

06006000 RED ROCK CREEK ABOVE LAKES, NEAR LAKEVIEW, MT

LOCATION.--Lat 44°36'56", long 111°37'42" (NAD 27), in NE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 17, T.14 S., R.1 E., Beaverhead County, Hydrologic Unit 10020001, on right bank 0.2 mi downstream from Red Rock Lakes National Wildlife Refuge boundary, 9.1 mi east of Lakeview, and at river mile 2,602.2.

DRAINAGE AREA.--39.2 mi².

PERIOD OF RECORD.--July 1997 to October 2004 (seasonal records only) (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 6,670 ft (NGVD 29).

REMARKS.--Seasonal records good except those for June, which are fair. Diversion for use by Wildlife Refuge about 1.5 mi upstream from station. Several observations of water temperature and specific conductance were made during the year. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR JANUARY TO DECEMBER 2004
DAILY MEAN VALUES

| DAY | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-------|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|-----|-----|
| 1 | | | | 22 | 21 | 54 | 63 | 32 | 25 | 22 | | |
| 2 | | | | 20 | 22 | 57 | 64 | 31 | 25 | 22 | | |
| 3 | | | | 20 | 26 | 67 | 61 | 32 | 25 | 22 | | |
| 4 | | | | 23 | 28 | 82 | 70 | 31 | 25 | 22 | | |
| 5 | | | | 24 | 36 | 96 | 71 | 30 | 25 | 21 | | |
| 6 | | | | 25 | 46 | 117 | 61 | 29 | 25 | 21 | | |
| 7 | | | | 27 | 55 | 110 | 57 | 28 | 24 | 21 | | |
| 8 | | | | 27 | 57 | 97 | 54 | 29 | 24 | 21 | | |
| 9 | | | | 26 | 46 | 101 | 50 | 29 | 23 | 21 | | |
| 10 | | | | 22 | 40 | 118 | 48 | 29 | 23 | 22 | | |
| 11 | | | | 22 | 42 | 98 | 46 | 28 | 23 | 22 | | |
| 12 | | | | 23 | 36 | 78 | 44 | 29 | 23 | 21 | | |
| 13 | | | | 25 | 33 | 67 | 40 | 28 | 26 | 21 | | |
| 14 | | | | 27 | 29 | 63 | 40 | 28 | 28 | 21 | | |
| 15 | | | | 25 | 24 | 63 | 40 | 27 | 25 | 20 | | |
| 16 | | | | 23 | 30 | 65 | 37 | 27 | 26 | 20 | | |
| 17 | | | | 24 | 31 | 67 | 36 | 31 | 24 | 20 | | |
| 18 | | | | 25 | 32 | 71 | 35 | 35 | 23 | 23 | | |
| 19 | | | | 21 | 32 | 67 | 36 | 31 | 25 | 22 | | |
| 20 | | | | 20 | 31 | 68 | 39 | 29 | 30 | 28 | | |
| 21 | | | | 20 | 33 | 67 | 40 | 29 | 26 | 24 | | |
| 22 | | | | 19 | 46 | 68 | 35 | 29 | 24 | 22 | | |
| 23 | | | | 19 | 57 | 69 | 35 | 33 | 24 | 22 | | |
| 24 | | | | 19 | 45 | 71 | 33 | 32 | 24 | 18 | | |
| 25 | | | | 19 | 37 | 73 | 33 | 31 | 23 | 18 | | |
| 26 | | | | 19 | 35 | 75 | 32 | 31 | 23 | 21 | | |
| 27 | | | | 20 | 35 | 71 | 32 | 29 | 23 | 23 | | |
| 28 | | | | 23 | 58 | 68 | 30 | 28 | 22 | 24 | | |
| 29 | | | | 20 | 110 | 67 | 30 | 27 | 22 | 23 | | |
| 30 | | | | 21 | 74 | 69 | 30 | 26 | 22 | 22 | | |
| 31 | | | | --- | 60 | --- | 30 | 26 | --- | 21 | | |
| TOTAL | | | | 670 | 1,287 | 2,304 | 1,352 | 914 | 730 | 671 | | |
| MEAN | | | | 22.3 | 41.5 | 76.8 | 43.6 | 29.5 | 24.3 | 21.6 | | |
| MAX | | | | 27 | 110 | 118 | 71 | 35 | 30 | 28 | | |
| MIN | | | | 19 | 21 | 54 | 30 | 26 | 22 | 18 | | |
| AC-FT | | | | 1,330 | 2,550 | 4,570 | 2,680 | 1,810 | 1,450 | 1,330 | | |

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1997 - 2004

| | | | | | | | |
|------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 26.2 | 55.1 | 91.9 | 56.4 | 35.5 | 28.9 | 25.5 |
| MAX | 35.6 | 90.3 | 192 | 110 | 56.7 | 43.0 | 37.6 |
| (WY) | (2000) | (1998) | (1999) | (1999) | (1999) | (1997) | (1998) |
| MIN | 18.7 | 37.8 | 30.5 | 24.7 | 19.3 | 17.4 | 16.3 |
| (WY) | (2003) | (2002) | (2001) | (2001) | (2001) | (2001) | (2002) |

SUMMARY STATISTICS

FOR 2004 SEASON

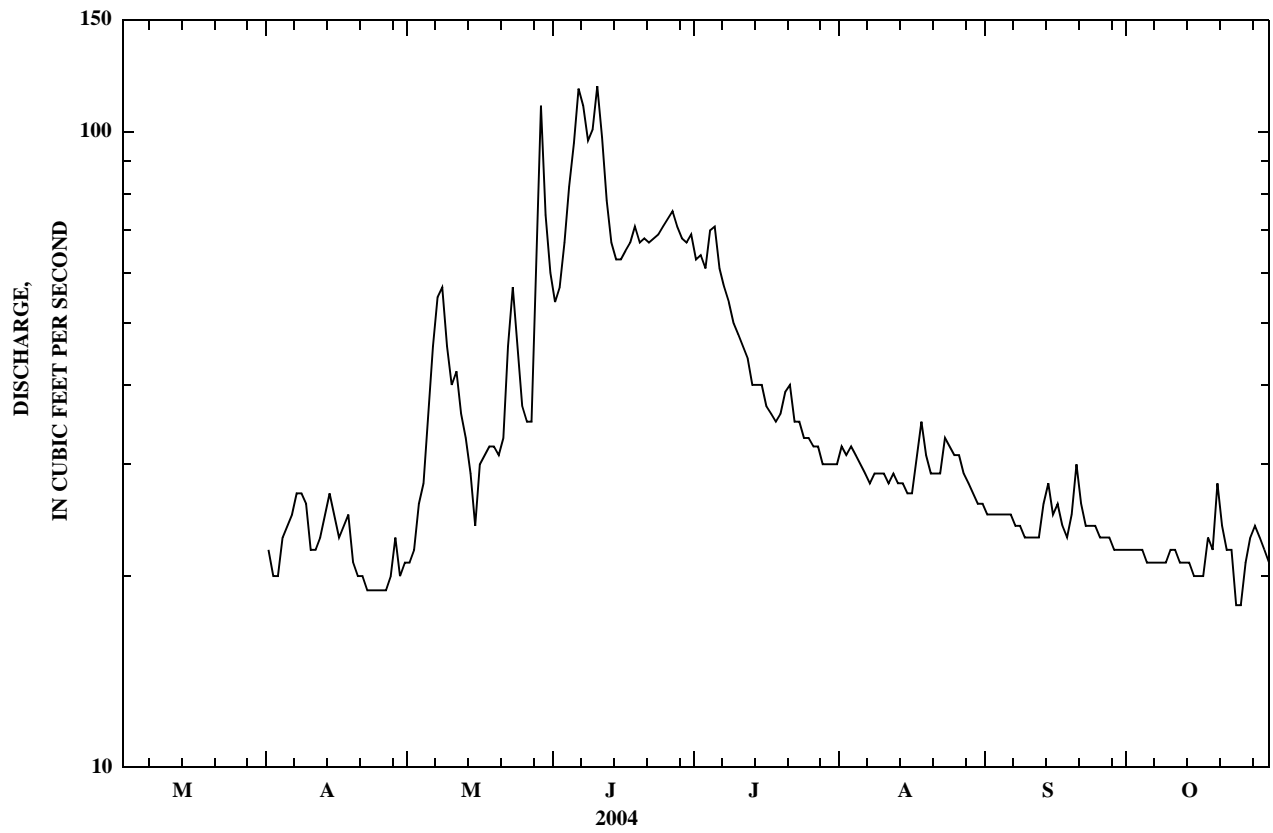
SEASONS 1997 - 2004

| | | | | |
|------------------------|------|--------|------|--------------|
| HIGHEST DAILY MEAN | 118 | Jun 10 | 270 | Jun 22, 1999 |
| LOWEST DAILY MEAN | 19 | Apr 22 | 12 | Oct 30, 2003 |
| MAXIMUM PEAK FLOW | 131 | Jun 10 | b293 | Jun 10, 1997 |
| MAXIMUM PEAK STAGE | 4.11 | Jun 10 | 5.34 | Jun 22, 1999 |
| INSTANTANEOUS LOW FLOW | a14 | Apr 3 | c8.9 | Oct 25, 2001 |

a--Gage height, 2.56 ft, result of freezeup.

b--Gage height, 3.93 ft, from crest-stage gage at miscellaneous site downstream.

c--Gage height, 2.48 ft, result of freezeup.



06012500 RED ROCK RIVER BELOW LIMA RESERVOIR, NEAR MONIDA, MT

LOCATION.--Lat 44°39'22", long 112°22'14" (NAD 27), in NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T.13 S., R.6 W., Beaverhead County, Hydrologic Unit 10020001, on right bank just downstream from Lima Reservoir, 7 mi northwest of Monida, and at river mile 2,542.1.

DRAINAGE AREA.--570 mi².

PERIOD OF RECORD.--January 1911 to December 1918, April 1919, May 1925 to October 1933, April 1934 to September 1935, May 1936 to October 1938, May 1939 to September 1969, seasonal records only June 1974 to September 1982 and April 1985 to current year. Monthly discharge only for some periods, published in WSP 1309. Prior to October 1950, published as "below Red Rock Reservoir".

REVISED RECORDS.--WSP 1309: 1935. WSP 1389: 1912, 1934. WSP 1559: Drainage area.

GAGE.--Water-stage recorder and sharp-crested weir. Elevation of gage is 6,530 ft (NGVD 29), estimated from spillway elevation based on Montana Department of Natural Resources and Conservation elevation. Prior to Oct. 1, 1978, at elevation 1.00 ft higher. See WSP 1709 for history of nonrecording gage changes prior to May 8, 1939.

REMARKS.--Seasonal records good. Flow regulated by Lima Reservoir (station number 06012000). No storage during 1934. Diversions for irrigation of about 10,000 acres upstream from reservoir. Bureau of Reclamation satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1984 reached a discharge of 1,500 ft³/s, gage height, 5.15 ft, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR JANUARY TO DECEMBER 2004
DAILY MEAN VALUES

| DAY | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-------|-----|-----|-----|----------|-------|-------|-------|-------|-------|-------|-----|-----|
| 1 | | | | 0.00 | 56 | 174 | 140 | 33 | 26 | 21 | | |
| 2 | | | | 0.00 | 56 | 173 | 134 | 33 | 26 | 18 | | |
| 3 | | | | 0.00 | 56 | 168 | 129 | 33 | 26 | 18 | | |
| 4 | | | | 0.00 | 56 | 165 | 127 | 33 | 26 | 18 | | |
| 5 | | | | 7.8 | 55 | 161 | 125 | 33 | 25 | 18 | | |
| 6 | | | | 28 | 55 | 148 | 118 | 33 | 24 | 17 | | |
| 7 | | | | 29 | 55 | 144 | 108 | 33 | 25 | 17 | | |
| 8 | | | | 53 | 55 | 148 | 98 | 33 | 26 | 17 | | |
| 9 | | | | 94 | 55 | 152 | 91 | 33 | 26 | 17 | | |
| 10 | | | | 86 | 55 | 152 | 84 | 33 | 26 | 17 | | |
| 11 | | | | 66 | 55 | 152 | 65 | 33 | 26 | 17 | | |
| 12 | | | | 66 | 55 | 152 | 55 | 33 | 27 | 17 | | |
| 13 | | | | 67 | 55 | 152 | 50 | 31 | 27 | 16 | | |
| 14 | | | | 67 | 55 | 152 | 40 | 29 | 27 | 16 | | |
| 15 | | | | 66 | 56 | 152 | 40 | 29 | 27 | 16 | | |
| 16 | | | | 67 | 56 | 152 | 38 | 29 | 27 | 16 | | |
| 17 | | | | 67 | 55 | 152 | 34 | 29 | 27 | 17 | | |
| 18 | | | | 67 | 56 | 153 | 33 | 29 | 27 | 17 | | |
| 19 | | | | 68 | 56 | 152 | 33 | 28 | 27 | 17 | | |
| 20 | | | | 67 | 56 | 152 | 33 | 27 | 27 | 17 | | |
| 21 | | | | 63 | 56 | 131 | 33 | 27 | 27 | 17 | | |
| 22 | | | | 55 | 56 | 153 | 33 | 27 | 27 | 16 | | |
| 23 | | | | 55 | 56 | 152 | 33 | 27 | 26 | 17 | | |
| 24 | | | | 55 | 56 | 152 | 33 | 27 | 26 | 17 | | |
| 25 | | | | 55 | 56 | 152 | 33 | 27 | 26 | 17 | | |
| 26 | | | | 55 | 103 | 152 | 33 | 27 | 27 | 17 | | |
| 27 | | | | 55 | 173 | 151 | 33 | 26 | 27 | 17 | | |
| 28 | | | | 56 | 173 | 151 | 33 | 26 | 27 | 17 | | |
| 29 | | | | 56 | 173 | 151 | 33 | 26 | 27 | 17 | | |
| 30 | | | | 55 | 173 | 151 | 33 | 26 | 27 | 17 | | |
| 31 | | | | --- | 173 | --- | 33 | 26 | --- | 17 | | |
| TOTAL | | | | 1,525.80 | 2,357 | 4,602 | 1,938 | 919 | 792 | 530 | | |
| MEAN | | | | 50.9 | 76.0 | 153 | 62.5 | 29.6 | 26.4 | 17.1 | | |
| MAX | | | | 94 | 173 | 174 | 140 | 33 | 27 | 21 | | |
| MIN | | | | 0.00 | 55 | 131 | 33 | 26 | 24 | 16 | | |
| AC-FT | | | | 3,030 | 4,680 | 9,130 | 3,840 | 1,820 | 1,570 | 1,050 | | |

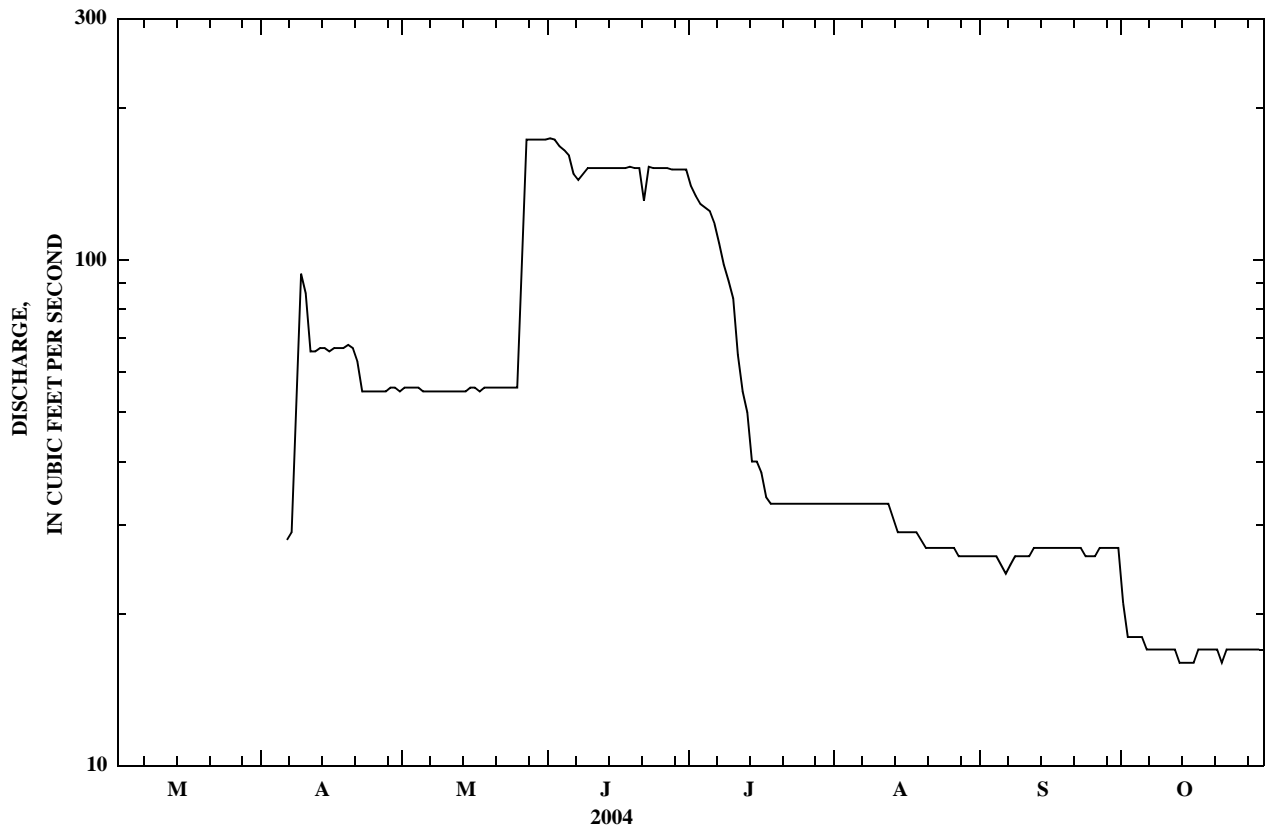
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1969 AND SEASONS 1974 - 2004*

| | | | | | | | | | | | | |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 21.5 | 19.9 | 18.8 | 69.2 | 299 | 537 | 323 | 215 | 139 | 56.5 | 54.0 | 28.0 |
| MAX | 57.9 | 55.3 | 48.0 | 571 | 948 | 754 | 652 | 513 | 384 | 430 | 353 | 97.6 |
| (WY) | (1928) | (1928) | (1918) | (1913) | (1917) | (1917) | (1982) | (1982) | (1995) | (1917) | (1913) | (1926) |
| MIN | 0.00 | 0.00 | 0.00 | 0.00 | 26.2 | 4.62 | 0.63 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| (WY) | (1932) | (1932) | (1932) | (1980) | (1934) | (1934) | (1934) | (1934) | (1937) | (1932) | (1932) | (1932) |

06012500 RED ROCK RIVER BELOW LIMA RESERVOIR, NEAR MONIDA, MT—Continued

| SUMMARY STATISTICS | FOR 2004 SEASON | | WATER YEARS 1911 - 1969* | | SEASONS 1974 - 2004* | |
|--------------------------|-----------------|--------|--------------------------|--------------|----------------------|--------------|
| ANNUAL MEAN | | | | 143 | | |
| HIGHEST ANNUAL MEAN | | | | 271 | 1913 | |
| LOWEST ANNUAL MEAN | | | | 59.5 | 1935 | |
| HIGHEST DAILY MEAN | 174 | Jun 1 | a2,500 | May 15, 1933 | 946 | May 28, 1975 |
| LOWEST DAILY MEAN | .00 | Apr 1 | 0.00 | Oct 1, 1931 | .00 | Oct 9, 1978 |
| ANNUAL SEVEN DAY MINIMUM | | | 0.00 | Oct 1, 1931 | | |
| MAXIMUM PEAK FLOW | 178 | May 27 | a2,500 | May 15, 1933 | b946 | May 28, 1975 |
| MAXIMUM PEAK STAGE | 2.16 | May 27 | 6.4 | May 15, 1933 | 4.00 | Jun 26, 1981 |
| ANNUAL RUNOFF (AC-FT) | | | 103,300 | | | |
| 10 PERCENT EXCEEDS | | | 449 | | | |
| 50 PERCENT EXCEEDS | | | 56 | | | |
| 90 PERCENT EXCEEDS | | | 8.0 | | | |

*--During periods of operation (January 1911 to December 1918, April 1919, May 1925 to October 1933, April 1934 to September 1935, May 1936 to October 1938, May 1939 to September 1969, June 1974 to September 1982, April 1985 to current year; seasonal records beginning water year 1974).
 a--Observed, estimated by dam tender; released to prevent dam failure.
 b--Gage height, 3.38 ft, datum then in use.



