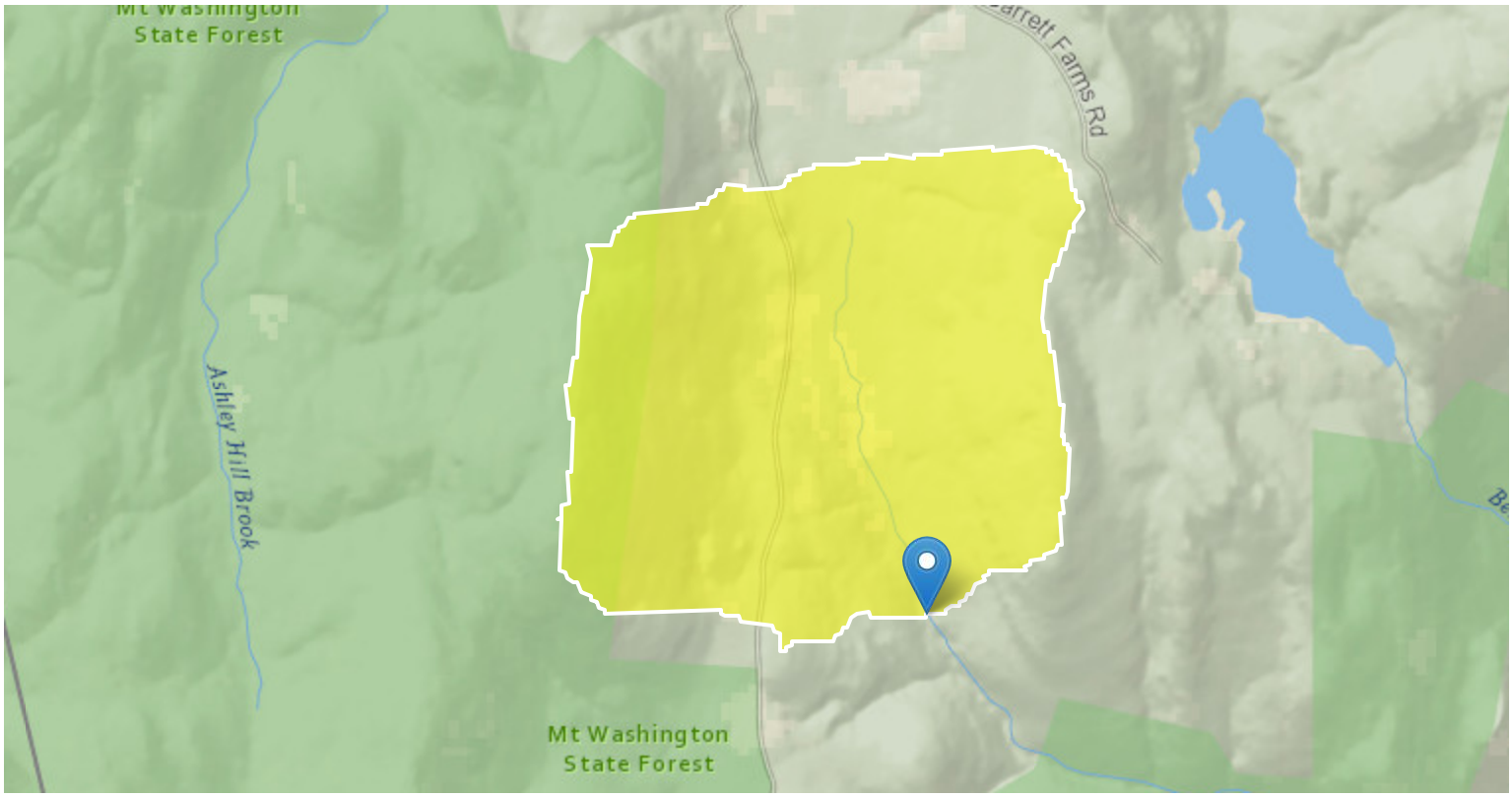
# StreamStats Report

**Region ID:** MA
**Workspace ID:** MA20200518150849008000
**Clicked Point (Latitude, Longitude):** 42.05828, -73.45931
**Time:** 2020-05-18 11:09:04 -0400




