

Water-Data Report 2011

01589238 GWYNNS FALLS TRIBUTARY AT MCDONOGH, MD

 Upper Chesapeake Basin
 Gunpowder-Patapsco Subbasin

LOCATION.--Lat 39°24'01.6", long 76°46'13.6" referenced to North American Datum of 1983, Baltimore County, MD, Hydrologic Unit 02060003, on grounds of McDonogh School. On left bank 650 ft upstream of confluence with Gwynns Falls, 0.7 mile northwest of McDonogh, 0.8 mile southwest of Garrison, and 1.4 miles southeast of Owings Mills.

DRAINAGE AREA.--0.03 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1999 to current year.

REVISED RECORDS.--WDR-US-2011: 2006 (P), 2007.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 472 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except those above 4.0 ft³/s and those for estimated daily discharges (erroneous gage heights), which are poor. U.S. Geological Survey gage-height telemeter 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.

REVISIONS.--The peak discharges and annual maximums (*) for water year 2006 have been revised as shown in the following table. They supersede those published in corresponding reports.

EXTREMES FOR 2006 WATER YEAR.--Peak discharges greater than base discharge of 1.2 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jun 25	1915	*52	*1.51
Jun 26	0215	4.7	0.85

REVISIONS.--Revised figures of discharge for water year 2007, superseding those published in the report for 2007 are given below.

EXTREMES FOR 2007 WATER YEAR.--Peak discharges greater than base discharge of 1.2 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov 16	1435	*222	*2.18
Feb 27	1345	1.3	0.62
Mar 2	0200	1.5	0.64
Mar 2	0445	1.6	0.66

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.010	0.017	0.032	0.080	0.023	0.061	0.035	0.042	0.015	0.009	0.005	0.003
2	0.009	0.019	0.038	0.031	0.023	0.33	0.035	0.035	0.015	0.009	0.005	0.003
3	0.008	0.017	0.034	0.026	0.023	0.086	0.035	0.035	0.017	0.009	0.005	0.003
4	0.012	0.017	0.037	0.023	0.023	0.062	0.035	0.032	0.015	0.010	0.005	0.003
5	0.012	0.017	0.037	0.025	0.023	0.047	0.035	0.026	0.014	0.009	0.005	0.002
6	0.010	0.017	0.025	0.023	0.019	0.037	0.035	0.026	0.014	0.009	0.005	0.004
7	0.009	0.014	0.028	0.028	0.017	0.035	0.035	0.026	0.012	0.009	0.005	0.002
8	0.008	0.11	0.028	0.059	0.017	0.035	0.035	0.026	0.012	0.008	0.005	0.002
9	0.008	0.040	0.028	0.034	0.017	0.035	0.035	0.026	0.012	0.007	0.011	0.003
10	0.011	0.033	0.025	0.030	0.017	0.027	0.030	0.026	0.012	0.007	0.007	0.002
11	0.012	0.028	0.033	0.028	0.017	0.035	0.027	0.026	0.012	0.007	0.008	0.003
12	0.012	0.034	0.030	0.028	0.017	0.030	0.045	0.022	0.012	0.009	0.005	0.003
13	0.012	0.034	0.020	0.028	0.017	0.026	0.037	0.022	0.018	0.009	0.005	0.003
14	0.012	0.030	0.017	0.028	0.021	0.026	0.035	0.020	0.015	0.009	0.007	0.002
15	0.017	0.027	0.017	0.028	0.023	0.032	0.22	0.020	0.015	0.009	0.005	0.002
16	0.016	2.8	0.017	0.028	0.023	0.17	0.056	0.033	0.015	0.011	0.005	0.002
17	0.024	0.042	0.017	0.028	0.023	0.070	0.044	0.023	0.013	0.009	0.004	0.003
18	0.017	0.032	0.017	0.028	0.023	0.062	0.041	0.020	0.012	0.007	0.003	0.002
19	0.017	0.028	0.017	0.028	0.023	0.055	0.041	0.020	0.012	0.007	0.004	0.002
20	0.016	0.028	0.013	0.028	0.020	0.044	0.038	0.020	0.010	0.007	0.005	0.002
21	0.018	0.025	0.012	0.031	0.026	0.041	0.035	0.020	0.009	0.007	0.005	0.002
22	0.017	0.049	0.027	0.054	0.13	0.041	0.035	0.017	0.009	0.006	0.004	0.002
23	0.017	0.053	0.046	0.040	0.073	0.042	0.035	0.015	0.009	0.005	0.003	0.002
24	0.017	0.034	0.025	0.028	0.079	0.049	0.035	0.015	0.009	0.008	0.003	0.002
25	0.017	0.028	0.030	0.027	0.030	0.042	0.056	0.015	0.009	0.007	0.003	0.002
26	0.017	0.028	0.031	0.023	0.12	0.041	0.041	0.015	0.009	0.005	0.003	0.001
27	0.021	0.028	0.023	0.023	0.22	0.037	0.054	0.015	0.010	0.006	0.003	0.002
28	0.059	0.028	0.023	0.023	0.091	0.035	0.048	0.015	0.009	0.007	0.003	0.003
29	0.028	0.028	0.023	0.026	---	0.035	0.048	0.015	0.010	0.013	0.003	0.002
30	0.018	0.028	0.023	0.025	---	0.035	0.048	0.015	0.009	0.014	0.003	0.002
31	0.017	---	0.019	0.023	---	0.035	---	0.015	---	0.006	0.003	---
Total	0.498	3.713	0.792	0.962	1.178	1.738	1.364	0.698	0.364	0.254	0.145	0.071
Mean	0.02	0.12	0.03	0.03	0.04	0.06	0.05	0.02	0.01	0.01	0.00	0.00
Max	0.059	2.8	0.046	0.080	0.22	0.33	0.22	0.042	0.018	0.014	0.011	0.004
Min	0.008	0.014	0.012	0.023	0.017	0.026	0.027	0.015	0.009	0.005	0.003	0.001
Cfsm	0.54	4.13	0.85	1.03	1.40	1.87	1.52	0.75	0.40	0.27	0.16	0.08
In.	0.62	4.60	0.98	1.19	1.46	2.16	1.69	0.87	0.45	0.31	0.18	0.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	0.02	0.04	0.03	0.03	0.04	0.04	0.04	0.03	0.04	0.02	0.01	0.02
Max	0.04	0.12	0.09	0.05	0.10	0.10	0.07	0.06	0.09	0.04	0.03	0.07
(WY)	(2004)	(2007)	(2004)	(2003)	(2004)	(2003)	(2005)	(2003)	(2006)	(2004)	(2003)	(2003)
Min	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
(WY)	(2003)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS

