# 09277500 DUCHESNE RIVER NEAR TABIONA, UT

Lower Green Basin
Duchesne Subbasin

LOCATION.--Lat 40°18′01″, long 110°36′06″ referenced to North American Datum of 1927, in SE ¼ SW ¼ SE ¼ sec.18, T.2 S., R.6 W., Uintah Meridian, Duchesne County, UT, Hydrologic Unit 14060003, on left bank on upstream side of bridge on State Highway 35, 6 mi upstream from Rock Creek, and 7 mi southeast of Tabiona.

DRAINAGE AREA.--353 $mi^2$.

## SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1918 to current year. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WDR UT-77-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,190 ft above NGVD of 1929, from topographic map. Prior to October 15, 1934, nonrecording gage, and October 16, 1934 to November 6, 1953, water-stage recorder at site 0.5 mi upstream at various datums. November 7, 1953 to November 7, 1972, at site 1 mi upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several diversions above station for irrigation, including a transbasin diversion through Duchesne Tunnel 20 mi upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,260 $ft^3/s$, Jun 16, 1963, gage height, 7.97 ft, from floodmarks, caused by failure of Little Deer Creek Dam 20 mi upstream. Rating curve extended above 400 $ft^3/s$, on basis of slope-area measurement and area-velocity study of peak flow; minimum discharge, 18 $ft^3/s$, Jun 5, 6, 1992.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 $ft^3/s$ and (or) maximum (*):

| Date | Time | Discharge ($ft^3/s$) | Gage height (ft) |
|---|---|---|---|
| May 22 | 0500 | *1,600 | *4.80 |

Minimum discharge, 52 $ft^3/s$, Sep 3, 4.

**09277500 DUCHESNE RIVER NEAR TABIONA, UT—Continued**

**DISCHARGE, CUBIC FEET PER SECOND**
**WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006**
**DAILY MEAN VALUES**
[e, estimated]

| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 97 | 111 | 94 | 87 | 82 | 98 | 115 | 367 | 357 | 110 | 86 | 59 |
| 2 | 98 | 110 | 98 | 87 | 82 | 87 | 108 | 395 | 374 | 111 | 89 | 56 |
| 3 | 100 | 106 | e96 | 87 | 81 | 89 | 116 | 439 | 372 | 107 | 82 | 54 |
| 4 | 100 | 106 | e93 | 83 | 80 | 88 | 122 | 431 | 343 | 99 | 77 | 55 |
| 5 | 106 | 107 | e90 | 78 | 82 | 82 | 142 | 434 | 363 | 97 | 77 | 56 |
| 6 | 110 | 107 | e87 | 86 | 78 | 85 | 147 | 408 | 366 | 98 | 78 | 57 |
| 7 | 111 | 106 | e85 | 84 | 85 | 85 | 135 | 401 | 344 | 96 | 81 | 58 |
| 8 | 112 | 106 | e87 | 84 | 83 | 83 | 142 | 429 | 378 | 93 | 80 | 69 |
| 9 | 114 | 105 | e87 | 81 | 82 | 82 | 149 | 456 | 660 | 96 | 73 | 76 |
| 10 | 114 | 102 | e88 | 84 | 80 | 81 | 161 | 448 | 866 | 100 | 68 | 76 |
| 11 | 112 | 104 | e88 | 90 | 77 | 84 | 162 | 441 | 722 | 97 | 66 | 76 |
| 12 | 111 | 104 | e90 | 85 | 91 | 86 | 160 | 435 | 641 | 102 | 67 | 73 |
| 13 | 110 | 103 | e88 | 84 | 82 | 81 | 181 | 556 | 580 | 90 | 67 | 72 |
| 14 | 110 | 107 | e86 | 89 | 79 | 82 | 203 | 688 | 498 | 81 | 70 | 72 |
| 15 | 110 | 100 | e84 | 87 | 82 | 89 | 216 | 787 | 253 | 73 | 69 | 85 |
| 16 | 110 | 103 | e86 | 84 | 85 | 82 | 219 | 917 | 224 | 68 | 73 | 101 |
| 17 | 111 | 108 | e84 | 93 | 97 | 87 | 230 | 1,040 | 199 | 66 | 69 | 96 |
| 18 | 112 | 101 | e88 | 88 | 83 | 88 | 212 | 1,080 | 180 | 68 | 67 | 88 |
| 19 | 114 | 105 | 90 | 84 | 82 | 88 | 199 | 1,210 | 165 | 73 | 64 | 93 |
| 20 | 112 | 99 | 87 | 84 | 78 | 86 | 196 | 1,320 | 153 | 101 | 64 | 94 |
| 21 | 111 | 100 | e86 | 84 | 82 | 91 | 206 | 1,370 | 149 | 91 | 65 | 95 |
| 22 | 110 | 96 | e86 | 86 | 96 | 88 | 220 | 1,410 | 141 | 81 | 63 | 100 |
| 23 | 110 | 95 | 86 | 84 | 80 | 89 | 263 | 1,240 | 131 | 75 | 62 | 99 |
| 24 | 109 | 95 | 87 | 88 | 80 | 92 | 272 | 1,050 | 125 | 73 | 63 | 99 |
| 25 | 109 | 95 | 85 | 89 | 81 | 94 | 248 | 1,050 | 121 | 73 | 63 | 96 |
| 26 | 110 | 100 | 84 | 83 | 82 | 98 | 221 | 1,050 | 120 | 72 | 65 | 92 |
| 27 | 109 | 92 | 85 | 81 | 84 | 101 | 245 | 740 | 122 | 64 | 71 | 90 |
| 28 | 120 | 96 | 85 | 82 | 91 | 107 | 291 | 507 | 111 | 62 | 66 | 87 |
| 29 | 119 | 94 | 86 | 82 | --- | 124 | 315 | 415 | 107 | 66 | 65 | 86 |
| 30 | 117 | 95 | 82 | 81 | --- | 117 | 344 | 375 | 112 | 72 | 66 | 83 |
| 31 | 114 | --- | 90 | 82 | --- | 113 | --- | 360 | --- | 72 | 62 | --- |
| Total | 3,412 | 3,058 | 2,718 | 2,631 | 2,327 | 2,827 | 5,940 | 22,249 | 9,277 | 2,627 | 2,178 | 2,393 |
| Mean | 110 | 102 | 87.7 | 84.9 | 83.1 | 91.2 | 198 | 718 | 309 | 84.7 | 70.3 | 79.8 |
| Max | 120 | 111 | 98 | 93 | 97 | 124 | 344 | 1,410 | 866 | 111 | 89 | 101 |
| Min | 97 | 92 | 82 | 78 | 77 | 81 | 108 | 360 | 107 | 62 | 62 | 54 |
| Ac-ft | 6,770 | 6,070 | 5,390 | 5,220 | 4,620 | 5,610 | 11,780 | 44,130 | 18,400 | 5,210 | 4,320 | 4,750 |