06015300 CLARK CANYON RESERVOIR NEAR GRANT, MT

LOCATION.--Lat 45°00'06", long 112°51'27" (NAD 27), in SE¹/₄SW¹/₄ sec 32, T.9 S., R.10 W., Beaverhead County, Hydrologic Unit 10020001, in shaft house near left end of dam on Beaverhead River, 1.5 mi upstream from Clark Canyon Creek, 10 mi east of Grant, and at river mile 2,483.9.

DRAINAGE AREA.--2,321 mi².

PERIOD OF RECORD.--May 1964 to current year (monthend contents only). Records of daily elevations are in files of Helena district.

GAGE.--Water-stage recorder in shaft house. Elevation of gage is 5,455 ft (NGVD 29) (levels by Bureau of Reclamation).

REMARKS.--Reservoir is formed by zoned earthfill dam with concrete control works and spillway completed in October 1964. Storage began Aug. 28, 1964 (uncontrolled storage began June 10, 1964). Capacity table effective Oct. 1, 2001. Elevations are referenced to the National Geodetic Vertical Datum of 1929. Usable capacity, 253,400 acre-ft between elevation 5,470.60 ft, invert of outlet works, and 5,560.40 ft, top of flood control. Dead storage, 1,060 acre-ft, below elevation 5,470.60 ft. Normal operating level, 174,400 acre-ft at elevation 5,546.10 ft. Minimum operating level, 1,060 acre-ft at elevation 5,470.60 ft. Figures given herein represent usable contents. Total contents published in previous water-supply papers and annual reports for May 1964 to September 1975. Water is used for irrigation, flood control, and recreation.

COOPERATION.--Elevations and capacity table furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 283,000 acre-ft, June 25, 1984, elevation, 5,564.70 ft; minimum since normal operating level was reached, 9,660 acre-ft, Aug. 18, 19, 2003, elevation, 5,490.01 ft

EXTREMES FOR CURRENT YEAR.--Maximum contents, 56,240 acre-ft, Apr. 25, 26, elevation, 5,516.76 ft; minimum, 14,920 acre-ft, Oct. 1, elevation, 5,494.94 ft.

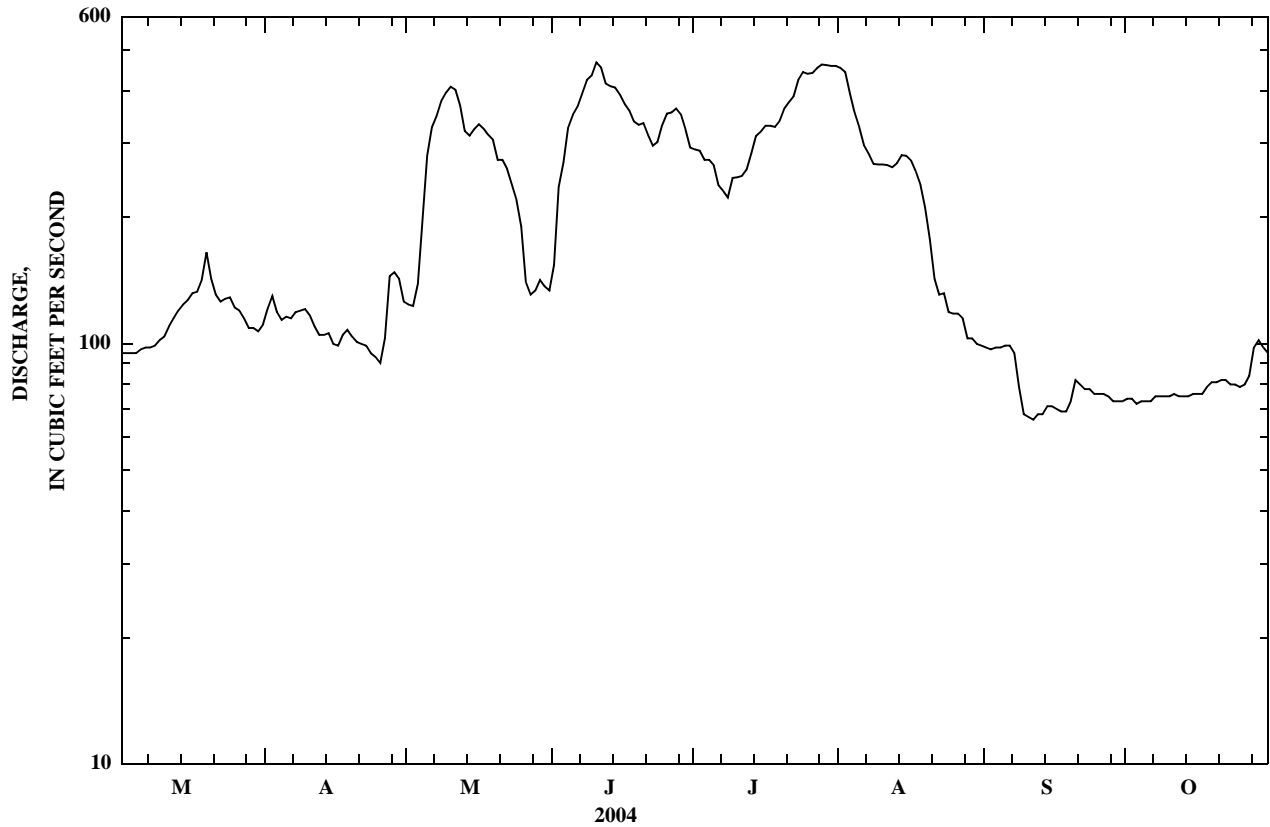
MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, SEPTEMBER 2003 TO SEPTEMBER 2004

| Date | Elevation (feet) | Contents (acre-feet) | Change in Contents (acre-feet) |
|--------------------|---------------------|-------------------------|--------------------------------------|
| September 30 | 5,494.82 | 14,780 | -- |
| October 31 | 5,499.03 | 20,340 | +5,560 |
| November 30 | 5,503.26 | 27,010 | +6,670 |
| December 31 | 5,507.41 | 34,680 | +7,670 |
| Calendar Year 2003 | -- | -- | -7,310 |
| January 31 | 5,510.69 | 41,530 | +6,850 |
| February 29 | 5,513.65 | 48,360 | +6,830 |
| March 31 | 5,515.98 | 54,180 | +5,820 |
| April 30 | 5,516.68 | 56,020 | +1,840 |
| May 31 | 5,514.03 | 49,280 | -6,740 |
| June 30 | 5,508.43 | 36,730 | -12,550 |
| July 31 | 5,502.30 | 25,400 | -11,330 |
| August 31 | 5,498.90 | 20,150 | -5,250 |
| September 30 | 5,501.23 | 23,670 | +3,520 |
| Water Year 2004 | -- | -- | +8,890 |

06016000 BEAVERHEAD RIVER AT BARRETTS, MT—Continued

| SUMMARY STATISTICS | WATER YEARS 1908 - 1986** | | WATER YEARS 1908 - 1964*** | | WATER YEARS 1965 - 1986**** | |
|--------------------------|---------------------------|--------------|----------------------------|--------------|-----------------------------|--------------|
| ANNUAL MEAN | 441 | | 401 | | 543 | |
| HIGHEST ANNUAL MEAN | 1,101 | 1984 | 738 | 1913 | 1,101 | 1984 |
| LOWEST ANNUAL MEAN | 168 | 1934 | 168 | 1934 | 293 | 1967 |
| HIGHEST DAILY MEAN | 3,640 | Jun 19, 1908 | 3,640 | Jun 23, 1908 | 2,930 | Jun 23, 1984 |
| LOWEST DAILY MEAN | 80 | Jan 22, 1962 | 80 | Jan 22, 1962 | 110 | Jan 29, 1975 |
| ANNUAL SEVEN-DAY MINIMUM | 81 | Sep 11, 1934 | 81 | Sep 11, 1934 | 119 | Jan 28, 1975 |
| MAXIMUM PEAK FLOW | 3,720 | Jun 2, 1908 | 3,720 | Jun 20, 1908 | 3,000 | Jun 22, 1984 |
| MAXIMUM PEAK STAGE | 6.10 | Jun 2, 1908 | 6.10 | Jun 20, 1908 | 5.04 | Jun 22, 1984 |
| INSTANTANEOUS LOW FLOW | c69 | Jun 30, 1939 | c69 | Jan 30, 1939 | | |
| ANNUAL RUNOFF (AC-FT) | 319,200 | | 290,500 | | 393,700 | |
| 10 PERCENT EXCEEDS | 830 | | 676 | | 1,000 | |
| 50 PERCENT EXCEEDS | 344 | | 330 | | 454 | |
| 90 PERCENT EXCEEDS | 177 | | 179 | | 190 | |

*--Seasonal records after 1986 water year.
 **--Annual record.
 ***--Prior to Clark Canyon Dam construction.
 ****--After Clark Canyon Dam construction.
 a--Gage height, 0.49 ft.
 b--Gage height, 0.33 ft.
 c--Gage height, 0.76 ft.



MISSOURI RIVER BASIN

06017000 BEAVERHEAD RIVER AT DILLON, MT

LOCATION.--Lat 45°13'05", long 112°39'18" (NAD 27), in NW¼NE¼NW¼ sec.24, T.7 S., R.9 W., Beaverhead County, Hydrologic Unit 10020002, on right bank 0.2 mi downstream from West Side Canal and county road bridge, at Dillon, and at river mile 2,456.1.

DRAINAGE AREA.--2,895 mi².

PERIOD OF RECORD.--August to September 1907 (gage heights only), October 1950 to September 1952, September 1963 to September 1971, April 2002 to current year (seasonal records only).

GAGE.--Water-stage recorder. Elevation of gage is 5,100 ft (NGVD 29). Prior to Sept. 30, 1952, nonrecording gages at same site at different elevation.

REMARKS.--Seasonal records good. Some regulation by Lima Reservoir (station number 06012000) and nearly complete regulation by Clark Canyon Reservoir (station number 06015300) since August 1964. Diversions for irrigation of about 125,500 acres, of which about 23,000 acres lies downstream from station. Bureau of Reclamation satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR JANUARY TO DECEMBER 2004
DAILY MEAN VALUES

| DAY | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-------|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|-----|-----|
| 1 | | | | 106 | 96 | 91 | 125 | 181 | 73 | 58 | | |
| 2 | | | | 114 | 91 | 94 | 130 | 188 | 72 | 60 | | |
| 3 | | | | 110 | 87 | 102 | 124 | 193 | 75 | 60 | | |
| 4 | | | | 105 | 95 | 134 | 129 | 179 | 79 | 59 | | |
| 5 | | | | 105 | 110 | 114 | 133 | 181 | 76 | 64 | | |
| 6 | | | | 101 | 123 | 124 | 112 | 158 | 83 | 63 | | |
| 7 | | | | 97 | 118 | 148 | 116 | 147 | 82 | 61 | | |
| 8 | | | | 98 | 115 | 151 | 108 | 123 | 68 | 61 | | |
| 9 | | | | 98 | 116 | 144 | 114 | 118 | 57 | 59 | | |
| 10 | | | | 97 | 139 | 170 | 119 | 104 | 53 | 59 | | |
| 11 | | | | 94 | 161 | 198 | 119 | 100 | 51 | 64 | | |
| 12 | | | | 84 | 155 | 190 | 121 | 98 | 55 | 62 | | |
| 13 | | | | 79 | 142 | 189 | 116 | 98 | 58 | 64 | | |
| 14 | | | | 79 | 121 | 188 | 141 | 104 | 58 | 64 | | |
| 15 | | | | 81 | 125 | 188 | 135 | 104 | 55 | 64 | | |
| 16 | | | | 73 | 129 | 176 | 151 | 114 | 44 | 73 | | |
| 17 | | | | 75 | 137 | 163 | 148 | 108 | 51 | 80 | | |
| 18 | | | | 86 | 122 | 145 | 149 | 104 | 54 | 86 | | |
| 19 | | | | 82 | 136 | 144 | 152 | 105 | 58 | 90 | | |
| 20 | | | | 80 | 116 | 149 | 150 | 98 | 70 | 93 | | |
| 21 | | | | 76 | 145 | 144 | 153 | 81 | 73 | 97 | | |
| 22 | | | | 75 | 144 | 128 | 147 | 73 | 72 | 97 | | |
| 23 | | | | 69 | 131 | 117 | 141 | 91 | 71 | 104 | | |
| 24 | | | | 65 | 109 | 128 | 163 | 89 | 72 | 101 | | |
| 25 | | | | 61 | 108 | 141 | 164 | 86 | 70 | 98 | | |
| 26 | | | | 57 | 98 | 145 | 170 | 88 | 69 | 100 | | |
| 27 | | | | 101 | 108 | 157 | 159 | 93 | 67 | 101 | | |
| 28 | | | | 126 | 104 | 161 | 152 | 87 | 64 | 114 | | |
| 29 | | | | 122 | 108 | 142 | 155 | 83 | 64 | 128 | | |
| 30 | | | | 104 | 106 | 121 | 162 | 83 | 60 | 124 | | |
| 31 | | | | --- | 102 | --- | 168 | 79 | --- | 122 | | |
| TOTAL | | | | 2,700 | 3,697 | 4,386 | 4,326 | 3,538 | 1,954 | 2,530 | | |
| MEAN | | | | 90.0 | 119 | 146 | 140 | 114 | 65.1 | 81.6 | | |
| MAX | | | | 126 | 161 | 198 | 170 | 193 | 83 | 128 | | |
| MIN | | | | 57 | 87 | 91 | 108 | 73 | 44 | 58 | | |
| AC-FT | | | | 5,360 | 7,330 | 8,700 | 8,580 | 7,020 | 3,880 | 5,020 | | |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1971 AND SEASONS 2002 - 2004*

| | | | | | | | | | | | | |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 372 | 385 | 388 | 377 | 282 | 354 | 237 | 223 | 297 | 280 | 457 | 429 |
| MAX | 462 | 539 | 606 | 1,078 | 742 | 1,157 | 493 | 475 | 796 | 680 | 700 | 613 |
| (WY) | (1971) | (1971) | (1969) | (1969) | (1969) | (1964) | (1971) | (1965) | (1965) | (1966) | (1966) | (1966) |
| MIN | 221 | 218 | 204 | 90.0 | 110 | 126 | 67.1 | 114 | 65.1 | 81.6 | 230 | 226 |
| (WY) | (1967) | (1967) | (1967) | (2004) | (2002) | (2002) | (1951) | (2004) | (2004) | (2005) | (1965) | (1967) |

SUMMARY STATISTICS

FOR 2004 SEASON

SEASONS 2002 - 2004

WATER YEARS 1951 - 1971*

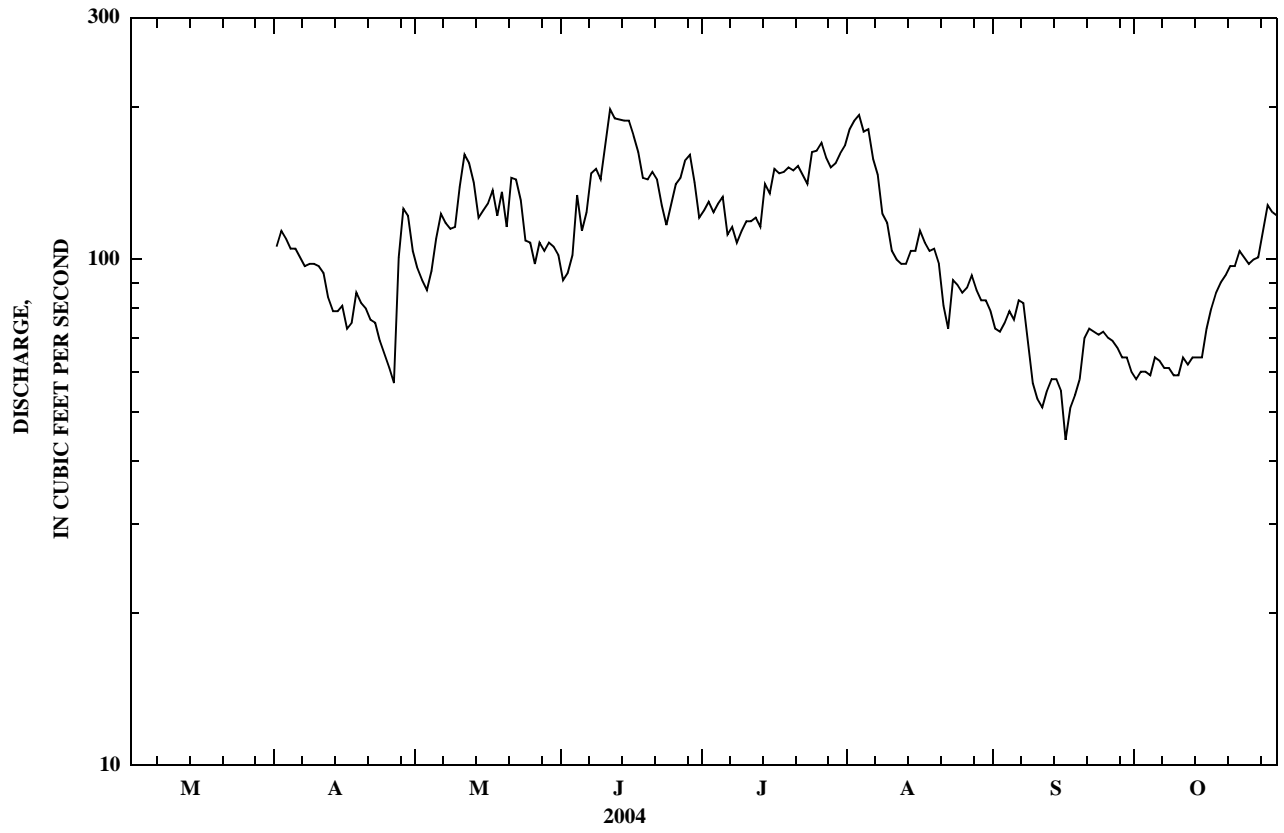
| | | | | | | | | | | | | | |
|--------------------------|--|--|--|------|--|--------|------|--------------|--|--|--|---------|--------------|
| ANNUAL MEAN | | | | | | | | | | | | 370 | |
| HIGHEST ANNUAL MEAN | | | | | | | | | | | | 523 | 1971 |
| LOWEST ANNUAL MEAN | | | | | | | | | | | | 183 | 1967 |
| HIGHEST DAILY MEAN | | | | 198 | | Jun 11 | 288 | Jul 21, 2003 | | | | 1,700 | Jun 21, 1964 |
| LOWEST DAILY MEAN | | | | 44 | | Sep 16 | 44 | Sep 16, 2004 | | | | 18 | Jun 19, 1952 |
| ANNUAL SEVEN-DAY MINIMUM | | | | | | | | | | | | 32 | Jul 27, 1951 |
| MAXIMUM PEAK FLOW | | | | a218 | | Jun 11 | 317 | Jul 21, 2003 | | | | 1,740 | Jun 21, 1964 |
| MAXIMUM PEAK STAGE | | | | 3.99 | | Aug 2 | 4.56 | Jul 21, 2003 | | | | 6.63 | Jun 21, 1964 |
| INSTANTANEOUS LOW FLOW | | | | | | | | | | | | b18 | Jun 19, 1952 |
| ANNUAL RUNOFF (AC-FT) | | | | | | | | | | | | 267,800 | |
| 10 PERCENT EXCEEDS | | | | | | | | | | | | 615 | |
| 50 PERCENT EXCEEDS | | | | | | | | | | | | 357 | |
| 90 PERCENT EXCEEDS | | | | | | | | | | | | 134 | |

*--During period of operation [October 1950 to September 1952, September 1963 to September 1971, April 2002 to October 2004 (seasonal records only)].

a--Gage height, 3.76 ft.

b--Observed.

