

Water-Data Report 2009

05245100 LONG PRAIRIE RIVER AT LONG PRAIRIE, MN

Mississippi Headwaters Basin
Long Prairie Subbasin

LOCATION.--Lat 45°58'30", long 94°51'56" referenced to North American Datum of 1927, in NE ¼ NW ¼ sec.20, T.129 N., R.33 W., Todd County, MN, Hydrologic Unit 07010108, on right bank 90 ft upstream from bridge on First Avenue at Long Prairie and 400 ft downstream from Venewitz Creek.

DRAINAGE AREA.--434 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,281.74 ft above sea level (NGVD of 1929).

REMARKS.--Records good to fair except those for estimated daily discharges, which are fair to poor. Period from June 22nd to August 14th is rated fair to poor due to painting of gage height record.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY MEAN VALUES

[e, estimated]

| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|--------------|--------|-------|-------|-------|-------|--------|--------|--------|--------|-------|-------|-------|
| 1 | 87 | 140 | e98 | e103 | e102 | e95 | 706 | 390 | 209 | 178 | 85 | 80 |
| 2 | 82 | 134 | e98 | e102 | e99 | e98 | 635 | 398 | 204 | 164 | 82 | 78 |
| 3 | 78 | 130 | e94 | e103 | e97 | e100 | 554 | 407 | 197 | 155 | 80 | 77 |
| 4 | 74 | 140 | e98 | e101 | e98 | e103 | 522 | 409 | 191 | 150 | 82 | 77 |
| 5 | 74 | 135 | e103 | e103 | e98 | e103 | 504 | 402 | 185 | 159 | 78 | 76 |
| 6 | 87 | 147 | e103 | e102 | e98 | e103 | 494 | 387 | 182 | 172 | 75 | 75 |
| 7 | 134 | 175 | e102 | e100 | e99 | e102 | 493 | 372 | 184 | 177 | 77 | 72 |
| 8 | 172 | 205 | e102 | e99 | e101 | e101 | 496 | 366 | 193 | 169 | 77 | 78 |
| 9 | 197 | 227 | e100 | e99 | e101 | e100 | 501 | 364 | 192 | 148 | 76 | 80 |
| 10 | 226 | 230 | e102 | e100 | e102 | e98 | 500 | 355 | 187 | 140 | 71 | 79 |
| 11 | 263 | 211 | e104 | e100 | e102 | e98 | 499 | 343 | 180 | 135 | 72 | 78 |
| 12 | 298 | 193 | e107 | e98 | e102 | e98 | 497 | 334 | 172 | 131 | 69 | 82 |
| 13 | 324 | 187 | e106 | e96 | e102 | e98 | 495 | 333 | 168 | 125 | 68 | 83 |
| 14 | 326 | 190 | e106 | e94 | e102 | e100 | 491 | 335 | 164 | 130 | 66 | 83 |
| 15 | 321 | 193 | e106 | e93 | e101 | e103 | 482 | 333 | 160 | 146 | 66 | 80 |
| 16 | 314 | 187 | e105 | e93 | e99 | e110 | 475 | 318 | 165 | 148 | 78 | 79 |
| 17 | 298 | 170 | e105 | e96 | e97 | e138 | 470 | 305 | 172 | 157 | 86 | 76 |
| 18 | 276 | e160 | e104 | e101 | e96 | e225 | 463 | 294 | 197 | 158 | 97 | 75 |
| 19 | 241 | e140 | e104 | e100 | e96 | e314 | 459 | 281 | 219 | 147 | 98 | 74 |
| 20 | 198 | 102 | e104 | e100 | e96 | e389 | 454 | 274 | 210 | 131 | 100 | 73 |
| 21 | 180 | e91 | e103 | e100 | e96 | 457 | 447 | 266 | 210 | 121 | 110 | 72 |
| 22 | 174 | e102 | e103 | e100 | e96 | 579 | 437 | 257 | 233 | 113 | 122 | 72 |
| 23 | 179 | e109 | e103 | e100 | e96 | 1,200 | 428 | 250 | 247 | 109 | 122 | 72 |
| 24 | 186 | e113 | e103 | e97 | e98 | 1,390 | 420 | 244 | 257 | 103 | 113 | 71 |
| 25 | 200 | e110 | e104 | e98 | e97 | 1,520 | 411 | 236 | 254 | 99 | 102 | 71 |
| 26 | 205 | e108 | e104 | e97 | e96 | 1,510 | 404 | 228 | 229 | 94 | 95 | 70 |
| 27 | 197 | e109 | e103 | e97 | e95 | 1,470 | 400 | 226 | 218 | 90 | 91 | 70 |
| 28 | 186 | e107 | e104 | e99 | e94 | 1,300 | 390 | 223 | 207 | 87 | 88 | 70 |
| 29 | 175 | e103 | e102 | e100 | --- | 1,050 | 384 | 216 | 201 | 85 | 85 | 69 |
| 30 | 159 | e101 | e101 | e100 | --- | 899 | 387 | 213 | 190 | 84 | 83 | 66 |
| 31 | 147 | --- | e100 | e100 | --- | 768 | --- | 211 | --- | 85 | 81 | --- |
| Total | 6,058 | 4,449 | 3,181 | 3,071 | 2,756 | 14,819 | 14,298 | 9,570 | 5,977 | 4,090 | 2,675 | 2,258 |
| Mean | 195 | 148 | 103 | 99.1 | 98.4 | 478 | 477 | 309 | 199 | 132 | 86.3 | 75.3 |
| Max | 326 | 230 | 107 | 103 | 102 | 1,520 | 706 | 409 | 257 | 178 | 122 | 83 |
| Min | 74 | 91 | 94 | 93 | 94 | 95 | 384 | 211 | 160 | 84 | 66 | 66 |
| Ac-ft | 12,020 | 8,820 | 6,310 | 6,090 | 5,470 | 29,390 | 28,360 | 18,980 | 11,860 | 8,110 | 5,310 | 4,480 |
| Cfs/m | 0.45 | 0.34 | 0.24 | 0.23 | 0.23 | 1.10 | 1.10 | 0.71 | 0.46 | 0.30 | 0.20 | 0.17 |
| In. | 0.52 | 0.38 | 0.27 | 0.26 | 0.24 | 1.27 | 1.23 | 0.82 | 0.51 | 0.35 | 0.23 | 0.19 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2009, BY WATER YEAR (WY)

