MaineDOT Culvert Hydrology Summary Sheet

| Town: | Brooklin | | | WIN (or Region) | : 23531.00 (was 20516.00) | |
|---|---|--------------------------|----------------|------------------------|---------------------------|--|
| Route: | 175 | Local R | oad Name: | n.a. | | |
| Stream: | Watson Brook | | | | | |
| Lat: | 44.27703 | Long: | -68.5547 | | | |
| Asset ID: | LC-46688 | Also | Known As: | n.a. | | |
| Existing St | ructure: | 60 inch CMP; hung at | outlet; outle | t backwatered by high | er high tides | |
| | | | | | | |
| Wbf - calcu | ulated: | 10.2 feet | Wbf - mea | sured (if known): | 8 to 9 <i>feet</i> | |
| Q50: Q100: | 160 185 | cfs cfs | | | | |
| Preliminar | y Pipe Size*: | | | | | |
| used 8 ft s | pan (min) by 7 | ft rise (above prelim de | esign profile) |) in pre-design assess | ment | |
| * Note: this size may NOT meet fish passage regulatory requirements. Consult with ENV staff for guidance. | | | | | | |
| Comments: | | | | | | |
| Latest worl | Latest worksheet used to generate Daily flow freq distribution. | | | | | |
| | | | | | | |

By: MRL
Date: 2/16/2021
Revised:

ver: 12/7/2016

| WIN: | 23531.00 (was 20516.00) | Project Name: | culvert replacement |
|-----------|--------------------------|---------------|---------------------|
| Town: | Brooklin | Stream Name: | Watson Brook |
| Route No. | 175 | Bridge Name: | n.a. |
| Asset ID: | LC-46688 | Analysis by: | MRL |
| Lat: | 44.27703 Long: -68.55473 | Date: | 2/16/2021 |

Peak Flow Calculations by USGS Regression Equations (Lombard/Hodgkins, 2021; Hodgkins, 1999 & Lombard/Hodgkins, 2015)

| | Enter data in blue cells only! | | | | | |
|--------|--------------------------------|---------|-------|--|--|--|
| | km ² | ac | | | | |
| Α | 2.39 | 0.923 | 590.5 | | | |
| W | 0.21 | 0.081 | 51.7 | | | |
| | | | | | | |
| Pc | 534899 | 4903735 | | | | |
| County | Hancock | | | | | |

Enter data in [mi²] Watershed Area *DRNAREA* Wetlands area (by NWI)

watershed centroid (E, N; UTM 19N; meters) choose county from drop-down menu

Watershed Characteristics from StreamStats

| STORNWI | 8.76 | NWI Wetlands % |
|-----------|-------|--|
| SANDGRAVF | 0.00 | sand & gravel aquifer as decimal fraction of watershed A |
| ELEV | 104.5 | mean basin elevation (ft) |
| BSLDEM10M | 3.16 | mean basin slope (%) |
| COASTDIST | 29.00 | distance from the coast (mi) |
| ELEVMAX | 194.2 | maximum basin elevation (ft) |
| LC06WATER | 0 | percent of drainage basin land cover as open water |
| PRECIP | 47.6 | mean annual precipitation |
| STATSGOA | 11 | mean basin percentage of hydrological soil group A |

ver. 2021 Jan 01

Worksheet prepared by: Charles S. Hebson, PE Environmental Office Maine Dept. Transportation Augusta, ME 04333-0016 207-557-1052 Charles.Hebson@maine.gov

References:

Hodgkins, G.A., 1999.Estimating the magnitude of peak flows for streams in Maine for Selected Recurrence IntervalsWRIR 99-4008, USGS Augusta, ME

Lombard, P.J. & G.A. Hodgkins, 2015. Peak flow regression equations for small, ungaged streams: in Maine: Comparing Map-Based to Field-Based Variables *SIR 2015-4059*, USGS, Augusta, ME