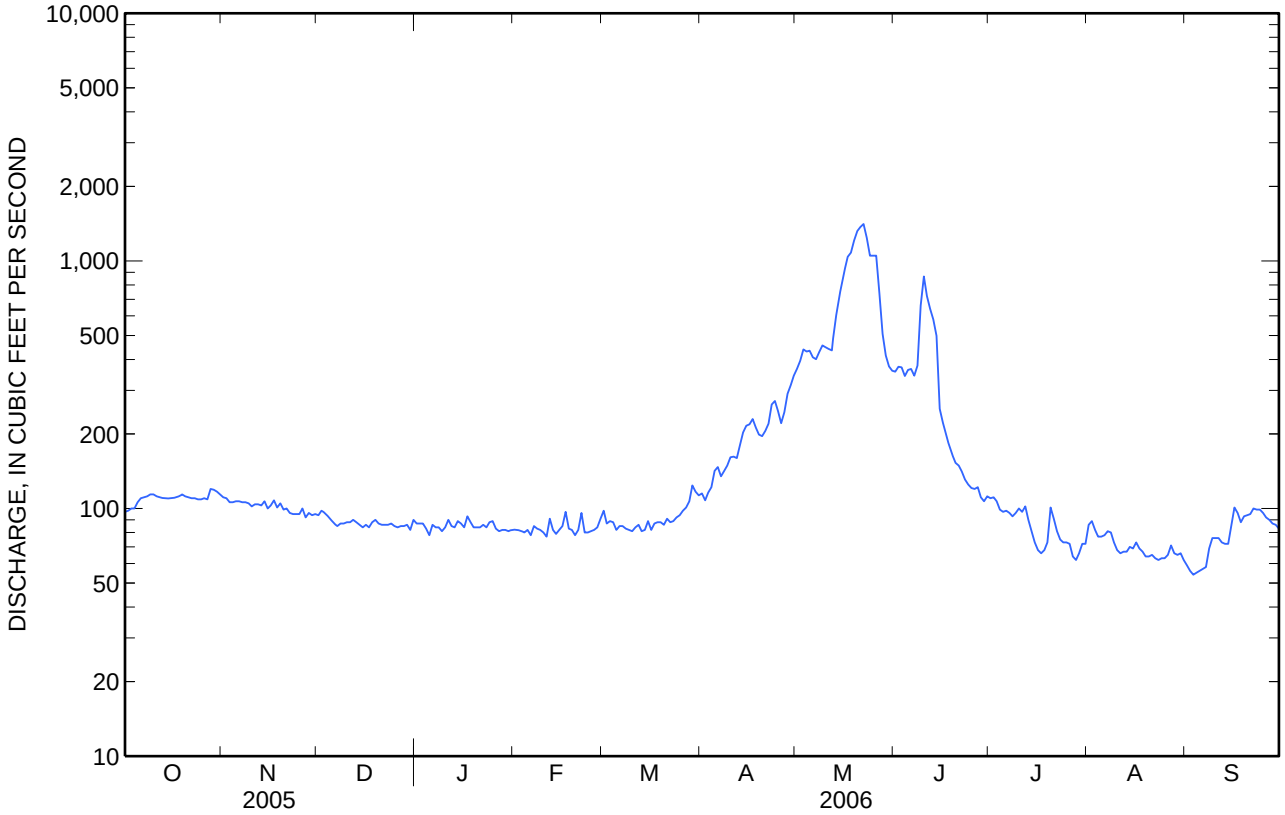
**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 2006, BY WATER YEAR (WY)**

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 115 | 117 | 105 | 93.8 | 91.2 | 98.2 | 151 | 473 | 596 | 192 | 104 | 104 |
| Max | 230 | 180 | 151 | 147 | 124 | 153 | 348 | 1,165 | 1,657 | 690 | 216 | 233 |
| (WY) | (1983) | (1983) | (1984) | (1966) | (1986) | (1986) | (1943) | (1952) | (1921) | (1975) | (1983) | (1927) |
| Min | 37.5 | 57.6 | 64.2 | 51.7 | 53.2 | 53.8 | 53.9 | 63.9 | 54.7 | 40.3 | 37.6 | 48.7 |
| (WY) | (1935) | (1935) | (2004) | (2004) | (1935) | (1935) | (1977) | (1992) | (1992) | (1994) | (2002) | (1934) |

