Water-Data Report 2011

01654000 ACCOTINK CREEK NEAR ANNANDALE, VA

Potomac Basin
Middle Potomac-Anacostia-Occoquan Subbasin

LOCATION.--Lat 38°48′46″, long 77°13′43″ referenced to North American Datum of 1927, Fairfax County, VA, Hydrologic Unit 02070010, on left bank 800 ft upstream from bridge on State Highway 620, 0.2 mi upstream from Long Branch, and 2.3 mi southwest of Annandale.

DRAINAGE AREA.--23.9 mi^2.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1947 to current year (fragmentary prior to October 1947).

REVISED RECORDS.--WSP 1502: 1952. WSP 2103: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 191.24 ft NGVD of 1929 (levels by Stone and Webster Engineering Corporation). Prior to May 12, 1949, nonrecording gage at site 800 ft downstream at datum of 190.91 ft NGVD of 1929. May 12, 1949, to June 4, 1970, water-stage recorder at site 800 ft downstream at datum of 190.91 ft NGVD of 1929.

COOPERATION.--Records were provided by the Virginia Department of Environmental Quality - Water Division.

REMARKS.--Records good except those for estimated daily discharges and period Oct. 28 to Dec. 7, which are poor. Maximum discharge, 14,000 ft^3/s, from rating curve extended above 6,600 ft^3/s on basis of contracted-opening and flow-over-road measurement of peak flow. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
Sep 30	1045	1,700	9.47
Mar 6	2145	1,600	9.31
Jun 17	0415	1,780	9.58
Jul 13	2030	2,040	9.66
Aug 20	0030	2,830	10.68
Sep 7	1800	1,500	9.07
Sep 8	0315	1,830	9.55
Sep 8	---	*14,000	*16.32

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 01654000, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/01654000.2011.pdf

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	307	e4.8	167	6.0	8.2	42	52	e12	5.9	1.7	29	e6.0
2	21	e4.1	e30	6.0	289	14	28	e13	5.5	1.6	6.7	e6.0
3	19	e4.4	e18	5.9	55	10	22	e12	4.5	28	13	e6.0
4	183	245	e10	5.6	19	9.3	e12	109	4.4	4.1	12	e4.4
5	19	53	e8.7	e5.6	44	9.0	e99	26	4.4	1.8	2.4	e5.4
6	9.1	e10	e6.4	e5.3	45	448	e20	12	4.5	2.7	13	317
7	8.9	e6.3	e5.9	e5.6	26	212	e13	9.0	4.2	3.6	41	465
8	7.4	e5.3	5.8	e5.5	22	42	75	8.4	4.1	35	14	e3,600
9	5.5	e5.7	5.4	e5.3	13	30	53	7.6	3.9	17	2.3	e1,410
10	e4.8	e5.2	4.7	e5.0	11	484	17	7.3	56	2.7	1.5	e100
11	e4.0	e4.7	4.9	5.5	9.3	183	15	6.7	6.2	5.4	1.3	e53
12	e3.6	e5.4	105	6.7	9.0	51	67	6.4	53	13	1.1	e35
13	3.9	e5.2	26	6.1	8.4	34	113	6.6	19	316	77	e22
14	151	e4.7	7.5	5.0	9.9	26	23	23	4.4	e24	27	e14
15	18	e6.0	5.9	5.2	11	23	15	142	3.6	e5.3	10	e11
16	5.5	108	6.0	5.8	7.6	157	250	25	21	e3.5	1.8	e9.1
17	3.6	115	6.9	5.3	7.8	31	171	91	466	e3.0	1.1	e7.8
18	3.5	e19	6.9	39	8.0	23	37	248	56	e2.9	49	e6.6
19	3.5	e9.5	6.2	17	7.3	22	25	54	12	e2.8	223	e5.7
20	3.6	e6.7	6.2	8.2	6.2	19	20	39	62	e11	256	e7.9
21	5.3	e5.5	e5.7	5.4	7.2	66	16	13	14	e3.7	28	e8.7
22	3.5	e6.1	5.6	4.7	24	27	41	9.6	e8.0	e3.2	16	e9.4
23	3.3	e6.6	5.4	4.8	12	50	77	14	e6.0	e2.3	8.0	e11
24	3.6	e5.9	5.4	4.1	7.7	118	23	9.0	e4.7	e2.0	6.6	e13
25	3.9	e6.5	5.7	4.8	51	30	21	11	e3.7	e20	e76	e16
26	4.2	e6.9	5.9	54	11	19	16	7.4	e3.2	10	19	e12
27	262	e6.1	e6.4	41	8.0	19	e15	26	e2.9	2.3	234	e6.9
28	42	e5.4	6.0	24	130	18	68	37	e2.9	1.7	383	e11
29	e11	e6.1	5.8	16	---	20	e25	7.6	e2.6	1.5	e19	e14
30	e7.7	e7.5	6.0	12	---	21	e14	6.5	2.0	1.3	e9.8	e9.2
31	e5.7	---	6.1	16	---	44	---	6.0	---	1.3	e7.6	---
Total	1,137.1	690.6	507.4	346.4	867.6	2,301.3	1,443	1,005.1	850.6	534.4	1,589.2	6,203.1
Mean	36.7	23.0	16.4	11.2	31.0	74.2	48.1	32.4	28.4	17.2	51.3	207
Max	307	245	167	54	289	484	250	248	466	316	383	3,600
Min	3.3	4.1	4.7	4.1	6.2	9.0	12	6.0	2.0	1.3	1.1	4.4
Cfsm	1.53	0.96	0.68	0.47	1.30	3.11	2.01	1.36	1.19	0.72	2.14	8.65
In.	1.77	1.07	0.79	0.54	1.35	3.58	2.25	1.56	1.32	0.83	2.47	9.66