Lombard, P.J. & G.A. Hodgkins, 2021. Estimating Flood Magnitude and Frequency on Gaged and Ungaged Streams in Maine *SIR 2021-xxxx, USGS, Augusta, ME.*

| Ret Pd | 124 | Q _⊤ (ft³/s) | | | |
|--------|------|------------------------|------|--|--|
| T (yr) | | 1999 / 2015 | 2021 | | |
| 1.1 | | | 22 | | |
| 2 | 2.91 | 44 | 48 | | |
| 5 | 3.66 | 70 | 78 | | |
| 10 | 4.27 | 87 | 101 | | |
| 25 | 5.12 | 114 | 133 | | |
| 50 | 5.76 | 133 | 160 | | |
| 100 | 6.43 | 156 | 187 | | |
| 200 | 7.19 | 178 | 217 | | |
| 500 | 8.30 | 209 | 259 | | |

| Q _T (ft³/s) |
|------------------------|
| Design |
| 20 |
| 50 |
| 80 |
| 100 |
| 135 |
| 160 |
| 185 |
| 215 |
| 260 |

Instructions:

Enter values in blue cells only, watershed data from StreamStats Generate "I24" table from NOAA Atlas 14, copy CSV file into I24 page Use results under "Design" Check against gage data and FEMA studies if available Questions? Check with ENV / Hydrology Section



| WIN: | 23531.00 (was 20516.00) | Project Name: | culvert replacement |
|-----------|--------------------------|---------------|---------------------|
| Town: | Brooklin | Stream Name: | Watson Brook |
| Route No. | 175 | Bridge Name: | n.a. |
| Asset ID: | LC-46688 | Analysis by: | MRL |
| Lat: | 44.27703 Long: -68.55473 | Date: | 2/16/2021 |

DO NOT ENTER ANY DATA ON THIS PAGE; EVERYTHING IS CALCULATED

MAINE MONTHLY MEDIAN FLOWS and HYDRAULIC GEOMETRY BY USGS REGRESSION EQUATIONS (2004, 2013, 2015)

| | | Value | Variable | Explanation |
|---|--------|---------|----------------|--|
| - | | 0.92 | А | Area (mi ²) |
| | 534899 | 4903735 | P _c | Watershed centroid (E,N; UTM; Zone 19; meters) |
| | | 28.88 | DIST | Distance from Coastal reference line (mi) |
| | | 47.6 | pptA | Mean Annual Precipitation (inches) |
| | | 0.00 | SG | Sand & Gravel Aquifer (decimal fraction of watershed area) |



| W_{bf} | 10.2 | estimated bankfull width (ft) |
|----------|------|---|
| d_{bf} | 0.6 | estimated bankfull depth (ft) |
| A_{bf} | 4.2 | estimated bankfull flow area (ft ²) |

Dudley, 2013. FY2013 Progress Report - Phase 1 ..., USFWS QRP Project Dudley, 2004. Estimating Monthly Streamflows ... , SIR 2004-5026 Dudley, 2015. Regression Equations for Monthly & Annual Mean..., USGS SIR 2015-5151



Brooklin WIN 23531.00 - Route 175 Culvert

Replacement -- StreamStats Report

 Region ID:
 ME

 Workspace ID:
 ME20210217181410037000

 Clicked Point (Latitude, Longitude):
 44.27702, -68.55462

 Time:
 2021-02-17 13:14:29 -0500



for revised H/H worksheet M. Lickus 2/17/2021

Basin Characteristics

| Code | Parameter Description | Value | Unit |
|---------|---|-------|--------------|
| DRNAREA | Area that drains to a point on a stream | 1 | square miles |
| STORNWI | Percentage of strorage (combined water bodies and wetlands) from the Nationa Wetlands Inventory | 10.15 | percent |

