1.44	0.72	0.54	0.45	0.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	13.3	19.3	23.3	25.0	27.5	29.2	26.1	17.2	15.0	14.6	13.0	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

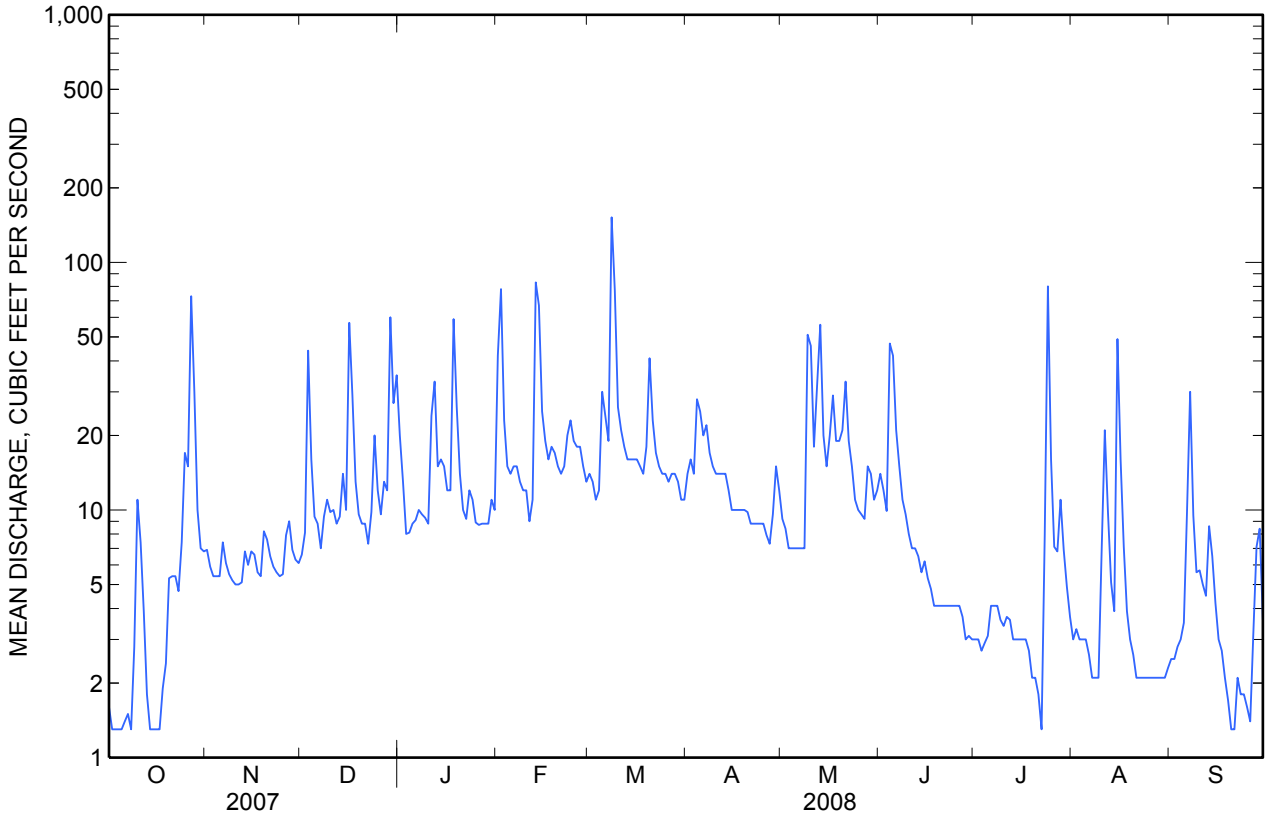
SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1940 - 2008	
Annual total	6,797.8		4,548.6			
Annual mean	18.6		12.4		19.5	
Highest annual mean					30.8	1984
Lowest annual mean					5.71	1966
Highest daily mean	678	Apr 15	152	Mar 8	4,460	Sep 1, 1940
Lowest daily mean	1.3	Sep 8	1.3	Many days	0.00	Jul 21, 1949
Annual seven-day minimum	1.3	Sep 28	1.3	Oct 2	0.20	Jul 24, 1954
Maximum peak flow			359	Mar 8	[a]22,000	Sep 1, 1940
Maximum peak stage			11.83	Mar 8	[b]17.98	Sep 1, 1940
Instantaneous low flow			0.77	Oct 3	[c]0.00	Nov 16, 2005
Annual runoff (cfsm)	1.28		0.851		1.34	
Annual runoff (inches)	17.32		11.59		18.15	
10 percent exceeds	29		23		35	
50 percent exceeds	11		8.8		12	
90 percent exceeds	2.1		2.1		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; dissolved ammonia for samples collected on Nov 28, Feb 6, May 28, and Aug 13; 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 2007 TO SEPTEMBER 2008