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 2011, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	19.5	24.9	29.2	31.3	35.3	42.3	36.2	34.1	27.9	21.6	21.7	27.1
Max	83.3	75.6	88.5	87.0	113	114	94.5	125	212	74.5	123	207
(WY)	(2006)	(2007)	(2004)	(1996)	(1998)	(1993)	(1983)	(1989)	(1972)	(1969)	(1967)	(2011)
Min	2.03	3.25	5.48	4.53	3.76	9.39	8.40	8.46	2.83	1.81	1.94	0.45
(WY)	(1955)	(1955)	(1966)	(1981)	(2002)	(2006)	(1985)	(1986)	(1986)	(1955)	(1957)	(1954)

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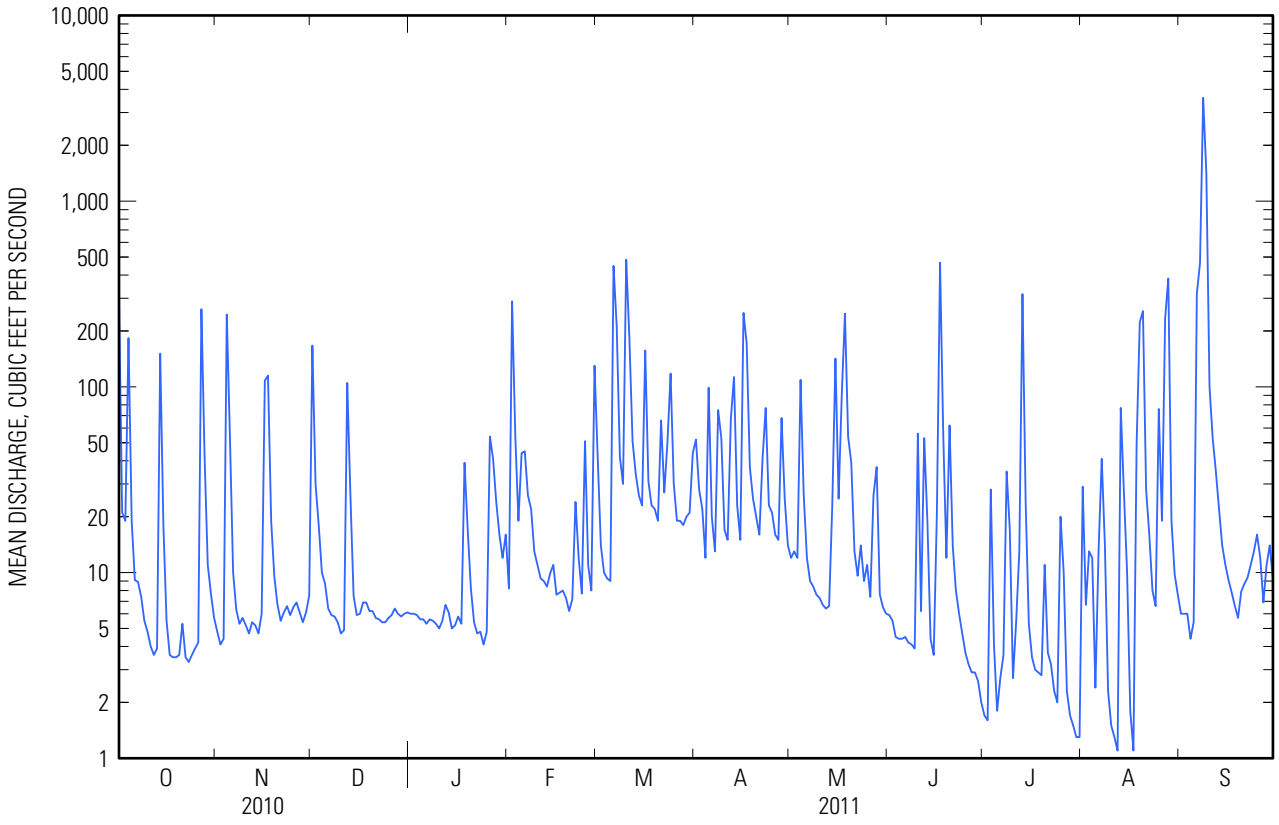
SUMMARY STATISTICS