06017000 BEAVERHEAD RIVER AT DILLON, MT—Continued



06018500 BEAVERHEAD RIVER NEAR TWIN BRIDGES, MT

LOCATION.--Lat 45°23'01", long 112°27'07" (NAD 27), in SW¹/₄NW¹/₄SE¹/₄ sec.22, T.5 S., R.7 W., Madison County, 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 southwest of Twin Bridges, 14.5 mi northeast of Dillon, and at river mile 2,430.4.

DRAINAGE AREA.--3,619 mi².

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

REVISED RECORDS.--WSP 1309: 1938(M), 1945(M). WSP 1559: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,809.15 ft (NGVD 29). 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 good. Flow partly regulated by Lima Reservoir (station number 06012000) and Clark Canyon Reservoir (station number 06015300) since August 1964. Diversions 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 at station. Several observations of water temperature and conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|
| 1 | 132 | e190 | 224 | 202 | 177 | 204 | 150 | 103 | 129 | 74 | 72 | 66 |
| 2 | 144 | e210 | 223 | e181 | 161 | 199 | 170 | 84 | 106 | 78 | 90 | 60 |
| 3 | 138 | 220 | 222 | e140 | 198 | 199 | 166 | 77 | 73 | 96 | 108 | 66 |
| 4 | 142 | 222 | 221 | e130 | 186 | 199 | 152 | 66 | 77 | 105 | 106 | 66 |
| 5 | 127 | e180 | 216 | e100 | 196 | 198 | 141 | 67 | 84 | 125 | 132 | 70 |
| 6 | 109 | e190 | 219 | e100 | 187 | 198 | 134 | 60 | 69 | 111 | 140 | 71 |
| 7 | 97 | e200 | 230 | 150 | 191 | 198 | 135 | 68 | 69 | 106 | 133 | 84 |
| 8 | 102 | e220 | 233 | 180 | 186 | 200 | 133 | 64 | 65 | 96 | 131 | 85 |
| 9 | 97 | e230 | 217 | 193 | 188 | 206 | 127 | 57 | 49 | 92 | 113 | 59 |
| 10 | 116 | 234 | 224 | 204 | 180 | 206 | 123 | 57 | 47 | 91 | 85 | 54 |
| 11 | 132 | 234 | 222 | 200 | 191 | 204 | 113 | 81 | 72 | 108 | 79 | 46 |
| 12 | 135 | 232 | 212 | 191 | 176 | 217 | 94 | 100 | 86 | 106 | 72 | 38 |
| 13 | 147 | 228 | 226 | 189 | 180 | 220 | 74 | 119 | 68 | 99 | 68 | 45 |
| 14 | 154 | 226 | 227 | 195 | 184 | 220 | 61 | 108 | 77 | 73 | 66 | 46 |
| 15 | 155 | 225 | 211 | 187 | 176 | 215 | 67 | 89 | 85 | 58 | 70 | 56 |
| 16 | 167 | 224 | 191 | 194 | 183 | 198 | 81 | 95 | 93 | 53 | 66 | 56 |
| 17 | 174 | 228 | 204 | 187 | 206 | 200 | 85 | 116 | 101 | 58 | 80 | 55 |
| 18 | 172 | 227 | 185 | 174 | 204 | 207 | 88 | 113 | 89 | 63 | 89 | 54 |
| 19 | 171 | 232 | 190 | 193 | 208 | 219 | 90 | 135 | 87 | 71 | 90 | 69 |
| 20 | 170 | 235 | 213 | 195 | 195 | 228 | 91 | 134 | 80 | 67 | 99 | 101 |
| 21 | 166 | 226 | 213 | 186 | 193 | 216 | 95 | 129 | 87 | 67 | 112 | 135 |
| 22 | 171 | 199 | 198 | 170 | 193 | 207 | 96 | 165 | 82 | 68 | 95 | 142 |
| 23 | 181 | 194 | 184 | 164 | 199 | 200 | 88 | 198 | 58 | 66 | 100 | 133 |
| 24 | 182 | 202 | 220 | 196 | 198 | 196 | 87 | 168 | 56 | 66 | 112 | 145 |
| 25 | 198 | e200 | 207 | 187 | 198 | 201 | 70 | 156 | 61 | 65 | 76 | 134 |
| 26 | 198 | e200 | 204 | 165 | 199 | 186 | 60 | 154 | 74 | 71 | 71 | 127 |
| 27 | 206 | e200 | 199 | 179 | 199 | 205 | 58 | 139 | 97 | 69 | 71 | 135 |
| 28 | 207 | e210 | 155 | 192 | 200 | 179 | 107 | 131 | 114 | 57 | 73 | 141 |
| 29 | 210 | 226 | 195 | 201 | 202 | 175 | 140 | 136 | 120 | 53 | 75 | 136 |
| 30 | e200 | 220 | 176 | 204 | --- | 158 | 121 | 148 | 99 | 63 | 86 | 135 |
| 31 | e190 | --- | 177 | 187 | --- | 139 | --- | 137 | --- | 65 | 87 | --- |
| TOTAL | 4,890 | 6,464 | 6,438 | 5,516 | 5,534 | 6,197 | 3,197 | 3,454 | 2,454 | 2,440 | 2,847 | 2,610 |
| MEAN | 158 | 215 | 208 | 178 | 191 | 200 | 107 | 111 | 81.8 | 78.7 | 91.8 | 87.0 |
| MAX | 210 | 235 | 233 | 204 | 208 | 228 | 170 | 198 | 129 | 125 | 140 | 145 |
| MIN | 97 | 180 | 155 | 100 | 161 | 139 | 58 | 57 | 47 | 53 | 66 | 38 |
| AC-FT | 9,700 | 12,820 | 12,770 | 10,940 | 10,980 | 12,290 | 6,340 | 6,850 | 4,870 | 4,840 | 5,650 | 5,180 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2004, BY WATER YEAR (WY)

| | | | | | | | | | | | | |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 440 | 545 | 480 | 405 | 419 | 469 | 470 | 310 | 381 | 278 | 245 | 378 |
| 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 | 215 | 208 | 173 | 191 | 200 | 95.5 | 40.8 | 24.2 | 28.0 | 25.8 | 28.1 |
| (WY) | (1938) | (2004) | (2004) | (1937) | (2004) | (2004) | (1961) | (1937) | (1940) | (1937) | (1937) | (1937) |

SUMMARY STATISTICS

FOR 2003 CALENDAR YEAR

FOR 2004 WATER YEAR

WATER YEARS 1935 - 2004

| | | | | | | | | | | | | |
|--------------------------|---------|--------|--|--|--|--|---------|--|--------|---------|--|--------------|
| ANNUAL TOTAL | 60,343 | 52,041 | | | | | | | | | | |
| ANNUAL MEAN | 165 | 142 | | | | | | | | 402 | | |
| HIGHEST ANNUAL MEAN | | | | | | | | | | 1,097 | | 1984 |
| LOWEST ANNUAL MEAN | | | | | | | | | | 142 | | 2004 |
| HIGHEST DAILY MEAN | 416 | | | | | | 235 | | Nov 20 | 3,130 | | Jan 12, 1944 |
| LOWEST DAILY MEAN | 37 | | | | | | 38 | | Sep 12 | 7.0 | | May 25, 1940 |
| ANNUAL SEVEN-DAY MINIMUM | 61 | | | | | | 49 | | Sep 10 | 8.7 | | May 13, 1954 |
| MAXIMUM PEAK FLOW | | | | | | | 344 | | Nov 9 | b3,130 | | Jun 12, 1944 |
| MAXIMUM PEAK STAGE | | | | | | | 4.61 | | Nov 6 | 7.88 | | Jun 25, 1984 |
| INSTANTANEOUS LOW FLOW | | | | | | | a34 | | Sep 12 | c28 | | Jun 24, 1990 |
| ANNUAL RUNOFF (AC-FT) | 119,700 | | | | | | 103,200 | | | 290,900 | | |
| 10 PERCENT EXCEEDS | 228 | | | | | | 216 | | | 717 | | |
| 50 PERCENT EXCEEDS | 179 | | | | | | 140 | | | 382 | | |
| 90 PERCENT EXCEEDS | 82 | | | | | | 66 | | | 97 | | |

06018500 BEAVERHEAD RIVER NEAR TWIN BRIDGES, MT—Continued

| SUMMARY STATISTICS | WATER YEARS 1935 - 1964* | | WATER YEARS 1965 - 2004** | |
|--------------------------|--------------------------|--------------|---------------------------|--------------|
| ANNUAL MEAN | 391 | | 409 | |
| HIGHEST ANNUAL MEAN | 642 | 1984 | 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 | 28 | Jun 24, 1990 |
| ANNUAL SEVEN-DAY MINIMUM | | | 31 | Jun 23, 1990 |
| 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 | c7.0 | May 25, 1940 | d28 | Jun 24, 1990 |
| ANNUAL RUNOFF (AC-FT) | 283,100 | | 296,500 | |
| 10 PERCENT EXCEEDS | 648 | | 778 | |
| 50 PERCENT EXCEEDS | 410 | | 354 | |
| 90 PERCENT EXCEEDS | 60 | | 119 | |

*--Prior to construction of Clark Canyon Dam.

**--After construction of Clark Canyon Dam.

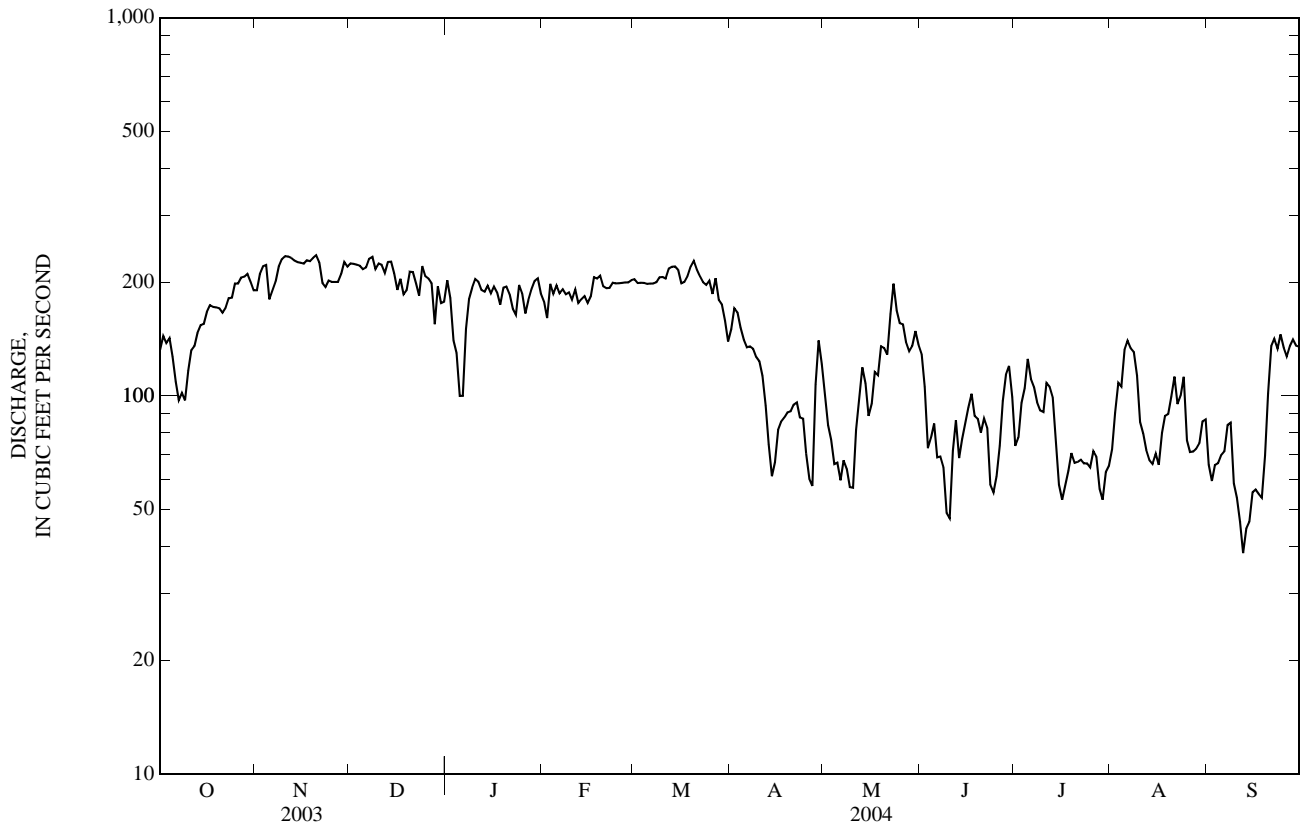
a--Gage height, 3.15 ft.

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

c--Observed, site and datum then in use.

d--Gage height, 3.01 ft.

e--Estimated.



RUBY RIVER BASIN

06019500 RUBY RIVER ABOVE RESERVOIR, NEAR ALDER, MT

LOCATION.--Lat 47°11'57", long 112°05'44" (NAD 27), in NW¼SE¼SW¼ sec.30, T.7 S., R.4 W., Madison County, Hydrologic Unit 10020003, on right bank at county road bridge, 0.7 mi downstream from Mormon Creek, 4.2 mi upstream from Ruby Dam, 9.3 mi south of Alder, and at river mile 52.1.

DRAINAGE AREA.--534 mi².

PERIOD OF RECORD.--May 1938 to current year. Monthly discharge only for May 1938, published in WSP 1309.

REVISED RECORDS.--WSP 1309: 1938(M). WSP 1559: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,400 ft (NGVD 29). Prior to Oct. 1, 1938, nonrecording gage at bridge 2.0 mi upstream at different elevation. Oct. 1, 1938, to Aug. 5, 1955, water-stage recorder at site 2.2 mi upstream at different elevation. Aug. 6, 1955 to Sept. 30, 1997, water-stage recorder 2.3 mi upstream at different elevation.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Diversion for irrigation of about 3,000 acres upstream from station. U. S. Geological Survey satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|-------|-------|-------|
| 1 | 91 | 98 | 101 | 99 | 96 | 95 | 125 | 122 | 247 | 201 | 94 | 84 |
| 2 | 96 | 97 | 102 | e96 | e96 | 93 | 133 | 143 | 246 | 197 | 96 | 86 |
| 3 | 101 | 102 | 102 | e94 | 98 | 96 | 126 | 175 | 288 | 203 | 100 | 93 |
| 4 | 108 | 105 | 102 | e90 | 99 | 95 | 129 | 190 | 341 | 233 | 91 | 93 |
| 5 | 107 | 99 | 98 | e85 | 96 | 96 | 136 | 236 | 396 | 246 | 91 | 93 |
| 6 | 104 | e95 | 104 | e88 | 94 | 93 | 135 | 276 | 468 | 212 | 88 | 90 |
| 7 | 105 | e95 | 105 | e94 | 96 | 94 | 135 | 239 | 401 | 192 | 85 | 92 |
| 8 | 109 | e97 | 103 | e96 | 96 | 106 | 135 | 245 | 340 | 183 | 87 | 90 |
| 9 | 106 | 99 | 96 | e100 | 95 | 106 | 138 | 223 | 331 | 165 | 85 | 92 |
| 10 | 108 | 102 | 99 | e96 | 93 | 106 | 130 | 207 | 453 | 162 | 84 | 89 |
| 11 | 110 | 105 | 102 | e96 | 96 | 103 | 121 | 208 | 604 | 166 | 87 | 85 |
| 12 | 108 | 104 | 101 | e94 | 95 | 103 | 118 | 195 | 422 | 154 | 86 | 86 |
| 13 | 109 | 102 | 101 | e96 | e94 | 104 | 122 | 162 | 359 | 146 | 82 | 104 |
| 14 | 110 | 103 | 103 | e96 | e94 | 101 | 134 | 149 | 315 | 142 | 78 | 117 |
| 15 | 114 | 104 | 99 | e96 | 96 | 101 | 131 | 143 | 290 | 148 | 83 | 118 |
| 16 | 114 | 105 | 98 | e96 | e96 | 100 | 120 | 152 | 266 | 145 | 83 | 116 |
| 17 | 113 | 105 | 98 | 96 | 96 | 101 | 122 | 172 | 252 | 135 | 84 | 113 |
| 18 | 111 | 104 | e96 | 99 | 99 | 105 | 127 | 174 | 247 | 129 | 94 | 109 |
| 19 | 110 | 105 | e96 | 94 | 101 | 109 | 121 | 233 | 247 | 139 | 92 | 115 |
| 20 | 108 | 106 | e96 | 96 | 97 | 104 | 119 | 199 | 270 | 146 | 85 | 142 |
| 21 | 108 | 95 | 98 | 96 | 94 | 106 | 116 | 214 | 251 | 141 | 82 | 143 |
| 22 | 108 | 99 | 97 | 98 | 95 | 108 | 112 | 239 | 230 | 129 | 80 | 132 |
| 23 | 108 | 98 | e96 | 97 | 98 | 110 | 105 | 331 | 202 | 125 | 81 | 130 |
| 24 | 107 | 97 | 95 | 96 | 97 | 111 | 108 | 318 | 192 | 117 | 85 | 134 |
| 25 | 105 | e96 | 98 | 98 | 97 | 119 | 114 | 253 | 198 | 113 | 89 | 132 |
| 26 | 106 | e96 | 100 | 96 | 98 | 122 | 104 | 240 | 218 | 113 | 87 | 125 |
| 27 | 109 | e97 | 98 | 96 | 97 | 113 | 105 | 234 | 209 | 110 | 86 | 127 |
| 28 | 109 | 98 | e96 | 97 | 96 | 112 | 131 | 277 | 229 | 106 | 85 | 128 |
| 29 | 111 | 98 | e94 | 96 | 96 | 109 | 135 | 366 | 227 | 102 | 83 | 123 |
| 30 | 106 | 100 | e96 | 97 | --- | 108 | 123 | 310 | 204 | 95 | 84 | 121 |
| 31 | 99 | --- | e98 | 94 | --- | 111 | --- | 273 | --- | 95 | 86 | --- |
| TOTAL | 3,318 | 3,006 | 3,068 | 2,958 | 2,791 | 3,240 | 3,710 | 6,898 | 8,943 | 4,690 | 2,683 | 3,302 |
| MEAN | 107 | 100 | 99.0 | 95.4 | 96.2 | 105 | 124 | 223 | 298 | 151 | 86.5 | 110 |
| MAX | 114 | 106 | 105 | 100 | 101 | 122 | 138 | 366 | 604 | 246 | 100 | 143 |
| MIN | 91 | 95 | 94 | 85 | 93 | 93 | 104 | 122 | 192 | 95 | 78 | 84 |
| AC-FT | 6,580 | 5,960 | 6,090 | 5,870 | 5,540 | 6,430 | 7,360 | 13,680 | 17,740 | 9,300 | 5,320 | 6,550 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2004, BY WATER YEAR (WY)

| | | | | | | | | | | | | |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 122 | 122 | 111 | 103 | 102 | 110 | 164 | 415 | 468 | 193 | 120 | 114 |
| MAX | 185 | 177 | 170 | 158 | 135 | 181 | 288 | 1,010 | 1,117 | 482 | 235 | 171 |
| (WY) | (1984) | (1984) | (1948) | (1948) | (1971) | (1960) | (1962) | (1984) | (1984) | (1975) | (1975) | (1984) |
| MIN | 83.4 | 87.8 | 80.3 | 69.8 | 79.2 | 84.3 | 94.6 | 187 | 136 | 74.8 | 59.3 | 73.3 |
| (WY) | (1940) | (1940) | (1940) | (1943) | (1942) | (1945) | (1945) | (2002) | (1987) | (1961) | (1940) | (1988) |