Part 1 of 4

[QC, quality control sample. Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Time	Sample medium and type	Instantaneous discharge, ft3/s (00061)	Turbdty 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)
Oct									
16...	0930	Surface water, regular	1.3	12	--	--	766	10.7	107
Nov									
28...	0930	Surface water, regular	E6.9	13	.150	.117	771	11.6	97
Feb									
06...	1100	Surface water, regular	12	26	.180	.140	749	11.4	98
Apr									
07...	*0929*	*QC - Artificial, field blank*	--	--	--	--	--	--	--
07...	0930	Surface water, regular	23	25	--	--	768	11.0	100
29...	1020	Surface water, regular	16	25	--	--	754	9.3	93
May									
28...	0910	Surface water, regular	14	16	.189	.141	765	10.3	116
Jul									
02...	1120	Surface water, regular	3.0	20	--	--	761	4.8	64
30...	1000	Surface water, regular	5.4	32	--	--	754	6.2	75
Aug									
13...	0850	Surface water, regular	5.4	29	.247	.188	757	7.5	87

01482500 SALEM RIVER AT WOODSTOWN, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 2 of 4
[QC, quality control sample. Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	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 as SiO2 (00955)
Oct													
16...	7.5	291	18.0	16.0	--	--	--	--	--	43	27.6	--	--
Nov													
28...	7.1	304	6.0	7.5	110	23.4	11.7	6.54	10.2	37	28.3	E.06	8.7
Feb													
06...	7.2	246	16.8	9.0	83	18.8	8.79	5.39	9.58	25	21.5	E.09	8.5
Apr													
07...	--	--	--	--	--	--	--	--	--	*E3*	*<.12*	--	--
07...	7.3	245	5.5	10.7	--	--	--	--	--	28	22.4	--	--
29...	7.5	275	10.0	15.4	--	--	--	--	--	43	25.0	--	--
May													
28...	7.5	259	18.5	21.5	88	20.4	9.03	5.07	9.26	41	22.5	.14	6.9
Jul													
02...	7.4	283	27.0	29.4	--	--	--	--	--	62	26.3	--	--
30...	7.2	257	30.5	27.1	--	--	--	--	--	54	21.5	--	--
Aug													
13...	7.4	252	27.0	22.9	82	18.3	8.93	7.29	8.48	48	22.1	E.11	6.6

01482500 SALEM RIVER AT WOODSTOWN, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 3 of 4
[QC, quality control sample. Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total non-filter-able, mg/L (00530)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate + nitrite water fltrd, mg/L as N (00631)	Partic-ulate 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)
Oct													
16...	--	--	184	18	--	1.2	.250	--	1.41	--	--	2.6	--
Nov													
28...	46.1	E172	187	12	.44	--	.055	--	3.36	.19	3.8	4.0	.013
Feb													
06...	37.8	E140	150	15	.62	1.0	.144	--	3.33	.24	4.0	4.2	.017
Apr													
07...	--	--	*<10*	*<1*	--	*<.14*	*<.020*	--	*<.04*	--	--	--	--
07...	--	--	134	27	--	.95	.103	--	2.50	--	--	3.4	--
29...	--	--	173	30	--	1.3	.165	--	1.55	--	--	2.9	--
May													
28...	34.2	E140	150	20	.54	1.1	.047	.047	1.79	.45	2.3	2.8	E.006
Jul													
02...	--	--	190	32	--	1.5	.138	--	.08	--	--	1.6	--
30...	--	--	174	38	--	2.0	.097	--	.18	--	--	2.2	--
Aug													
13...	29.7	E134	160	35	1.0	1.8	.225	--	.85	.68	1.9	2.5	.011

01482500 SALEM RIVER AT WOODSTOWN, NJ—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
Part 4 of 4
[QC, quality control sample. Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

Date	Phosphorus, water, fltrd, mg/L as P (00666)	Phosphorus, water, unfltrd mg/L as P (00665)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inorganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Organic carbon, water, unfltrd mg/L (00680)	CBOD, water, unfltrd 5 day, mg/L (80082)	Chlorophyll a phytoplankton, fluoro, µg/L (70953)	Pheophytin a, phytoplankton, µg/L (62360)	Boron, water, fltrd, µg/L (01020)	Boron, water, unfltrd recoverable, µg/L (01022)	Iron, water, unfltrd recoverable, µg/L (01045)
Oct													
16...	.030	.116	--	--	--	--	8.8	E1.2	24.1	15.4	--	26	686
Nov													
28...	.024	.117	1.2	M	1.1	4.4	--	--	--	--	22	--	--
Feb													
06...	.035	.161	1.9	<.04	1.9	5.2	7.8	<1.0	8.2	7.0	20	18	965
Apr													
07...	*<.02*	*<.02*	--	--	--	--	*E.3*	*<1.0*	*<.1*	*<.1*	--	*<8*	*<6*
07...	.03	.14	--	--	--	--	8.9	E1.8	17.2	10.5	--	17	1,220
29...	.02	.18	--	--	--	--	8.1	E1.2	43.3	20.6	--	21	1,130
May													
28...	.021	.155	2.8	<.04	2.8	6.3	8.2	<1.0	41.0	18.6	25	25	746
Jul													
02...	.13	.28	--	--	--	--	12.4	<1.0	46.1	37.3	--	20	1,800
30...	.06	.26	--	--	--	--	13.1	E1.9	82.7	28.6	--	36	737
Aug													
13...	.045	.242	3.8	<.04	3.8	7.5	10.2	E1.8	67.8	36.6	26	27	1,050

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Date	Time	Phosphorus, bed sedimnt total, mg/kg as P (00668)
Jul		
30...	1000	230
Aug		
19...	0850	160