Basin Characteristics

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| DRNAREA | Area that drains to a point on a stream | 1.05 | square miles |
| BSLDEM250 | Mean basin slope computed from 1:250K DEM | 14.078 | percent |
| DRFTPERSTR | Area of stratified drift per unit of stream length | 0.04 | square mile per mile |
| MAREGION | Region of Massachusetts 0 for Eastern 1 for Western | 1 | dimensionless |
| ELEV | Mean Basin Elevation | 1840 | feet |
| LC06STOR | Percentage of water bodies and wetlands determined from the NLCD 2006 | 7.64 | percent |
| PCTSNDGRV | Percentage of land surface underlain by sand and gravel deposits | 2.89 | percent |
| FOREST | Percentage of area covered by forest | 80.85 | percent |

| Parameter Code | Parameter Description | Value | Unit |
|---|---|---|---|
| BSLDEM10M | Mean basin slope computed from 10 m DEM | 17.475 | percent |
| ACRSDFT | Area underlain by stratified drift | 0.0308 | square miles |
| CENTROIDX | Basin centroid horizontal (x) location in state plane coordinates | 37483.8 | meters |
| CENTROIDY | Basin centroid vertical (y) location in state plane units | 870206.1 | meters |
| CRSDFT | Percentage of area of coarse-grained stratified drift | 2.89 | percent |
| LAKEAREA | Percentage of Lakes and Ponds | 0.13 | percent |
| LC11DEV | Percentage of developed (urban) land from NLCD 2011 classes 21-24 | 1.79 | percent |
| LC11IMP | Average percentage of impervious area determined from NLCD 2011 impervious dataset | 0.0458 | percent |
| MAXTEMPC | Mean annual maximum air temperature over basin area, in degrees Centigrade | 11.7 | feet per mi |
| OUTLETX | Basin outlet horizontal (x) location in state plane coordinates | 37835 | feet |
| OUTLETY | Basin outlet vertical (y) location in state plane coordinates | 869405 | feet |
| PRECPRIS00 | Basin average mean annual precipitation for 1971 to 2000 from PRISM | 54.3 | inches |
| STRMTOT | total length of all mapped streams (1:24,000-scale) in the basin | 0.77 | miles |
| WETLAND | Percentage of Wetlands | 5.72 | percent |

Low-Flow Statistics Parameters[Statewide Low Flow WRIR00 4135]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 1.05 | square miles | 1.61 | 149 |
| BSLDEM250 | Mean Basin Slope from 250K DEM | 14.078 | percent | 0.32 | 24.6 |
| DRFTPERSTR | Stratified Drift per Stream Length | 0.04 | square mile per mile | 0 | 1.29 |
| MAREGION | Massachusetts Region | 1 | dimensionless | 0 | 1 |

Low-Flow Statistics Disclaimers[Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report[Statewide Low Flow WRIR00 4135]

| Statistic | Value | Unit |
|---|---|---|
| 7 Day 2 Year Low Flow | 0.11 | ft^3/s |
| 7 Day 10 Year Low Flow | 0.059 | ft^3/s |

*Low-Flow Statistics Citations*

**Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)**

Peak-Flow Statistics Parameters[Peak Statewide 2016 5156]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 1.05 | square miles | 0.16 | 512 |
| ELEV | Mean Basin Elevation | 1840 | feet | 80.6 | 1948 |
| LC06STOR | Percent Storage from NLCD2006 | 7.64 | percent | 0 | 32.3 |

Peak-Flow Statistics Flow Report[Peak Statewide 2016 5156]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

| Statistic | Value | Unit | PII | PIu | SEp |
|---|---|---|---|---|---|
| 2 Year Peak Flood | 77.9 | ft^3/s | 35.4 | 172 | 42.3 |
| 5 Year Peak Flood | 138 | ft^3/s | 61.6 | 311 | 43.4 |
| 10 Year Peak Flood | 191 | ft^3/s | 82.7 | 443 | 44.7 |
| 25 Year Peak Flood | 274 | ft^3/s | 113 | 662 | 47.1 |
| 50 Year Peak Flood | 345 | ft^3/s | 137 | 870 | 49.4 |
| 100 Year Peak Flood | 425 | ft^3/s | 162 | 1110 | 51.8 |
| 200 Year Peak Flood | 514 | ft^3/s | 189 | 1400 | 54.1 |
| 500 Year Peak Flood | 648 | ft^3/s | 224 | 1870 | 57.6 |

