Water-Data Report 2011

# 08404000 PECOS RIVER BELOW AVALON DAM, NM

Upper Pecos Basin
Upper Pecos-Black Subbasin

LOCATION.--Lat 32°28'51.08", long 104°15'46.73" referenced to North American Datum of 1983, Eddy County, NM, Hydrologic Unit 13060011, on right bank 4,800 ft downstream from Avalon Dam, 4.5 mi northwest of Carlsbad, and at mile 466.3.

DRAINAGE AREA.--18,080 $mi^2$, approximately (contributing area).

## SURFACE-WATER RECORDS

PERIOD OF RECORD.--January 1906 to March 1907 (published as "at Avalon"), June 1951 to current year.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 3,130 ft above NGVD of 1929, from topographic map. Jan. 1906 to Mar. 1907, nonrecording gage at site 0.5 mi upstream at different datum.

REMARKS.--No estimated discharges. Records good. Flow completely regulated by Lake Avalon (station 08403800) 0.9 mi upstream. Diversions and ground-water withdrawals upstream from station for irrigation of about 198,000 acres, 1959 determination. Station bypassed by Carlsbad Main Canal (station 08403500). No flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 2, 1904, caused in part by failure of Avalon Dam, probably exceeded 90,000 $ft^3/s$, and is probably the greatest flood since 1842. A major flood occurred Aug. 3, 1893, and was described as "greatest in 50 years"; it damaged McMillan Dam, then under construction, and washed out the original Avalon Dam. Another major flood occurred Aug. 7, 1916, discharge 70,000 $ft^3/s$, at site 6.5 mi downstream.



Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 08404000, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/08404000.2011.pdf

**08404000 PECOS RIVER BELOW AVALON DAM, NM—Continued**

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

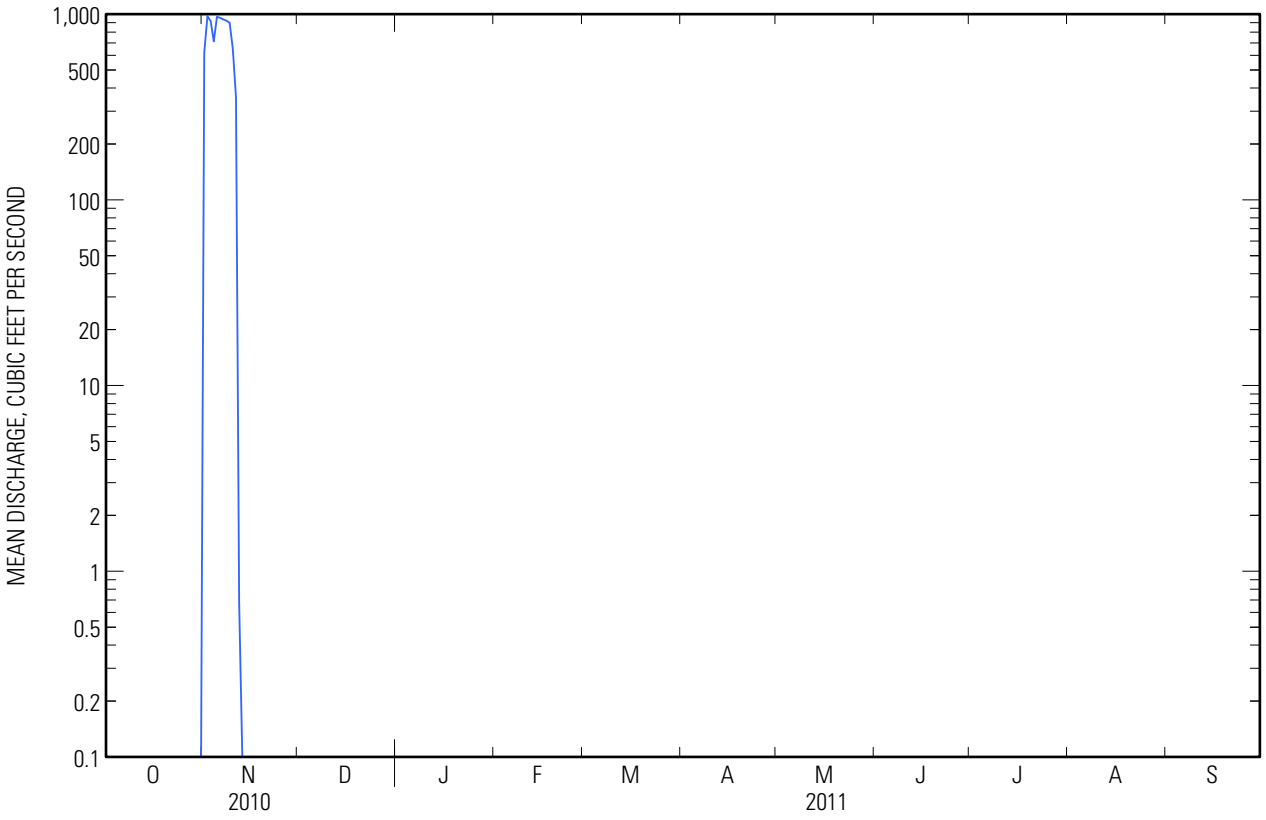
| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.00 | 621 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 0.00 | 972 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 918 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | 0.00 | 713 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | 0.00 | 967 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | 0.00 | 955 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 0.00 | 936 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | 0.00 | 921 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9 | 0.00 | 898 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 0.00 | 652 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11 | 0.00 | 358 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12 | 0.00 | 0.68 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 23 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 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 | 0.00 | 0.00 |
| 26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 29 | 0.00 | 0.00 | 0.00 | 0.00 | --- | 0.00 | 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 | 0.00 | 0.00 | 0.00 |
| 31 | 0.00 | --- | 0.00 | 0.00 | --- | 0.00 | --- | 0.00 | --- | 0.00 | 0.00 | --- |
| Total | 0.00 | 8,911.68 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mean | 0.00 | 297 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Max | 0.00 | 972 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Ac-ft | 0.00 | 17,680 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2011, BY WATER YEAR (WY)**

