Water-Data Report 2011

# 07047950 L'ANGUILLE RIVER AT PALESTINE, AR

St. Francis Basin
L'Anguille Subbasin

LOCATION.--Lat 34°58′22″, long 90°53′08″ referenced to North American Datum of 1983, in NW ¼ SW ¼ sec.10, T.4 N., R.2 E., St Francis County, AR, Hydrologic Unit 08020205, at bridge on U.S. Hwy 70, 1.0 mi east of Palestine, and at river mile 33.6.

DRAINAGE AREA.--786 $mi^2$.

## SURFACE-WATER RECORDS

PERIOD OF RECORD.--Apr 1949 to current year. Oct 1965 to Sep 1977, and Oct 1997 to current year in reports of the U.S. Geological Survey. Apr 1949 to Dec 1963 in reports of Mississippi River Commission. Jan 1964 to current year in reports of U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 166.68 ft above NGVD of 1929. Prior to Nov 1, 1949, nonrecording gage.

REMARKS.--Water-discharge records poor, including estimated daily discharges. Water quality data available at the files of the USGS. The stage-discharge relation affected by backwater during high stages of Mississippi River. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1933, 39.7 ft Feb 13, 1937, at present site and datum, from records of U.S. Army Corps of Engineers (backwater from Mississippi River).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, undetermined, May 11, gage height, 36.34 ft; minimum discharge, 9.5 $ft^3/s$, Nov. 2, gage height, 12.48 ft.

**07047950 L'ANGUILLE RIVER AT PALESTINE, AR—Continued**

**DISCHARGE, CUBIC FEET PER SECOND**
**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 | 10 | 884 | 497 | 252 | 1,010 | 1,230 | --- | --- | 93 | 189 | 459 |
| 2 | 22 | 10 | 893 | 756 | 760 | 1,000 | 1,040 | --- | --- | 96 | 189 | 439 |
| 3 | 23 | 11 | 935 | 875 | 969 | 977 | 906 | --- | --- | 104 | 186 | 417 |
| 4 | 23 | 11 | 990 | 926 | 1,100 | 952 | 813 | --- | --- | 110 | 178 | 385 |
| 5 | 22 | 11 | 1,010 | 898 | 1,250 | 1,110 | 847 | --- | --- | 120 | 177 | 348 |
| 6 | 21 | 11 | 984 | 793 | 1,330 | 1,450 | 881 | --- | --- | 152 | 179 | 323 |
| 7 | 20 | 11 | 906 | 672 | 1,320 | 1,600 | 892 | --- | --- | 246 | 182 | 309 |
| 8 | 20 | 11 | 800 | 565 | 1,290 | 1,760 | 928 | --- | --- | 436 | 182 | 286 |
| 9 | 19 | 11 | 690 | 478 | 1,220 | 2,110 | 913 | --- | --- | 548 | 189 | 243 |
| 10 | 19 | 11 | 585 | 412 | 1,170 | 2,690 | 800 | --- | --- | 592 | 213 | 219 |