| Parameter | | | |
|------------|--|------------|---------------|
| Code | Parameter Description | Value | Unit |
| SANDGRAVAF | Fraction of land surface underlain by sand and gravel aquifers | 0 | dimensionless |
| ELEV | Mean Basin Elevation | 104.5 | feet |
| STATSGOA | Percentage of area of Hydrologic Soil Type A from STATSGO | 11 | percent |
| COASTDIST | Shortest distance from the coastline to the basin centroid | 29 | miles |
| BSLDEM10M | Mean basin slope computed from 10 m DEM | 3.16 | percent |
| LC06WATER | Percent of open water, class 11, from NLCD 2006 | 0 | percent |
| ELEVMAX | Maximum basin elevation | 194.2 | feet |
| CENTROIDX | Basin centroid horizontal (x) location in state plane coordinates | 534731.8 | meters |
| CENTROIDY | Basin centroid vertical (y) location in state plane units | 4903802.89 | meters |
| LC11DEV | Percentage of developed (urban) land from NLCD 2011 classes 21-24 | 6.33 | percent |
| LC11IMP | Average percentage of impervious area determined from NLCD 2011 impervious dataset | 1.44 | percent |
| PRDECFEB90 | Basin average mean precipitation for December to February from PRISM 1961-1990 | 12.6 | inches |
| PRECIP | Mean Annual Precipitation | 47.6 | inches |
| SANDGRAVAP | Percentage of land surface underlain by sand and gravel aquifers | 0 | percent |

Peak-Flow Statistics Parameters[Statewide Peak Flow DA LT 12sqmi 2015 5049]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|-------------------|-----------------------------------|-------|-----------------|--------------|--------------|
| DRNAREA | Drainage Area | 1 | square miles | 0.31 | 12 |
| STORNWI | Percentage of Storage from NWI | 10.15 | percent | 0 | 22.2 |

Peak-Flow Statistics Flow Report [Statewide Peak Flow DA LT 12sqmi 2015 5049]

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

| Statistic | Value | Unit | SEp |
|-----------------------|-------|--------|-----|
| 1.01 Year Peak Flood | 13.9 | ft^3/s | 38 |
| 50_percent_AEP_flood | 45.1 | ft^3/s | 34 |
| 20_percent_AEP_flood | 70.6 | ft^3/s | 35 |
| 10_percent_AEP_flood | 88.4 | ft^3/s | 37 |
| 4_percent_AEP_flood | 115 | ft^3/s | 39 |
| 2_percent_AEP_flood | 134 | ft^3/s | 41 |
| 1_percent_AEP_flood | 157 | ft^3/s | 42 |
| 250 Year Peak Flood | 177 | ft^3/s | 44 |
| 0_2_percent_AEP_flood | 210 | ft^3/s | 47 |

Peak-Flow Statistics Citations

Lombard, P.J., and Hodgkins, G.A.,2015, Peak flow regression equations for small, ungaged streams in Maine- Comparing map-based to field-based variables: U.S. Geological Survey Scientific Investigations Report 2015-5049, 12 p. (http://dx.doi.org/10.3133/sir20155049)

| Flow-Duration Statistics Parameters[Statewide Annual SIR 2015 5151] | | | | | | |
|---|--|-------|---------------|--------------|--------------|--|
| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit | |
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 | |
| SANDGRAVAF | Fraction of Sand and Gravel Aquifers | 0 | dimensionless | 0 | 0.212 | |
| ELEV | Mean Basin Elevation | 104.5 | feet | 239 | 2120 | |
| Flow-Duration Stat | istics Disclaimers[Statewide Annual SIR 2015 5151] | | | | | |
| One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors | | | | | | |
| Flow-Duration Statistics Flow Report[Statewide Annual SIR 2015 5151] | | | | | | |
| Statistic | | Value | • | Unit | | |
| | | | | | | |

| Statistic | Value | Unit |
|---------------------|---------|--------|
| 1 Percent Duration | 0.00101 | ft^3/s |
| 5 Percent Duration | 0.00896 | ft^3/s |
| 10 Percent Duration | 0.0307 | ft^3/s |
| 25 Percent Duration | 0.217 | ft^3/s |
| 50 Percent Duration | 0.878 | ft^3/s |
| 75 Percent Duration | 2.36 | ft^3/s |
| 90 Percent Duration | 5.45 | ft^3/s |
| 95 Percent Duration | 8.73 | ft^3/s |
| 99 Percent Duration | 24 | ft^3/s |