SUMMARY STATISTICS

FOR 2003 CALENDAR YEAR

FOR 2004 WATER YEAR

WATER YEARS 1938 - 2004

| | | | | |
|--------------------------|---------|--------|---------|------|
| ANNUAL TOTAL | 52,543 | 48,607 | | |
| ANNUAL MEAN | 144 | 133 | | 179 |
| HIGHEST ANNUAL MEAN | | | | 336 |
| LOWEST ANNUAL MEAN | | | | 119 |
| HIGHEST DAILY MEAN | 1,110 | 604 | 2,940 | 1961 |
| LOWEST DAILY MEAN | 70 | 78 | 35 | 1962 |
| ANNUAL SEVEN-DAY MINIMUM | 83 | 83 | 38 | 1992 |
| MAXIMUM PEAK FLOW | | 731 | 3,810 | 1984 |
| MAXIMUM PEAK STAGE | | 4.39 | 66.24 | 1984 |
| INSTANTANEOUS LOW FLOW | | a75 | c34 | 1992 |
| ANNUAL RUNOFF (AC-FT) | 104,200 | 96,410 | 129,700 | |
| 10 PERCENT EXCEEDS | 219 | 233 | 348 | |
| 50 PERCENT EXCEEDS | 102 | 105 | 119 | |
| 90 PERCENT EXCEEDS | 90 | 91 | 90 | |

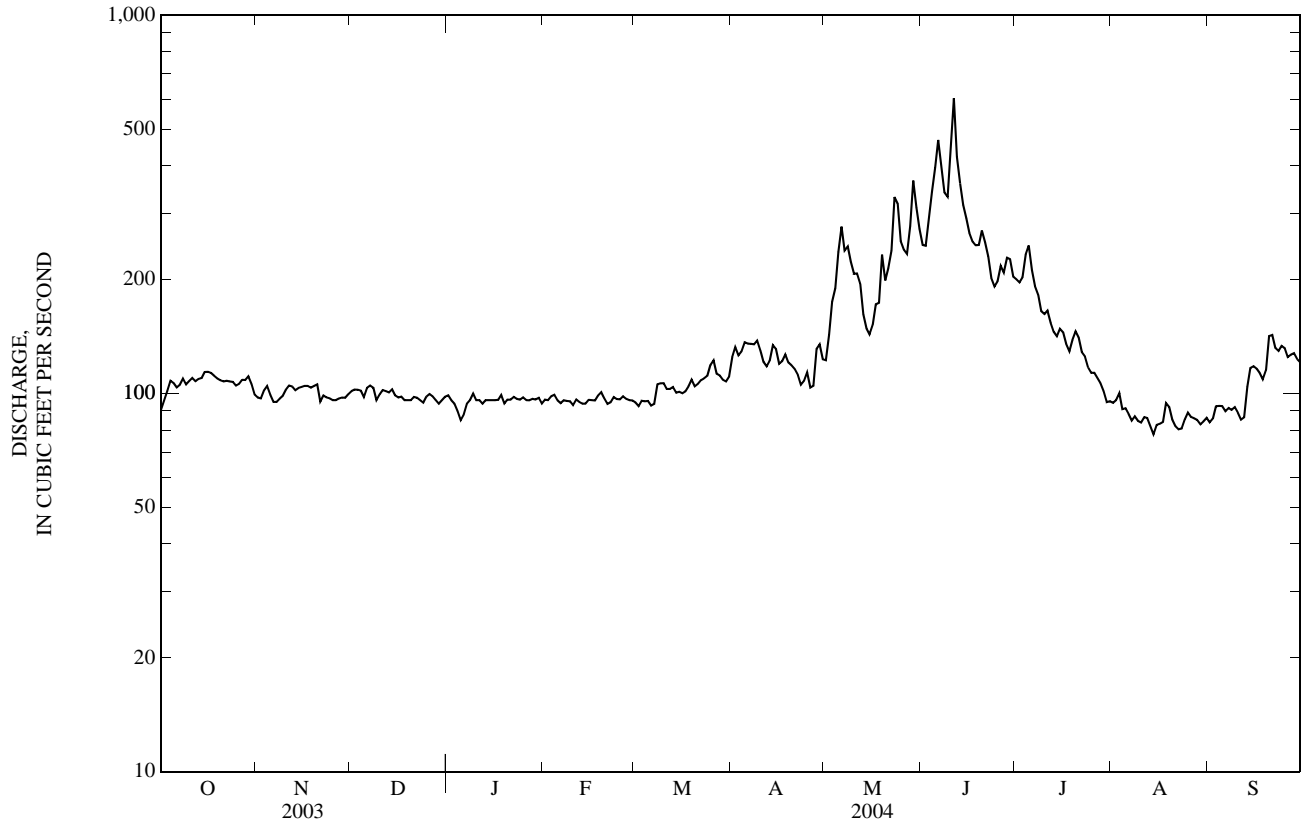
a--Gage height, 2.71 ft.

b--Site and datum then in use.

c--Gage height, 1.99 ft, site and datum then in use.

e--Estimated.

06019500 RUBY RIVER ABOVE RESERVOIR, NEAR ALDER, MT—Continued



06020600 RUBY RIVER BELOW RESERVOIR, NEAR ALDER, MT

LOCATION.--Lat 45°14'32", long 112°06'36" (NAD 27), in SE¹/₄SE¹/₄NE¹/₄ sec.8, T.7 S., R.4 W., Madison County, Hydrologic Unit 10020003, on right bank 0.2 mi downstream from Ruby Dam, 5.7 mi south of Alder, and at river mile 47.8.

DRAINAGE AREA.--596 mi².

PERIOD OF RECORD.--December 1962 to current year.

REVISED RECORDS.--1985 (M).

GAGE.--Water-stage recorder. Elevation of gage is 5,286.63 ft (NGVD 29) (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good. Flow regulated by Ruby River Reservoir (station number 06020500). Diversions for irrigation of about 3,500 acres upstream from station. U. S. Geological Survey satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| 1 | 63 | 58 | 39 | 27 | 28 | 29 | 30 | 54 | 112 | 283 | 345 | 254 |
| 2 | 63 | 58 | 39 | 27 | 28 | 29 | 30 | 54 | 112 | 260 | 343 | 221 |
| 3 | 63 | 53 | 34 | 27 | 28 | 29 | 30 | 97 | 129 | 243 | 342 | 202 |
| 4 | 63 | 45 | 29 | 27 | 28 | 30 | 30 | 137 | 200 | 243 | 340 | 205 |
| 5 | 64 | 45 | 29 | 27 | 28 | 30 | 30 | 210 | 241 | 239 | 340 | 204 |
| 6 | 64 | 45 | 29 | 27 | 28 | 30 | 30 | 320 | 251 | 210 | 339 | 204 |
| 7 | 64 | 44 | 29 | 27 | 28 | 30 | 30 | 319 | 281 | 196 | 341 | 224 |
| 8 | 64 | 44 | 29 | 27 | 28 | 29 | 30 | 380 | 298 | 201 | 333 | 234 |
| 9 | 65 | 44 | 28 | 27 | 28 | 29 | 41 | 400 | 319 | 199 | 332 | 256 |
| 10 | 66 | 44 | 28 | 27 | 28 | 29 | 52 | 408 | 331 | 206 | 329 | 266 |
| 11 | 66 | 44 | 28 | 27 | 28 | 29 | 52 | 460 | 321 | 213 | 333 | 264 |
| 12 | 67 | 45 | 28 | 27 | 28 | 29 | 52 | 507 | 303 | 240 | 347 | 261 |
| 13 | 67 | 43 | 28 | 27 | 28 | 29 | 52 | 505 | 296 | 255 | 340 | 255 |
| 14 | 60 | 40 | 28 | 27 | 28 | 29 | 52 | 503 | 296 | 255 | 338 | 242 |
| 15 | 56 | 40 | 28 | 27 | 28 | 29 | 52 | 501 | 296 | 256 | 344 | 226 |
| 16 | 56 | 40 | 28 | 27 | 29 | 29 | 52 | 499 | 297 | 266 | 335 | 214 |
| 17 | 56 | 40 | 28 | 27 | 29 | 30 | 51 | 497 | 297 | 277 | 329 | 213 |
| 18 | 56 | 40 | 28 | 27 | 29 | 30 | 52 | 482 | 297 | 299 | 327 | 212 |
| 19 | 57 | 40 | 28 | 27 | 29 | 29 | 52 | 469 | 303 | 298 | 327 | 210 |
| 20 | 57 | 40 | 27 | 27 | 29 | 29 | 52 | 414 | 302 | 295 | 327 | 180 |
| 21 | 57 | 40 | 27 | 27 | 29 | 30 | 52 | 406 | 309 | 294 | 334 | 162 |
| 22 | 57 | 40 | 28 | 27 | 29 | 30 | 53 | 387 | 323 | 293 | 322 | 152 |
| 23 | 57 | 40 | 27 | 27 | 29 | 30 | 53 | 278 | 323 | 293 | 320 | 145 |
| 24 | 58 | 40 | 28 | 27 | 29 | 30 | 53 | 179 | 316 | 292 | 316 | 145 |
| 25 | 59 | 39 | 28 | 27 | 29 | 30 | 53 | 183 | 316 | 289 | 313 | 144 |
| 26 | 59 | 39 | 28 | 27 | 29 | 30 | 53 | 188 | 319 | 289 | 306 | 123 |
| 27 | 59 | 39 | 28 | 27 | 29 | 30 | 54 | 170 | 317 | 290 | 276 | 114 |
| 28 | 59 | 39 | 28 | 27 | 29 | 30 | 54 | 152 | 317 | 298 | 260 | 114 |
| 29 | 59 | 39 | 28 | 28 | 29 | 30 | 54 | 122 | 306 | 310 | 258 | 115 |
| 30 | 59 | 39 | 27 | 28 | --- | 30 | 54 | 111 | 292 | 336 | 257 | 115 |
| 31 | 58 | --- | 27 | 28 | --- | 30 | --- | 112 | --- | 346 | 255 | --- |
| TOTAL | 1,878 | 1,286 | 896 | 840 | 826 | 916 | 1,385 | 9,504 | 8,420 | 8,264 | 9,948 | 5,876 |
| MEAN | 60.6 | 42.9 | 28.9 | 27.1 | 28.5 | 29.5 | 46.2 | 307 | 281 | 267 | 321 | 196 |
| MAX | 67 | 58 | 39 | 28 | 29 | 30 | 54 | 507 | 331 | 346 | 347 | 266 |
| MIN | 56 | 39 | 27 | 27 | 28 | 29 | 30 | 54 | 112 | 196 | 255 | 114 |
| AC-FT | 3,730 | 2,550 | 1,780 | 1,670 | 1,640 | 1,820 | 2,750 | 18,850 | 16,700 | 16,390 | 19,730 | 11,660 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2004, BY WATER YEAR (WY)

| | | | | | | | | | | | | |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 120 | 72.3 | 54.1 | 50.0 | 45.2 | 56.1 | 89.2 | 417 | 583 | 350 | 353 | 247 |
| MAX | 244 | 222 | 142 | 139 | 92.4 | 174 | 192 | 1,035 | 1,209 | 559 | 473 | 399 |
| (WY) | (1965) | (1985) | (1984) | (1984) | (1971) | (1998) | (1965) | (1984) | (1984) | (1975) | (1970) | (1975) |
| MIN | 38.0 | 28.9 | 23.6 | 20.9 | 21.4 | 19.3 | 30.5 | 189 | 281 | 197 | 222 | 59.4 |
| (WY) | (1986) | (2003) | (2003) | (1989) | (1991) | (1991) | (1991) | (1963) | (2004) | (1992) | (1985) | (1994) |

SUMMARY STATISTICS

FOR 2003 CALENDAR YEAR

FOR 2004 WATER YEAR

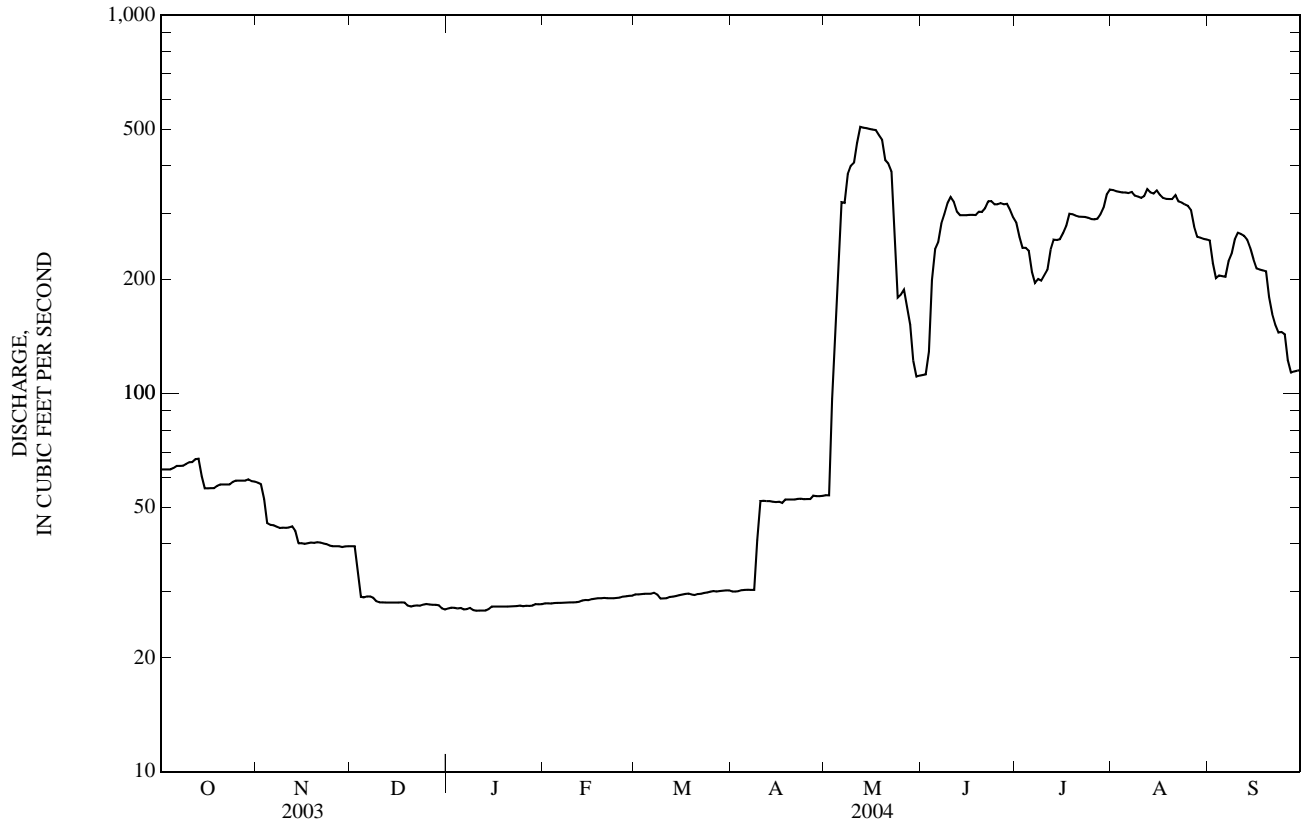
WATER YEARS 1963 - 2004

| | | | |
|--------------------------|---------|--------|---------|
| ANNUAL TOTAL | 56,542 | 50,039 | |
| ANNUAL MEAN | 155 | 137 | 205 |
| HIGHEST ANNUAL MEAN | | | 352 |
| LOWEST ANNUAL MEAN | | | 128 |
| HIGHEST DAILY MEAN | 1,030 | May 31 | 507 |
| LOWEST DAILY MEAN | 22 | Jan 22 | 27 |
| ANNUAL SEVEN-DAY MINIMUM | 22 | Jan 22 | 27 |
| MAXIMUM PEAK FLOW | | | 519 |
| MAXIMUM PEAK STAGE | | | 4.06 |
| INSTANTANEOUS LOW FLOW | | | May 12 |
| ANNUAL RUNOFF (AC-FT) | 112,200 | 99,250 | 148,300 |
| 10 PERCENT EXCEEDS | 369 | 328 | 448 |
| 50 PERCENT EXCEEDS | 57 | 56 | 109 |
| 90 PERCENT EXCEEDS | 23 | 28 | 31 |

a--From floodmark.

b--Dam closure; result of discharge measurement..

06020600 RUBY RIVER BELOW RESERVOIR, NEAR ALDER, MT—Continued



06024450 BIG HOLE RIVER BELOW BIG LAKE CREEK, AT WISDOM, MT

LOCATION.--Lat 45°37'07", long 113°27'25" (NAD 27), in SW¹/₄SW¹/₄NE¹/₄ sec. 33, T.2 S., R.15 W., Beaverhead County, Hydrologic Unit 10020004, on downstream side of State Highway 43 bridge, 0.3 mi west of Wisdom, 0.6 mi downstream from Big Lake Creek, and at river mile 116.0.

