

Water-Data Report 2012

## 11273400 San Joaquin River above Merced River, near Newman, CA

San Joaquin River Basin

LOCATION.--Lat 37°20'50.2", long 120°58'30.5" referenced to North American Datum of 1927, in SW ¼ SW ¼ sec.3, T.7 S., R.9 E., Stanislaus County, CA, Hydrologic Unit 18040002, on left bank, 1,000 ft upstream from the Merced River, 1,500 ft upstream from bridge on Hills Ferry Road/Kelley Road, and 3.4 mi northeast of Newman.

DRAINAGE AREA.--7,949 mi<sup>2</sup>.

### **SURFACE-WATER RECORDS**

PERIOD OF RECORD.--August 2008 to current year (low-flow station only).

GAGE.--Water-stage recorder. Elevation of gage is 60 ft above NGVD of 1929, from topographic map.

REMARKS.--Records poor due to backwater from the Merced River. No records computed above 2,500 ft<sup>3</sup>/s. Natural flow of stream affected by storage reservoirs, ground-water withdrawals, diversions for irrigation, and imported water. Low flows consist mainly of return water from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 65.39 ft, Mar. 30, 2011, discharge unknown; minimum daily, 105 ft<sup>3</sup>/s, Oct. 1, 2009.

## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**  
**DAILY MEAN VALUES**

[e, estimated]

| Day          | Oct    | Nov    | Dec    | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep   |
|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| 1            | 292    | 648    | 447    | 332    | 337    | e434   | 421    | 286    | 205    | 185    | 209    | 173   |
| 2            | 323    | 536    | 411    | 330    | 323    | 455    | 412    | 259    | 205    | 193    | 210    | 181   |
| 3            | 336    | 552    | 404    | 321    | 322    | 503    | 396    | 230    | 203    | 178    | 203    | 190   |
| 4            | 334    | 530    | 385    | 309    | 328    | 535    | 395    | 250    | 217    | 174    | 186    | 182   |
| 5            | 389    | 518    | 358    | 307    | 336    | 523    | 389    | 245    | 249    | 174    | 188    | 177   |
| 6            | 473    | 522    | 340    | 299    | 353    | 502    | 370    | 251    | 255    | 178    | 205    | 176   |
| 7            | 545    | 524    | 338    | 297    | 369    | 496    | 370    | 254    | 245    | 181    | 206    | 161   |
| 8            | 563    | 530    | 330    | 304    | 383    | 514    | 372    | 240    | 235    | 186    | 208    | 153   |
| 9            | 580    | 540    | 330    | 298    | 375    | 538    | 375    | 232    | 223    | 188    | 201    | 145   |
| 10           | 586    | 606    | 333    | 286    | 377    | 534    | 359    | 212    | 227    | 183    | 200    | 146   |
| 11           | 559    | 617    | 339    | 294    | 376    | 508    | 344    | 199    | 235    | 192    | 197    | 152   |
| 12           | 607    | 624    | 335    | 289    | 381    | 488    | 359    | 217    | 224    | 205    | 197    | 143   |
| 13           | 586    | 624    | 318    | 281    | 394    | 461    | 400    | 202    | 219    | 200    | 200    | 134   |
| 14           | 565    | 616    | 310    | 280    | 399    | 447    | 576    | 215    | 202    | 199    | 203    | 134   |
| 15           | 550    | 615    | 303    | 287    | 427    | 455    | 1,020  | 219    | 191    | 194    | 191    | 137   |
| 16           | 548    | 621    | 301    | 289    | 441    | 444    | 1,060  | 239    | 186    | 203    | 175    | 145   |
| 17           | 539    | 639    | 302    | 278    | 454    | 460    | 799    | e254   | 185    | 209    | 171    | 152   |
| 18           | 489    | 700    | 311    | 278    | 458    | 535    | 583    | e243   | 198    | 218    | 180    | 148   |
| 19           | 490    | 843    | 317    | 273    | 464    | 757    | 498    | 245    | 196    | 219    | 198    | 158   |
| 20           | 494    | 880    | 319    | 277    | 448    | 857    | 459    | 257    | 178    | 221    | 212    | 158   |
| 21           | 489    | 788    | 317    | 312    | 434    | 823    | 415    | 264    | 173    | 224    | 218    | 163   |
| 22           | 500    | 715    | 312    | 333    | 437    | 706    | 372    | 252    | 174    | 235    | 221    | 160   |
| 23           | 503    | 660    | 305    | 370    | 448    | 606    | 354    | 237    | 169    | 236    | 203    | 159   |
| 24           | 532    | 639    | 311    | 379    | 445    | 566    | 332    | 210    | 182    | 231    | 192    | 161   |
| 25           | 528    | 618    | 313    | 389    | 441    | 538    | 319    | 194    | 187    | 222    | 194    | 158   |
| 26           | 518    | 589    | 322    | 372    | 450    | 507    | 319    | 185    | 179    | 219    | 201    | 152   |
| 27           | 527    | 577    | 317    | 359    | 449    | 472    | 297    | 204    | 176    | 211    | 188    | 160   |
| 28           | 588    | 546    | 304    | 342    | e432   | 455    | 286    | 211    | 174    | 208    | 179    | 155   |
| 29           | 590    | 526    | 316    | 332    | e435   | 428    | 265    | 207    | 174    | 212    | 177    | 151   |
| 30           | 566    | 485    | 341    | 328    | ---    | 427    | 274    | 196    | 172    | 205    | 165    | 158   |
| 31           | 567    | ---    | 342    | 339    | ---    | 429    | ---    | 195    | ---    | 202    | 158    | ---   |
| <b>Total</b> | 15,756 | 18,428 | 10,331 | 9,764  | 11,716 | 16,403 | 13,190 | 7,104  | 6,038  | 6,285  | 6,036  | 4,722 |
| <b>Mean</b>  | 508    | 614    | 333    | 315    | 404    | 529    | 440    | 229    | 201    | 203    | 195    | 157   |
| <b>Max</b>   | 607    | 880    | 447    | 389    | 464    | 857    | 1,060  | 286    | 255    | 236    | 221    | 190   |
| <b>Min</b>   | 292    | 485    | 301    | 273    | 322    | 427    | 265    | 185    | 169    | 174    | 158    | 134   |
| <b>Ac-ft</b> | 31,250 | 36,550 | 20,490 | 19,370 | 23,240 | 32,540 | 26,160 | 14,090 | 11,980 | 12,470 | 11,970 | 9,370 |