| 11 | 19 | 11 | 496 | 354 | 1,140 | 2,900 | 809 | --- | --- | 581 | 234 | 201 |
| 12 | 19 | 12 | 451 | 302 | 1,120 | 2,840 | 1,360 | --- | --- | 507 | 278 | 190 |
| 13 | 18 | 12 | 409 | 253 | 1,050 | 2,700 | 1,640 | --- | --- | 360 | 305 | 182 |
| 14 | 18 | 12 | 347 | 207 | 966 | 2,520 | 1,810 | --- | 313 | 235 | 330 | 184 |
| 15 | 17 | 12 | 293 | 167 | 898 | 2,340 | 1,860 | --- | 231 | 179 | 336 | 189 |
| 16 | 16 | 15 | 261 | 138 | 863 | 2,160 | 1,780 | --- | 226 | 160 | 323 | 194 |
| 17 | 16 | 20 | 232 | 121 | 850 | 2,060 | 1,640 | --- | 348 | 159 | 303 | 195 |
| 18 | 16 | 19 | 199 | 111 | 834 | 2,030 | 1,520 | --- | 380 | 169 | 344 | 198 |
| 19 | 15 | 20 | 170 | 103 | 794 | 2,020 | 1,390 | --- | 369 | 187 | 420 | 204 |
| 20 | 16 | 23 | 146 | 95 | 750 | 2,080 | 1,250 | --- | 312 | 194 | 444 | 217 |
| 21 | e16 | 25 | 130 | 89 | 705 | 2,230 | 1,130 | --- | 245 | 184 | 441 | 238 |
| 22 | e15 | 27 | 116 | 86 | 652 | 2,410 | 1,060 | --- | 190 | 172 | 450 | 247 |
| 23 | e15 | 81 | 104 | 86 | 578 | 2,560 | 1,040 | --- | 156 | 174 | 453 | 264 |
| 24 | e15 | 235 | 93 | 91 | 515 | 2,590 | 1,020 | --- | 124 | 179 | 478 | 277 |
| 25 | e15 | 461 | 80 | 104 | 630 | 2,600 | --- | --- | 102 | 186 | 537 | 274 |
| 26 | 14 | 679 | 70 | 145 | 807 | 2,550 | --- | --- | 89 | 179 | 569 | 267 |
| 27 | 14 | 747 | 63 | 187 | 896 | 2,350 | --- | --- | 80 | 182 | 577 | 230 |
| 28 | 12 | 776 | 59 | 197 | 967 | 2,140 | --- | --- | 82 | 196 | 570 | 192 |
| 29 | 11 | 766 | 59 | 183 | --- | 1,900 | --- | --- | 91 | 213 | 550 | 162 |
| 30 | 11 | 855 | 74 | 171 | --- | 1,640 | --- | --- | 91 | 202 | 513 | 133 |
| 31 | 11 | --- | 188 | 155 | --- | 1,430 | --- | --- | --- | 192 | 478 | --- |
| Total | 529 | 4,916 | 12,717 | 10,217 | 25,676 | 62,709 | 28,559 | --- | 3,429 | 7,287 | 10,797 | 7,666 |
| Mean | 17.1 | 164 | 410 | 330 | 917 | 2,023 | 1,190 | --- | 202 | 235 | 348 | 256 |
| Max | 23 | 855 | 1,010 | 926 | 1,330 | 2,900 | 1,860 | --- | 380 | 592 | 577 | 459 |
| Min | 11 | 10 | 59 | 86 | 252 | 952 | 800 | --- | 80 | 93 | 177 | 133 |
| Ac-ft | 1,050 | 9,750 | 25,220 | 20,270 | 50,930 | 124,400 | 56,650 | --- | 6,800 | 14,450 | 21,420 | 15,210 |
| Cfsm | 0.02 | 0.21 | 0.52 | 0.42 | 1.17 | 2.57 | 1.51 | --- | 0.26 | 0.30 | 0.44 | 0.33 |
| In. | 0.03 | 0.23 | 0.60 | 0.48 | 1.22 | 2.97 | 1.35 | --- | 0.16 | 0.34 | 0.51 | 0.36 |