DRAINAGE AREA.--575 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1988 to current year (seasonal records only).

REVISED RECORDS.--WDR-MT-95-1: 1991 (M).

GAGE.--Water-stage recorder. Elevation of gage is 6,040 ft (NGVD 29).

REMARKS.--Seasonal water-discharge records good. Diversions for irrigation of about 66,900 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR JANUARY TO DECEMBER 2004
DAILY MEAN VALUES

| DAY | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-------|-----|-----|-----|-------|---------|-------|-------|-------|-------|-------|-----|-----|
| 1 | | | | 165 | 17 | 49 | 362 | 41 | 29 | 81 | | |
| 2 | | | | 174 | 16 | 32 | 234 | 36 | 30 | 77 | | |
| 3 | | | | 166 | 16 | 23 | 207 | 39 | 29 | 76 | | |
| 4 | | | | 169 | 16 | 18 | 248 | 39 | 37 | 75 | | |
| 5 | | | | 170 | 15 | 16 | 262 | 35 | 36 | 71 | | |
| 6 | | | | 163 | 17 | 18 | 188 | 34 | 33 | 66 | | |
| 7 | | | | 149 | 13 | 41 | 143 | 33 | 33 | 66 | | |
| 8 | | | | 145 | 11 | 67 | 127 | 30 | 34 | 66 | | |
| 9 | | | | 143 | 9.7 | 88 | 106 | 29 | 34 | 68 | | |
| 10 | | | | 138 | 8.0 | 133 | 96 | 27 | 34 | 67 | | |
| 11 | | | | 128 | 7.2 | 344 | 91 | 25 | 31 | 66 | | |
| 12 | | | | 120 | 11 | 232 | 78 | 24 | 36 | 65 | | |
| 13 | | | | 109 | 12 | 137 | 71 | 22 | 54 | 64 | | |
| 14 | | | | 89 | 9.7 | 98 | 58 | 21 | 62 | 64 | | |
| 15 | | | | 79 | 8.1 | 62 | 59 | 20 | 62 | 65 | | |
| 16 | | | | 65 | 7.1 | 44 | 78 | 20 | 64 | 65 | | |
| 17 | | | | 49 | 8.5 | 40 | 85 | 23 | 62 | 66 | | |
| 18 | | | | 56 | 15 | 42 | 87 | 34 | 60 | 76 | | |
| 19 | | | | 56 | 57 | 71 | 157 | 36 | 85 | 83 | | |
| 20 | | | | 38 | 50 | 103 | 223 | 33 | 117 | 81 | | |
| 21 | | | | 34 | 57 | 81 | 210 | 29 | 113 | 82 | | |
| 22 | | | | 32 | 191 | 68 | 147 | 30 | 103 | 82 | | |
| 23 | | | | 26 | 224 | 58 | 107 | 34 | 98 | 82 | | |
| 24 | | | | 22 | 146 | 38 | 97 | 35 | 97 | 83 | | |
| 25 | | | | 20 | 99 | 31 | 84 | 45 | 100 | 73 | | |
| 26 | | | | 18 | 65 | 45 | 76 | 51 | 96 | 76 | | |
| 27 | | | | 16 | 38 | 72 | 62 | 55 | 91 | 83 | | |
| 28 | | | | 19 | 37 | 122 | 54 | 50 | 88 | 86 | | |
| 29 | | | | 18 | 73 | 186 | 49 | 42 | 84 | 87 | | |
| 30 | | | | 18 | 84 | 342 | 47 | 37 | 85 | 87 | | |
| 31 | | | | --- | 68 | --- | 47 | 33 | --- | 80 | | |
| TOTAL | | | | 2,594 | 1,406.3 | 2,701 | 3,940 | 1,042 | 1,917 | 2,309 | | |
| MEAN | | | | 86.5 | 45.4 | 90.0 | 127 | 33.6 | 63.9 | 74.5 | | |
| MAX | | | | 174 | 224 | 344 | 362 | 55 | 117 | 87 | | |
| MIN | | | | 16 | 7.1 | 16 | 47 | 20 | 29 | 64 | | |
| AC-FT | | | | 5,150 | 2,790 | 5,360 | 7,810 | 2,070 | 3,800 | 4,580 | | |

STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1988 - 2004

| | | | | | | | |
|------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 379 | 465 | 546 | 211 | 61.3 | 39.3 | 66.0 |
| MAX | 614 | 1,476 | 1,797 | 739 | 215 | 95.4 | 139 |
| (WY) | (1996) | (1997) | (1997) | (1995) | (1997) | (1997) | (1998) |
| MIN | 86.5 | 45.4 | 68.9 | 21.4 | 1.11 | 2.42 | 23.5 |
| (WY) | (2004) | (2004) | (1994) | (1988) | (1988) | (1988) | (2004) |

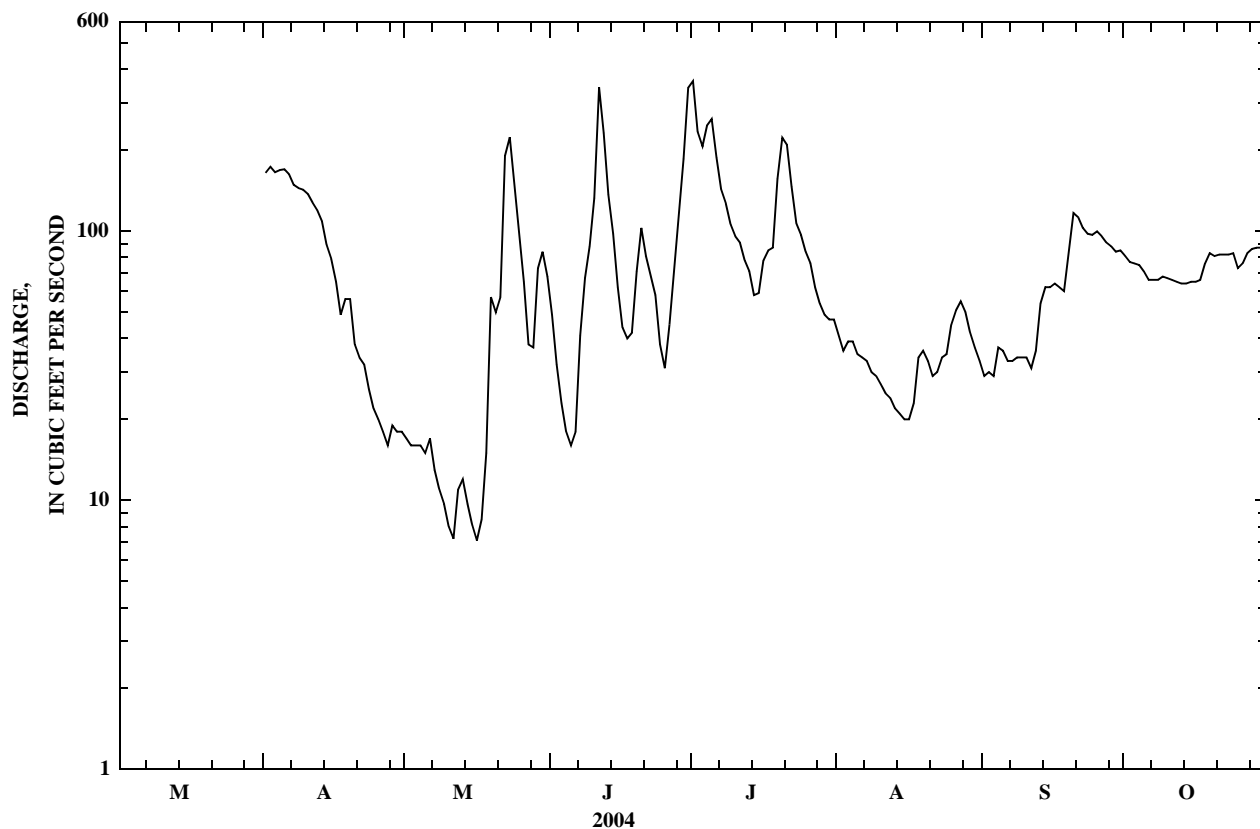
SUMMARY STATISTICS

| | FOR 2004 SEASON | | SEASONS 1988 - 2004 | |
|-----------------------|-----------------|--------|---------------------|-------------|
| HIGHEST DAILY MEAN | 362 | Jul 1 | 3,830 | Jun 7 1991 |
| LOWEST DAILY MEAN | 7.1 | May 16 | b.00 | Aug 28 1988 |
| MAXIMUM PEAK FLOW | 437 | Jun 30 | 4,200 | Jun 6 1995 |
| MAXIMUM PEAK STAGE | 3.77 | Jun 30 | 6.37 | Jun 6 1995 |
| INSTANTANOUS LOW FLOW | a5.7 | May 11 | b.00 | Aug 28 1988 |

a--Gage height, 1.93 ft.

b--No flow many days in August and September 1988.

06024450 BIG HOLE RIVER BELOW BIG LAKE CREEK, AT WISDOM, MT—Continued



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1988 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: May 1988 to current year (seasonal records only).

INSTRUMENTATION.--Temperature recorder since Apr. 27, 1988.

REMARKS.--Daily water temperatures record rated good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE (seasonal records): Maximum, 26.5°C, July 12, 2002, minimum, 0.0°C many days during winter period.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: During period of seasonal operation, maximum, 25.5°C, July 16-17; minimum, 0.0°C, Oct. 25 and 31.

06024450 BIG HOLE RIVER BELOW BIG LAKE CREEK, AT WISDOM, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
APRIL 2004 TO OCTOBER 2004

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|-------|--------|------|------|-----------|------|------|---------|------|------|------|------|------|
| | APRIL | | | MAY | | | JUNE | | | JULY | | |
| 1 | 7.0 | 2.5 | 4.5 | 17.5 | 5.5 | 11.0 | 20.0 | 10.0 | 14.5 | 20.5 | 14.5 | 17.0 |
| 2 | 5.0 | 2.0 | 3.5 | 17.5 | 7.0 | 12.0 | 21.0 | 10.5 | 15.5 | 20.5 | 13.0 | 16.5 |
| 3 | 10.5 | 2.0 | 6.0 | 16.0 | 8.0 | 12.5 | 21.5 | 11.0 | 16.0 | 19.5 | 14.0 | 16.5 |
| 4 | 10.0 | 5.5 | 7.5 | 16.5 | 8.0 | 12.5 | 19.5 | 12.0 | 16.0 | 19.5 | 13.5 | 16.0 |
| 5 | 12.0 | 4.5 | 8.0 | 17.5 | 9.0 | 12.5 | 19.5 | 11.5 | 16.0 | 21.0 | 13.0 | 16.5 |
| 6 | 10.0 | 6.5 | 8.0 | 16.5 | 8.0 | 12.0 | 16.0 | 11.5 | 13.5 | 21.0 | 13.5 | 17.5 |
| 7 | 11.0 | 5.0 | 8.0 | 18.0 | 9.0 | 13.0 | 19.0 | 8.5 | 13.5 | 19.0 | 14.0 | 16.0 |
| 8 | 11.5 | 5.0 | 8.0 | 16.0 | 8.0 | 12.0 | 17.0 | 10.0 | 12.5 | 19.5 | 11.0 | 15.0 |
| 9 | 9.5 | 4.5 | 6.5 | 16.0 | 7.0 | 11.5 | 19.5 | 10.5 | 14.5 | 19.5 | 11.5 | 15.5 |
| 10 | 10.5 | 2.0 | 6.0 | 12.5 | 7.5 | 9.5 | 14.5 | 11.0 | 12.0 | 19.5 | 13.0 | 16.0 |
| 11 | 11.5 | 2.5 | 7.0 | 10.0 | 5.0 | 7.5 | 15.0 | 9.0 | 12.0 | 19.5 | 12.5 | 16.0 |
| 12 | 13.5 | 3.5 | 8.0 | 10.5 | 3.0 | 6.5 | 16.5 | 9.5 | 13.0 | 23.0 | 13.0 | 17.5 |
| 13 | 10.5 | 5.0 | 8.0 | 12.0 | 5.0 | 8.0 | 18.0 | 11.0 | 14.0 | 23.0 | 14.0 | 18.5 |
| 14 | 11.0 | 5.5 | 8.0 | 13.0 | 4.5 | 8.5 | 18.5 | 10.0 | 14.0 | 23.5 | 14.5 | 19.0 |
| 15 | 10.0 | 4.0 | 7.0 | 14.0 | 5.5 | 10.0 | 15.0 | 10.0 | 12.0 | 25.0 | 15.5 | 19.5 |
| 16 | 11.5 | 2.5 | 6.5 | 12.0 | 7.5 | 9.0 | 19.0 | 7.0 | 12.5 | 25.5 | 15.5 | 20.0 |
| 17 | 9.5 | 5.0 | 7.0 | 16.5 | 7.5 | 11.0 | 19.0 | 9.0 | 13.5 | 25.5 | 16.5 | 21.0 |
| 18 | 9.5 | 4.0 | 6.5 | 11.5 | 8.5 | 9.5 | 15.5 | 10.5 | 13.0 | 21.5 | 18.0 | 19.5 |
| 19 | 9.0 | 3.5 | 6.0 | 14.0 | 7.5 | 10.5 | 16.5 | 10.5 | 13.0 | 23.5 | 16.5 | 19.5 |
| 20 | 8.5 | 3.5 | 6.0 | 18.0 | 9.0 | 13.0 | 18.5 | 11.0 | 14.5 | 22.5 | 16.5 | 19.5 |
| 21 | 11.0 | 2.5 | 6.0 | 15.0 | 10.0 | 12.5 | 20.5 | 10.5 | 15.5 | 22.5 | 15.0 | 18.5 |
| 22 | 13.5 | 4.0 | 8.0 | 12.5 | 9.0 | 10.5 | 20.5 | 12.0 | 16.5 | 22.5 | 14.5 | 18.5 |
| 23 | 15.0 | 4.5 | 9.0 | 13.5 | 8.0 | 10.0 | 23.0 | 12.5 | 17.5 | 23.5 | 14.5 | 19.0 |
| 24 | 13.5 | 6.0 | 9.0 | 12.5 | 7.0 | 9.5 | 23.0 | 13.5 | 18.0 | 23.5 | 15.0 | 19.0 |
| 25 | 14.5 | 4.0 | 9.0 | 14.0 | 6.5 | 10.5 | 21.5 | 14.5 | 17.5 | 21.5 | 15.0 | 18.5 |
| 26 | 16.5 | 5.5 | 10.5 | 13.0 | 8.5 | 10.5 | 21.0 | 12.5 | 16.5 | 22.0 | 14.5 | 18.0 |
| 27 | 15.0 | 6.5 | 10.5 | 16.5 | 9.0 | 12.5 | 19.5 | 13.5 | 16.0 | 22.5 | 14.0 | 18.0 |
| 28 | 10.0 | 4.5 | 7.0 | 13.5 | 9.5 | 11.0 | 20.0 | 13.5 | 16.5 | 23.0 | 14.0 | 18.5 |
| 29 | 13.0 | 1.5 | 6.5 | 10.5 | 7.5 | 8.5 | 20.5 | 13.5 | 16.5 | 22.0 | 14.0 | 18.0 |
| 30 | 16.0 | 3.5 | 9.0 | 13.5 | 6.5 | 9.5 | 21.0 | 14.0 | 17.0 | 23.0 | 14.0 | 18.5 |
| 31 | --- | --- | --- | 16.0 | 8.0 | 12.0 | --- | --- | --- | 23.5 | 14.0 | 18.5 |
| MONTH | 16.5 | 1.5 | 7.5 | 18.0 | 3.0 | 10.5 | 23.0 | 7.0 | 15.0 | 25.5 | 11.0 | 18.0 |
| | AUGUST | | | SEPTEMBER | | | OCTOBER | | | | | |
| 1 | 22.0 | 14.5 | 18.5 | 19.5 | 13.0 | 16.0 | 14.0 | 8.5 | 11.0 | | | |
| 2 | 18.0 | 14.5 | 16.0 | 17.0 | 12.5 | 14.5 | 13.5 | 7.0 | 10.0 | | | |
| 3 | 22.0 | 13.5 | 17.0 | 16.5 | 8.0 | 12.0 | 13.5 | 7.0 | 10.0 | | | |
| 4 | 23.5 | 13.5 | 18.0 | 17.0 | 9.5 | 12.5 | 13.0 | 6.5 | 9.5 | | | |
| 5 | 20.5 | 14.0 | 17.0 | 16.0 | 9.5 | 12.5 | 12.5 | 6.0 | 9.5 | | | |
| 6 | 21.0 | 12.5 | 16.5 | 17.5 | 8.0 | 12.5 | 11.5 | 5.5 | 8.5 | | | |
| 7 | 21.0 | 13.5 | 17.0 | 17.5 | 9.5 | 13.0 | 13.5 | 8.5 | 10.5 | | | |
| 8 | 22.0 | 11.5 | 16.5 | 18.0 | 9.5 | 13.5 | 12.0 | 6.0 | 9.5 | | | |
| 9 | 23.0 | 12.5 | 17.5 | 17.5 | 10.0 | 13.5 | 10.0 | 7.0 | 8.5 | | | |
| 10 | 22.5 | 12.5 | 17.5 | 18.0 | 11.5 | 14.5 | 10.5 | 5.0 | 7.5 | | | |
| 11 | 23.5 | 13.0 | 18.0 | 17.5 | 10.5 | 14.0 | 9.5 | 3.5 | 6.5 | | | |
| 12 | 23.5 | 13.0 | 18.0 | 14.0 | 10.5 | 12.0 | 10.0 | 5.0 | 7.0 | | | |
| 13 | 23.5 | 13.0 | 18.0 | 13.5 | 9.0 | 11.0 | 9.5 | 3.5 | 6.5 | | | |
| 14 | 24.0 | 13.0 | 18.5 | 13.0 | 8.5 | 10.0 | 11.0 | 4.0 | 7.5 | | | |
| 15 | 20.5 | 14.0 | 17.5 | 12.0 | 8.5 | 10.0 | 9.5 | 6.0 | 8.0 | | | |
| 16 | 21.0 | 15.0 | 17.5 | 14.0 | 9.0 | 11.5 | 9.0 | 7.0 | 8.0 | | | |
| 17 | 18.0 | 15.0 | 16.0 | 13.5 | 8.5 | 11.0 | 8.0 | 6.0 | 7.0 | | | |
| 18 | 20.5 | 14.5 | 17.0 | 10.5 | 8.0 | 9.0 | 8.5 | 5.0 | 6.5 | | | |
| 19 | 21.5 | 14.0 | 17.5 | 8.0 | 5.5 | 7.0 | 7.0 | 2.0 | 4.5 | | | |
| 20 | 22.5 | 13.5 | 17.5 | 9.0 | 5.0 | 6.5 | 7.0 | 4.5 | 5.5 | | | |
| 21 | 19.0 | 13.5 | 16.5 | 7.0 | 5.0 | 6.0 | 6.0 | 4.0 | 5.0 | | | |
| 22 | 16.5 | 13.5 | 15.0 | 8.5 | 5.5 | 7.0 | 6.0 | 3.0 | 4.5 | | | |
| 23 | 17.0 | 12.0 | 14.0 | 12.0 | 7.0 | 9.5 | 5.0 | 3.5 | 4.0 | | | |
| 24 | 14.0 | 10.0 | 12.5 | 14.5 | 7.0 | 10.5 | 4.0 | 1.0 | 2.5 | | | |
| 25 | 15.5 | 10.5 | 12.5 | 14.5 | 8.0 | 11.0 | 3.5 | 0.0 | 1.5 | | | |
| 26 | 14.5 | 10.0 | 12.0 | 14.5 | 8.0 | 11.5 | 5.0 | 0.5 | 2.5 | | | |
| 27 | 17.0 | 10.0 | 13.0 | 15.0 | 8.0 | 11.5 | 4.5 | 1.5 | 3.0 | | | |
| 28 | 17.0 | 10.0 | 13.5 | 14.5 | 8.0 | 11.5 | 4.0 | 1.5 | 2.5 | | | |
| 29 | 19.5 | 11.0 | 15.0 | 14.0 | 7.5 | 10.5 | 3.0 | 2.0 | 2.5 | | | |
| 30 | 20.5 | 11.5 | 15.5 | 13.5 | 7.5 | 10.5 | 3.0 | 1.5 | 2.0 | | | |
| 31 | 21.0 | 11.5 | 16.0 | --- | --- | --- | 2.0 | 0.0 | 1.0 | | | |
| MONTH | 24.0 | 10.0 | 16.0 | 19.5 | 5.0 | 11.0 | 14.0 | 0.0 | 6.0 | | | |

06024540 BIG HOLE RIVER BELOW MUDD CREEK, NEAR WISDOM, MT

LOCATION.--Lat 45°48'27", long 113°18'45" (NAD 27), in SE¹/₄ SW¹/₄ NW¹/₄ sec. 26, T.1N., R. 14 W., Beaverhead County, Hydrologic Unit 10020004, on right bank at bridge on Montana Highway 43, 0.5 mi downstream from Mudd Creek, 15.0 mi northeast of Wisdom, 17.3 mi west of Wise River, and at river mile 91.6.

