



Water-Data Report 2007

01660920 ZEKIAH SWAMP RUN NEAR NEWTOWN, MD

Potomac Basin
Lower Potomac Subbasin

LOCATION.--Lat 38°29'26.1", long 76°55'37.5" referenced to North American Datum of 1983, Charles County, MD, Hydrologic Unit 02070011, on downstream left side of bridge on State Highway 6, 1.0 mile southeast of Newtown and 1.7 miles downstream from Kerrick Swamp.

DRAINAGE AREA.--79.9 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--June 1983 to September 2005. October 2006 to September 2007.

REVISED RECORDS.--WDR MD-DE-DC-05-1: 2004(m)

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 34.88 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges (ice effect, backwater, missing record), and those below 0.50 cfs which are poor. Low flow affected by ground-water diversions from municipal well fields at Waldorf and St. Charles, and occasional farm irrigation upstream from station during summer months. U.S. Geological Survey satellite collection platform at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov 9	1115	744	3.77
Nov 17	1415	*1,680	*4.51
Mar 17	1345	974	4.01
Apr 16	1200	933	3.97

Minimum discharge, 0.05 ft³/s, on Sept. 11, 12, 14, 28-30.

01660920 ZEKIAH SWAMP RUN NEAR NEWTOWN, MD—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES
[*e*, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	52	72	123	205	e78	146	80	66	7.8	3.9	e1.4	1.4
2	40	66	116	467	e80	183	80	58	7.0	3.1	e0.84	e0.83
3	33	62	105	280	e84	256	78	56	8.5	2.3	e1.6	0.90
4	29	57	99	167	e76	177	107	52	28	1.7	e1.6	0.83
5	26	54	94	170	e70	125	149	52	32	1.3	e2.0	0.78
6	139	52	93	240	e69	107	106	68	21	1.1	e46	0.68
7	379	53	93	207	e67	97	90	62	13	0.86	e32	0.50
8	242	317	88	337	e64	92	87	51	9.7	0.68	14	0.22
9	101	674	82	481	62	92	79	47	7.7	0.63	6.0	0.10
10	67	343	80	293	61	90	73	46	6.3	0.60	4.8	0.09
11	54	159	83	191	60	88	69	43	5.5	e0.61	4.0	0.06
12	53	153	82	159	60	86	126	41	4.8	e0.61	3.0	0.15
13	46	264	78	142	66	78	167	47	9.1	e0.58	2.1	0.11
14	40	249	83	134	e175	77	113	48	18	e0.57	1.4	0.06
15	36	161	83	126	260	76	266	39	12	e0.56	1.1	3.0
16	34	337	78	120	237	279	830	36	8.1	e0.54	0.99	3.4
17	41	1,410	75	105	146	911	460	62	6.4	e0.54	1.1	2.3
18	70	646	71	100	108	547	193	71	5.1	e0.54	0.93	2.2
19	74	306	74	105	98	247	138	47	4.2	e0.52	0.75	1.8
20	70	206	74	105	94	182	116	37	e3.8	e0.53	1.4	1.4
21	75	168	66	95	113	153	104	31	e3.2	e0.53	4.2	1.2
22	66	174	70	105	118	135	93	27	2.9	e0.54	20	1.0
23	53	374	143	133	104	128	86	23	3.6	e0.54	21	1.2
24	46	366	152	126	84	118	80	20	3.7	e0.53	11	1.1
25	42	235	113	110	e95	111	75	18	4.5	e0.56	5.7	0.88
26	38	178	208	e92	135	103	70	17	4.6	e0.58	4.4	0.67
27	39	154	200	e85	180	100	76	16	4.5	e0.60	4.3	0.40
28	162	137	127	88	185	98	97	15	3.9	0.65	3.7	0.14
29	293	128	97	87	---	90	104	13	3.5	0.62	3.1	0.05
30	175	e125	89	81	---	84	81	11	3.6	e1.2	2.3	0.05
31	92	---	84	e78	---	82	---	9.4	---	e1.4	1.8	---
Total	2,707	7,680	3,103	5,214	3,029	5,138	4,273	1,229.4	256.0	29.52	208.51	27.50
Mean	87.3	256	100	168	108	166	142	39.7	8.53	0.95	6.73	0.92
Max	379	1,410	208	481	260	911	830	71	32	3.9	46	3.4
Min	26	52	66	78	60	76	69	9.4	2.9	0.52	0.75	0.05
Cfsm	1.09	3.20	1.25	2.11	1.35	2.07	1.78	0.50	0.11	0.01	0.08	0.01
In.	1.26	3.58	1.44	2.43	1.41	2.39	1.99	0.57	0.12	0.01	0.10	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 – 2005, 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	44.1	84.3	108	127	145	182	132	100	65.9	34.3	30.6	41.8
Max	163	256	254	268	375	491	277	334	311	129	115	175
(WY)	(1990)	(2007)	(2004)	(1996)	(1998)	(1994)	(1993)	(1989)	(1989)	(2000)	(2000)	(1999)
Min	0.00	0.00	14.0	32.2	16.8	54.4	30.5	14.1	1.40	0.00	0.00	0.00
(WY)	(1999)	(1999)	(1999)	(2002)	(2002)	(2002)	(1985)	(2002)	(2002)	(2002)	(2002)	(1995)

SUMMARY STATISTICS

	Water Year 2007		Water Years 1983 – 2005, 2007	
Annual total	32,894.93			
Annual mean	90.1		91.7	
Highest annual mean			160	2003
Lowest annual mean			16.0	2002
Highest daily mean	1,410	Nov 17	2,570	Mar 29, 1994
Lowest daily mean	0.05	Sep 29 ^a	0.00	Aug 23, 1983 ^b
Annual seven-day minimum	0.11	Sep 8	0.00	Jul 20, 1987
Maximum peak flow	1,680	Nov 17	^c 4,080	Sep 17, 1999
Maximum peak stage	4.51	Nov 17	5.51	Sep 17, 1999
Instantaneous low flow	0.05	Sep 11 ^d	0.00	Aug 23, 1983 ^f
Annual runoff (cfsm)	1.13		1.15	
Annual runoff (inches)	15.32		15.59	
10 percent exceeds	196		207	
50 percent exceeds	67		54	
90 percent exceeds	0.72		1.2	

^a Sept. 29, 30.^b Many days.^c From rating curve extended above 1,500 ft³/s.^d Sept. 11, 12, 14, 28-30.^f No flow at times in 1983, 1985-1989, 1991, 1993, 1995-1999, 2002, 2003, 2005.