Flow-Duration Statistics Citations

Dudley, R.W.,2015, Regression equations for monthly and annual mean and selected percentile streamflows for ungaged rivers in Maine: U.S. Geological Survey Scientific Investigations Report 2015-5151, 35 p. (http://dx.doi.org/10.3133/sir20155151)

| Monthly Flow Statistics Parameters [Statewide January SIR 2015 5151] | | | | | | | | |
|--|---|------------------|--|--|-----------------------------|--|--|--|
| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit | | | |
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 | | | |
| STATSGOA | STATSGO Percent Hydrologic Soil Type A | 11 | percent | 0 | 31.5 | | | |
| Monthly Flow Statistics Parameters[Statewide February SIR 2015 5151] | | | | | | | | |
| Monthly Flow Stat | tistics Parameters[Statewide February SIR 2015 5151] | | | | | | | |
| Monthly Flow Stat Parameter Code | tistics Parameters[Statewide February SIR 2015 5151] Parameter Name | Value | Units | Min Limit | Max Limit | | | |
| Monthly Flow Stat Parameter Code DRNAREA | tistics Parameters[Statewide February SIR 2015 5151] Parameter Name Drainage Area | Value 1 | Units square miles | Min Limit 14.9 | Max Limit 1419 | | | |
| Monthly Flow Stat Parameter Code DRNAREA COASTDIST | tistics Parameters[Statewide February SIR 2015 5151] Parameter Name Drainage Area Distance From Coast To Basin Centroid | Value 1 29 | Units square miles miles | Min Limit 14.9 46.6 | Max Limit 1419 193 | | | |

Monthly Flow Statistics Parameters [Statewide March SIR 2015 5151]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|-------------------|--|-------|-----------------|--------------|--------------|
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| COASTDIST | Distance From Coast To Basin Centroid | 29 | miles | 46.6 | 193 |
| LC06WATER | Percent_Water_from_NLCD2006 | 0 | percent | 0 | 6.2 |

Monthly Flow Statistics Parameters[Statewide April SIR 2015 5151]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|-------------------|--|-------|-----------------|--------------|--------------|
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| COASTDIST | Distance From Coast To Basin Centroid | 29 | miles | 46.6 | 193 |
| LC06WATER | Percent_Water_from_NLCD2006 | 0 | percent | 0 | 6.2 |

Monthly Flow Statistics Parameters[Statewide May SIR 2015 5151]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|-------------------|----------------------------------|-------|-----------------|--------------|--------------|
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| BSLDEM10M | Mean Basin Slope from 10m DEM | 3.16 | percent | 1.5 | 26.6 |
| LC06WATER | Percent_Water_from_NLCD2006 | 0 | percent | 0 | 6.2 |

Monthly Flow Statistics Parameters[Statewide June SIR 2015 5151]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|-------------------|----------------------------------|-------|-----------------|--------------|--------------|
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| BSLDEM10M | Mean Basin Slope from 10m DEM | 3.16 | percent | 1.5 | 26.6 |
| LC06WATER | Percent_Water_from_NLCD2006 | 0 | percent | 0 | 6.2 |

Monthly Flow Statistics Parameters[Statewide July SIR 2015 5151]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|-------------------|---|-------|---------------|--------------|--------------|
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| SANDGRAVAF | Fraction of Sand and Gravel Aquifers | 0 | dimensionless | 0 | 0.212 |
| ELEV | Mean Basin Elevation | 104.5 | feet | 239 | 2120 |

Monthly Flow Statistics Parameters[Statewide August SIR 2015 5151]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|-------------------|---|-------|---------------|--------------|--------------|
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| SANDGRAVAF | Fraction of Sand and Gravel Aquifers | 0 | dimensionless | 0 | 0.212 |
| ELEV | Mean Basin Elevation | 104.5 | feet | 239 | 2120 |

Monthly Flow Statistics Parameters[Statewide September SIR 2015 5151]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|-------------------|---|-------|---------------|--------------|--------------|
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| SANDGRAVAF | Fraction of Sand and Gravel Aquifers | 0 | dimensionless | 0 | 0.212 |
| ELEV | Mean Basin Elevation | 104.5 | feet | 239 | 2120 |

Monthly Flow Statistics Parameters[Statewide October SIR 2015 5151]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|-------------------|---|-------|---------------|--------------|--------------|
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| SANDGRAVAF | Fraction of Sand and Gravel Aquifers | 0 | dimensionless | 0 | 0.212 |
| ELEV | Mean Basin Elevation | 104.5 | feet | 239 | 2120 |