DRAINAGE AREA.--1,267 mi².

PERIOD OF RECORD.--October 1997 to current year (seasonal records only).

GAGE.--Water-stage recorder. Elevation of gage is 5,880 ft (NGVD 29).

REMARKS.--Seasonal records good except those from July 23 to August 23, which are poor. U.S. Geological Survey satellite telemeter at station. Several observations of water temperature and specific conductances were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

| DAY | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-------|-----|-----|-----|--------|--------|--------|--------|-------|--------|--------|-----|-----|
| 1 | | | | 617 | 411 | 718 | 891 | 123 | 143 | 235 | | |
| 2 | | | | 597 | 416 | 635 | 778 | 119 | 145 | 230 | | |
| 3 | | | | 562 | 450 | 574 | 638 | 119 | 141 | 232 | | |
| 4 | | | | 588 | 509 | 538 | 592 | 118 | 172 | 232 | | |
| 5 | | | | 618 | 556 | 529 | 626 | 113 | 187 | 230 | | |
| 6 | | | | 635 | 602 | 547 | 551 | 98 | 161 | 229 | | |
| 7 | | | | 651 | 630 | 555 | 465 | 99 | 162 | 226 | | |
| 8 | | | | 676 | 605 | 529 | 397 | 95 | 155 | 227 | | |
| 9 | | | | 678 | 579 | 563 | 361 | 91 | 154 | 232 | | |
| 10 | | | | 643 | 547 | 834 | 324 | 88 | 146 | 229 | | |
| 11 | | | | 582 | 578 | 1,160 | 300 | 84 | 148 | 230 | | |
| 12 | | | | 562 | 598 | 1,120 | 275 | 81 | 155 | 229 | | |
| 13 | | | | 575 | 543 | 836 | 250 | 76 | 200 | 230 | | |
| 14 | | | | 591 | 482 | 687 | 234 | 72 | 222 | 231 | | |
| 15 | | | | 616 | 441 | 578 | 212 | 69 | 212 | 232 | | |
| 16 | | | | 568 | 446 | 494 | 209 | 72 | 206 | 238 | | |
| 17 | | | | 533 | 502 | 449 | 209 | 94 | 199 | 238 | | |
| 18 | | | | 534 | 536 | 459 | 201 | 117 | 197 | 266 | | |
| 19 | | | | 503 | 735 | 485 | 224 | 117 | 231 | 276 | | |
| 20 | | | | 426 | 795 | 584 | 317 | 107 | 297 | 280 | | |
| 21 | | | | 380 | 756 | 550 | 339 | 101 | 299 | 276 | | |
| 22 | | | | 364 | 1,000 | 477 | 262 | 97 | 281 | 275 | | |
| 23 | | | | 341 | 1,260 | 431 | 206 | 120 | 273 | 272 | | |
| 24 | | | | 332 | 1,170 | 370 | 187 | 116 | 271 | 273 | | |
| 25 | | | | 338 | 951 | 326 | 176 | 131 | 276 | 270 | | |
| 26 | | | | 333 | 813 | 322 | 167 | 151 | 267 | 252 | | |
| 27 | | | | 353 | 739 | 391 | 162 | 159 | 254 | 259 | | |
| 28 | | | | 382 | 724 | 474 | 150 | 161 | 249 | 270 | | |
| 29 | | | | 448 | 792 | 495 | 137 | 155 | 242 | 274 | | |
| 30 | | | | 425 | 817 | 699 | 126 | 147 | 237 | 274 | | |
| 31 | | | | --- | 777 | --- | 124 | 146 | --- | 275 | | |
| TOTAL | | | | 15,451 | 20,760 | 17,409 | 10,090 | 3,436 | 6,282 | 7,722 | | |
| MEAN | | | | 515 | 670 | 580 | 325 | 111 | 209 | 249 | | |
| MAX | | | | 678 | 1,260 | 1,160 | 891 | 161 | 299 | 280 | | |
| MIN | | | | 332 | 411 | 322 | 124 | 69 | 141 | 226 | | |
| AC-FT | | | | 30,650 | 41,180 | 34,530 | 20,010 | 6,820 | 12,460 | 15,320 | | |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2004, BY WATER YEAR (WY)

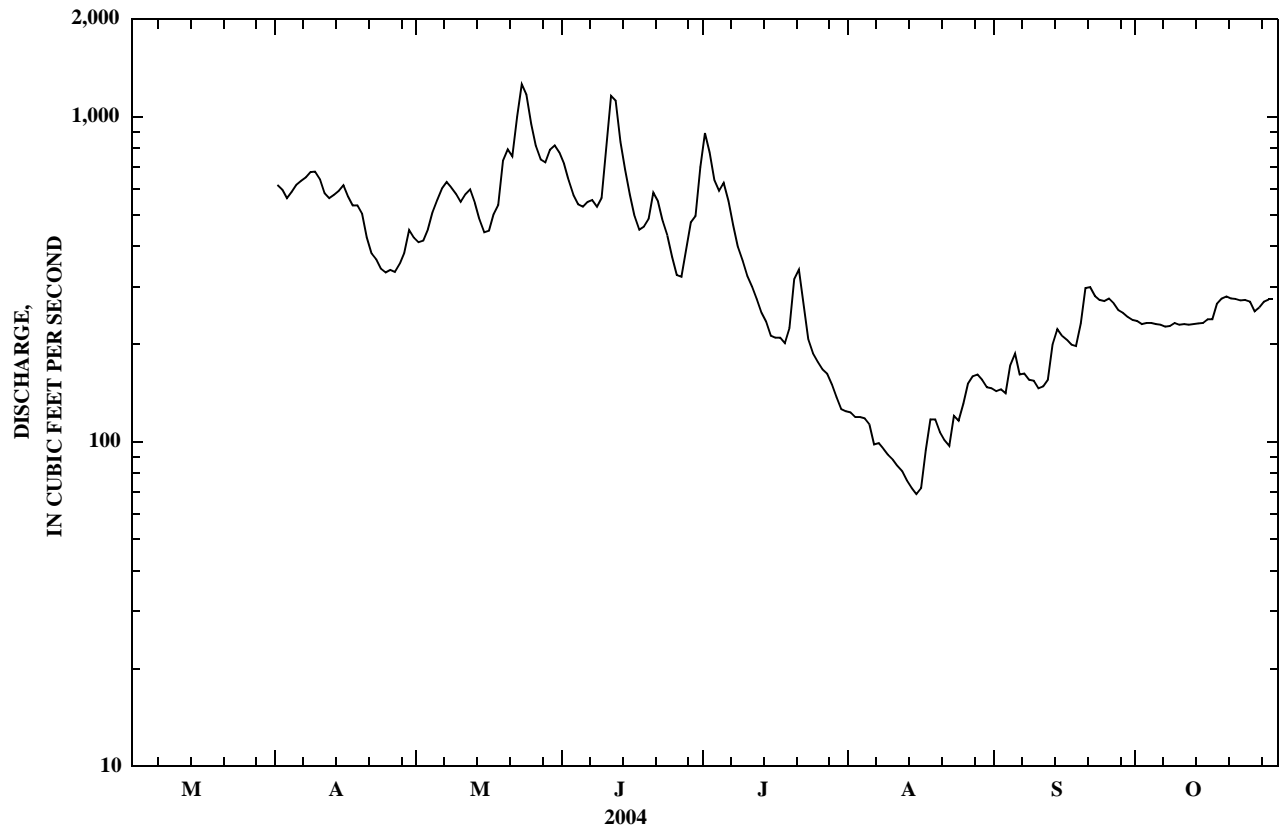
| | | | | | | | |
|------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 796 | 1,209 | 1,339 | 348 | 122 | 119 | 172 |
| MAX | 1,086 | 2,306 | 2,272 | 961 | 244 | 209 | 258 |
| (WY) | (2003) | (1998) | (1999) | (1998) | (1998) | (2004) | (1998) |
| MIN | 515 | 670 | 506 | 113 | 48.5 | 75.6 | 104 |
| (WY) | (2004) | (2004) | (2000) | (2000) | (2000) | (2000) | (2004) |

SUMMARY STATISTICS

| | FOR 2004 SEASON | | SEASONS 1997 - 2004 | |
|------------------------|-----------------|--------|---------------------|-------------|
| HIGHEST DAILY MEAN | 1,260 | May 23 | 4,810 | Jun 1 2003 |
| LOWEST DAILY MEAN | 69 | Aug 15 | 38 | Aug 28 2000 |
| MAXIMUM PEAK FLOW | 1,340 | May 23 | 4,900 | Jun 1 2003 |
| MAXIMUM PEAK STAGE | 3.86 | May 23 | 5.97 | Jun 1 2003 |
| INSTANTANEOUS LOW FLOW | a45 | Aug 15 | b36 | Aug 27 2000 |

a--Gage height, 2.34 ft.

b--Gage height, 2.31 ft.



06025500 BIG HOLE RIVER NEAR MELROSE, MT

LOCATION.--Lat 45°31'36", long 112°42'03" (NAD 27), in SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.34, T.3 S., R.9 W., Madison County, Hydrologic Unit 10020004, on left bank 50 ft downstream from bridge, on frontage road east of Interstate 15, 0.1 mi downstream from Rock Creek, 7 mi south of Melrose, and at river mile 31.1.

DRAINAGE AREA.--2,476 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1309.

GAGE.--Water-stage recorder. Elevation of gage is 5,032.87 ft (NGVD 29). Prior to June 14, 1927, water-stage recorder, and July 17, 1927, to Sept. 30, 1931, nonrecording gage, at site 1.7 mi upstream at different elevation.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Diversions for irrigation of about 136,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 222 | 185 | 351 | e300 | e290 | 322 | 912 | 685 | 1,280 | 1,480 | 302 | 281 |
| 2 | 225 | 301 | 350 | e300 | e290 | 313 | 938 | 698 | 1,170 | 1,570 | 293 | 275 |
| 3 | 224 | 339 | 352 | e290 | e300 | 302 | 846 | 745 | 1,110 | 1,410 | 291 | 286 |
| 4 | 226 | 318 | 336 | e270 | e300 | 320 | 845 | 880 | 1,120 | 1,330 | 294 | 287 |
| 5 | 231 | 284 | 333 | e240 | e300 | 308 | 937 | 1,050 | 1,280 | 1,270 | 287 | 292 |
| 6 | 234 | e270 | 341 | e200 | e290 | 313 | 1,010 | 1,220 | 1,550 | 1,200 | 278 | 314 |
| 7 | 236 | e270 | 349 | e210 | e300 | 305 | 1,050 | 1,260 | 1,640 | 1,060 | 260 | 290 |
| 8 | 238 | e270 | 337 | e230 | e300 | 324 | 1,080 | 1,270 | 1,470 | 938 | 242 | 273 |
| 9 | 238 | e290 | 329 | e250 | e300 | 335 | 1,110 | 1,240 | 1,410 | 819 | 230 | 261 |
| 10 | 240 | e320 | 332 | e280 | e300 | 345 | 1,060 | 1,140 | 1,590 | 750 | 218 | 258 |
| 11 | 248 | e330 | 330 | e270 | e300 | 354 | 950 | 1,050 | 2,160 | 699 | 205 | 245 |
| 12 | 253 | 339 | 341 | e270 | e290 | 360 | 879 | 1,090 | 2,180 | 649 | 191 | 252 |
| 13 | 263 | 336 | 365 | e270 | e290 | 378 | 880 | 1,000 | 1,840 | 594 | 183 | 292 |
| 14 | 267 | 338 | 352 | e270 | e290 | 378 | 933 | 897 | 1,570 | 556 | 171 | 348 |
| 15 | 276 | 336 | 327 | e270 | e290 | 382 | 972 | 802 | 1,370 | 526 | 158 | 364 |
| 16 | 284 | 353 | 318 | e280 | e290 | 389 | 934 | 754 | 1,230 | 507 | 157 | 376 |
| 17 | 293 | 357 | 344 | e280 | e290 | 404 | 852 | 862 | 1,090 | 492 | 169 | 376 |
| 18 | 297 | 354 | 306 | e280 | e290 | 466 | 851 | 893 | 1,020 | 490 | 204 | 368 |
| 19 | 289 | 362 | 290 | e290 | e290 | 559 | 834 | 1,070 | 1,080 | 535 | 225 | 398 |
| 20 | 284 | 371 | 301 | e280 | e290 | 654 | 775 | 1,300 | 1,210 | 572 | 248 | 478 |
| 21 | 279 | 363 | 339 | e280 | e290 | 824 | 691 | 1,330 | 1,220 | 660 | 237 | 535 |
| 22 | 273 | 332 | 325 | e280 | e290 | 1,040 | 621 | 1,480 | 1,120 | 637 | 238 | 538 |
| 23 | 273 | 281 | 315 | e290 | e290 | 1,250 | 582 | 1,800 | 1,030 | 560 | 282 | 518 |
| 24 | 275 | 311 | 327 | e300 | e300 | 1,440 | 555 | 1,900 | 977 | 494 | 326 | 530 |
| 25 | 272 | 309 | 354 | e290 | e300 | 1,490 | 566 | 1,670 | 937 | 464 | 340 | 522 |
| 26 | 269 | 324 | 323 | e280 | e310 | 1,460 | 548 | 1,460 | 940 | 452 | 360 | 521 |
| 27 | 277 | 327 | 316 | e290 | e310 | 1,130 | 581 | 1,360 | 1,200 | 421 | 381 | 514 |
| 28 | 280 | 317 | e270 | e290 | e310 | 889 | 715 | 1,320 | 1,330 | 395 | 371 | 508 |
| 29 | 316 | 358 | e280 | e290 | 320 | 789 | 781 | 1,410 | 1,300 | 370 | 355 | 504 |
| 30 | 347 | 345 | e290 | e300 | --- | 750 | 747 | 1,440 | 1,300 | 350 | 331 | 496 |
| 31 | 219 | --- | e300 | e290 | --- | 815 | --- | 1,400 | --- | 325 | 296 | --- |
| TOTAL | 8,148 | 9,590 | 10,123 | 8,510 | 8,600 | 19,388 | 25,035 | 36,476 | 39,724 | 22,575 | 8,123 | 11,500 |
| MEAN | 263 | 320 | 327 | 275 | 297 | 625 | 834 | 1,177 | 1,324 | 728 | 262 | 383 |
| MAX | 347 | 371 | 365 | 300 | 320 | 1,490 | 1,110 | 1,900 | 2,180 | 1,570 | 381 | 538 |
| MIN | 219 | 185 | 270 | 200 | 290 | 302 | 548 | 685 | 937 | 325 | 157 | 245 |
| AC-FT | 16,160 | 19,020 | 20,080 | 16,880 | 17,060 | 38,460 | 49,660 | 72,350 | 78,790 | 44,780 | 16,110 | 22,810 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2004, BY WATER YEAR (WY)

| | | | | | | | | | | | | |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 489 | 489 | 390 | 346 | 360 | 477 | 1,482 | 3,242 | 3,904 | 1,290 | 461 | 371 |
| MAX | 1,109 | 1,037 | 763 | 716 | 800 | 958 | 3,515 | 8,294 | 8,380 | 4,120 | 1,457 | 870 |
| (WY) | (1947) | (1928) | (1976) | (1928) | (1971) | (1986) | (1943) | (1976) | (1965) | (1975) | (1975) | (1965) |
| MIN | 184 | 255 | 223 | 143 | 143 | 247 | 490 | 1,108 | 814 | 254 | 87.6 | 114 |
| (WY) | (1936) | (1938) | (1933) | (1937) | (1937) | (1937) | (1975) | (1977) | (1992) | (1931) | (1988) | (1988) |