	Calendar Year 2010		Water Year 2011		Water Years 1948 - 2011	
Annual total	9,763.08		17,475.8			
Annual mean	26.7		47.9		29.2	
Highest annual mean					50.9	2003
Lowest annual mean					10.8	2002
Highest daily mean	811	Sep 30	[a]3,600	Sep 8	[a]3,600	Sep 8, 2011
Lowest daily mean	0.32	Sep 16[b]	1.1	Aug 12[c]	0.00	Many days[d]
Annual seven-day minimum	0.34	Sep 19	2.4	Jun 26	0.00	Many days[d]
Maximum peak flow			14,000	Sep 8	14,000	Sep 8, 2011
Maximum peak stage			[e]16.32	Sep 8	[e]16.32	Sep 8, 2011
Instantaneous low flow			0.88	Aug 13	0.00	Many days[d]
Annual runoff (cfsm)	1.12		2.00		1.22	
Annual runoff (inches)	15.20		27.20		16.61	
10 percent exceeds	59		83		53	
50 percent exceeds	9.6		9.2		12	
90 percent exceeds	3.2		3.6		3.2	

[a] Estimated.
[b] Also Sept. 24, 25, 2010.
[c] Also Aug. 17, 2011.
[d] In August 1999, August 2002, October 2007.
[e] From high-water mark in gage house.



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WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1993 to August 1995, September 1997 to September 2006, October 2007 to September 2008. October 2009 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 2002 to September 2004.
WATER TEMPERATURE: January 2002 to September 2004.

INSTRUMENTATION.--Water-quality monitor January 2002 to September 2004.

COOPERATION.--Water samples and daily records were provided by the USGS Maryland Water Science Center prior to October 2010. Water samples were collected by the U.S. Geological Survey and analyzed by either the U.S. Geological Survey (Agency Code 1028) or by the Virginia Division of Consolidated Laboratory Services (VDCLS, Agency Code 85116), using analytical methods approved by the U.S. Geological Survey. Analyses performed by VDCLS are reported to U.S. Geological Survey rounding specifications. Results of chemical analyses provided by VDCLS were quality-assured and approved by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 6,450 microsiemens/cm (road salt influence), Dec. 11, 2002, Feb. 9, 10, Mar. 1, 2003; minimum, 54 microsiemens/cm, Oct. 26, 2002, Sept.18, 2004.
WATER TEMPERATURE: Maximum, 28.8°C, Aug. 24, 2002; minimum, 0.0°C on several days.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
Part 1 of 3
[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Temperature, air, °C (00020)	Discharge, instantaneous, ft³/s (00061)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)
09-09-2011	**0845**	Surface water	Regular	754	24.5	1,410	8.1	92	6.9

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
Part 2 of 3
[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; ft³/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter]

Date	Sample start time	Specific conductance, water, unfiltered, µS/cm at 25 °C (00095)	Temperature, water, °C (00010)	Turbidity, water, unfiltered, monochrome near infrared LED light, 780-900 nm, detection angle 90 +/- 2.5 degrees, FNU (63680)	Suspended solids remaining after ignition, water, unfiltered, mg/L (00540)	Suspended solids, water, unfiltered, mg/L (00530)	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)
09-09-2011	**0845**	125	21.6	140	187	207	0.050	0.490	0.030

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 3 of 3

[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; ft^3/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; mm, millimeters; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter]

Date	Sample start time	Phosphorus, water, unfiltered, mg/L as P (00665)	Total nitrogen, water, unfiltered, mg/L (00600)	Suspended sediment, sieve diameter, percent smaller than 0.0625 mm (70331)	Suspended sediment concen-tration, mg/L (80154)
09-09-2011	**0845**	0.220	1.2	77	212