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2010 - 2012, BY WATER YEAR (WY)**

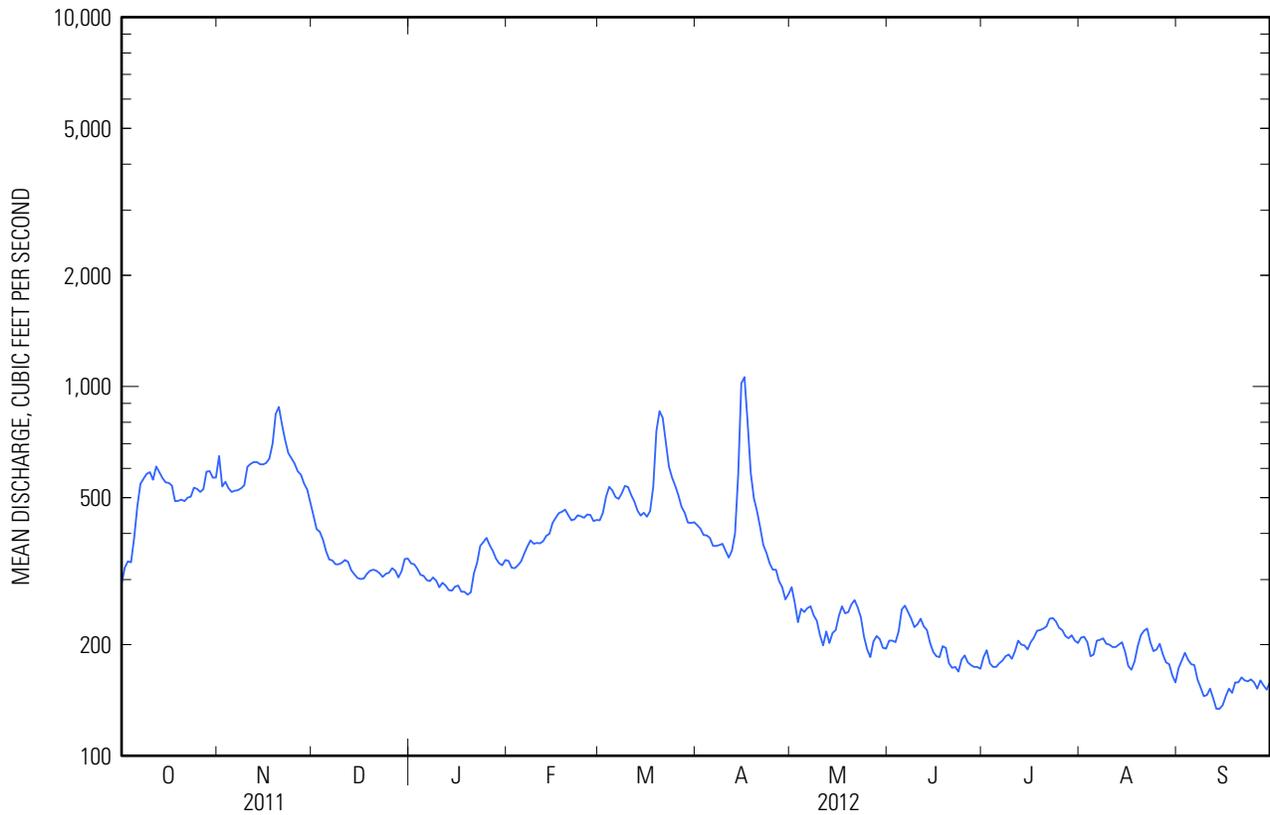
|             | Oct    | Nov    | Dec    | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Mean</b> | 375    | 447    | 534    | 463    | 486    | 873    | 757    | 466    | 412    | 245    | 319    | 275    |
| <b>Max</b>  | 508    | 614    | 976    | 611    | 572    | 1,216  | 1,075  | 704    | 624    | 288    | 506    | 342    |
| <b>(WY)</b> | (2012) | (2012) | (2011) | (2010) | (2010) | (2010) | (2010) | (2010) | (2010) | (2010) | (2011) | (2011) |
| <b>Min</b>  | 244    | 270    | 293    | 315    | 404    | 529    | 440    | 229    | 201    | 203    | 195    | 157    |
| <b>(WY)</b> | (2010) | (2010) | (2010) | (2012) | (2012) | (2012) | (2012) | (2012) | (2012) | (2012) | (2012) | (2012) |