Monthly Flow Statistics Parameters[Statewide November SIR 2015 5151]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|----------------|-------------------------|-------|--------------|-----------|-----------|
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| ELEVMAX | Maximum Basin Elevation | 194.2 | feet | 633 | 6290 |

Monthly Flow Statistics Parameters [Statewide December SIR 2015 5151]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|-------------------|---|-------|-----------------|--------------|--------------|
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| STATSGOA | STATSGO Percent Hydrologic Soil Type A | 11 | percent | 0 | 31.5 |

Monthly Flow Statistics Disclaimers[Statewide January SIR 2015 5151]

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

Monthly Flow Statistics Flow Report[Statewide January SIR 2015 5151]

| Statistic | Value | Unit |
|-------------------|-------|--------|
| January Mean Flow | 2.7 | ft^3/s |

Monthly Flow Statistics Disclaimers[Statewide February SIR 2015 5151]

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

Monthly Flow Statistics Flow Report[Statewide February SIR 2015 5151]

| Statistic | Value | Unit |
|--------------------|-------|--------|
| February Mean Flow | 2.39 | ft^3/s |

Monthly Flow Statistics Disclaimers[Statewide March SIR 2015 5151]

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

Monthly Flow Statistics Flow Report[Statewide March SIR 2015 5151]

| Statistic | Value | Unit |
|-----------------|-------|--------|
| March Mean Flow | 9.56 | ft^3/s |

Monthly Flow Statistics Disclaimers[Statewide April SIR 2015 5151]

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

| Ctatiatia | Mal | 11 !# |
|---|--|--|
| Statistic | Value | Unit |
| April Mean Flow | 6.1 | ft^3/s |
| Monthly Flow Statistics Disclaimers[Statewide May SIR 2015 | 5 51 51] | |
| One or more of the parameters is outside the s unknown errors | uggested range. Estimates | s were extrapolated with |
| Monthly Flow Statistics Flow Report[Statewide May SIR 201 | 5 5151] | |
| Statistic | Value | Unit |
| May Mean Flow | 1.21 | ft^3/s |
| Monthly Flow Statistics Disclaimers[Statewide June SIR 201 | 5 5151] | |
| One or more of the parameters is outside the s unknown errors | uggested range. Estimates | s were extrapolated with |
| Monthly Flow Statistics Flow Report[Statewide June SIR 201 | 15 5151] | |
| Statistic | Value | Unit |
| June Mean Flow | 1.52 | ft^3/s |
| Monthly Flow Statistics Disclaimers Statewide July SIR 2015 | 5 5151] | |
| • | | |
| One or more of the parameters is outside the s unknown errors | uggested range. Estimates | s were extrapolated with |
| One or more of the parameters is outside the s unknown errors Monthly Flow Statistics Flow Report[Statewide July SIR 2018 | uggested range. Estimates | s were extrapolated with |
| One or more of the parameters is outside the s unknown errors Monthly Flow Statistics Flow Report[Statewide July SIR 2019 Statistic | uggested range. Estimates 55151] Value | s were extrapolated with Unit |
| One or more of the parameters is outside the s unknown errors Monthly Flow Statistics Flow Report[Statewide July SIR 2018 Statistic July Mean Flow | uggested range. Estimates 55151] Value 0.448 | s were extrapolated with Unit ft^3/s |
| One or more of the parameters is outside the s unknown errors Monthly Flow Statistics Flow Report[Statewide July SIR 201: Statistic July Mean Flow Monthly Flow Statistics Disclaimers[Statewide August SIR 20 | uggested range. Estimates 55151] Value 0.448 | s were extrapolated with Unit ft^3/s |
| One or more of the parameters is outside the s unknown errors Monthly Flow Statistics Flow Report[Statewide July SIR 201: Statistic July Mean Flow Monthly Flow Statistics Disclaimers[Statewide August SIR 20 One or more of the parameters is outside the s unknown errors | uggested range. Estimates 55151] Value 0.448 0155151] uggested range. Estimates | s were extrapolated wit Unit ft^3/s |

