

Internal Only[01589238 GWYNNS FALLS TRIBUTARY AT MCDONOGH, MD](#)**Responsible Office**

U.S. Geological Survey
[BALTIMORE](#)
 8987 Yellow Brick Road
 Baltimore, MD 21237
 410-238-4200

Station Description

Most recent revision: 6/1/2007**Revised by:** rwsaffer

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 left bank 650 ft upstream of confluence with Gwynns Falls, on grounds of McDonogh School, 650 ft upstream from mouth, 0.7 mile northwest of McDonogh, 0.8 mile southwest of Garrison, and 1.4 miles southeast of Owings Mills.

ROAD LOG.--Gaging station may be reached from intersection of I-695 and MD-140 (Reisterstown Road) as follows:

1. From I-695 westbound, take exit 20 for MD-140 (Reisterstown Road).
2. The exit ramp splits at the intersection with Reisterstown Road. Bear right at the split onto Reisterstown Road northbound.
3. Follow Reisterstown Road for approximately 1.1 miles through 4 traffic lights. Turn left at the 5th traffic light, which is McDonogh Road.
4. Follow McDonogh Road for approximately 1.4 miles to the main entrance to the McDonogh School on the right. The school entrance is approximately 0.4 mile past the railroad overpass and 0.35 mile past the bridge over Gwynns Falls.
5. Turn right into the school and follow the entrance road for about 0.2 mile past the guard house until it dead ends. Turn right onto Campus Drive and follow for about 0.1 mile. Turn right again and follow road for about 250 feet to Barn Farm Road. Turn right onto Barn Farm Road and follow for about 200 feet to Barn Hall Road. Turn left onto Barn Hall Road (be careful of speed bumps!!). The McDonogh School soccer/lacrosse fields will be on the left and a corn/soybean field will be on the right. Follow Barn Hall Road approximately 0.25 mile to a small grass path on the right side of the road.

6. Park on the shoulder of the paved road, or on the grass, and follow the grass path around the perimeter of the

soybean/corn field approximately 0.4 miles to the gage on the left.

See map for route to gage.

NOTE: Before going to station, send e-mail to Martin Schmidt (mschmidt@mcdonogh.org) and Rob Smoot (rsmoot@mcdonogh.org) informing them of who will be on the school grounds and when. Contact person for McDonogh security is Gary Godfrey (410-581-4792).

DRAINAGE AREA.--0.03 mi².

ESTABLISHMENT AND HISTORY.--November 30, 1999 No other gages have been previously operated on this stream

GAGE.--Elevation of gage is 460 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Steel shelter mounted on a 3" diameter, schedule 80, galvanized riser pipe. 3" pipe is connected to a 6- foot length of 2" diameter, schedule 80 galvanized pipe by a 3" to 2" reducing tee. The 2" pipe extends into the stream from under the left bank. A PVC static tube is attached at the end of the 2" pipe.

Pertinent elevations:	Gage Height (feet)
Crest of weir plate	0.59
Top of instrument shelf	4.60

CONTROL.--The main channel is approximately 3 ft. wide. The channel is straight for approximately 30 ft upstream of the gage and then bends to the left. The channel is fairly straight for approximately 60 ft downstream of the gage and then bends to the right. The left bank will overtop at a gage height of approximately 1.5 ft. The right bank is approximately 5-6 ft. high along the gage reach. The channel is composed mainly of sand, silt, and some small gravel. Land use in watershed is approximately 83 percent agricultural and 17 percent forested with no impervious area.

Control is a 7 ft x 2 ft, 3/8 inch thick aluminum weir plate with a 2 ft by 0.5 ft V-notch in the center. Crest of weir becomes control above gage height of 0.59 ft.

DISCHARGE MEASUREMENTS.--Wading measurements can be made at low flows by improving the cross section about 25 ft. below the gage or 60 ft. above the gage. Volumetric discharge measurements can also be made at the weir at gage heights of 0.24 ft. and lower. Measurements can be made at medium and higher flows by wading below the gage.

FLOODS.--Storm of 9/28/2004 reached a peak stage of 1.20 ft, gage datum.

POINT OF ZERO FLOW.--0.13 ft. (Observed while digging out sediment from behind weir on 8/13/01)

WINTER FLOW.--Control pool may freeze during periods of extended cold weather.

ACCURACY.--Good to fair records should be obtained

COOPERATION.--Baltimore Ecosystem Study, Long-Term Ecological Research

REFERENCE MARKS.--

RM = Reference Mark RP = Reference Point

RM-1 (1999, Basic)--Top of 1/2" rebar post set in concrete on left overbank, 9 ft. downstream of weir and 22 ft. landward of left streambank. Elevation 4.965 ft., gage datum.

RP-1 (1999)--Upstream landward corner of instrument shelf (marked in black with permanent marker). Elevation 4.596 ft., gage datum.

RP-2 (1999)--Top of 1/2" galvanized lag bolt set in base of streamward side of 36" diameter tree, 11 ft. downstream of weir and 5 ft. landward of left streambank. Elevation 4.049 ft., gage datum.

RP-3 (1999)--Top of 1/2" galvanized lag bolt set in base of streamward side of 13" diameter tree, 14 ft. downstream of weir and 16 ft. landward of left streambank. Elevation 5.776 ft., gage datum.

RP-4 (1999)--Top of 1/2" galvanized lag bolt set in base of 28" diameter tree at top of right streambank, 31 ft. upstream of weir. Elevation 5.727 ft., gage datum.

PHOTOGRAPHS.--See station files.

DESCRIPTION OF EQUIPMENT.--Sutron 8400 electronic stage recorder (15 minute scan interval) with stage kit. Outside gage is a

vertical enameled staff plate (0.00--3.34 ft) attached to a 6" x 6" pressure-treated lumber backing, anchored into

base of left streambank. Equipment includes airlink Raven cellular realtime technology with a 20-watt solar panel

mounted on top of the shelter for Raven power supply. A standard USGS crest-stage gage is attached to the

upstream end of the 6"x 6" outside gage backing.

Pertinent elevations:	Gage Height (feet)
CSG (base cap)	1.48
CSG (length of stick)	3.97
CSG (top lip of pipe)	5.45
Maximum recordable stage	3.26
Top of OG	3.34
Top of OG 6" x 6" backing	4.28

DATE OF LAST LEVELS.--

Last run: Aug 27, 2006; Next run: Aug 26, 2009; Frequency: 3 years

Levels were based on the top of the OG. Reference marks were set based on the gage datum. All gages were checked to the correct datum as verified by levels. No datum corrections based on levels were used during the 2006 water year.

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Page Contact Information: GS-W_ADRDEV@usgs.gov

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