



Water-Data Report 2011

08123950 E. V. Spence Reservoir near Robert Lee, TX

Upper Colorado Basin
Upper Colorado Subbasin

LOCATION.--Lat 31°52'46", long 100°31'01" referenced to North American Datum of 1927, Coke County, TX, Hydrologic Unit 12080008, in outlet works of Robert Lee Dam on the Colorado River, 2.2 mi west of Robert Lee, and at mile 716.0.

DRAINAGE AREA.--15,278 mi² of which 10,260 mi² probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--Dec. 1968 to Sept. 2003, Oct. 2003 to Sept. 2004 (elevation), Oct. 2004 to current year.

PERIOD OF RECORD, Water-Quality.--

CHEMICAL DATA: Nov. 1969 to Aug. 1988.

BIOCHEMICAL DATA: Nov. 1969 to Aug. 1988.

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

GAGE.--Water-stage recorder. Datum of gage is NGVD of 1929. Prior to June 24, 1969, nonrecording gage at same site and datum. Satellite telemeter at station.

COOPERATION.--Records of diversions can be obtained from the city of San Angelo and from the Colorado River Municipal Water District.

REMARKS.--Records fair. Some records listed in the period of record may not be available electronically. The reservoir is formed by a rolled earthfill dam 21,500 ft long. Closure was made Dec. 30, 1968, and dam was completed in June 1969. The dam is the property of the Colorado River Municipal Water District, which has a permit to divert 50,000 acre-ft annually for municipal, mining, and industrial uses. Inflow into the reservoir is partially regulated by Lake J.B. Thomas (station 08118000), Lake Colorado City (station 08123000), and Champion Creek Reservoir (station 08123600). There are two spillways: The controlled service spillway is a morning-glory type that is partially controlled by 12 lift gates, 14.48 by 22.0 ft, and discharges through a 28.0 ft diameter concrete conduit. The uncontrolled spillway is a 3,200 ft wide cut through natural ground near the right end of dam. Data regarding the dam are given in the following table:

| | Elevation (feet) |
|-----------------------------------|---------------------|
| Top of dam..... | 1,928.00 |
| Crest of spillway..... | 1,908.00 |
| Top of gates..... | 1,900.00 |
| Crest of spillway..... | 1,878.00 |
| Lowest gated outlet (invert)..... | 1,815.85 |

EXTREMES FOR PERIOD OF RECORD.--Dec. 1968 to Sept. 2003, Oct. 2004 to current year: Maximum contents, 355,300 acre-ft, June 16, 1987; minimum contents after initial filling, 2,350 acre-ft, Sept. 30, 2011; Dec. 1968 to current year: Maximum elevation, 1,887.03 ft, June 16, 1987; minimum elevation, 1,814.07 ft, Sept. 30, 2011.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 21,640 acre-ft, Oct. 3, 4, gage height, 1,831.56 ft; minimum contents, 2,350 acre-ft, Sept. 30, gage height, 1,814.07 ft.

08123950 E. V. Spence Reservoir near Robert Lee, TX—Continued

RESERVOIR STORAGE, ACRE FEET
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
DAILY MEAN VALUES
[e, estimated]

| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|
| 1 | 21,360 | 19,740 | 17,360 | 15,390 | 14,110 | 12,970 | 11,060 | e9,040 | 7,050 | e4,990 | 3,260 | 2,650 |
| 2 | 21,550 | 19,650 | 17,290 | 15,310 | 14,030 | 12,910 | 10,990 | e8,910 | 6,980 | e4,860 | 3,210 | 2,640 |
| 3 | 21,610 | 19,540 | 17,230 | 15,260 | 14,010 | 12,850 | 10,970 | e8,780 | 6,900 | e4,740 | 3,160 | 2,630 |
| 4 | 21,610 | 19,430 | 17,160 | 15,210 | 14,010 | 12,800 | 10,950 | e8,700 | 6,840 | e4,620 | 3,120 | 2,620 |
| 5 | 21,580 | 19,340 | 17,070 | 15,150 | 14,010 | 12,730 | 10,840 | 8,640 | 6,780 | e4,500 | 3,070 | 2,600 |
| 6 | 21,540 | 19,250 | 17,010 | 15,080 | 14,020 | 12,650 | 10,780 | 8,590 | 6,710 | e4,440 | 3,020 | 2,580 |
| 7 | 21,520 | 19,160 | 16,950 | 15,030 | 14,000 | 12,610 | 10,710 | 8,540 | 6,640 | 4,380 | 2,970 | 2,570 |
| 8 | 21,500 | 19,090 | 16,870 | 14,960 | 13,950 | 12,550 | 10,650 | 8,480 | 6,570 | 4,360 | 2,930 | 2,570 |
| 9 | 21,430 | 19,030 | 16,810 | 14,900 | 13,940 | 12,470 | 10,590 | 8,420 | 6,510 | 4,320 | 2,880 | 2,560 |
| 10 | 21,340 | 18,950 | 16,740 | 14,860 | 13,900 | 12,390 | 10,550 | 8,360 | 6,440 | 4,280 | 2,830 | 2,550 |
| 11 | 21,270 | 18,880 | 16,680 | 14,780 | 13,890 | 12,330 | 10,480 | 8,300 | 6,370 | 4,230 | 2,790 | 2,550 |
| 12 | 21,180 | 18,820 | 16,590 | 14,710 | 13,850 | 12,290 | 10,400 | 8,240 | 6,300 | 4,190 | 2,740 | 2,540 |
| 13 | 21,080 | 18,730 | 16,520 | 14,650 | 13,800 | 12,240 | 10,320 | 8,170 | 6,230 | 4,150 | 2,840 | 2,530 |
| 14 | 20,980 | 18,650 | 16,460 | 14,590 | 13,740 | 12,180 | 10,280 | 8,100 | 6,170 | 4,100 | 2,890 | 2,520 |
| 15 | 20,900 | 18,580 | 16,400 | 14,550 | 13,690 | 12,110 | 10,170 | 8,030 | 6,120 | 4,060 | 2,860 | 2,500 |
| 16 | 20,810 | 18,490 | 16,320 | 14,520 | 13,640 | 12,060 | 10,070 | 7,960 | 6,090 | 4,010 | 2,820 | 2,500 |
| 17 | 20,720 | 18,420 | 16,240 | 14,490 | 13,600 | 12,010 | 10,010 | 7,910 | 6,020 | 3,970 | 2,790 | 2,490 |
| 18 | 20,640 | 18,310 | 16,170 | 14,450 | 13,540 | 11,950 | 9,950 | 7,870 | 5,950 | 3,930 | 2,780 | 2,480 |
| 19 | 20,570 | 18,240 | 16,120 | 14,440 | 13,490 | 11,890 | 9,880 | 7,830 | 5,870 | 3,880 | 2,770 | 2,470 |
| 20 | 20,490 | 18,170 | 16,060 | 14,420 | 13,450 | 11,830 | 9,800 | 7,860 | 5,800 | 3,840 | 2,760 | 2,450 |
| 21 | 20,400 | 18,120 | 15,990 | 14,350 | 13,390 | 11,780 | 9,740 | 7,790 | 5,760 | 3,790 | 2,750 | 2,440 |
| 22 | 20,330 | 18,060 | 15,930 | 14,290 | 13,320 | 11,730 | 9,680 | 7,730 | 5,710 | 3,740 | 2,740 | 2,430 |
| 23 | 20,310 | 17,990 | 15,860 | 14,250 | 13,300 | 11,660 | 9,620 | 7,680 | 5,650 | 3,690 | 2,730 | 2,420 |
| 24 | 20,270 | 17,940 | 15,880 | 14,210 | 13,240 | 11,580 | 9,550 | 7,610 | 5,590 | 3,640 | 2,720 | 2,420 |
| 25 | 20,180 | 17,860 | 15,830 | 14,190 | 13,160 | 11,520 | 9,490 | 7,540 | 5,520 | 3,590 | 2,710 | 2,410 |
| 26 | 20,130 | 17,760 | 15,760 | 14,170 | 13,110 | 11,460 | 9,410 | 7,470 | 5,450 | 3,550 | 2,710 | 2,390 |
| 27 | 20,100 | 17,680 | 15,690 | 14,160 | 13,100 | 11,380 | 9,330 | 7,400 | 5,400 | 3,500 | 2,700 | 2,390 |
| 28 | 20,060 | 17,600 | 15,640 | 14,150 | 13,020 | 11,310 | 9,220 | 7,330 | 5,350 | 3,450 | 2,690 | 2,370 |
| 29 | 19,980 | 17,550 | 15,600 | 14,100 | --- | 11,250 | 9,180 | 7,250 | e5,230 | 3,400 | 2,680 | 2,370 |
| 30 | 19,900 | 17,440 | 15,540 | 14,070 | --- | 11,180 | e9,110 | 7,180 | e5,110 | 3,350 | 2,670 | 2,360 |
| 31 | 19,820 | --- | 15,470 | 14,040 | --- | 11,120 | --- | 7,110 | --- | 3,300 | 2,660 | --- |
| Mean | 20,810 | 18,550 | 16,360 | 14,600 | 13,650 | 12,060 | 10,130 | 8,030 | 6,100 | 4,030 | 2,850 | 2,500 |
| Max | 21,610 | 19,740 | 17,360 | 15,390 | 14,110 | 12,970 | 11,060 | 9,040 | 7,050 | 4,990 | 3,260 | 2,650 |
| Min | 19,820 | 17,440 | 15,470 | 14,040 | 13,020 | 11,120 | 9,110 | 7,110 | 5,110 | 3,300 | 2,660 | 2,360 |

08123950 E. V. Spence Reservoir near Robert Lee, TX—Continued