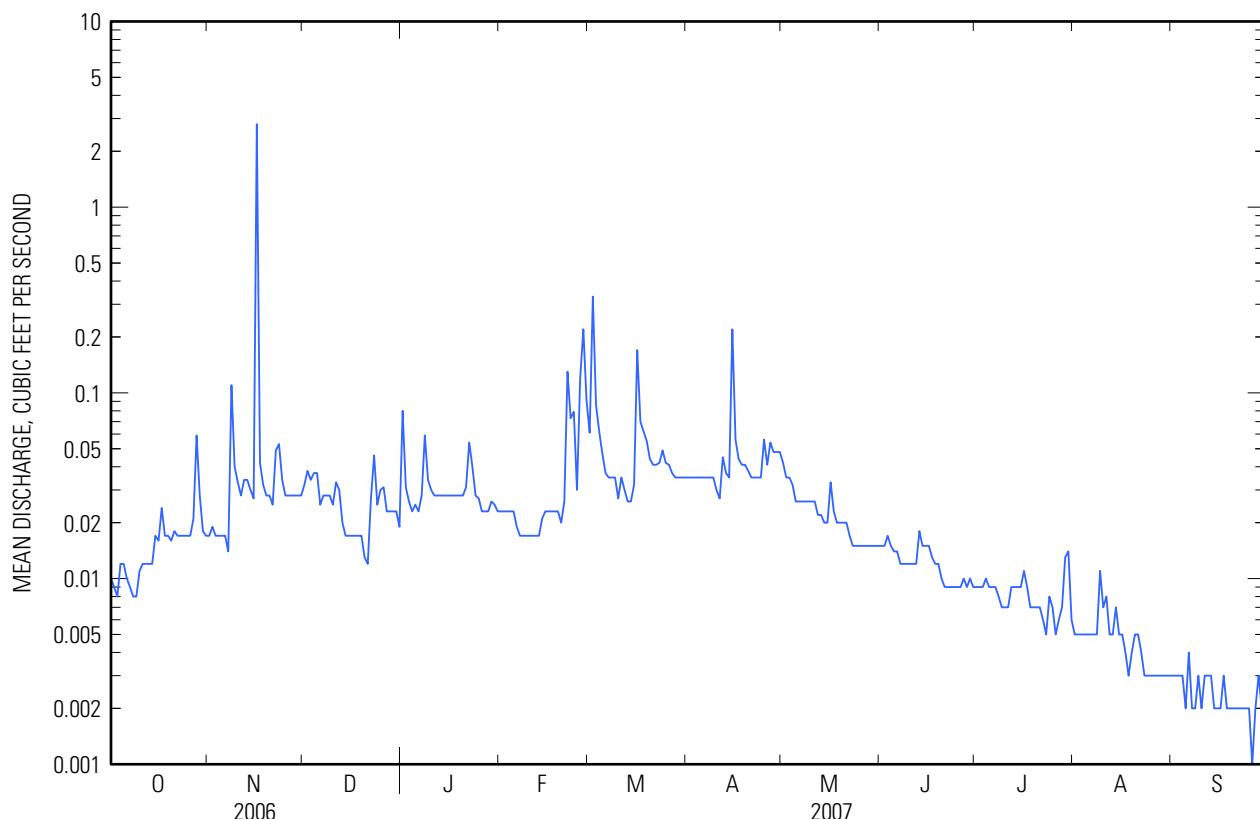
	Calendar Year 2006	Water Year 2007	Water Years 2000 - 2007
Annual total	13.632	11.777	
Annual mean	0.04	0.03	0.03
Highest annual mean			0.05
Lowest annual mean			0.01
Highest daily mean	2.8 Nov 16	2.8 Nov 16	2.8 Nov 16, 2006
Lowest daily mean	0.005 Aug 29	0.001 Sep 26	0.000 Aug 2, 2002 ^a
Annual seven-day minimum	0.007 Aug 23	0.002 Sep 20	0.000 Aug 5, 2002
Maximum peak flow		b222 Nov 16	b222 Nov 16, 2006
Maximum peak stage		2.18 Nov 16	2.18 Nov 16, 2006
Instantaneous low flow		0.001 Sep 14 ^c	0.000 Jul 31, 2002 ^d
Annual runoff (cfsm)	1.24	1.08	1.03
Annual runoff (inches)	16.90	14.60	13.98
10 percent exceeds	0.039	0.042	0.048
50 percent exceeds	0.023	0.019	0.023
90 percent exceeds	0.012	0.003	0.005

