# 04293000 MISSISQUOI RIVER NEAR NORTH TROY, VT

Richelieu Basin
Missisquoi Subbasin

LOCATION.--Lat 44°58′22″, long 72°23′09″ referenced to North American Datum of 1927, Orleans County, Hydrologic Unit 02010007, on right bank, 200 ft upstream from Big Falls, 1.5 mi downstream from Jay Branch, 1.8 mi southeast of Town Hall in North Troy, 2.2 mi upstream from State Highway 105 bridge in North Troy, and 8.8 mi west of State Highway 105 and US 5 intersection in Newport.

DRAINAGE AREA.--131 $mi^2$.

## SURFACE-WATER RECORDS

PERIOD OF RECORD.--Discharge records: August 1931 to current year.

REVISED RECORDS.--WSP 924: 1940. WSP 1114: 1933(M), 1936-39.

GAGE.--Water-stage recorder. Elevation of gage is 580 ft above National Geodetic Vertical Datum of 1929, from topographic map.

COOPERATION.--Vermont Department of Environmental Conservation.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional regulation at low flow caused by small power plant upstream; greater regulation prior to 1967.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,5000 $ft^3/s$, June 12, 2002, gage height, 14.55 ft; minimum, 9.4 $ft^3/s$, August 28, 1949.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,300 $ft^3/s$ and (or) maximum (*):

| Date | Time | Discharge ($ft^3/s$) | Gage height (ft) |
|---|---|---|---|
| Oct 21 | 0745 | 4,350 | 8.83 |
| Jan 6 | 1730 | 3,840 | 8.26 |
| Apr 24 | 0700 | 4,350 | 8.83 |
| May 17 | 0300 | *5,320 | *9.74 |

Minimum discharge, 35 $ft^3/s$, Sept. 5, 6, 9, gage height, 1.30 ft.

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**DISCHARGE, CUBIC FEET PER SECOND**
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**
**DAILY MEAN VALUES**
[e, estimated]

| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 217 | 696 | 1,020 | 224 | e107 | e73 | 622 | 949 | 341 | 81 | 47 | 52 |
| 2 | 289 | 470 | 2,120 | 334 | e100 | e74 | 1,130 | 617 | 292 | 74 | 42 | 44 |
| 3 | 245 | 349 | 609 | 282 | e92 | e75 | 1,350 | 469 | 224 | 76 | 131 | 40 |
| 4 | 197 | 280 | 412 | 229 | e85 | e75 | 1,060 | 385 | 176 | 68 | 130 | 38 |
| 5 | 486 | 245 | 302 | 548 | e82 | e76 | 690 | 335 | 489 | 84 | 56 | 36 |
| 6 | 242 | 231 | 242 | 2,850 | e80 | e73 | 495 | 292 | 366 | 90 | 307 | 36 |
| 7 | 168 | 214 | 276 | 1,950 | e80 | e71 | 396 | 262 | 206 | 138 | 319 | 40 |
| 8 | 136 | 232 | 212 | 1,030 | e79 | e68 | 339 | 261 | 161 | 154 | 440 | 39 |
| 9 | 117 | 361 | 202 | 962 | e78 | e68 | 307 | 269 | 129 | 323 | 285 | 36 |
| 10 | 105 | 313 | 215 | 473 | e76 | e66 | 283 | 251 | 111 | 560 | 126 | 63 |
| 11 | 97 | 246 | 219 | 255 | e74 | e69 | 274 | 238 | 102 | 269 | 90 | 59 |
| 12 | 106 | 754 | 211 | 316 | e75 | e72 | 329 | 197 | 91 | 817 | 73 | 299 |
| 13 | 157 | 614 | 212 | 431 | e81 | e78 | 304 | 159 | 81 | 296 | 86 | 125 |
| 14 | 134 | 745 | 407 | 299 | e77 | e120 | 316 | 140 | 73 | 355 | 74 | 75 |
| 15 | 112 | 1,020 | 401 | e208 | e75 | e1,110 | 426 | 143 | 68 | 208 | 66 | 152 |
| 16 | 102 | 542 | 491 | e184 | e75 | e840 | 838 | 2,110 | 63 | 175 | 86 | 309 |
| 17 | 95 | 816 | 403 | e165 | e76 | e610 | 1,220 | 3,790 | 67 | 116 | 149 | 134 |
| 18 | 898 | 569 | 306 | e162 | e77 | e470 | 1,080 | 2,550 | 109 | 93 | 93 | 92 |
| 19 | 486 | 376 | 244 | e182 | e78 | e330 | 1,500 | 465 | 75 | 101 | 94 | 73 |
| 20 | 1,640 | 302 | 205 | e167 | e79 | e260 | 1,570 | 347 | 155 | 176 | 68 | 62 |
| 21 | 3,240 | 254 | 193 | e164 | e80 | e215 | 1,850 | 309 | 118 | 204 | 58 | 57 |
| 22 | 789 | 222 | 169 | e160 | e78 | e250 | 2,000 | 244 | 338 | 120 | 52 | 52 |
| 23 | 891 | 207 | 703 | e165 | e78 | e1,130 | 2,730 | 202 | 274 | 87 | 47 | 47 |
| 24 | 818 | 200 | 898 | e163 | e76 | e840 | 3,580 | 175 | 131 | 73 | 139 | 43 |
| 25 | 990 | 183 | 468 | e152 | e76 | e580 | 1,520 | 149 | 94 | 66 | 138 | 41 |
| 26 | 983 | 176 | 366 | e143 | e75 | e650 | 825 | 128 | 82 | 60 | 105 | 42 |
| 27 | 540 | 181 | 371 | e135 | e74 | e940 | 844 | 117 | 68 | 55 | 83 | 48 |
| 28 | 1,010 | 220 | 249 | e128 | e72 | e1,720 | 924 | 348 | 207 | 68 | 64 | 80 |
| 29 | 2,430 | 214 | e165 | e125 | --- | e1,000 | 938 | 195 | 208 | 174 | 54 | 92 |
| 30 | 895 | 194 | e130 | e119 | --- | e700 | 1,080 | 139 | 104 | 78 | 52 | 63 |
| 31 | 551 | --- | e180 | e115 | --- | 634 | --- | 188 | --- | 54 | 65 | --- |
| Total | 19,166 | 11,426 | 12,601 | 12,820 | 2,235 | 13,337 | 30,820 | 16,423 | 5,003 | 5,293 | 3,619 | 2,369 |
| Mean | 618 | 381 | 406 | 414 | 79.8 | 430 | 1,027 | 530 | 167 | 171 | 117 | 79.0 |
| Max | 3,240 | 1,020 | 2,120 | 2,850 | 107 | 1,720 | 3,580 | 3,790 | 489 | 817 | 440 | 309 |
| Min | 95 | 176 | 130 | 115 | 72 | 66 | 274 | 117 | 63 | 54 | 42 | 36 |
| Cfsm | 4.72 | 2.91 | 3.10 | 3.16 | 0.61 | 3.28 | 7.84 | 4.04 | 1.27 | 1.30 | 0.89 | 0.60 |
| In. | 5.44 | 3.24 | 3.58 | 3.64 | 0.63 | 3.79 | 8.75 | 4.66 | 1.42 | 1.50 | 1.03 | 0.67 |

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2007, BY WATER YEAR (WY)**

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 235 | 296 | 234 | 175 | 141 | 376 | 879 | 421 | 201 | 123 | 118 | 133 |
| Max | 868 | 662 | 585 | 661 | 796 | 1,225 | 1,522 | 991 | 932 | 412 | 454 | 421 |
| (WY) | (2006) | (2004) | (1974) | (1998) | (1981) | (1936) | (1933) | (1940) | (2002) | (1997) | (1976) | (1945) |
| Min | 51.3 | 97.6 | 60.9 | 53.9 | 34.0 | 57.0 | 265 | 143 | 43.7 | 32.0 | 19.7 | 31.5 |
| (WY) | (1949) | (1979) | (1956) | (1940) | (1980) | (1941) | (1995) | (1977) | (1933) | (1934) | (1934) | (1953) |