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Mean | 137 | 119 | 79.1 | 66.2 | 69.0 | 176 | 377 | 282 | 243 | 198 | 134 | 121 |
| Max | 512 | 425 | 270 | 217 | 208 | 478 | 1,062 | 653 | 774 | 777 | 715 | 607 |
| (WY) | (1987) | (1972) | (1987) | (1987) | (1987) | (2009) | (2001) | (1986) | (2001) | (1972) | (1972) | (1986) |
| Min | 13.4 | 8.69 | 3.19 | 1.05 | 1.62 | 19.8 | 71.8 | 45.5 | 27.5 | 4.73 | 10.0 | 5.32 |
| (WY) | (1977) | (1977) | (1977) | (1977) | (1977) | (1989) | (1977) | (1977) | (1988) | (1988) | (1989) | (1976) |

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SUMMARY STATISTICS

| | Calendar Year 2008 | | Water Year 2009 | | Water Years 1972 - 2009 | |
|---------------------------------|--------------------|--------|-----------------|--------|-------------------------|--------------|
| Annual total | 59,014 | | 73,202 | | | |
| Annual mean | 161 | | 201 | | 167 | |
| Highest annual mean | | | | | 366 | 1972 |
| Lowest annual mean | | | | | 25.2 | 1977 |
| Highest daily mean | 645 | Jun 12 | 1,520 | Mar 25 | 2,900 | Jul 22, 1972 |
| Lowest daily mean | 40 | Feb 18 | ^a 66 | Aug 14 | ^b 0.84 | Jan 12, 1977 |
| Annual seven-day minimum | 41 | Feb 16 | 70 | Sep 24 | 0.84 | Jan 12, 1977 |
| Maximum peak flow | | | 1,650 | Mar 26 | 3,270 | Jul 22, 1972 |
| Maximum peak stage | | | 7.58 | Mar 26 | 9.37 | Jul 22, 1972 |
| Instantaneous low flow | | | 64 | Aug 15 | ^b 0.84 | Jan 12, 1977 |
| Annual runoff (ac-ft) | 117,100 | | 145,200 | | 121,000 | |
| Annual runoff (cfsm) | 0.372 | | 0.462 | | 0.385 | |
| Annual runoff (inches) | 5.06 | | 6.27 | | 5.23 | |
| 10 percent exceeds | 351 | | 410 | | 370 | |
| 50 percent exceeds | 106 | | 108 | | 108 | |
| 90 percent exceeds | 45 | | 78 | | 31 | |

^a Also occurred Aug. 15 and Sept. 30.

^b Estimated daily-mean discharge, backwater from ice.

