



Water-Data Report 2011

0148471320 BIRCH BRANCH AT SHOWELL, MD

Upper Chesapeake Basin
Chincoteague Subbasin

LOCATION.--Lat 38°24'33.6", long 75°12'44.6" referenced to North American Datum of 1983, Worcester County, MD, Hydrologic Unit 02060010, on right bank at downstream side of bridge on U.S. Highway 113, 0.75 mi north of Showell, and 1.1 mi upstream from mouth.

DRAINAGE AREA.--6.38 mi².

SURFACE-WATER RECORDS

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

REVISED RECORDS.--WDR-US-2009: 2002-2008.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good except for those above 430 ft³/s, 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.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and (or) maximum (*):

| Date | Time | Discharge (ft ³ /s) | Gage height (ft) |
|---|------|-----------------------------------|---------------------|
| Aug 28 | 0330 | *729 | *9.07 |
| No other peak greater than base discharge | | | |

Minimum discharge, 0.37 ft³/s, Aug. 12, 13.

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0148471320 BIRCH BRANCH AT SHOWELL, MD—Continued

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

| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 1 | 1.7 | 1.2 | 1.3 | 1.3 | 6.7 | 9.1 | 8.1 | 2.0 | 0.83 | 0.88 | 0.63 | 5.8 |
| 2 | 1.5 | 1.1 | 1.3 | 5.1 | 14 | 6.5 | 7.1 | 1.9 | 0.80 | 0.81 | 0.61 | 4.3 |
| 3 | 1.7 | 1.0 | 1.2 | 6.5 | 10 | 5.3 | 6.4 | 1.8 | 0.73 | 0.74 | 0.74 | 3.6 |
| 4 | 5.9 | 1.6 | 1.2 | 3.4 | 7.5 | 4.7 | 6.2 | 2.4 | 0.72 | 0.69 | 0.80 | 3.1 |
| 5 | 2.8 | 2.2 | 1.2 | 2.6 | 7.2 | 4.5 | 6.1 | 2.4 | 0.74 | 0.72 | 0.60 | 2.8 |
| 6 | 1.9 | 1.7 | 1.2 | 2.1 | 7.0 | 6.5 | 5.0 | 2.2 | 0.74 | 1.3 | 0.54 | 2.6 |
| 7 | 1.6 | 1.4 | 1.1 | 1.9 | 6.0 | 15 | 4.4 | 2.0 | 0.71 | 1.00 | 0.53 | 2.6 |
| 8 | 1.3 | 1.4 | 1.1 | 1.7 | 6.1 | 8.0 | 4.2 | 1.7 | 0.69 | 1.1 | 0.53 | 2.6 |
| 9 | 1.2 | 1.3 | 1.1 | 1.4 | 5.1 | 6.5 | 4.6 | 1.7 | 0.65 | 2.3 | 0.49 | 2.6 |
| 10 | 1.1 | 1.2 | 1.1 | 1.3 | 5.1 | 8.9 | 4.3 | 1.5 | 0.63 | 1.2 | 0.46 | 2.5 |
| 11 | 1.0 | 1.1 | 1.1 | 1.2 | 4.7 | 82 | 4.1 | 1.5 | 7.3 | 0.95 | 0.41 | 2.3 |
| 12 | 0.98 | 1.0 | 1.8 | 1.4 | 4.7 | 19 | 4.0 | 1.4 | 39 | 0.83 | 0.38 | 2.0 |
| 13 | 0.93 | 1.0 | 2.1 | 1.3 | 4.4 | 13 | 3.9 | 1.4 | 13 | 0.73 | 0.39 | 1.8 |
| 14 | 1.2 | 1.0 | 1.8 | 1.1 | 4.4 | 9.5 | 3.5 | 1.6 | 3.4 | 0.68 | 14 | 1.7 |
| 15 | 1.5 | 1.0 | 1.5 | 1.1 | 4.0 | 7.7 | 3.1 | 1.7 | 2.1 | 0.62 | 7.9 | 1.6 |
| 16 | 1.4 | 1.0 | 1.4 | 1.2 | 3.8 | 11 | 3.3 | 1.5 | 1.6 | 0.59 | 2.6 | 1.5 |
| 17 | 1.2 | 1.3 | 1.4 | 1.1 | 3.8 | 9.9 | 6.7 | 1.5 | 1.3 | 0.56 | 1.4 | 1.9 |
| 18 | 1.2 | 1.3 | 1.3 | 19 | 3.8 | 7.9 | 4.9 | 1.5 | 1.1 | 0.54 | 1.0 | 2.2 |
| 19 | 1.1 | 1.3 | 1.3 | 8.0 | 3.6 | 6.5 | 4.1 | 1.5 | 1.2 | 0.81 | 0.87 | 2.2 |
| 20 | 7.6 | 1.2 | 1.2 | 4.6 | 3.3 | 5.5 | 3.5 | 1.4 | 1.2 | 0.69 | 0.78 | 2.1 |
| 21 | 7.0 | 1.1 | 1.1 | 4.0 | 3.4 | 6.0 | 3.1 | 1.3 | 1.1 | 0.54 | 0.71 | 1.9 |
| 22 | 2.3 | 1.2 | 1.0 | 2.8 | 3.5 | 6.6 | 2.7 | 1.3 | 0.98 | 0.49 | 0.66 | 3.4 |
| 23 | 1.6 | 1.2 | 0.97 | 2.1 | 3.3 | 6.1 | 2.9 | 1.3 | 0.91 | 0.49 | 0.60 | 4.7 |
| 24 | 1.4 | 1.2 | 0.91 | 1.6 | 3.3 | 11 | 2.8 | 1.3 | 0.82 | 3.2 | 0.57 | 7.3 |
| 25 | 1.3 | 1.1 | 0.89 | 1.7 | 4.1 | 7.9 | 2.5 | 1.2 | 0.80 | 7.2 | 0.61 | 5.2 |
| 26 | 1.2 | 1.2 | 1.0 | 22 | 4.5 | 6.5 | 2.3 | 1.1 | 0.74 | 1.9 | 0.68 | 4.2 |
| 27 | 1.2 | 1.2 | 0.97 | 44 | 4.2 | 6.4 | 2.1 | 1.0 | 2.8 | 1.2 | 134 | 3.6 |
| 28 | 4.2 | 1.1 | 0.89 | 16 | 4.7 | 6.6 | 2.2 | 0.97 | 1.8 | 0.93 | 297 | 3.2 |
| 29 | 2.4 | 1.1 | 0.94 | 12 | --- | 5.8 | 2.4 | 0.95 | 1.3 | 0.83 | 42 | 2.9 |
| 30 | 1.6 | 1.1 | 1.00 | 8.9 | --- | 5.2 | 2.2 | 0.91 | 0.95 | 0.73 | 16 | 2.7 |
| 31 | 1.4 | --- | 1.1 | 7.2 | --- | 5.5 | --- | 0.88 | --- | 0.65 | 8.7 | --- |
| Total | 64.41 | 36.8 | 37.47 | 189.6 | 146.2 | 320.6 | 122.7 | 46.81 | 90.64 | 35.90 | 537.19 | 90.9 |
| Mean | 2.08 | 1.23 | 1.21 | 6.12 | 5.22 | 10.3 | 4.09 | 1.51 | 3.02 | 1.16 | 17.3 | 3.03 |
| Max | 7.6 | 2.2 | 2.1 | 44 | 14 | 82 | 8.1 | 2.4 | 39 | 7.2 | 297 | 7.3 |
| Min | 0.93 | 1.0 | 0.89 | 1.1 | 3.3 | 4.5 | 2.1 | 0.88 | 0.63 | 0.49 | 0.38 | 1.5 |
| Cfsm | 0.33 | 0.19 | 0.19 | 0.96 | 0.82 | 1.62 | 0.64 | 0.24 | 0.47 | 0.18 | 2.72 | 0.47 |
| In. | 0.38 | 0.21 | 0.22 | 1.11 | 0.85 | 1.87 | 0.72 | 0.27 | 0.53 | 0.21 | 3.13 | 0.53 |