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 86.6 | 64.1 | 29.4 | 7.79 | 9.73 | 5.81 | 9.78 | 32.9 | 44.7 | 31.6 | 45.5 | 40.8 |
| Max | 2,365 | 445 | 439 | 237 | 255 | 188 | 526 | 739 | 1,832 | 595 | 2,034 | 1,113 |
| (WY) | (1955) | (1987) | (2006) | (1987) | (1987) | (1987) | (2004) | (1973) | (1986) | (1960) | (1966) | (1974) |
| Min | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| (WY) | (1952) | (1952) | (1952) | (1952) | (1952) | (1952) | (1952) | (1952) | (1951) | (1951) | (1951) | (1951) |

**08404000 PECOS RIVER BELOW AVALON DAM, NM—Continued**

**SUMMARY STATISTICS**

| | Calendar Year 2010 | | Water Year 2011 | | Water Years 1951 - 2011 | |
|---|---|---|---|---|---|---|
| **Annual total** | 8,911.68 | | 8,911.68 | | | |
| **Annual mean** | 24.4 | | 24.4 | | 34.4 | |
| **Highest annual mean** | | | | | 206 | 1955 |
| **Lowest annual mean** | | | | | 0.00 | 1953 |
| **Highest daily mean** | 972 | Nov 2 | 972 | Nov 2 | 33,600 | Aug 23, 1966 |
| **Lowest daily mean** | 0.00 | Jan 1 | 0.00 | Oct 1 | 0.00 | Jun 1, 1951 |
| **Annual seven-day minimum** | 0.00 | Jan 1 | 0.00 | Oct 1 | 0.00 | Jun 1, 1951 |
| **Maximum peak flow** | | | 1,320 | Nov 1 | [a]55,500 | Aug 23, 1966 |
| **Maximum peak stage** | | | 7.33 | Nov 1 | [b]26.40 | Aug 23, 1966 |
| **Instantaneous low flow** | | | 0.00 | Oct 1 | 0.00 | Oct 1, 1999 |
| **Annual runoff (ac-ft)** | 17,680 | | 17,680 | | 24,930 | |
| **10 percent exceeds** | 0.00 | | 0.00 | | 0.45 | |
| **50 percent exceeds** | 0.00 | | 0.00 | | 0.00 | |
| **90 percent exceeds** | 0.00 | | 0.00 | | 0.00 | |

[a] From rating curve extended above 33,000 ft³/s, on basis of computation of peak flow over Tansill Dam, 5.8 mi upstream.
[b] From floodmarks.