Water-Data Report 2007

# 06018500 BEAVERHEAD RIVER NEAR TWIN BRIDGES, MT

Missouri Headwaters Basin
Beaverhead Subbasin

LOCATION.--Lat 45°23′01″, long 112°27′07″ referenced to North American Datum of 1927, in SW ¼ NW ¼ SE ¼ sec.22, T.5 S., R.7 W., Madison County, MT, Hydrologic Unit 10020002, on left bank at downstream side of bridge on State Highway 41, 11.5 mi upstream from Ruby River, 12.7 mi southwestof Twin Bridges, 14.5 mi northeast of Dillon, and at river mile 2,430.4.

DRAINAGE AREA.--3,619 $mi^2$.

## SURFACE-WATER RECORDS

PERIOD OF RECORD.--August 1935 to current year. Prior to October 1968, published as "at Blaine."

REVISED RECORDS.-- Water Supply Paper (WSP) 1309: 1938, maximum discharge (M); 1945(M). WSP 1559: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,809.15 ft, referenced to the National Geodetic Vertical Datum of 1929. Prior to Feb. 17, 1949, nonrecording gage at bridge 0.5 mi upstream at different elevation. Feb. 17, 1949, to June 28, 1951, nonrecording gage at present site and elevation.

REMARKS.--Records are good except those for estimated daily discharges, which are poor. Since August 1964, flow has been partly regulated by Lima Reservoir (station number 06012000) and Clark Canyon Reservoir (station number 06015300). Diversions occur upstream from station for irrigation of about 135,400 acres, of which about 5,000 acres are irrigated by imported water from Birch and Willow Creeks, and of which about 9,200 acres lies downstream from station including 600 acres in Ruby River drainage. Bureau of Reclamation satellite telemeter is located at the station. Several unpublished observations of water temperature and conductance were made during the year.

**06018500 BEAVERHEAD RIVER NEAR TWIN BRIDGES, MT—Continued**

**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 | 187 | 278 | e220 | 220 | 206 | 241 | 204 | 105 | 88 | 71 | 100 | 104 |
| 2 | 161 | 279 | e220 | 255 | 161 | 234 | 199 | 110 | 80 | 84 | 101 | 99 |
| 3 | 167 | 288 | e220 | 241 | 179 | 228 | 203 | 149 | 71 | 88 | 110 | 98 |
| 4 | 184 | 295 | e230 | 243 | 220 | 229 | 188 | 176 | 83 | 74 | 89 | 91 |
| 5 | 187 | 295 | e230 | 209 | 251 | 236 | 175 | 164 | 88 | 61 | 95 | 86 |
| 6 | 180 | 293 | e230 | 197 | 254 | 248 | 171 | 152 | 120 | 69 | 117 | 92 |
| 7 | 245 | 287 | e250 | 199 | 243 | 283 | 172 | 139 | 298 | 73 | 127 | 90 |
| 8 | 287 | 288 | 260 | 267 | 242 | 316 | 172 | 127 | 288 | 81 | 111 | 88 |
| 9 | 269 | 289 | 263 | 249 | 242 | 303 | 170 | 114 | 178 | 81 | 110 | 79 |
| 10 | 280 | 295 | 259 | 250 | 237 | 308 | 160 | 114 | 155 | 76 | 110 | 73 |
| 11 | 262 | 285 | 258 | 149 | 245 | 298 | 152 | 116 | 148 | 73 | 96 | 89 |
| 12 | 255 | 277 | 259 | e120 | 240 | 316 | 155 | 106 | 142 | 73 | 91 | 106 |
| 13 | 253 | 275 | 263 | e140 | 230 | 348 | 136 | 92 | 115 | 76 | 81 | 105 |
| 14 | 255 | 282 | 268 | e150 | 233 | 382 | 145 | 89 | 96 | 86 | 69 | 112 |
| 15 | 254 | 275 | 272 | e170 | 241 | 363 | 147 | 72 | 78 | 107 | 59 | 110 |
| 16 | 266 | 279 | 238 | e175 | 242 | 330 | 143 | 63 | 81 | 125 | 58 | 106 |
| 17 | 280 | 276 | 217 | e175 | 240 | 311 | 125 | 68 | 75 | 132 | 61 | 104 |
| 18 | 281 | 277 | 201 | e165 | 246 | 318 | 134 | 78 | 75 | 146 | 65 | 107 |
| 19 | 296 | 272 | e180 | e160 | 244 | 320 | 186 | 72 | 66 | 128 | 88 | 101 |
| 20 | 314 | 281 | e190 | e160 | 246 | 305 | 182 | 67 | 52 | 110 | 71 | 120 |
| 21 | 311 | 286 | e200 | e170 | 243 | 297 | 172 | 77 | 56 | 109 | 80 | 134 |
| 22 | 304 | 293 | e210 | e180 | 244 | 254 | 159 | 100 | 52 | 115 | 82 | 128 |
| 23 | 297 | 290 | 207 | 181 | 256 | 245 | 152 | 142 | 54 | 114 | 103 | 141 |
| 24 | 295 | 272 | 229 | 202 | 248 | 233 | 146 | 142 | 69 | 105 | 113 | 165 |
| 25 | 300 | 264 | 236 | 221 | 246 | 226 | 136 | 138 | 83 | 109 | 104 | 156 |
| 26 | 299 | 265 | 248 | 225 | 243 | 225 | 133 | 143 | 73 | 113 | 95 | 159 |
| 27 | 298 | 272 | 273 | 213 | 243 | 247 | 127 | 140 | 76 | 104 | 89 | 185 |
| 28 | 295 | e220 | 255 | 202 | 243 | 246 | 109 | 128 | 87 | 95 | 83 | 173 |
| 29 | 299 | e200 | 243 | 200 | --- | 236 | 98 | 135 | 83 | 98 | 81 | 179 |
| 30 | 296 | e210 | 192 | 210 | --- | 220 | 97 | 135 | 78 | 97 | 84 | 190 |
| 31 | 285 | --- | 199 | 214 | --- | 205 | --- | 110 | --- | 101 | 95 | --- |
| Total | 8,142 | 8,238 | 7,220 | 6,112 | 6,608 | 8,551 | 4,648 | 3,563 | 3,088 | 2,974 | 2,818 | 3,570 |
| Mean | 263 | 275 | 233 | 197 | 236 | 276 | 155 | 115 | 103 | 95.9 | 90.9 | 119 |
| Max | 314 | 295 | 273 | 267 | 256 | 382 | 204 | 176 | 298 | 146 | 127 | 190 |
| Min | 161 | 200 | 180 | 120 | 161 | 205 | 97 | 63 | 52 | 61 | 58 | 73 |
| Ac-ft | 16,150 | 16,340 | 14,320 | 12,120 | 13,110 | 16,960 | 9,220 | 7,070 | 6,130 | 5,900 | 5,590 | 7,080 |

