Water-Data Report 2011

# 08159200 Colorado River at Bastrop, TX

Lower Colorado Basin
Lower Colorado-Cummins Subbasin

LOCATION.--Lat 30°06′16″, long 97°19′09″ referenced to North American Datum of 1927, Bastrop County, TX, Hydrologic Unit 12090301, on the left bank on the downstream side of State Highway 71 bridge on Water Street, at Bastrop, 0.3 mi upstream from Gills Creek, 1.2 mi downstream from Piney Creek, and at mile 236.6.

DRAINAGE AREA.--39,979 mi² of which 11,403 mi² probably is noncontributing.

## SURFACE-WATER RECORDS

PERIOD OF RECORD.--Mar. 1960 to current year. Oct. 1973 to Sept. 1975, daily discharges estimated by hydrographic comparison with Colorado River at Austin (station 08158000) and Colorado River near Smithville (station 08159500).

PERIOD OF RECORD, Water-Quality.--
CHEMICAL DATA: Jan. 1968 to Aug. 1994.
BIOCHEMICAL DATA: Feb. 1968 to Sept. 1994.
RADIOCHEMICAL DATA: Jan. 1981 to July 1981.

PERIOD OF DAILY RECORD, Water-Quality.--
SPECIFIC CONDUCTANCE: Oct. 1984 to Sept. 1994.
WATER TEMPERATURE: Oct. 1984 to Sept. 1994.
pH: Oct. 1984 to Sept. 1994.
DISSOLVED OXYGEN: Oct. 1984 to Sept. 1994.

REVISED RECORDS.--WDR TX-81-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 307.38 ft above NGVD of 1929. Prior to Sept. 30, 1973, and Oct. 1, 1975 to Oct. 28, 1986, 400 ft upstream from present site at same datum. Radio and satellite telemeter at station.

COOPERATION.--Lower Colorado River Authority provides operation and maintenance of the gage and verification of stage-discharge relation at low stages. U.S. Geological Survey maintains stage-discharge relation at medium to high stages, computes, and publishes streamflow record.

REMARKS.--Records fair. Since installation of gage in 1960, at least 10% of contributing drainage area has been regulated. There are many diversions above station for irrigation and municipal supply. The city of Austin diverts water into Decker Lake (by pumpage) upstream from this station. The Lower Colorado River Authority also diverts water from the Colorado into Lake Bastrop (by pumpage) upstream from this station. Some records listed in the "Period of Record" for surface water and water quality may not be available electronically.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1845, 60.3 ft July 7 or 8, 1869. Flood of June 16, 1935, reached a stage of 57.0 ft, and flood of Dec. 4, 1913, reached a stage of 53.3 ft, from information by local resident.



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 08159200, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/08159200.2011.pdf