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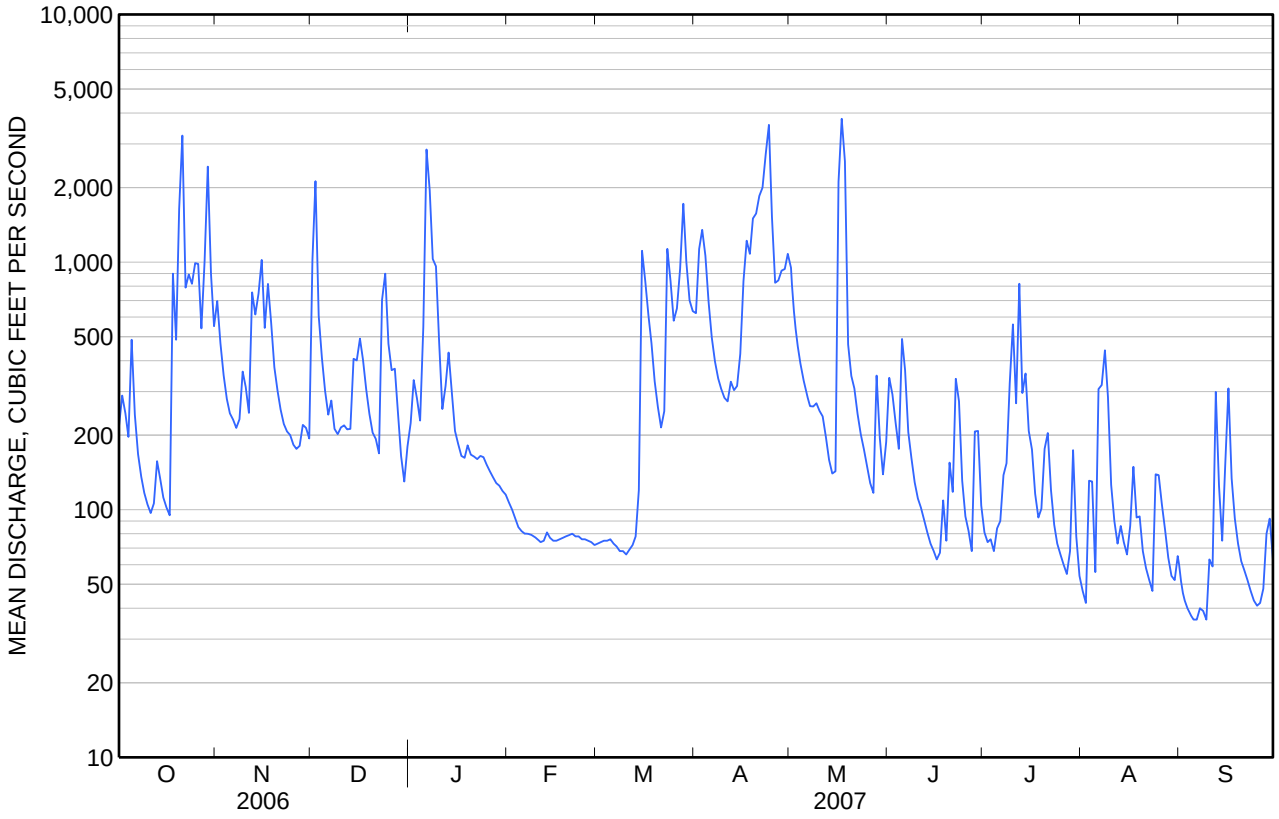
**SUMMARY STATISTICS**

| | Calendar Year 2006 | | Water Year 2007 | | Water Years 1931 - 2007 | |
|---|---|---|---|---|---|---|
| **Annual total** | 154,552 | | 135,112 | | | |
| **Annual mean** | 423 | | 370 | | 277 | |
| **Highest annual mean** | | | | | 457 | 2006 |
| **Lowest annual mean** | | | | | 168 | 1965 |
| **Highest daily mean** | 6,440 | May 20 | 3,790 | May 17 | 8,330 | Jun 12, 2002 |
| **Lowest daily mean** | 49 | Sep 13 | 36 | Sep 5 [a] | 11 | Aug 28, 1949 |
| **Annual seven-day minimum** | 59 | Sep 7 | 38 | Sep 3 | 15 | Aug 22, 1934 |
| **Maximum peak flow** | | | 5,320 | May 17 | 11,500 | Jun 12, 2002 |
| **Maximum peak stage** | | | 9.74 | May 17 | 14.55 | Jun 12, 2002 |
| **Instantaneous low flow** | | | 35 | Sep 5 [a] | 9.4 | Aug 28, 1949 |
| **Annual runoff (cfsm)** | 3.23 | | 2.83 | | 2.12 | |
| **Annual runoff (inches)** | 43.89 | | 38.37 | | 28.77 | |
| **10 percent exceeds** | 898 | | 930 | | 646 | |
| **50 percent exceeds** | 236 | | 188 | | 130 | |
| **90 percent exceeds** | 77 | | 66 | | 47 | |

[a] Also Sept.6,9.