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2007, BY WATER YEAR (WY)**

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 431 | 532 | 469 | 397 | 411 | 459 | 458 | 302 | 369 | 270 | 239 | 368 |
| Max | 1,328 | 1,065 | 852 | 725 | 707 | 799 | 1,251 | 1,117 | 1,615 | 1,586 | 1,581 | 1,691 |
| (WY) | (1985) | (1985) | (1984) | (1976) | (1984) | (1972) | (1969) | (1984) | (1984) | (1984) | (1984) | (1984) |
| Min | 32.4 | 205 | 200 | 173 | 191 | 176 | 95.5 | 40.8 | 24.2 | 28.0 | 25.8 | 28.1 |
| (WY) | (1938) | (2005) | (2005) | (1937) | (2004) | (2005) | (1961) | (1937) | (1940) | (1937) | (1937) | (1937) |

**06018500 BEAVERHEAD RIVER NEAR TWIN BRIDGES, MT—Continued**

**SUMMARY STATISTICS**

| | Calendar Year 2006 | | Water Year 2007 | | Water Years 1935 - 2007 | |
|---|---|---|---|---|---|---|
| **Annual total** | 67,876 | | 65,532 | | | |
| **Annual mean** | 186 | | 180 | | 392 | |
| **Highest annual mean** | | | | | 1,097 | 1984 |
| **Lowest annual mean** | | | | | 142 | 2004 |
| **Highest daily mean** | 473 | Apr 7 | 382 | Mar 14 | 3,130 | Jun 12, 1944 |
| **Lowest daily mean** | 45 | Jul 21 | 52 | Jun 20 | 7.0 | May 25, 1940 |
| **Annual seven-day minimum** | 56 | Jul 18 | 61 | Jun 18 | 8.7 | May 13, 1954 |
| **Maximum peak flow** | | | 410 | Mar 14 | [b]3,130 | Jun 12, 1944 |
| **Maximum peak stage** | | | 4.80 | Mar 14 | 7.88 | Jun 25, 1984 |
| **Instantaneous low flow** | | | [a]43 | Jun 22 | [c]7.0 | May 25, 1940 |
| **Annual runoff (ac-ft)** | 134,600 | | 130,000 | | 283,900 | |
| **10 percent exceeds** | 279 | | 288 | | 706 | |
| **50 percent exceeds** | 200 | | 175 | | 367 | |
| **90 percent exceeds** | 89 | | 79 | | 95 | |