**08159200 Colorado River at Bastrop, TX—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 | 880 | 394 | 416 | 418 | 528 | 544 | 953 | 1,440 | 2,150 | 1,570 | 1,230 | 1,240 |
| 2 | 882 | 398 | 424 | 425 | 515 | 490 | 950 | 1,570 | 1,730 | 1,630 | 1,210 | 1,240 |
| 3 | 865 | 411 | 452 | 429 | 610 | 586 | 1,030 | 1,630 | 1,690 | 1,540 | 1,170 | 1,310 |
| 4 | 886 | 450 | 446 | 458 | 578 | 526 | 1,010 | 1,700 | 1,830 | 1,510 | 1,220 | 1,310 |
| 5 | 939 | 444 | 441 | 480 | 561 | 458 | 1,080 | 1,560 | 1,730 | 1,500 | 1,220 | 1,180 |
| 6 | 938 | 371 | 451 | 477 | 538 | 500 | 1,010 | 1,720 | 1,890 | 1,470 | 1,260 | 1,180 |
| 7 | 863 | 377 | 498 | 470 | 482 | 448 | 1,100 | 1,860 | 2,010 | 1,430 | 1,450 | 939 |
| 8 | 809 | 406 | 485 | 481 | 506 | 465 | 1,050 | 1,860 | 2,060 | 1,490 | 1,450 | 1,000 |
| 9 | 780 | 424 | 475 | 575 | 479 | 440 | 1,140 | 2,110 | 2,110 | 1,520 | 1,410 | 1,010 |
| 10 | 676 | 418 | 468 | 1,440 | 559 | 463 | 1,190 | 2,170 | 2,080 | 1,350 | 1,400 | 1,010 |
| 11 | 643 | 411 | 477 | 864 | 551 | 440 | 1,220 | 2,170 | 2,000 | 1,240 | 1,730 | 1,050 |
| 12 | 542 | 415 | 476 | 605 | 490 | 438 | 1,180 | 2,290 | 1,860 | 1,210 | 1,730 | 1,100 |
| 13 | 462 | 439 | 506 | 484 | 477 | 437 | 1,160 | 3,330 | 1,860 | 1,290 | 1,660 | 1,090 |
| 14 | 443 | 430 | 472 | 436 | 455 | 453 | 1,190 | 2,240 | 1,780 | 1,240 | 1,690 | 1,090 |
| 15 | 420 | 424 | 476 | 485 | 524 | 457 | 1,200 | 1,970 | 1,650 | 1,320 | 1,770 | 1,110 |
| 16 | 373 | 422 | 475 | 612 | 495 | 431 | 1,190 | 1,940 | 1,710 | 1,270 | 1,760 | 1,100 |
| 17 | 394 | 428 | 441 | 1,140 | 544 | 435 | 1,250 | 1,780 | 1,620 | 1,260 | 1,570 | 1,110 |
| 18 | 404 | 456 | 421 | 699 | 560 | 459 | 1,360 | 1,760 | 1,760 | 1,320 | 1,510 | 1,140 |
| 19 | 383 | 447 | 423 | 563 | 511 | 432 | 1,480 | 1,780 | 1,790 | 1,290 | 1,480 | 1,090 |
| 20 | 408 | 428 | 424 | 535 | 535 | 368 | 1,480 | 1,780 | 1,980 | 1,210 | 1,470 | 1,070 |
| 21 | 421 | 432 | 426 | 527 | 530 | 473 | 1,460 | 1,830 | 2,100 | 1,200 | 1,400 | 1,040 |
| 22 | 377 | 440 | 406 | 521 | 553 | 475 | 1,410 | 1,710 | 2,240 | 1,190 | 1,380 | 1,010 |
| 23 | 384 | 441 | 410 | 536 | 555 | 483 | 1,440 | 1,610 | 2,390 | 1,150 | 1,450 | 892 |
| 24 | 380 | 424 | 423 | 486 | 560 | 489 | 1,420 | 1,570 | 1,740 | 1,180 | 1,410 | 870 |
| 25 | 384 | 460 | 437 | 500 | 565 | 489 | 1,520 | 1,600 | 1,870 | 1,260 | 1,430 | 832 |
| 26 | 381 | 442 | 572 | 437 | 568 | 602 | 1,490 | 1,620 | 2,030 | 1,220 | 1,450 | 774 |
| 27 | 417 | 416 | 448 | 476 | 558 | 609 | 1,430 | 1,660 | 1,980 | 1,280 | 1,440 | 760 |
| 28 | 431 | 412 | 409 | 466 | 535 | 709 | 1,380 | 1,860 | 2,020 | 1,300 | 1,460 | 761 |
| 29 | 378 | 415 | 407 | 487 | --- | 762 | 1,380 | 1,880 | 1,920 | 1,120 | 1,350 | 766 |
| 30 | 366 | 398 | 394 | 472 | --- | 878 | 1,470 | 1,890 | 2,030 | 1,200 | 1,390 | 722 |
| 31 | 369 | --- | 394 | 495 | --- | 895 | --- | 1,550 | --- | 1,210 | 1,320 | --- |
| Total | 17,278 | 12,673 | 13,873 | 17,479 | 14,922 | 16,134 | 37,623 | 57,440 | 57,610 | 40,970 | 44,870 | 30,796 |
| Mean | 557 | 422 | 448 | 564 | 533 | 520 | 1,254 | 1,853 | 1,920 | 1,322 | 1,447 | 1,027 |
| Max | 939 | 460 | 572 | 1,440 | 610 | 895 | 1,520 | 3,330 | 2,390 | 1,630 | 1,770 | 1,310 |
| Min | 366 | 371 | 394 | 418 | 455 | 368 | 950 | 1,440 | 1,620 | 1,120 | 1,170 | 722 |
| Ac-ft | 34,270 | 25,140 | 27,520 | 34,670 | 29,600 | 32,000 | 74,630 | 113,900 | 114,300 | 81,260 | 89,000 | 61,080 |

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2011, BY WATER YEAR (WY)**

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 1,321 | 1,447 | 1,469 | 1,580 | 1,958 | 2,216 | 2,293 | 3,107 | 4,173 | 2,970 | 1,869 | 1,707 |
| Max | 6,380 | 13,010 | 14,770 | 17,490 | 29,140 | 16,910 | 11,080 | 10,420 | 23,620 | 19,720 | 5,051 | 4,930 |
| (WY) | (1974) | (2005) | (1992) | (1992) | (1992) | (1992) | (1977) | (1975) | (1987) | (2007) | (2007) | (1974) |
| Min | 291 | 94.6 | 111 | 109 | 138 | 131 | 565 | 1,471 | 1,489 | 1,230 | 1,105 | 1,003 |
| (WY) | (1965) | (1964) | (1964) | (1964) | (1964) | (1964) | (1962) | (1962) | (1993) | (2006) | (2008) | (1999) |

**08159200 Colorado River at Bastrop, TX—Continued**

**SUMMARY STATISTICS**

| | Calendar Year 2010 | | Water Year 2011 | | Water Years 1960 - 2011 | |
|---|---|---|---|---|---|---|
| **Annual total** | 483,657 | | 361,668 | | | |
| **Annual mean** | 1,325 | | 991 | | 2,175 | |
| **Highest annual mean** | | | | | 9,073 | 1992 |
| **Lowest annual mean** | | | | | 828 | 1964 |
| **Highest daily mean** | 20,200 | Sep 9 | 3,330 | May 13 | 65,800 | Dec 22, 1991 |
| **Lowest daily mean** | 364 | Jan 9 | 366 | Oct 30 | 75 | Apr 1, 1964 |
| **Annual seven-day minimum** | 389 | Oct 25 | 389 | Oct 25 | 84 | Oct 19, 1964 |
| **Maximum peak flow** | | | 4,170 | May 13 | 79,600 | Oct 29, 1960 |
| **Maximum peak stage** | | | 6.53 | May 13 | 37.48 | Dec 22, 1991 |
| **Annual runoff (ac-ft)** | 959,300 | | 717,400 | | 1,575,000 | |
| **10 percent exceeds** | 2,220 | | 1,780 | | 4,080 | |
| **50 percent exceeds** | 1,140 | | 882 | | 1,450 | |
| **90 percent exceeds** | 417 | | 419 | | 278 | |