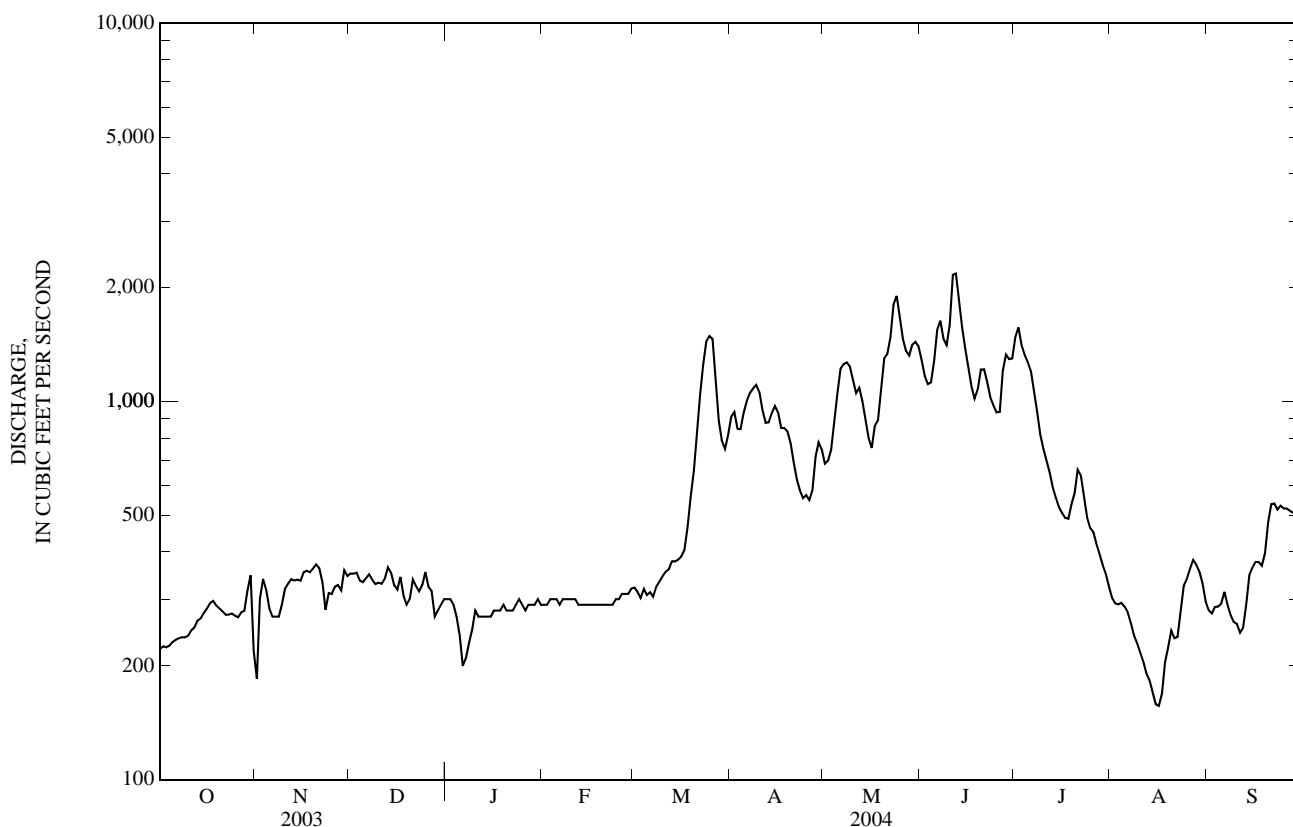
| SUMMARY STATISTICS | FOR 2003 CALENDAR YEAR | | FOR 2004 WATER YEAR | | WATER YEARS 1924 - 2004 | |
|--------------------------|------------------------|-------|---------------------|--------|-------------------------|--------------|
| ANNUAL TOTAL | 317,489 | | 207,792 | | | |
| ANNUAL MEAN | 870 | | 568 | | 1,109 | |
| HIGHEST ANNUAL MEAN | | | | | 2,024 | |
| LOWEST ANNUAL MEAN | | | | | 486 | |
| HIGHEST DAILY MEAN | 9,110 | Jun 1 | 2,180 | Jun 12 | 13,800 | Jun 4, 1948 |
| LOWEST DAILY MEAN | 177 | Sep 6 | 157 | Aug 16 | 49 | Aug 17, 1931 |
| ANNUAL SEVEN-DAY MINIMUM | 179 | Sep 2 | 176 | Aug 12 | 55 | Aug 30, 1988 |
| MAXIMUM PEAK FLOW | | | 2,250 | | b23,000 | |
| MAXIMUM PEAK STAGE | | | 3.18 | | 14.00 | |
| INSTANTANEOUS LOW FLOW | | | a117 | | c49 | |
| ANNUAL RUNOFF (AC-FT) | 629,700 | | 412,200 | | 803,500 | |
| 10 PERCENT EXCEEDS | 2,170 | | 1,260 | | 2,970 | |
| 50 PERCENT EXCEEDS | 330 | | 340 | | 471 | |
| 90 PERCENT EXCEEDS | 216 | | 256 | | 255 | |

a--Gage height, 0.83 ft.

b--On June 10, 1972, when Wise River Reservoir failed; maximum discharge unaffected by dam failure, 14,300 ft³/s.

c--Observed, gage height, 0.70 ft, site and datum then in use.

e--Estimated.



WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: August 1956 to September 1957, August 1960 to September 1964, June 1977 to current year.

SUSPENDED-SEDIMENT DISCHARGE: August 1956 to September 1957, August 1960 to September 1964.

INSTRUMENTATION.--Temperature recorder since June 1977.

REMARKS--Daily water temperature record rated good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 24.0°C, June 25, 1988, July 12, and 19-22, 2003; minimum, 0.0°C on many days during winter most years.

SEDIMENT CONCENTRATION (water years 1956-57, 1960-64): Maximum daily mean, 200 mg/L, June 29, 1961; minimum daily mean, 1 mg/L, on many days in 1960-64.

SEDIMENT LOAD (water years 1956-57, 1960-64): Maximum daily, 4,300 tons, June 9, 1964; minimum daily, less than 0.5 ton on several days in 1961.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 23.5°C, July 17; minimum, 0.0°C many days October through March.

06025500 BIG HOLE RIVER NEAR MELROSE, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|-------|----------|------|------|----------|-----|------|----------|------|------|---------|------|------|
| | OCTOBER | | | NOVEMBER | | | DECEMBER | | | JANUARY | | |
| 1 | 13.5 | 9.0 | 11.5 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| 2 | 13.5 | 9.5 | 11.5 | 1.0 | 0.0 | 0.5 | 1.5 | 0.5 | 1.0 | 0.0 | 0.0 | 0.0 |
| 3 | 13.0 | 8.5 | 11.0 | 1.5 | 0.0 | 0.5 | 2.0 | 0.5 | 1.0 | 0.0 | 0.0 | 0.0 |
| 4 | 13.0 | 8.5 | 11.0 | 0.5 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5 | 13.5 | 9.0 | 11.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6 | 13.0 | 10.0 | 11.5 | 0.0 | 0.0 | 0.0 | 2.5 | 0.5 | 1.5 | 0.0 | 0.0 | 0.0 |
| 7 | 12.0 | 10.0 | 11.0 | 0.0 | 0.0 | 0.0 | 2.5 | 0.5 | 1.5 | 0.0 | 0.0 | 0.0 |
| 8 | 13.0 | 10.0 | 11.5 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9 | 13.0 | 9.5 | 11.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10 | 11.0 | 8.0 | 9.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11 | 8.0 | 5.5 | 7.0 | 1.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12 | 9.5 | 6.5 | 8.0 | 1.5 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 13 | 9.0 | 6.5 | 7.5 | 0.5 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 14 | 8.0 | 5.5 | 6.5 | 1.0 | 0.0 | 0.0 | 0.5 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 |
| 15 | 7.0 | 5.0 | 6.5 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 16 | 8.0 | 5.0 | 6.5 | 1.5 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 17 | 11.0 | 7.0 | 9.0 | 1.5 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 18 | 10.5 | 7.0 | 9.0 | 2.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 19 | 11.0 | 7.5 | 9.5 | 3.5 | 1.5 | 2.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20 | 10.5 | 7.5 | 9.0 | 3.0 | 0.5 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 21 | 12.0 | 8.0 | 10.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22 | 11.5 | 7.5 | 9.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 23 | 10.0 | 7.5 | 9.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 24 | 8.0 | 5.0 | 6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 25 | 6.0 | 3.0 | 4.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 26 | 7.0 | 3.5 | 5.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 27 | 8.0 | 5.5 | 6.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 28 | 9.5 | 7.0 | 8.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 29 | 9.0 | 3.5 | 7.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30 | 3.5 | 0.0 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 31 | 0.0 | 0.0 | 0.0 | --- | --- | --- | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| MONTH | 13.5 | 0.0 | 8.5 | 3.5 | 0.0 | 0.5 | 2.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | FEBRUARY | | | MARCH | | | APRIL | | | MAY | | |
| 1 | 0.0 | 0.0 | 0.0 | 2.0 | 0.5 | 1.5 | 7.5 | 5.0 | 6.5 | 15.0 | 8.0 | 11.0 |
| 2 | 0.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.5 | 6.5 | 4.0 | 5.0 | 15.5 | 10.0 | 12.5 |
| 3 | 0.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 8.0 | 2.5 | 5.0 | 16.0 | 10.5 | 13.5 |
| 4 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 1.0 | 9.5 | 5.5 | 7.5 | 15.5 | 10.5 | 13.5 |
| 5 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 | 1.0 | 12.0 | 6.5 | 9.0 | 16.0 | 11.5 | 13.5 |
| 6 | 0.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.5 | 10.0 | 8.0 | 9.0 | 14.5 | 11.5 | 12.5 |
| 7 | 0.0 | 0.0 | 0.0 | 2.5 | 0.0 | 1.0 | 11.5 | 7.5 | 9.5 | 14.5 | 11.0 | 12.5 |
| 8 | 0.0 | 0.0 | 0.0 | 5.5 | 0.5 | 3.0 | 11.0 | 8.0 | 9.5 | 14.5 | 11.0 | 12.5 |
| 9 | 0.0 | 0.0 | 0.0 | 5.0 | 0.5 | 3.0 | 9.0 | 7.0 | 8.0 | 14.5 | 10.5 | 12.5 |
| 10 | 0.0 | 0.0 | 0.0 | 5.5 | 1.0 | 3.5 | 9.5 | 5.0 | 7.0 | 12.0 | 10.0 | 11.0 |
| 11 | 0.0 | 0.0 | 0.0 | 5.0 | 1.0 | 3.0 | 11.0 | 5.0 | 8.0 | 10.5 | 7.5 | 9.0 |
| 12 | 0.0 | 0.0 | 0.0 | 5.5 | 1.5 | 3.5 | 12.5 | 6.5 | 9.5 | 9.0 | 5.5 | 7.0 |
| 13 | 0.0 | 0.0 | 0.0 | 5.5 | 2.5 | 4.0 | 11.5 | 8.0 | 9.5 | 9.0 | 5.5 | 7.0 |
| 14 | 0.0 | 0.0 | 0.0 | 5.0 | 2.0 | 3.5 | 11.0 | 8.0 | 9.5 | 10.0 | 5.5 | 8.0 |
| 15 | 0.0 | 0.0 | 0.0 | 6.0 | 2.0 | 4.0 | 11.0 | 7.0 | 9.0 | 11.5 | 6.5 | 9.0 |
| 16 | 0.0 | 0.0 | 0.0 | 6.5 | 3.0 | 4.5 | 10.0 | 5.5 | 8.0 | 10.5 | 8.5 | 9.5 |
| 17 | 0.0 | 0.0 | 0.0 | 6.0 | 3.0 | 4.5 | 9.0 | 6.5 | 8.0 | 14.0 | 8.0 | 10.5 |
| 18 | 0.0 | 0.0 | 0.0 | 7.5 | 3.5 | 5.5 | 10.0 | 6.5 | 8.0 | 11.5 | 9.5 | 10.0 |
| 19 | 0.0 | 0.0 | 0.0 | 8.0 | 4.0 | 5.5 | 10.0 | 6.5 | 8.0 | 11.5 | 8.5 | 10.0 |
| 20 | 0.0 | 0.0 | 0.0 | 6.0 | 2.0 | 4.0 | 9.5 | 6.5 | 7.5 | 12.0 | 9.0 | 10.5 |
| 21 | 0.0 | 0.0 | 0.0 | 6.0 | 2.0 | 4.0 | 9.5 | 5.0 | 7.5 | 13.5 | 10.5 | 12.0 |
| 22 | 0.0 | 0.0 | 0.0 | 5.5 | 3.0 | 4.0 | 12.0 | 5.5 | 8.5 | 13.5 | 11.0 | 12.0 |
| 23 | 0.0 | 0.0 | 0.0 | 6.0 | 2.5 | 4.0 | 12.5 | 7.0 | 10.0 | 11.5 | 9.5 | 10.0 |
| 24 | 0.0 | 0.0 | 0.0 | 5.0 | 3.0 | 4.0 | 11.5 | 8.0 | 10.0 | 10.0 | 8.0 | 9.0 |
| 25 | 0.5 | 0.0 | 0.0 | 4.5 | 2.5 | 3.5 | 13.0 | 7.0 | 10.0 | 12.0 | 8.0 | 9.5 |
| 26 | 0.5 | 0.0 | 0.5 | 3.5 | 1.5 | 3.0 | 15.5 | 8.5 | 12.0 | 12.0 | 10.0 | 11.0 |
| 27 | 2.0 | 0.0 | 1.0 | 4.0 | 1.0 | 2.0 | 15.0 | 10.0 | 12.5 | 14.0 | 10.0 | 12.0 |
| 28 | 1.5 | 0.0 | 0.5 | 7.0 | 1.0 | 4.0 | 13.0 | 7.0 | 10.0 | 12.5 | 11.0 | 12.0 |
| 29 | 2.0 | 0.0 | 1.0 | 8.5 | 2.5 | 5.5 | 10.5 | 4.5 | 7.5 | 11.5 | 9.5 | 10.5 |
| 30 | --- | --- | --- | 10.0 | 4.0 | 7.0 | 13.0 | 6.0 | 9.0 | 11.5 | 8.5 | 9.5 |
| 31 | --- | --- | --- | 9.0 | 5.5 | 7.5 | --- | --- | --- | 13.5 | 8.5 | 10.5 |
| MONTH | 2.0 | 0.0 | 0.0 | 10.0 | 0.0 | 3.5 | 15.5 | 2.5 | 8.5 | 16.0 | 5.5 | 11.0 |

BIG HOLE RIVER BASIN

06025500 BIG HOLE RIVER NEAR MELROSE, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|-------|------|------|------|------|------|------|------|--------|------|------|-----------|------|
| | | JUNE | | | JULY | | | AUGUST | | | SEPTEMBER | |
| 1 | 15.5 | 10.5 | 12.5 | 18.5 | 15.5 | 17.0 | 20.0 | 16.5 | 18.5 | 18.5 | 14.0 | 16.5 |
| 2 | 17.0 | 12.0 | 14.0 | 17.5 | 15.0 | 16.0 | 19.0 | 16.5 | 17.5 | 16.5 | 13.5 | 15.0 |
| 3 | 18.0 | 13.0 | 15.0 | 17.5 | 15.0 | 16.0 | 20.0 | 14.5 | 17.5 | 15.5 | 11.0 | 13.0 |
| 4 | 18.0 | 14.0 | 16.0 | 18.5 | 14.5 | 16.5 | 20.5 | 15.0 | 18.0 | 16.0 | 10.5 | 13.0 |
| 5 | 18.0 | 14.0 | 16.0 | 19.0 | 14.0 | 16.5 | 20.0 | 15.5 | 18.0 | 16.0 | 11.5 | 13.5 |
| 6 | 16.5 | 13.5 | 15.0 | 19.5 | 15.0 | 17.0 | 20.0 | 15.0 | 17.5 | 16.0 | 10.5 | 13.5 |
| 7 | 15.5 | 11.0 | 13.0 | 18.0 | 15.0 | 16.5 | 20.5 | 15.0 | 17.5 | 16.5 | 11.5 | 14.0 |
| 8 | 14.5 | 11.5 | 12.5 | 18.5 | 13.0 | 15.5 | 20.5 | 13.5 | 17.0 | 16.5 | 12.0 | 14.0 |
| 9 | 15.5 | 10.0 | 12.5 | 18.5 | 13.0 | 16.0 | 21.5 | 15.0 | 18.0 | 16.5 | 12.5 | 14.5 |
| 10 | 13.5 | 11.5 | 12.5 | 17.5 | 14.0 | 16.0 | 21.5 | 15.5 | 18.5 | 16.5 | 12.5 | 14.5 |
| 11 | 12.5 | 10.0 | 11.0 | 20.0 | 14.0 | 16.5 | 21.5 | 15.5 | 18.5 | 17.0 | 12.5 | 15.0 |
| 12 | 13.5 | 10.5 | 12.0 | 21.5 | 14.0 | 17.5 | 21.0 | 15.0 | 18.0 | 15.5 | 12.0 | 13.5 |
| 13 | 15.0 | 12.5 | 13.5 | 21.5 | 15.5 | 18.5 | 21.5 | 15.0 | 18.0 | 13.5 | 10.5 | 12.0 |
| 14 | 16.0 | 12.0 | 13.5 | 22.0 | 16.0 | 19.0 | 22.0 | 15.5 | 18.5 | 13.0 | 10.5 | 12.0 |
| 15 | 15.5 | 12.0 | 13.5 | 22.5 | 17.0 | 19.5 | 20.5 | 16.0 | 18.5 | 13.5 | 10.0 | 11.5 |
| 16 | 14.5 | 10.0 | 12.0 | 23.0 | 17.0 | 20.0 | 20.5 | 17.0 | 19.0 | 15.0 | 10.5 | 12.5 |
| 17 | 15.5 | 11.0 | 13.0 | 23.5 | 17.5 | 20.5 | 19.5 | 17.0 | 18.0 | 14.0 | 10.5 | 12.0 |
| 18 | 15.0 | 12.0 | 13.0 | 21.5 | 18.0 | 19.5 | 18.0 | 16.0 | 16.5 | 12.0 | 10.0 | 11.0 |
| 19 | 14.5 | 11.5 | 12.5 | 22.0 | 17.0 | 19.5 | 20.0 | 14.5 | 17.0 | 10.5 | 8.5 | 9.5 |
| 20 | 15.5 | 11.0 | 13.0 | 22.0 | 17.5 | 19.5 | 20.5 | 16.0 | 18.5 | 10.5 | 7.5 | 9.0 |
| 21 | 17.5 | 12.5 | 14.5 | 22.0 | 17.0 | 19.5 | 18.5 | 15.5 | 17.0 | 9.5 | 7.0 | 8.5 |
| 22 | 18.0 | 13.0 | 15.5 | 21.0 | 16.0 | 18.5 | 17.0 | 14.5 | 16.0 | 10.0 | 8.0 | 9.0 |
| 23 | 19.5 | 14.0 | 16.5 | 21.0 | 16.0 | 18.5 | 16.0 | 14.0 | 15.0 | 12.0 | 8.5 | 10.0 |
| 24 | 19.5 | 15.0 | 17.0 | 22.0 | 16.0 | 18.5 | 15.5 | 12.5 | 14.0 | 14.0 | 9.5 | 11.5 |
| 25 | 19.0 | 15.5 | 17.0 | 20.5 | 16.5 | 18.5 | 15.0 | 12.5 | 13.5 | 14.5 | 9.5 | 12.0 |
| 26 | 18.5 | 14.5 | 16.5 | 21.0 | 15.5 | 18.0 | 14.5 | 11.5 | 13.0 | 14.5 | 10.5 | 12.5 |
| 27 | 16.5 | 14.5 | 15.5 | 21.5 | 15.0 | 18.0 | 16.0 | 11.5 | 13.5 | 14.5 | 10.5 | 12.5 |
| 28 | 16.5 | 13.0 | 15.0 | 21.5 | 15.5 | 18.5 | 17.5 | 11.5 | 14.0 | 14.5 | 10.5 | 12.5 |
| 29 | 17.0 | 14.0 | 15.5 | 22.0 | 16.0 | 18.5 | 18.5 | 13.0 | 15.5 | 14.0 | 10.0 | 12.0 |
| 30 | 19.5 | 14.5 | 16.5 | 22.0 | 16.0 | 19.0 | 19.0 | 13.0 | 16.0 | 13.5 | 10.0 | 11.5 |
| 31 | --- | --- | --- | 21.5 | 16.0 | 19.0 | 19.5 | 13.5 | 16.5 | --- | --- | --- |
| MONTH | 19.5 | 10.0 | 14.0 | 23.5 | 13.0 | 18.0 | 22.0 | 11.5 | 17.0 | 18.5 | 7.0 | 12.5 |

06026210 BIG HOLE RIVER NEAR GLEN, MT

LOCATION.--Lat 45°26'26", long 112°33'20" (NAD 27), in NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 35, T.4 S, R.8 W, Madison County, Hydrologic Unit 10020004, on left bank 50 ft downstream from private suspension bridge, 0.1 mi downstream from Sandy Hollow, 7.0 mi southeast of Glen, and at river mile 17.2.

