Water-Data Report 2011

# 04276500 BOUQUET RIVER AT WILLSBORO, NY

Richelieu Basin
Ausable Subbasin

LOCATION.--Lat 44°21′30″, long 73°23′50″ referenced to North American Datum of 1927, Essex County, NY, Hydrologic Unit 02010004, on right bank 0.5 mi upstream from bridge on State Highway 22, 2.5 mi downstream from North Branch Bouquet River, and 3.0 mi upstream from mouth, at Willsboro.

DRAINAGE AREA.--270 $mi^2$.

## SURFACE-WATER RECORDS

PERIOD OF RECORD.--August to September 1904 and August to November 1908 (gage heights and discharge measurements only), July 1923 to September 1968, water years 1980, 1985, 1987-89 (annual maximum only), March 1990 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 150.88 ft above NGVD of 1929. Prior to November 1908, staff gages at site 0.75 mi downstream at various datums. July 23 to Aug. 28, 1923, staff gage at site 600 ft downstream at present datum. May 1987 to February 1990, crest-stage gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Occasional diurnal fluctuation at low flow caused by powerplant at Wadhams. Slight regulation by Lincoln Pond on Black River. Satellite and telephone gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 $ft^3/s$, Aug. 29, 2011, gage height, 12.35 ft, from floodmark in gage house; minimum discharge, 8.8 $ft^3/s$, Sept. 20, 1957, gage height, 1.84 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,800 $ft^3/s$ and (or) maximum (*):

| Date | Time | Discharge ($ft^3/s$) | Gage height (ft) |
|---|---|---|---|
| Oct 1 | 2230 | 4,110 | 6.72 |
| Oct 16 | 0430 | 3,450 | 6.25 |
| Dec 2 | 1430 | 4,160 | 6.75 |
| Apr 12 | 0700 | 6,210 | 8.02 |
| Apr 21 | 0630 | 3,030 | 5.93 |
| Apr 27 | 1415 | 8,500 | 9.22 |
| Apr 28 | 2245 | 7,640 | 8.79 |
| May 4 | 1730 | 4,020 | 6.66 |
| May 16 | 1615 | 3,950 | 6.61 |
| May 28 | 1530 | 4,320 | 6.86 |
| Aug 29 | unknown | *16,000 | a*12.35 |

a From floodmark in gage house.

Minimum discharge, 70 $ft^3/s$, Aug. 4, 5, 6, 7, gage height, 2.38 ft.



Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 04276500, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/04276500.2011.pdf

**04276500 BOUQUET RIVER AT WILLSBORO, NY—Continued**

**DISCHARGE, CUBIC FEET PER SECOND**
**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**
**DAILY MEAN VALUES**
[e, estimated]

| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2,750 | 369 | 676 | e271 | e166 | e306 | 551 | 1,410 | 1,130 | 274 | 98 | 742 |
| 2 | 2,400 | 314 | 3,360 | e284 | e177 | e295 | 628 | 1,180 | 913 | 248 | 81 | 541 |
| 3 | 778 | 287 | 1,390 | e309 | e188 | e289 | 767 | 1,260 | 729 | 236 | 77 | 436 |
| 4 | 479 | 281 | 851 | e303 | e200 | e327 | 855 | 3,530 | 617 | 229 | 73 | 363 |
| 5 | 361 | 726 | 648 | e278 | e194 | e387 | 1,250 | 2,890 | 547 | 208 | 70 | 495 |
| 6 | 346 | 731 | 531 | e284 | e200 | e444 | 1,290 | 1,660 | 493 | 186 | 70 | 2,080 |
| 7 | 907 | 507 | 450 | e278 | e205 | e606 | 918 | 1,240 | 444 | 192 | 71 | 1,650 |
| 8 | 684 | 533 | 394 | e278 | e205 | e798 | 884 | 1,040 | 418 | 185 | 77 | 1,530 |
| 9 | 462 | 1,040 | 302 | e278 | e205 | e889 | 983 | 883 | 493 | 159 | 86 | 1,080 |
| 10 | 348 | 816 | 271 | e271 | e216 | e930 | 1,340 | 768 | 617 | 154 | 282 | 726 |
| 11 | 286 | 629 | e322 | e264 | e205 | e869 | 4,390 | 689 | 466 | 147 | 257 | 532 |
| 12 | 252 | 505 | e420 | e257 | e188 | e899 | 5,520 | 634 | 917 | 142 | 144 | 448 |
| 13 | 228 | 455 | e781 | e251 | e200 | e950 | 2,990 | 568 | 897 | 143 | 113 | 390 |
| 14 | 211 | 419 | e1,030 | e257 | e200 | e859 | 2,310 | 554 | 790 | 152 | 99 | 415 |
| 15 | 960 | 392 | 643 | e251 | e194 | e758 | 1,840 | 1,490 | 635 | 147 | 95 | 437 |
| 16 | 2,700 | 385 | 589 | e244 | e211 | e657 | 1,360 | 3,600 | 472 | 122 | 291 | 577 |
| 17 | 1,410 | 911 | e521 | e244 | e228 | e728 | 1,640 | 2,960 | 401 | 118 | 400 | 426 |
| 18 | 959 | 1,340 | e453 | e257 | e239 | e879 | 1,770 | 1,620 | 371 | 117 | 209 | 341 |
| 19 | 700 | 748 | e387 | e257 | e256 | e1,030 | 1,220 | 1,670 | 329 | 157 | 144 | 297 |
| 20 | 532 | 561 | e346 | e251 | e268 | e1,160 | 2,000 | 1,830 | 282 | 140 | 128 | 277 |
| 21 | 471 | 467 | e321 | e257 | e268 | e1,040 | 2,680 | 1,430 | 263 | 120 | 107 | 269 |
| 22 | 456 | 421 | e293 | e244 | e279 | 901 | 1,480 | 1,220 | 242 | 108 | 107 | 248 |
| 23 | 395 | 418 | e275 | e237 | e284 | 758 | 1,230 | 957 | 387 | 93 | 103 | 268 |
| 24 | 352 | 450 | e256 | e237 | e289 | 660 | 1,280 | 826 | 630 | 88 | 87 | 436 |
| 25 | 390 | 391 | e243 | e230 | e284 | 560 | 1,300 | 733 | 980 | 88 | 82 | 489 |
| 26 | 429 | 356 | e240 | e217 | e289 | 482 | 1,980 | 717 | 872 | 97 | 81 | 383 |
| 27 | 452 | 358 | e240 | e224 | e306 | 449 | 7,130 | 2,040 | 608 | 109 | 76 | 307 |
| 28 | 484 | 313 | e234 | e210 | e311 | 431 | 5,830 | 3,900 | 444 | 96 | 1,810 | 270 |
| 29 | 394 | 294 | e237 | e204 | --- | 426 | 4,680 | 2,780 | 365 | 89 | e11,000 | 359 |
| 30 | 389 | 297 | e250 | e183 | --- | 433 | 1,930 | 2,230 | 315 | 93 | 2,130 | 921 |
| 31 | 411 | --- | e256 | e177 | --- | 510 | --- | 1,460 | --- | 109 | 1,100 | --- |
| Total | 22,376 | 15,714 | 17,210 | 7,787 | 6,455 | 20,710 | 64,026 | 49,769 | 17,067 | 4,546 | 19,548 | 17,733 |
| Mean | 722 | 524 | 555 | 251 | 231 | 668 | 2,134 | 1,605 | 569 | 147 | 631 | 591 |
| Max | 2,750 | 1,340 | 3,360 | 309 | 311 | 1,160 | 7,130 | 3,900 | 1,130 | 274 | 11,000 | 2,080 |
| Min | 211 | 281 | 234 | 177 | 166 | 289 | 551 | 554 | 242 | 88 | 70 | 248 |
| Cfsm | 2.67 | 1.94 | 2.06 | 0.93 | 0.85 | 2.47 | 7.90 | 5.95 | 2.11 | 0.54 | 2.34 | 2.19 |
| In. | 3.08 | 2.17 | 2.37 | 1.07 | 0.89 | 2.85 | 8.82 | 6.86 | 2.35 | 0.63 | 2.69 | 2.44 |

