

Water-Data Report 2011

**08211900 San Fernando Creek at Alice, TX**

Southwestern Texas Coastal Basin  
San Fernando Subbasin

LOCATION.--Lat 27°46'20", long 98°02'00" referenced to North American Datum of 1927, Jim Wells County, TX, Hydrologic Unit 12110204, on left bank 34 ft downstream from downstream bridge on State Highways 44 and 359, 0.5 mi downstream from confluence of San Diego and Chiltipin Creeks, 2.3 mi upstream of Pintas Creek, and 2.7 mi northeast of Alice.

DRAINAGE AREA.--507 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--Dec. 1964 to Mar. 1987, Apr. 1999 to current year.

PERIOD OF RECORD, Water-Quality.--

CHEMICAL DATA: May 1965.

BIOCHEMICAL DATA: May 1965.

GAGE.--Water-stage recorder. Datum of gage is 160.05 ft above NGVD of 1929. Prior to Mar. 1987 at datum 1.63 ft higher at same site. Satellite telemeter at station.

REMARKS.--Records fair. San Diego Creek joins Chiltipin Creek below Lake Alice to form San Fernando Creek. Since installation of gage at least 10% of contributing drainage area has been regulated. Flow is affected at times by discharge from the flood-detention pools of ten floodwater-retarding structures. These structures control runoff from 170 mi<sup>2</sup> in the San Diego-Rosita drainage basins. Records furnished by the city of Alice show that sewage effluent is discharged into San Diego Creek 1.3 mi upstream, which comprises most of the low flow. City of Alice (Engineering Department) has the ability to divert water, via pump, to the golf course, bypassing the gage. Logs are kept and available upon request of the City. Some records listed in the "Period of Record" for surface water and water quality may not be available electronically.