DRAINAGE AREA.--2,655 mi².

PERIOD OF RECORD.--October 1997 to current year (seasonal records only).

GAGE.--Water-stage recorder. Elevation of gage is 4,850 ft (NGVD 29).

REMARKS.--Seasonal records good. Figures of discharge for seasons 1998-99 are the sum of river flow, Fred Bryan Ditch on left bank, and Upper and Lower Raffety Ditches on right bank. U.S. Geological Survey satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR JANUARY TO DECEMBER 2004
DAILY MEAN VALUES

| DAY | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-------|-----|-----|-----|--------|--------|--------|--------|--------|--------|--------|-----|-----|
| 1 | | | | 916 | 712 | 1,230 | 1,410 | 313 | 270 | 493 | | |
| 2 | | | | 956 | 699 | 1,130 | 1,540 | 301 | 267 | 477 | | |
| 3 | | | | 878 | 739 | 1,070 | 1,420 | 307 | 278 | 464 | | |
| 4 | | | | 854 | 845 | 1,050 | 1,320 | 305 | 281 | 457 | | |
| 5 | | | | 931 | 986 | 1,170 | 1,280 | 286 | 269 | 456 | | |
| 6 | | | | 995 | 1,140 | 1,400 | 1,220 | 279 | 277 | 448 | | |
| 7 | | | | 1,040 | 1,190 | 1,560 | 1,110 | 263 | 276 | 435 | | |
| 8 | | | | 1,060 | 1,190 | 1,400 | 1,010 | 241 | 262 | 430 | | |
| 9 | | | | 1,080 | 1,180 | 1,320 | 903 | 231 | 257 | 434 | | |
| 10 | | | | 1,060 | 1,110 | 1,430 | 844 | 218 | 252 | 433 | | |
| 11 | | | | 973 | 1,040 | 2,070 | 794 | 203 | 246 | 430 | | |
| 12 | | | | 898 | 1,060 | 2,140 | 732 | 190 | 261 | 428 | | |
| 13 | | | | 890 | 1,010 | 1,830 | 675 | 180 | 310 | 432 | | |
| 14 | | | | 929 | 916 | 1,500 | 627 | 167 | 365 | 432 | | |
| 15 | | | | 960 | 821 | 1,260 | 575 | 156 | 388 | 440 | | |
| 16 | | | | 937 | 764 | 1,170 | 557 | 155 | 398 | 441 | | |
| 17 | | | | 876 | 800 | 1,050 | 532 | 165 | 404 | 443 | | |
| 18 | | | | 873 | 858 | 978 | 532 | 203 | 392 | 449 | | |
| 19 | | | | 860 | 959 | 1,020 | 560 | 223 | 421 | 472 | | |
| 20 | | | | 821 | 1,180 | 1,150 | 612 | 243 | 504 | 493 | | |
| 21 | | | | 745 | 1,240 | 1,180 | 691 | 236 | 589 | 512 | | |
| 22 | | | | 675 | 1,380 | 1,110 | 679 | 240 | 604 | 513 | | |
| 23 | | | | 632 | 1,720 | 1,020 | 627 | 276 | 570 | 506 | | |
| 24 | | | | 604 | 1,860 | 985 | 552 | 299 | 579 | 500 | | |
| 25 | | | | 614 | 1,660 | 968 | 494 | 327 | 570 | 489 | | |
| 26 | | | | 598 | 1,430 | 997 | 480 | 340 | 560 | 474 | | |
| 27 | | | | 600 | 1,320 | 1,170 | 441 | 362 | 543 | 491 | | |
| 28 | | | | 719 | 1,280 | 1,330 | 391 | 362 | 528 | 506 | | |
| 29 | | | | 809 | 1,340 | 1,270 | 347 | 346 | 520 | 515 | | |
| 30 | | | | 778 | 1,370 | 1,260 | 338 | 330 | 499 | 520 | | |
| 31 | | | | --- | 1,320 | --- | 316 | 292 | --- | 518 | | |
| TOTAL | | | | 25,561 | 35,119 | 38,218 | 23,609 | 8,039 | 11,940 | 14,531 | | |
| MEAN | | | | 852 | 1,133 | 1,274 | 762 | 259 | 398 | 469 | | |
| MAX | | | | 1,080 | 1,860 | 2,140 | 1,540 | 362 | 604 | 520 | | |
| MIN | | | | 598 | 699 | 968 | 316 | 155 | 246 | 428 | | |
| AC-FT | | | | 50,700 | 69,660 | 75,810 | 46,830 | 15,950 | 23,680 | 28,820 | | |

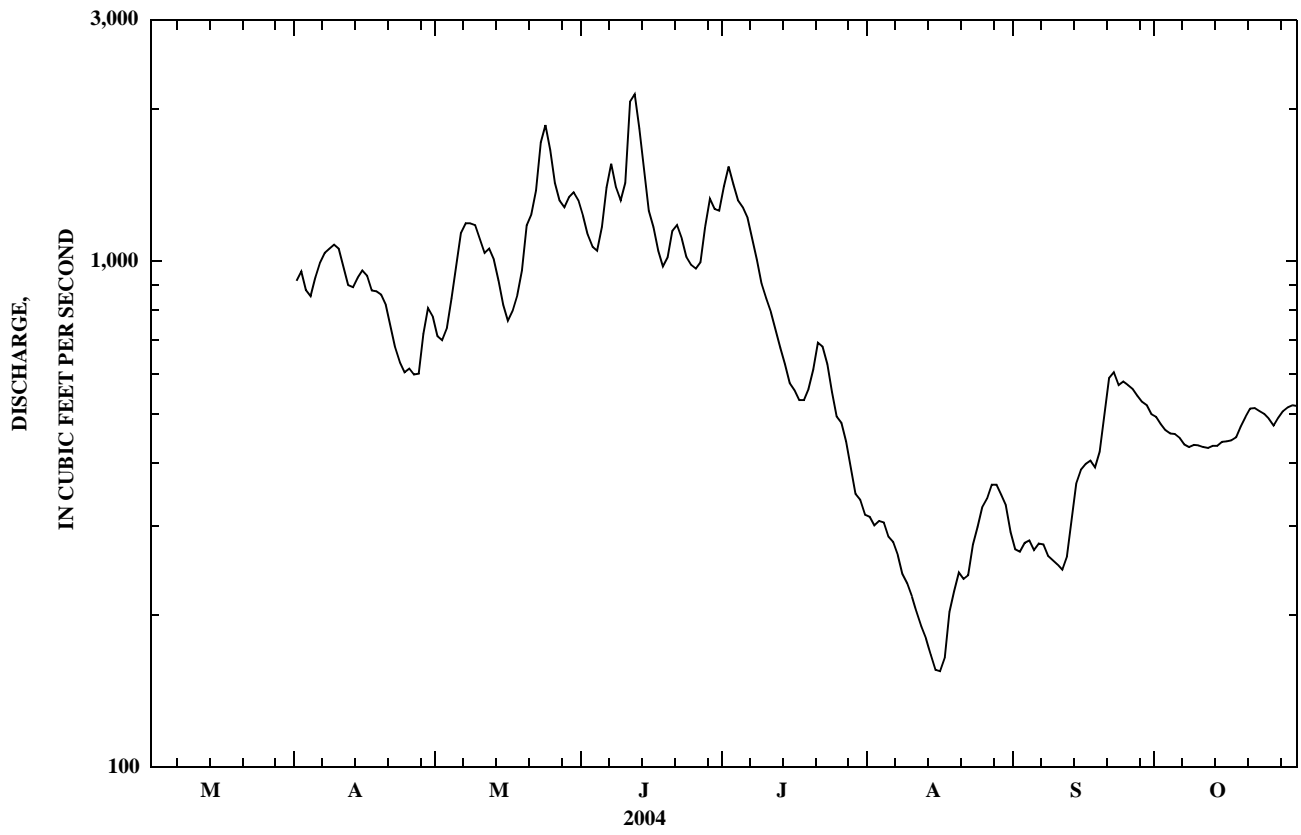
STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1997-2004

| | | | | | | | |
|------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 1,216 | 2,120 | 2,725 | 885 | 310 | 299 | 456 |
| MAX | 1,572 | 3,829 | 4,432 | 2,138 | 565 | 398 | 708 |
| (WY) | (2003) | (1998) | (1999) | (1998) | (1998) | (2004) | (1998) |
| MIN | 852 | 1,133 | 1,274 | 399 | 149 | 207 | 318 |
| (WY) | (2004) | (2004) | (2004) | (2000) | (2000) | (2001) | (2004) |

SUMMARY STATISTICS

| | FOR 2004 SEASON | | SEASONS 1997-2004 | |
|------------------------|-----------------|--------|-------------------|--------------|
| HIGHEST DAILY MEAN | 2,140 | Jun 12 | 10,000 | Jun 1, 2003 |
| LOWEST DAILY MEAN | 155 | Aug 16 | 122 | Aug 29, 2000 |
| MAXIMUM PEAK FLOW | 2,210 | Jun 12 | 10,500 | May 31, 2003 |
| MAXIMUM PEAK STAGE | 3.84 | Jun 12 | 7.05 | May 31, 2003 |
| INSTANTANEOUS LOW FLOW | a146 | Aug 16 | 119 | Aug 28, 2000 |

a--Gage height, 1.95 ft.



06026500 JEFFERSON RIVER NEAR TWIN BRIDGES, MT

LOCATION.--Lat 45°36'45", long 112°19'47" (NAD 27), in SE¹/₄SE¹/₄SW¹/₄ sec. 34, T.2 S., R.6 W., Madison County, Hydrologic Unit 10020005, on left bank 0.4 mi upstream from Hells Canyon Creek, 4.8 mi north of Twin Bridges, and at river mile 2,399.7.

DRAINAGE AREA.--7,632 mi².

PERIOD OF RECORD.--August 1940 to September 1943, October 1957 to September 1972, May 1994 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,560 ft (NGVD 29). August 1940 to September 1943, nonrecording gage at site 500 ft downstream at different elevation. October 1957 to June 3, 1972, water-stage recorder at site 250 ft downstream and June 4 to September 30, 1972, nonrecording gage 6.5 mi downstream at different elevations.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation by Clark Canyon, Lima and Ruby River Reservoirs. Diversion for irrigation of about 310,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station. Several observations of specific conductance and water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 489 | e700 | 829 | e600 | e500 | 709 | 1,190 | 851 | 1,510 | 1,560 | 331 | 581 |
| 2 | 506 | e750 | 829 | e650 | e500 | 690 | 1,290 | 759 | 1,340 | 1,720 | 335 | 522 |
| 3 | 510 | 815 | 828 | e600 | e500 | 672 | 1,240 | 795 | 1,220 | 1,690 | 377 | 525 |
| 4 | 510 | e750 | 814 | e500 | e500 | 684 | 1,170 | 824 | 1,160 | 1,620 | 390 | 532 |
| 5 | 539 | e700 | 769 | e400 | e550 | 679 | 1,210 | 933 | 1,210 | 1,570 | 404 | 514 |
| 6 | 537 | e650 | 816 | e350 | e550 | 690 | 1,260 | 1,070 | 1,400 | 1,490 | 429 | 527 |
| 7 | 541 | e650 | 844 | e400 | e600 | 673 | 1,310 | 1,190 | 1,660 | 1,380 | 420 | 512 |
| 8 | 539 | e700 | 836 | e450 | e650 | 725 | 1,330 | 1,180 | 1,560 | 1,250 | 393 | 501 |
| 9 | 542 | 805 | 769 | e450 | e680 | 763 | 1,350 | 1,190 | 1,460 | 1,140 | 372 | 475 |
| 10 | 552 | 837 | 797 | e500 | 691 | 769 | 1,340 | 1,160 | 1,520 | 1,090 | 344 | 441 |
| 11 | 584 | 841 | 795 | e500 | 702 | 753 | 1,260 | 1,110 | 2,320 | 1,070 | 307 | 444 |
| 12 | 605 | 834 | 746 | e500 | 660 | 755 | 1,180 | 1,130 | 2,520 | 972 | 276 | 456 |
| 13 | 617 | 794 | 819 | e500 | 650 | 775 | 1,120 | 1,150 | 2,260 | 895 | 257 | 534 |
| 14 | 641 | 801 | 841 | e500 | 673 | 778 | 1,120 | 1,070 | 1,870 | 833 | 243 | 567 |
| 15 | 663 | 798 | 762 | e500 | 678 | 778 | 1,130 | 971 | 1,550 | 749 | 238 | 596 |
| 16 | 677 | 818 | 730 | e500 | 661 | 769 | 1,130 | 941 | 1,440 | 701 | 244 | 607 |
| 17 | 687 | 830 | 741 | e500 | 684 | 777 | 1,110 | 987 | 1,310 | 675 | 235 | 614 |
| 18 | 693 | 831 | 739 | e500 | 710 | 792 | 1,090 | 1,070 | 1,220 | 651 | 268 | 592 |
| 19 | 693 | 834 | 649 | e500 | 726 | 871 | 1,070 | 1,140 | 1,220 | 680 | 329 | 640 |
| 20 | 682 | 856 | 694 | e500 | 683 | 973 | 1,060 | 1,360 | 1,310 | 753 | 358 | 792 |
| 21 | 668 | 838 | 757 | e500 | 679 | 1,070 | 1,000 | 1,460 | 1,370 | 784 | 402 | 981 |
| 22 | 652 | 785 | 745 | e500 | 680 | 1,220 | 920 | 1,610 | 1,310 | 802 | 440 | 982 |
| 23 | 672 | 708 | 644 | e550 | 685 | 1,410 | 860 | 2,110 | 1,190 | 753 | 565 | 953 |
| 24 | 668 | 730 | 696 | e550 | 682 | 1,530 | 793 | 2,340 | 1,110 | 657 | 613 | 919 |
| 25 | 689 | 696 | 781 | e500 | 694 | 1,670 | 741 | 2,040 | 1,100 | 593 | 636 | 919 |
| 26 | 699 | 720 | 743 | e450 | 701 | 1,720 | 701 | 1,760 | 1,210 | 564 | 666 | 894 |
| 27 | 716 | 738 | 680 | e500 | 702 | 1,590 | 639 | 1,620 | 1,310 | 532 | 698 | 896 |
| 28 | 721 | 799 | 598 | e550 | 706 | 1,310 | 736 | 1,560 | 1,550 | 496 | 705 | 870 |
| 29 | 755 | 816 | e580 | e600 | 696 | 1,160 | 923 | 1,700 | 1,500 | 438 | 676 | 856 |
| 30 | 773 | 827 | e550 | e550 | --- | 1,090 | 911 | 1,690 | 1,490 | 386 | 655 | 842 |
| 31 | e770 | --- | e580 | e550 | --- | 1,080 | --- | 1,630 | --- | 358 | 602 | --- |
| TOTAL | 19,590 | 23,251 | 23,001 | 15,700 | 18,773 | 29,925 | 32,184 | 40,401 | 44,200 | 28,852 | 13,208 | 20,084 |
| MEAN | 632 | 775 | 742 | 506 | 647 | 965 | 1,073 | 1,303 | 1,473 | 931 | 426 | 669 |
| MAX | 773 | 856 | 844 | 650 | 726 | 1,720 | 1,350 | 2,340 | 2,520 | 1,720 | 705 | 982 |
| MIN | 489 | 650 | 550 | 350 | 500 | 672 | 639 | 759 | 1,100 | 358 | 235 | 441 |
| AC-FT | 38,860 | 46,120 | 45,620 | 31,140 | 37,240 | 59,360 | 63,840 | 80,140 | 87,670 | 57,230 | 26,200 | 39,840 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)*

| | | | | | | | | | | | | |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MEAN | 1,300 | 1,439 | 1,224 | 1,038 | 1,112 | 1,285 | 2,288 | 3,697 | 5,513 | 1,958 | 818 | 979 |
| MAX | 2,052 | 2,025 | 1,864 | 1,424 | 1,690 | 2,092 | 4,634 | 7,025 | 9,816 | 4,477 | 1,700 | 2,114 |
| (WY) | (1966) | (1966) | (1996) | (1996) | (1971) | (1972) | (1943) | (1997) | (1997) | (1995) | (1995) | (1965) |
| MIN | 632 | 775 | 708 | 506 | 627 | 622 | 927 | 1,303 | 1,296 | 527 | 208 | 288 |
| (WY) | (2004) | (2004) | (2002) | (2004) | (2002) | (2002) | (1961) | (2004) | (1994) | (1966) | (1961) | (1994) |

JEFFERSON RIVER BASIN

06026500 JEFFERSON RIVER NEAR TWIN BRIDGES, MT—Continued

| SUMMARY STATISTICS | FOR 2003 CALENDAR YEAR | | FOR 2004 WATER YEAR | | WATER YEARS 1940 - 2004* | |
|--------------------------|------------------------|-------|---------------------|--------|--------------------------|--------------|
| ANNUAL TOTAL | 451,395 | | 309,169 | | | |
| ANNUAL MEAN | 1,237 | | 845 | | 1,915 | |
| HIGHEST ANNUAL MEAN | | | | | 2,824 | 1997 |
| LOWEST ANNUAL MEAN | | | | | 845 | 2004 |
| HIGHEST DAILY MEAN | 10,500 | Jun 1 | 2,520 | Jun 12 | 14,900 | Jun 9, 1997 |
| LOWEST DAILY MEAN | 289 | Sep 3 | 235 | Aug 17 | 165 | Aug 19, 1961 |
| ANNUAL SEVEN-DAY MINIMUM | 301 | Sep 2 | 252 | Aug 12 | 176 | Aug 16, 1961 |
| MAXIMUM PEAK FLOW | | | a2,580 | Jun 11 | d16,500 | Jun 10, 1964 |
| MAXIMUM PEAK STAGE | | | b8.79 | Jan 3 | 12.60 | Jun 8, 1995 |
| INSTANTANEOUS LOW FLOW | | | c223 | Aug 17 | f82 | Aug 17, 1966 |
| ANNUAL RUNOFF (AC-FT) | 895,300 | | 613,200 | | 1,387,000 | |
| 10 PERCENT EXCEEDS | 2,590 | | 1,400 | | 4,160 | |
| 50 PERCENT EXCEEDS | 750 | | 741 | | 1,300 | |
| 90 PERCENT EXCEEDS | 368 | | 494 | | 682 | |

*--During periods of operation (August 1940 to September 1943, October 1957 to September 1972, May 1994 to current year).

a--Gage height, 5.83 ft.

b--Backwater from ice.

c--Gage height, 2.97 ft.

d--Gage height, 9.04 ft, site and datum then in use.

e--Estimated.

f--Gage height, 1.61 ft. site and datum then in use.