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2011, BY WATER YEAR (WY)**

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 390 | 668 | 1,360 | 1,530 | 2,138 | 1,957 | 1,609 | 1,506 | 587 | 408 | 436 | 588 |
| Max | 3,107 | 5,578 | 7,477 | 6,531 | 7,854 | 5,720 | 4,938 | 6,587 | 3,919 | 1,636 | 1,713 | 2,130 |
| (WY) | (2010) | (1958) | (2002) | (1950) | (1950) | (1975) | (1973) | (1953) | (1974) | (1967) | (1966) | (1950) |
| Min | 0.13 | 0.00 | 2.19 | 34.5 | 136 | 313 | 147 | 44.9 | 23.5 | 0.06 | 19.0 | 66.7 |
| (WY) | (2009) | (1955) | (2006) | (1963) | (1963) | (2007) | (2003) | (1959) | (2008) | (1954) | (1954) | (1954) |

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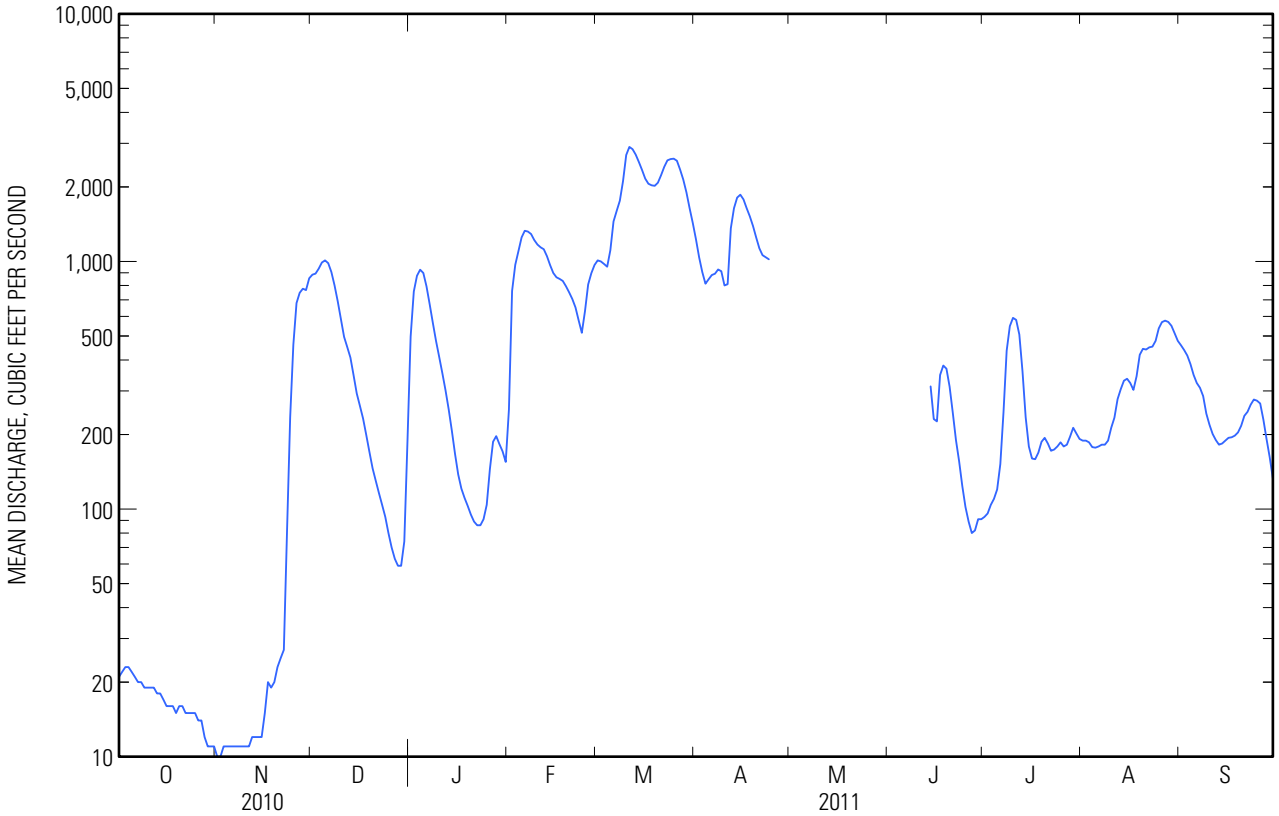
**SUMMARY STATISTICS**

| | Calendar Year 2010 | | Water Year 2011 | | Water Years 1949 - 2011 | |
|---|---|---|---|---|---|---|
| **Annual total** | 320,530 | | | | | |
| **Annual mean** | 878 | | | | 1,102 | |
| **Highest annual mean** | | | | | 2,592 | 1950 |
| **Lowest annual mean** | | | | | 359 | 2006 |
| **Highest daily mean** | 5,940 | Jan 1 | 2,900 | Mar 11 | 22,400 | Dec 18, 2001 |
| **Lowest daily mean** | 10 | Nov 1 | 10 | Nov 1 | 0.00 | Jun 27, 1952 [a] |
| **Annual seven-day minimum** | 11 | Oct 29 | 11 | Oct 29 | 0.00 | Jul 21, 1952 |
| **Maximum peak flow** | | | [b] | | [c]23,000 | Dec 19, 2001 |
| **Maximum peak stage** | | | [d]36.34 | May 13 | [d]36.34 | May 13, 2011 |
| **Instantaneous low flow** | | | 9.5 | Nov 2 | 0.00 | Jan 1, 1950 [a] |
| **Annual runoff (ac-ft)** | 635,800 | | | | 798,200 | |
| **Annual runoff (cfsm)** | 1.12 | | | | 1.40 | |
| **Annual runoff (inches)** | 15.17 | | | | 19.05 | |
| **10 percent exceeds** | 2,230 | | | | 2,810 | |
| **50 percent exceeds** | 575 | | | | 485 | |
| **90 percent exceeds** | 19 | | | | 31 | |

[a] Occurred on many days
[b] Undetermined
[c] Estimated
[d] Backwater from Mississippi River