## 08211900 San Fernando Creek at Alice, 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            | 3.1   | 1.4   | 1.4   | 1.4  | 1.9   | 2.2   | 1.7   | 1.6   | 1.5   | 0.98  | 0.08  | 0.87  |
| 2            | 2.9   | 1.1   | 0.80  | 1.5  | 1.9   | 1.9   | 1.7   | 1.8   | 1.4   | 0.94  | 0.27  | 0.71  |
| 3            | 2.8   | 0.93  | 0.78  | 1.7  | 2.0   | 0.77  | 1.7   | 1.4   | 0.97  | 0.84  | 0.47  | 0.13  |
| 4            | 2.7   | 1.4   | 1.3   | 1.8  | 2.0   | 1.4   | 1.7   | 1.1   | 0.32  | 0.91  | 0.05  | 0.22  |
| 5            | 2.5   | 1.1   | 1.2   | 1.8  | 2.1   | 2.1   | 1.3   | 0.30  | 0.23  | 0.95  | 0.24  | 0.49  |
| 6            | 2.3   | 0.90  | 1.3   | 1.7  | 2.1   | 2.1   | 1.1   | 0.26  | 0.48  | 0.60  | 0.52  | 0.95  |
| 7            | 2.3   | 1.4   | 1.4   | 1.8  | 1.7   | 2.2   | 1.4   | 0.25  | 1.3   | 0.09  | 0.52  | 0.97  |
| 8            | 2.0   | 1.5   | 1.4   | 1.7  | 1.6   | 2.2   | 0.64  | 0.72  | 1.3   | 0.06  | 0.40  | 0.76  |
| 9            | 1.2   | 1.0   | 1.4   | 2.1  | 2.2   | 2.3   | 1.7   | 1.3   | 1.1   | 0.35  | 0.09  | 0.16  |
| 10           | 1.8   | 0.42  | 1.1   | 1.7  | 2.1   | 2.0   | 1.7   | 1.4   | 0.33  | 0.80  | 0.10  | 0.72  |
| 11           | 2.3   | 0.87  | 0.87  | 1.6  | 1.7   | 2.1   | 1.4   | 1.4   | 0.22  | 0.90  | 0.10  | 0.98  |
| 12           | 2.2   | 1.3   | 1.2   | 1.6  | 0.68  | 2.2   | 0.99  | 1.6   | 0.19  | 0.88  | 0.28  | 1.1   |
| 13           | 2.1   | 1.3   | 1.3   | 1.7  | 1.5   | 2.1   | 1.7   | 1.5   | 0.55  | 0.61  | 0.62  | 1.1   |
| 14           | 2.1   | 1.3   | 1.2   | 1.8  | 2.2   | 2.1   | 0.99  | 1.4   | 1.2   | 0.46  | 0.42  | 0.72  |
| 15           | 1.6   | 1.3   | 0.71  | 3.3  | 2.3   | 1.9   | 0.39  | 1.3   | 1.2   | 0.47  | 0.17  | 0.25  |
| 16           | 1.5   | 1.2   | 0.97  | 16   | 2.3   | 2.0   | 0.36  | 1.1   | 1.1   | 0.07  | 0.14  | 0.19  |
| 17           | 1.9   | 1.3   | 1.5   | 5.5  | 2.3   | 1.2   | 0.94  | 0.91  | 0.70  | 0.23  | 0.13  | 1.3   |
| 18           | 1.6   | 1.3   | 1.4   | 3.4  | 2.6   | 0.48  | 1.6   | 1.4   | 0.20  | 0.80  | 0.15  | 1.6   |
| 19           | 1.5   | 1.4   | 1.4   | 2.9  | 2.4   | 1.1   | 1.7   | 1.2   | 0.54  | 0.72  | 0.42  | 1.2   |
| 20           | 2.0   | 1.3   | 1.5   | 2.5  | 2.5   | 1.8   | 1.7   | 0.38  | 1.1   | 0.69  | 0.73  | 1.2   |
| 21           | 2.0   | 1.1   | 1.2   | 2.2  | 2.4   | 1.9   | 1.4   | 0.31  | 0.82  | 0.66  | 0.76  | 1.2   |
| 22           | 1.4   | 0.98  | 1.0   | 2.1  | 2.4   | 1.7   | 0.45  | 0.55  | 0.20  | 0.39  | 0.58  | 1.2   |
| 23           | 1.0   | 0.63  | 1.5   | 2.0  | 2.4   | 2.0   | 0.94  | 1.3   | 0.70  | 0.05  | 0.23  | 1.3   |
| 24           | 1.5   | 1.3   | 1.5   | 1.9  | 2.5   | 1.8   | 1.5   | 1.4   | 1.2   | 0.30  | 0.43  | 1.2   |
| 25           | 1.0   | 1.3   | 1.5   | 1.4  | 2.0   | 1.5   | 1.7   | 1.4   | 1.1   | 0.66  | 0.90  | 1.2   |
| 26           | 1.1   | 1.3   | 1.5   | 1.4  | 1.5   | 1.1   | 1.8   | 1.4   | 1.1   | 0.47  | 0.59  | 1.3   |
| 27           | 1.5   | 1.3   | 1.5   | 1.8  | 2.1   | 1.7   | 1.9   | 1.4   | 0.90  | 0.54  | 0.10  | 0.88  |
| 28           | 1.5   | 1.3   | 1.5   | 1.8  | 2.2   | 1.7   | 1.1   | 1.4   | 0.18  | 0.61  | 0.14  | 0.47  |
| 29           | 1.2   | 1.4   | 1.6   | 1.8  | ---   | 1.8   | 0.48  | 0.98  | 0.12  | 0.42  | 0.20  | 0.52  |
| 30           | 0.65  | 1.6   | 1.0   | 1.9  | ---   | 1.4   | 1.0   | 0.35  | 0.39  | 0.58  | 0.40  | 0.92  |
| 31           | 1.3   | ---   | 1.1   | 2.0  | ---   | 0.85  | ---   | 0.85  | ---   | 0.45  | 0.81  | ---   |
| <b>Total</b> | 56.55 | 35.93 | 39.03 | 77.8 | 57.58 | 53.60 | 38.68 | 33.66 | 22.64 | 17.48 | 11.04 | 25.81 |
| <b>Mean</b>  | 1.82  | 1.20  | 1.26  | 2.51 | 2.06  | 1.73  | 1.29  | 1.09  | 0.75  | 0.56  | 0.36  | 0.86  |
| <b>Max</b>   | 3.1   | 1.6   | 1.6   | 16   | 2.6   | 2.3   | 1.9   | 1.8   | 1.5   | 0.98  | 0.90  | 1.6   |
| <b>Min</b>   | 0.65  | 0.42  | 0.71  | 1.4  | 0.68  | 0.48  | 0.36  | 0.25  | 0.12  | 0.05  | 0.05  | 0.13  |
| <b>Ac-ft</b> | 112   | 71    | 77    | 154  | 114   | 106   | 77    | 67    | 45    | 35    | 22    | 51    |