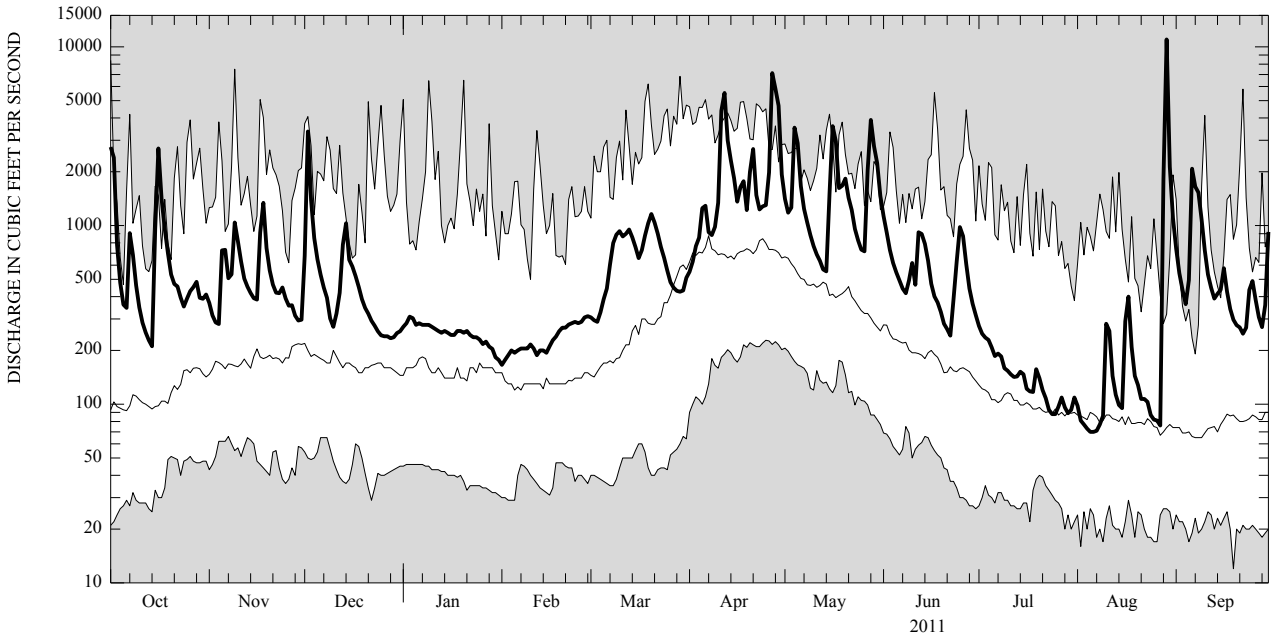
**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 2011, BY WATER YEAR (WY)**

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 201 | 280 | 263 | 246 | 191 | 463 | 976 | 558 | 278 | 159 | 126 | 121 |
| Max | 751 | 892 | 922 | 772 | 627 | 1,375 | 2,134 | 1,605 | 924 | 582 | 631 | 591 |
| (WY) | (2006) | (1928) | (2004) | (1996) | (1925) | (1936) | (2011) | (2011) | (1998) | (1947) | (2011) | (2011) |
| Min | 40.8 | 80.5 | 79.4 | 53.6 | 45.1 | 67.9 | 258 | 149 | 70.3 | 30.3 | 28.6 | 26.9 |
| (WY) | (1958) | (1957) | (1931) | (1940) | (1940) | (1967) | (1995) | (1941) | (1995) | (1965) | (1941) | (1941) |

**04276500 BOUQUET RIVER AT WILLSBORO, NY—Continued**

**SUMMARY STATISTICS**

| | Calendar Year 2010 | | Water Year 2011 | | Water Years 1923 - 2011 | |
|---|---|---|---|---|---|---|
| **Annual total** | 144,906 | | 262,941 | | | |
| **Annual mean** | 397 | | 720 | | 320 | |
| **Highest annual mean** | | | | | 720 | 2011 |
| **Lowest annual mean** | | | | | 122 | 1965 |
| **Highest daily mean** | 3,650 | Mar 24 | 11,000 | Aug 29 | 11,000 | Aug 29, 2011 |
| **Lowest daily mean** | 57 | Aug 21 | 70 | Aug 5 | 12 | Sep 19, 1957 |
| **Annual seven-day minimum** | 60 | Sep 5 | 74 | Aug 2 | 20 | Sep 23, 1941 |
| **Annual runoff (cfsm)** | 1.47 | | 2.67 | | 1.19 | |
| **Annual runoff (inches)** | 19.96 | | 36.23 | | 16.13 | |
| **10 percent exceeds** | 830 | | 1,510 | | 720 | |
| **50 percent exceeds** | 231 | | 400 | | 164 | |
| **90 percent exceeds** | 94 | | 143 | | 63 | |




CURRENT WATER YEAR DAILY MEAN DISCHARGE (BOLD) WITH DAILY MEDIAN FOR PERIOD OF RECORD.
SHADED AREAS SHOW HIGHEST AND LOWEST DAILY MEAN FOR PERIOD OF RECORD THROUGH PREVIOUS WATER YEAR.