^a Aug. 2, 5-23, 25-27, 30, 31, Sept. 21-25, 28-30, Oct. 1-10, 14, 15, 2002.

^b From rating curve extended above 2.1 ft³/s on basis of slope-area measurement at gage-height 1.52 ft

^c Sept. 14, 23-26.

^d July 31 to Sept. 30, Oct. 1-10, 13-15, 2002.



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		Discharge	
Date	Time	(ft ³ /s)	Gage height (ft)
Feb 14	1415	2.2	0.71
Mar 10	1615	1.9	0.68
Sep 7	Unknown	*52	*1.52
Sep 8	0545	1.5	0.65

Minimum discharge, Unknown.

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

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.027	0.007	0.030	0.015	0.015	0.026	0.026	0.026	0.017	0.009	0.005	0.009
2	0.011	0.007	0.023	0.019	0.19	0.023	0.026	0.026	0.015	0.009	0.005	0.009
3	0.009	0.007	0.018	0.015	0.044	0.020	0.026	0.023	0.015	0.009	0.005	0.009
4	0.011	0.012	0.015	0.015	0.022	0.020	0.026	0.024	0.015	0.009	0.005	0.009
5	0.009	0.006	0.015	0.015	0.034	0.020	0.035	0.020	0.015	0.009	0.005	0.017
6	0.009	0.005	0.015	0.015	0.053	0.052	0.035	0.023	0.015	e0.009	0.007	0.055
7	0.009	0.005	0.015	0.015	0.031	0.046	0.031	0.026	0.014	e0.009	0.008	2.3
8	0.009	0.005	0.013	0.015	0.028	0.033	0.028	0.025	0.012	e0.010	0.007	0.30
9	0.009	0.005	0.009	0.016	0.019	0.026	0.035	0.020	0.010	0.009	0.007	0.11
10	0.008	0.005	0.009	0.015	0.015	0.31	0.035	0.020	0.012	0.009	0.007	0.055
11	0.007	0.006	0.009	0.015	0.015	0.057	0.035	0.020	0.009	0.010	0.006	0.079
12	0.007	0.007	0.019	0.015	0.015	0.043	0.041	0.020	0.012	0.008	0.005	0.050
13	0.007	0.008	0.019	0.015	0.015	0.039	0.039	0.020	0.015	0.006	0.008	0.039
14	0.012	0.009	0.015	0.015	0.44	0.035	0.035	0.020	0.015	0.005	0.010	0.036
15	0.015	0.009	0.015	0.015	0.14	0.035	0.035	0.020	0.012	0.005	0.011	0.036
16	0.015	0.009	0.015	0.015	0.097	0.049	0.096	0.020	0.009	0.005	0.009	0.036
17	0.015	0.015	0.015	0.038	0.038	0.050	0.022	0.018	0.005	0.008	0.036	
18	0.015	0.018	0.015	0.015	0.026	0.035	0.041	0.021	0.015	0.005	0.007	0.032
19	0.015	0.016	0.015	0.015	0.021	0.035	0.040	0.023	0.015	0.005	0.007	0.030
20	0.015	0.015	0.015	0.015	0.020	0.035	0.035	0.023	0.015	0.005	0.007	0.030
21	0.015	0.015	0.015	0.015	0.020	0.035	0.035	0.020	0.015	0.005	0.009	0.030
22	0.014	0.015	0.015	0.018	0.019	0.035	0.035	0.020	0.013	0.005	0.009	0.056
23	0.008	0.015	0.015	0.026	0.015	0.060	0.035	0.020	0.009	0.005	0.008	0.085
24	0.007	0.015	0.015	0.043	0.015	0.049	0.035	0.020	0.009	0.005	0.007	0.044
25	0.007	0.015	0.015	0.020	0.060	0.041	0.035	0.020	0.009	0.014	0.009	0.038