| | Water Years 1935 - 1964* | | Water Years 1955 - 2007** | |
|---|---|---|---|---|
| **Annual mean** | 391 | | 389 | |
| **Highest annual mean** | 642 | 1948 | 1,097 | 1984 |
| **Lowest annual mean** | 170 | 1937 | 142 | 2004 |
| **Highest daily mean** | 3,130 | Jun 12, 1944 | 2,180 | Jun 25, 1984 |
| **Lowest daily mean** | 7.0 | May 25, 1940 | 22 | Jul 22, 2005 |
| **Annual seven-day minimum** | | | 27 | Jul 17, 2005 |
| **Maximum peak flow** | 3,130 | Jun 12, 1944 | 2,200 | Jun 25, 1984 |
| **Maximum peak stage** | 6.76 | Jun 12, 1944 | 7.88 | Jun 25, 1984 |
| **Instantaneous low flow** | [c]7.0 | May 25, 1940 | [d]17 | Jul 18, 2005 |
| **Annual runoff (ac-ft)** | 283,100 | | 291,900 | |
| **10 percent exceeds** | 648 | | 772 | |
| **50 percent exceeds** | 410 | | 346 | |
| **90 percent exceeds** | 60 | | 115 | |

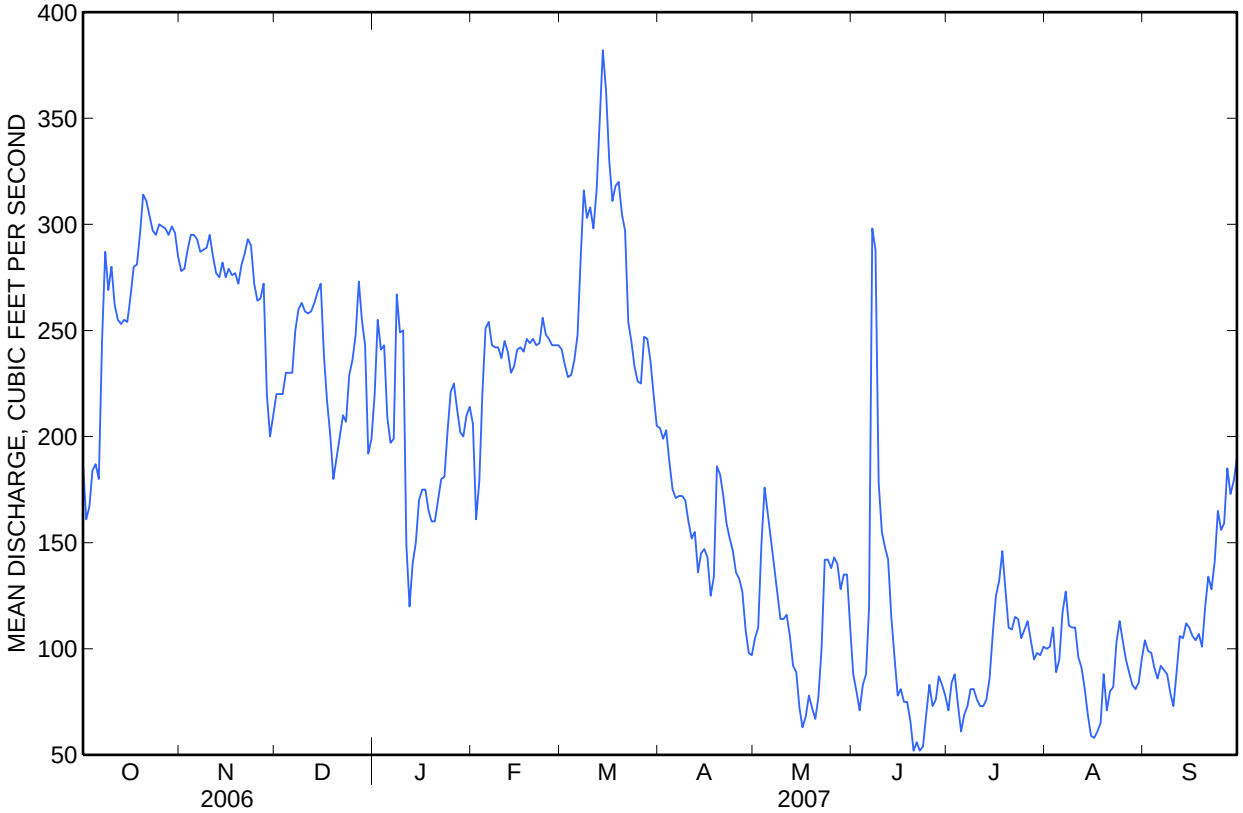
* Prior to construction of Clark Canyon Dam.

** After construction of Clark Canyon dam.

[a] Gage height, 3.12 ft.

[b] Observed, gage height, 6.76 ft, site and datum then in use.

[c] Observed, site and datum then in use.

[d] Gage height, 2.94 ft.

**06018500 BEAVERHEAD RIVER NEAR TWIN BRIDGES, MT—Continued**