| | StreamStats | |
|---|----------------------------------|---------------------|
| Statistic | Value | Unit |
| August Mean Flow | 0.219 | ft^3/s |
| Monthly Flow Statistics Disclaimers[Statewide Septemb | er SIR 2015 5151] | |
| One or more of the parameters is outside the unknown errors | e suggested range. Estimates wer | e extrapolated with |
| Monthly Flow Statistics Flow Report[Statewide Septemb | per SIR 2015 5151] | |
| Statistic | Value | Unit |
| September Mean Flow | 0.294 | ft^3/s |
| Monthly Flow Statistics Disclaimers[Statewide October S | SIR 2015 5151] | |
| One or more of the parameters is outside the unknown errors | e suggested range. Estimates wer | e extrapolated with |
| Monthly Flow Statistics Flow Report[Statewide October | SIR 2015 5151] | |
| Statistic | Value | Unit |
| October Mean Flow | 1.99 | ft^3/s |
| Monthly Flow Statistics Disclaimers[Statewide November | er SIR 2015 5151] | |
| One or more of the parameters is outside the unknown errors | e suggested range. Estimates wer | e extrapolated with |
| Monthly Flow Statistics Flow Report[Statewide Novemb | er SIR 2015 5151] | |
| Statistic | Value | Unit |
| November Mean Flow | 3.54 | ft^3/s |
| Monthly Flow Statistics Disclaimers[Statewide December | er SIR 2015 5151] | |
| One or more of the parameters is outside the unknown errors | e suggested range. Estimates wer | e extrapolated with |
| Monthly Flow Statistics Flow Report[Statewide December | er SIR 2015 5151] | |
| | | |
| Statistic | Value | Unit |

Monthly Flow Statistics Flow Report[Area-Averaged]

| Statistic | Value | Unit |
|---------------------|-------|--------|
| January Mean Flow | 2.7 | ft^3/s |
| February Mean Flow | 2.39 | ft^3/s |
| March Mean Flow | 9.56 | ft^3/s |
| April Mean Flow | 6.1 | ft^3/s |
| May Mean Flow | 1.21 | ft^3/s |
| June Mean Flow | 1.52 | ft^3/s |
| July Mean Flow | 0.448 | ft^3/s |
| August Mean Flow | 0.219 | ft^3/s |
| September Mean Flow | 0.294 | ft^3/s |
| October Mean Flow | 1.99 | ft^3/s |
| November Mean Flow | 3.54 | ft^3/s |
| December Mean Flow | 3.45 | ft^3/s |

Monthly Flow Statistics Citations

Dudley, R.W.,2015, Regression equations for monthly and annual mean and selected percentile streamflows for ungaged rivers in Maine: U.S. Geological Survey Scientific Investigations Report 2015-5151, 35 p. (http://dx.doi.org/10.3133/sir20155151)

February Flow-Duration Statistics Parameters [Statewide February SIR 2015 5151]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|-------------------|--|-------|-----------------|--------------|--------------|
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| COASTDIST | Distance From Coast To Basin Centroid | 29 | miles | 46.6 | 193 |
| BSLDEM10M | Mean Basin Slope from 10m DEM | 3.16 | percent | 1.5 | 26.6 |

February Flow-Duration Statistics Disclaimers[Statewide February SIR 2015 5151]

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

February Flow-Duration Statistics Flow Report[Statewide February SIR 2015 5151]

| Statistic | Value | Unit |
|------------------------------|-------|--------|
| February 1 Percent Duration | 0.353 | ft^3/s |
| February 5 Percent Duration | 0.379 | ft^3/s |
| February 10 Percent Duration | 0.489 | ft^3/s |
| February 25 Percent Duration | 0.67 | ft^3/s |
| February 50 Percent Duration | 1.03 | ft^3/s |
| February 75 Percent Duration | 2.22 | ft^3/s |
| February 90 Percent Duration | 4.52 | ft^3/s |
| February 95 Percent Duration | 10.9 | ft^3/s |
| February 99 Percent Duration | 32.3 | ft^3/s |