26	0.007	0.015	0.015	0.019	0.042	0.036	0.035	0.020	0.009	0.008	0.009	0.036
27	0.009	0.015	0.015	0.015	0.032	0.035	0.036	0.020	0.009	0.004	0.025	0.036
28	0.008	0.015	0.015	0.015	0.034	0.031	0.047	0.020	0.009	0.003	0.11	0.047
29	0.007	0.015	0.015	0.015	---	0.026	0.037	0.020	0.009	0.004	0.013	0.040
30	0.007	0.015	0.015	0.015	---	0.026	0.033	0.020	0.009	0.005	0.010	0.033
31	0.007	---	0.015	0.015	---	0.026	---	0.020	---	0.005	0.009	---
Total	0.330	0.326	0.479	0.521	1.515	1.377	1.113	0.662	0.375	0.213	0.357	3.722
Mean	0.01	0.01	0.02	0.02	0.05	0.04	0.04	0.02	0.01	0.01	0.01	0.12
Max	0.027	0.018	0.030	0.043	0.44	0.31	0.096	0.026	0.018	0.014	0.11	2.3
Min	0.007	0.005	0.009	0.015	0.015	0.020	0.026	0.020	0.009	0.003	0.005	0.009
Cfsm	0.35	0.36	0.52	0.56	1.80	1.48	1.24	0.71	0.42	0.23	0.38	4.14
In.	0.41	0.40	0.59	0.65	1.88	1.71	1.38	0.82	0.47	0.26	0.44	4.62

01589238 GWYNNS FALLS TRIBUTARY AT MCDONOGH, MD—Continued**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2011, BY WATER YEAR (WY)**

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	0.02	0.03	0.03	0.03	0.04	0.04	0.04	0.03	0.03	0.02	0.01	0.03
Max	0.04	0.12	0.09	0.05	0.10	0.10	0.07	0.06	0.09	0.04	0.03	0.12
(WY)	(2004)	(2007)	(2004)	(2003)	(2004)	(2003)	(2005)	(2003)	(2006)	(2004)	(2003)	(2011)
Min	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
(WY)	(2008)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)	(2002)

SUMMARY STATISTICS

	Calendar Year 2010	Water Year 2011	Water Years 2000 - 2011
Annual total	10.342	10.990	
Annual mean	0.03	0.03	0.03
Highest annual mean			0.05 2003
Lowest annual mean			0.01 2002
Highest daily mean	0.41 Mar 13	2.3 Sep 7	2.8 Nov 16, 2006
Lowest daily mean	0.001 Sep 23 ^a	0.003 Jul 28	0.000 Aug 2, 2002 ^b
Annual seven-day minimum	0.001 Sep 23	0.004 Jul 27	0.000 Aug 5, 2002
Maximum peak flow		c52 Sep 7	c222 Nov 16, 2006
Maximum peak stage		d1.52 Sep 7	2.18 Nov 16, 2006
Instantaneous low flow		Unknown	0.000 Jul 31, 2002 ^f
Annual runoff (cfsm)	0.944	1.00	0.965
Annual runoff (inches)	12.82	13.63	13.11
10 percent exceeds	0.051	0.040	0.048
50 percent exceeds	0.020	0.015	0.021
90 percent exceeds	0.007	0.007	0.005

^a Sept. 23-26, 28, 29.^b Aug. 2, 5-23, 25-27, 30, 31, Sept. 21-25, 28-30, Oct. 1-10, 14, 15, 2002.^c From rating curve extended above 2.1 ft³/s on basis of slope-area measurement at gage-height 1.52 ft.^d From highwater marks.^f July 31 to Sept. 30, Oct. 1-10, 13-15, 2002.

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