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 | 4.52 | 13.2 | 14.6 | 9.50 | 14.0 | 13.2 | 12.0 | 6.43 | 3.93 | 2.75 | 4.73 | 4.92 |
| Max | 15.0 | 45.5 | 47.0 | 26.9 | 51.8 | 32.5 | 26.9 | 20.1 | 9.69 | 8.78 | 19.7 | 26.6 |
| (WY) | (2010) | (2010) | (2010) | (2010) | (2010) | (2010) | (2003) | (2003) | (2003) | (2005) | (2004) | (2003) |
| Min | 0.54 | 0.44 | 0.53 | 1.20 | 1.41 | 2.03 | 1.51 | 1.09 | 0.38 | 0.28 | 0.18 | 0.40 |
| (WY) | (2009) | (2002) | (2002) | (2002) | (2002) | (2006) | (2006) | (2006) | (2006) | (2002) | (2002) | (2007) |

0148471320 BIRCH BRANCH AT SHOWELL, MD—Continued**SUMMARY STATISTICS**

| | Calendar Year 2010 | | Water Year 2011 | | Water Years 2000 - 2011 | |
|---------------------------------|---------------------------|--------------------|------------------------|--------------------------|--------------------------------|---------------------------|
| Annual total | 3,849.43 | | 1,719.22 | | | |
| Annual mean | 10.5 | | 4.71 | | 8.60 | |
| Highest annual mean | | | | | 19.2 | 2010 |
| Lowest annual mean | | | | | 1.84 | 2002 |
| Highest daily mean | 285 | Feb 23 | 297 | Aug 28 | 428 | Nov 12, 2009 |
| Lowest daily mean | 0.39 | Aug 7 ^a | 0.38 | Aug 12 | 0.14 | Aug 22, 2002 ^b |
| Annual seven-day minimum | 0.39 | Aug 5 | 0.46 | Aug 7 | 0.15 | Aug 19, 2002 |
| Maximum peak flow | | | 729 | Aug 28 | c944 | Nov 12, 2009 |
| Maximum peak stage | | | | 9.07 Aug 28 | 9.50 | Nov 12, 2009 |
| Instantaneous low flow | | | | 0.37 Aug 12 ^d | 0.14 | Aug 22, 2002 ^f |
| Annual runoff (cfsm) | 1.65 | | 0.738 | | | 1.35 |
| Annual runoff (inches) | 22.44 | | 10.02 | | | 18.32 |
| 10 percent exceeds | 30 | | 7.3 | | | 16 |
| 50 percent exceeds | 1.5 | | 1.6 | | | 3.4 |
| 90 percent exceeds | 0.48 | | 0.73 | | | 0.50 |

^a Aug. 7-11.^b Aug. 22, 23, 2002.^c From rating curve extended above 430 ft³/s.^d Aug. 12, 13.^f Aug. 22-24, 2002.