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2011<sup>h</sup>, BY WATER YEAR (WY)**

|             | Oct    | Nov    | Dec    | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Mean</b> | 32.7   | 18.1   | 3.93   | 3.15   | 3.59   | 3.81   | 10.7   | 18.8   | 7.52   | 41.1   | 23.6   | 96.3   |
| <b>Max</b>  | 827    | 492    | 38.6   | 17.0   | 18.5   | 28.6   | 107    | 121    | 59.8   | 591    | 403    | 1,419  |
| <b>(WY)</b> | (1972) | (2002) | (2002) | (1980) | (1969) | (1965) | (2010) | (2004) | (1981) | (2002) | (1980) | (1971) |
| <b>Min</b>  | 0.84   | 0.95   | 0.93   | 0.91   | 0.84   | 0.67   | 0.72   | 0.68   | 0.65   | 0.56   | 0.36   | 0.70   |
| <b>(WY)</b> | (2001) | (2000) | (2000) | (2008) | (2000) | (2010) | (2000) | (2008) | (2008) | (2011) | (2011) | (2000) |

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SUMMARY STATISTICS

|                                 | Calendar Year 2010 |        | Water Year 2011 |        | Water Years 1965 - 2011 <sup>h</sup> |              |
|---------------------------------|--------------------|--------|-----------------|--------|--------------------------------------|--------------|
| <b>Annual total</b>             | 22,760.90          |        | 469.80          |        |                                      |              |
| <b>Annual mean</b>              | 62.4               |        | 1.29            |        | 22.9                                 |              |
| <b>Highest annual mean</b>      |                    |        |                 |        | 126                                  | 1971         |
| <b>Lowest annual mean</b>       |                    |        |                 |        | 0.94                                 | 2000         |
| <b>Highest daily mean</b>       | 10,700             | Jul 2  | 16              | Jan 16 | 22,200                               | Sep 12, 1971 |
| <b>Lowest daily mean</b>        | 0.11               | Mar 22 | 0.05            | Jul 23 | 0.01                                 | Dec 22, 2007 |
| <b>Annual seven-day minimum</b> | 0.47               | Apr 5  | 0.25            | Aug 9  | 0.25                                 | Aug 9, 2011  |
| <b>Maximum peak flow</b>        |                    |        | 31              | Jan 16 | 26,800                               | Sep 12, 1971 |
| <b>Maximum peak stage</b>       |                    |        | 2.15            | Jan 16 | 16.51                                | Sep 12, 1971 |
| <b>Annual runoff (ac-ft)</b>    | 45,150             |        | 932             |        | 16,570                               |              |
| <b>10 percent exceeds</b>       | 8.5                |        | 2.1             |        | 7.6                                  |              |
| <b>50 percent exceeds</b>       | 1.3                |        | 1.3             |        | 1.9                                  |              |
| <b>90 percent exceeds</b>       | 0.71               |        | 0.30            |        | 0.91                                 |              |

<sup>h</sup> See Period of Record paragraph.