February Flow-Duration Statistics Citations

Dudley, R.W.,2015, Regression equations for monthly and annual mean and selected percentile streamflows for ungaged rivers in Maine: U.S. Geological Survey Scientific Investigations Report 2015-5151, 35 p. (http://dx.doi.org/10.3133/sir20155151)

| March Flow-Duration Statistics Parameters[Statewide March SIR 2015 5151] | | | | | |
|---|--|-------|-----------------|--------------|--------------|
| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| COASTDIST | Distance From Coast To Basin Centroid | 29 | miles | 46.6 | 193 |
| LC06WATER | Percent_Water_from_NLCD2006 | 0 | percent | 0 | 6.2 |
| March Flow-Duration Statistics Disclaimers[Statewide March SIR 2015 5151] | | | | | |
| One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors | | | | | |
| March Flow-Duration Statistics Flow Report[Statewide March SIR 2015 5151] | | | | | |
| Statistic | | | Value | Unit | |
| March 1 Percer | nt Duration | | 0.599 | ft^3/ | S |

| Statistic | Value | Unit |
|---------------------------|-------|--------|
| March 5 Percent Duration | 0.803 | ft^3/s |
| March 10 Percent Duration | 1.19 | ft^3/s |
| March 25 Percent Duration | 2.22 | ft^3/s |
| March 50 Percent Duration | 5.13 | ft^3/s |
| March 75 Percent Duration | 10.9 | ft^3/s |
| March 90 Percent Duration | 22.9 | ft^3/s |
| March 95 Percent Duration | 31.6 | ft^3/s |
| March 99 Percent Duration | 71.3 | ft^3/s |

March Flow-Duration Statistics Citations

Dudley, R.W.,2015, Regression equations for monthly and annual mean and selected percentile streamflows for ungaged rivers in Maine: U.S. Geological Survey Scientific Investigations Report 2015-5151, 35 p. (http://dx.doi.org/10.3133/sir20155151)

April Flow-Duration Statistics Parameters[Statewide April SIR 2015 5151]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|-------------------|--|-------|-----------------|--------------|--------------|
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| COASTDIST | Distance From Coast To Basin Centroid | 29 | miles | 46.6 | 193 |
| LC06WATER | Percent_Water_from_NLCD2006 | 0 | percent | 0 | 6.2 |

April Flow-Duration Statistics Disclaimers[Statewide April SIR 2015 5151]

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

April Flow-Duration Statistics Flow Report[Statewide April SIR 2015 5151]

| Statistic | Value | Unit |
|---------------------------|-------|--------|
| April 1 Percent Duration | 0.915 | ft^3/s |
| April 5 Percent Duration | 1.16 | ft^3/s |
| April 10 Percent Duration | 1.47 | ft^3/s |

| Statistic | Value | Unit |
|---------------------------|-------|--------|
| April 25 Percent Duration | 2.21 | ft^3/s |
| April 50 Percent Duration | 3.05 | ft^3/s |
| April 75 Percent Duration | 6.2 | ft^3/s |
| April 90 Percent Duration | 13.6 | ft^3/s |
| April 95 Percent Duration | 22.6 | ft^3/s |
| April 99 Percent Duration | 70 | ft^3/s |

April Flow-Duration Statistics Citations

Dudley, R.W.,2015, Regression equations for monthly and annual mean and selected percentile streamflows for ungaged rivers in Maine: U.S. Geological Survey Scientific Investigations Report 2015-5151, 35 p. (http://dx.doi.org/10.3133/sir20155151)

| May Flow-Duration S | Statistics Parameters[Statewide May SIR 2015 5151] | | | | |
|-------------------------------------|---|----------|-----------------|---------------|--------------|
| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| BSLDEM10M | Mean Basin Slope from 10m DEM | 3.16 | percent | 1.5 | 26.6 |
| LC06WATER | Percent_Water_from_NLCD2006 | 0 | percent | 0 | 6.2 |
| May Flow-Duration S | Statistics Disclaimers[Statewide May SIR 2015 5151] | | | | |
| One or more of th unknown errors | ne parameters is outside the suggested | range. E | stimates were e | xtrapolated v | with |
| May Flow-Duration S | Statistics Flow Report[Statewide May SIR 2015 5151] | | | | |
| Statistic | | | Value | Unit | |
| May 1 Percent D | uration | | 0.108 | ft^3/ | S |
| May 5 Percent D | uration | | 0.186 | ft^3/ | S |
| May 10 Percent | Duration | | 0.253 | ft^3/ | S |
| May 25 Percent | Duration | | 0.421 | ft^3/ | S |
| May 50 Percent | Duration | | 0.706 | ft^3/ | S |