*Peak-Flow Statistics Citations*

**Zarriello, P.J.,2017, Magnitude of flood flows at selected annual exceedance probabilities for streams in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2016–5156, 99 p. (https://dx.doi.org/10.3133/sir20165156)**

August Flow-Duration Statistics Parameters[Statewide Low Flow WRIR00 4135]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 1.05 | square miles | 1.61 | 149 |
| BSLDEM250 | Mean Basin Slope from 250K DEM | 14.078 | percent | 0.32 | 24.6 |
| DRFTPERSTR | Stratified Drift per Stream Length | 0.04 | square mile per mile | 0 | 1.29 |
| MAREGION | Massachusetts Region | 1 | dimensionless | 0 | 1 |

August Flow-Duration Statistics Disclaimers[Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

August Flow-Duration Statistics Flow Report[Statewide Low Flow WRIR00 4135]

| Statistic | Value | Unit |
|---|---|---|
| August 50 Percent Duration | 0.252 | ft^3/s |

*August Flow-Duration Statistics Citations*

**Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)**

Flow-Duration Statistics Parameters[Statewide Low Flow WRIR00 4135]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 1.05 | square miles | 1.61 | 149 |
| DRFTPERSTR | Stratified Drift per Stream Length | 0.04 | square mile per mile | 0 | 1.29 |
| MAREGION | Massachusetts Region | 1 | dimensionless | 0 | 1 |
| BSLDEM250 | Mean Basin Slope from 250K DEM | 14.078 | percent | 0.32 | 24.6 |

Flow-Duration Statistics Disclaimers[Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Flow-Duration Statistics Flow Report[Statewide Low Flow WRIR00 4135]

| Statistic | Value | Unit |
|---|---|---|

| Statistic | Value | Unit |
|---|---|---|
| 50 Percent Duration | 1 | ft^3/s |
| 60 Percent Duration | 0.631 | ft^3/s |
| 70 Percent Duration | 0.419 | ft^3/s |
| 75 Percent Duration | 0.33 | ft^3/s |
| 80 Percent Duration | 0.316 | ft^3/s |
| 85 Percent Duration | 0.251 | ft^3/s |
| 90 Percent Duration | 0.206 | ft^3/s |
| 95 Percent Duration | 0.131 | ft^3/s |
| 98 Percent Duration | 0.0849 | ft^3/s |
| 99 Percent Duration | 0.0613 | ft^3/s |

*Flow-Duration Statistics Citations*

**Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)**

Probability Statistics Parameters[Perennial Flow Probability]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 1.05 | square miles | 0.01 | 1.99 |
| PCTSNDGRV | Percent Underlain By Sand And Gravel | 2.89 | percent | 0 | 100 |
| FOREST | Percent Forest | 80.85 | percent | 0 | 100 |
| MAREGION | Massachusetts Region | 1 | dimensionless | 0 | 1 |

Probability Statistics Flow Report[Perennial Flow Probability]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

| Statistic | Value | Unit | PC |
|---|---|---|---|
| Probability Stream Flowing Perennially | 0.853 | dim | 71 |

*Probability Statistics Citations*

**Bent, G.C., and Steeves, P.A.,2006, A revised logistic regression equation and an automated procedure for mapping the probability of a stream flowing perennially in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2006–5031, 107 p. (http://pubs.usgs.gov/sir/2006/5031/pdfs/SIR_2006-5031rev.pdf)**

Bankfull Statistics Parameters[Bankfull Statewide SIR2013 5155]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|---|---|---|---|---|---|
| DRNAREA | Drainage Area | 1.05 | square miles | 0.6 | 329 |
| BSLDEM10M | Mean Basin Slope from 10m DEM | 17.475 | percent | 2.2 | 23.9 |

Bankfull Statistics Flow Report[Bankfull Statewide SIR2013 5155]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

| Statistic | Value | Unit | SEp |
|---|---|---|---|
| Bankfull Width | 17.9 | ft | 21.3 |
| Bankfull Depth | 1.09 | ft | 19.8 |
| Bankfull Area | 19.3 | ft^2 | 29 |
| Bankfull Streamflow | 76.6 | ft^3/s | 55 |

*Bankfull Statistics Citations*

**Bent, G.C., and Waite, A.M.,2013, Equations for estimating bankfull channel geometry and discharge for streams in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2013–5155, 62 p., (http://pubs.usgs.gov/sir/2013/5155/)**



Application Version: 4.3.11