**09277500 DUCHESNE RIVER NEAR TABIONA, UT—Continued**

**SUMMARY STATISTICS**

| | Calendar Year 2005 | | Water Year 2006 | | Water Years 1919 - 2006 | |
|---|---|---|---|---|---|---|
| **Annual total** | 71,770 | | 61,637 | | | |
| **Annual mean** | 197 | | 169 | | 187 | |
| **Highest annual mean** | | | | | 354 | 1922 |
| **Lowest annual mean** | | | | | 68.9 | 1992 |
| **Highest daily mean** | 1,900 | May 23 | 1,410 | May 22 | 2,490 | Jun 13, 1921 |
| **Lowest daily mean** | 52 | Sep 2 | 54 | Sep 3 | 21 | Jun 5, 1992 |
| **Annual seven-day minimum** | 55 | Aug 28 | 56 | Sep 1 | 30 | May 31, 1992 |
| **Annual runoff (ac-ft)** | 142,400 | | 122,300 | | 135,300 | |
| **10 percent exceeds** | 595 | | 374 | | 374 | |
| **50 percent exceeds** | 93 | | 94 | | 108 | |
| **90 percent exceeds** | 68 | | 72 | | 71 | |



## CLIMATOLOGICAL RECORDS

PERIOD OF RECORD.--October 2001 to current year.

INSTRUMENTATION.--An 8.2-inch diameter, unheated, tipping bucket rain gage.

REMARKS.--Records fair. Snowfall-affected data can result during the winter months when snow fills the rain gage bucket and then melts as temperatures rise. Snowfall-affected data is subject to appreciable errors.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily precipitation, 1.03 in, Apr 23, 2005.

EXTREMES FOR CURRENT YEAR.--Maximum daily precipitation, 0.46 in, Aug 15.

**PRECIPITATION, TOTAL, INCHES**
**WATER YEAR OCTOBER 2005 TO SEPTEMBER 2006**
**DAILY SUM VALUES**

| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.14 | 0.00 |
| 2 | 0.00 | 0.00 | 0.30 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.14 | 0.00 | 0.00 |
| 3 | 0.00 | 0.00 | --- | 0.05 | 0.00 | 0.00 | 0.00 | 0.12 | 0.00 | 0.03 | 0.00 | 0.00 |
| 4 | 0.05 | 0.00 | --- | 0.05 | 0.00 | 0.00 | 0.00 | 0.36 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | 0.00 | 0.00 | --- | 0.02 | 0.00 | 0.00 | 0.24 | 0.09 | 0.00 | 0.03 | 0.00 | 0.00 |
| 6 | 0.00 | 0.00 | --- | 0.04 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.03 | 0.00 | 0.02 |
| 7 | 0.00 | 0.00 | --- | 0.05 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | 0.00 | 0.00 | --- | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.10 | 0.00 | 0.00 | 0.37 |
| 9 | 0.00 | 0.00 | --- | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.24 | 0.20 | 0.00 | 0.14 |
| 10 | 0.00 | 0.00 | --- | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| 11 | 0.00 | 0.11 | --- | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12 | 0.00 | 0.00 | --- | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 |
| 15 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.10 | 0.00 | 0.03 | 0.00 | 0.46 | 0.07 |
| 16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.02 |
| 17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 18 | 0.03 | 0.00 | 0.00 | 0.02 | 0.00 | 0.07 | 0.00 | 0.00 | 0.00 | 0.15 | 0.00 | 0.00 |
| 19 | 0.03 | 0.00 | 0.01 | 0.00 | 0.01 | 0.09 | 0.00 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| 20 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 |
| 21 | 0.00 | 0.00 | --- | 0.00 | 0.00 | 0.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 |
| 22 | 0.00 | 0.00 | --- | 0.00 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.16 |
| 23 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 |
| 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.00 |
| 26 | 0.00 | 0.05 | 0.00 | 0.14 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 |
| 27 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 28 | 0.32 | 0.00 | 0.01 | 0.00 | 0.10 | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 29 | 0.11 | 0.00 | 0.03 | 0.00 | --- | 0.31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 30 | 0.00 | 0.00 | 0.00 | 0.00 | --- | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
| 31 | 0.00 | --- | 0.02 | 0.00 | --- | 0.00 | --- | 0.00 | --- | 0.04 | 0.00 | --- |
| Total | 0.54 | 0.24 | --- | 0.43 | 0.14 | 0.85 | 0.44 | 0.62 | 0.38 | 0.64 | 0.84 | 0.86 |