| Statistic | Value | Unit |
|-------------------------|-------|--------|
| May 75 Percent Duration | 1.25 | ft^3/s |
| May 90 Percent Duration | 2.41 | ft^3/s |
| May 95 Percent Duration | 4.12 | ft^3/s |
| May 99 Percent Duration | 10.4 | ft^3/s |

May Flow-Duration Statistics Citations

Dudley, R.W.,2015, Regression equations for monthly and annual mean and selected percentile streamflows for ungaged rivers in Maine: U.S. Geological Survey Scientific Investigations Report 2015-5151, 35 p. (http://dx.doi.org/10.3133/sir20155151)

June Flow-Duration Statistics Parameters[Statewide June SIR 2015 5151]

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|-------------------|----------------------------------|-------|-----------------|--------------|--------------|
| DRNAREA | Drainage Area | 1 | square miles | 14.9 | 1419 |
| BSLDEM10M | Mean Basin Slope from 10m DEM | 3.16 | percent | 1.5 | 26.6 |
| LC06WATER | Percent_Water_from_NLCD2006 | 0 | percent | 0 | 6.2 |

June Flow-Duration Statistics Disclaimers[Statewide June SIR 2015 5151]

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

June Flow-Duration Statistics Flow Report[Statewide June SIR 2015 5151]

| Statistic | Value | Unit |
|--------------------------|--------|--------|
| June 1 Percent Duration | 0.0781 | ft^3/s |
| June 5 Percent Duration | 0.106 | ft^3/s |
| June 10 Percent Duration | 0.126 | ft^3/s |
| June 25 Percent Duration | 0.214 | ft^3/s |
| June 50 Percent Duration | 0.427 | ft^3/s |
| June 75 Percent Duration | 1.21 | ft^3/s |
| June 90 Percent Duration | 3.84 | ft^3/s |

| Statistic | Value | Unit |
|--------------------------|-------|--------|
| June 95 Percent Duration | 9.14 | ft^3/s |
| June 99 Percent Duration | 35.4 | ft^3/s |

June Flow-Duration Statistics Citations

Dudley, R.W.,2015, Regression equations for monthly and annual mean and selected percentile streamflows for ungaged rivers in Maine: U.S. Geological Survey Scientific Investigations Report 2015-5151, 35 p. (http://dx.doi.org/10.3133/sir20155151)

| Parameter Code | Parameter Name | Value | Units | Min Limit | Max Limit |
|--|--------------------------------------|---------------|--------------------------------|--------------------------|-----------|
| DRNAREA | Drainage Area | 1 | square miles | 2.92 | 298 |
| Bankfull Statistics Disc | Claimers[Central and Coastal Bankful | l 2004 5042] | | | |
| One or more of the unknown errors | parameters is outside the | e suggeste | d range. Estimates | were extrapolat | ed with |
| Bankfull Statistics Flov | NReport[Central and Coastal Bankful | ll 2004 5042] | | | |
| | | | | | |
| Statistic | | | Value | Unit | t |
| Statistic Bankfull Streamflo | 0W | | Value 5.19 | Unit ft^3 | t /s |
| Statistic Bankfull Streamflo Bankfull Width | 0W | | Value 5.19 7.67 | Unit ft^3 ft | t /s |
| Statistic Bankfull Streamflo Bankfull Width Bankfull Depth |) W | | Value 5.19 7.67 0.594 | Unit ft^3 ft ft | t /s |

Dudley, R.W.,2004, Hydraulic-Geometry Relations for Rivers in Coastal and Central Maine: U.S. Geological Survey Scientific Investigations Report 2004-5042, 30 p (http://pubs.usgs.gov/sir/2004/5042/pdf/sir2004-5042.pdf)

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