11273400 San Joaquin River above Merced River, near Newman, CA—Continued

SUMMARY STATISTICS

|                                 | Water Year 2012    |        | Water Years 2010 - 2012 |              |
|---------------------------------|--------------------|--------|-------------------------|--------------|
| <b>Annual total</b>             | 125,773            |        |                         |              |
| <b>Annual mean</b>              | 344                |        | 441                     |              |
| <b>Highest annual mean</b>      |                    |        | 539                     | 2010         |
| <b>Lowest annual mean</b>       |                    |        | 344                     | 2012         |
| <b>Highest daily mean</b>       | 1,060              | Apr 16 | 2,500                   | May 25, 2011 |
| <b>Lowest daily mean</b>        | 134                | Sep 13 | 105                     | Oct 1, 2009  |
| <b>Annual seven-day minimum</b> | 142                | Sep 9  | 118                     | Oct 1, 2009  |
| <b>Maximum peak stage</b>       | <sup>a</sup> 52.20 | Oct 28 | 65.39                   | Mar 30, 2011 |
| <b>Annual runoff (ac-ft)</b>    | 249,500            |        | 319,700                 |              |
| <b>10 percent exceeds</b>       | 566                |        | 897                     |              |
| <b>50 percent exceeds</b>       | 312                |        | 326                     |              |
| <b>90 percent exceeds</b>       | 175                |        | 188                     |              |

<sup>a</sup>Backwater from Merced River.



**11273400 San Joaquin River above Merced River, near Newman, CA—Continued**

**WATER-QUALITY RECORDS**

PERIOD OF DAILY RECORD.--

DISSOLVED OXYGEN: October 2009 to current year.  
pH: April to September 2012.  
SPECIFIC CONDUCTANCE: August 2009 to current year.  
WATER TEMPERATURE: August 2009 to current year.  
TURBIDITY: April to September 2012.  
CHLOROPHYLL: April to September 2012.

INSTRUMENTATION.--Water-quality monitor since August 2009.

REMARKS.--Water-quality record may not represent total flow during times of backwater from the Merced River.

Dissolved oxygen records rated excellent except for Apr. 28 to May 5, May 27-31, June 21-25, Sept. 18-21, Sept. 24-25, which are rated good; May 6-10, June 1-4, Sept. 26-28, which are rated fair; and June 5-6, Sept. 29-30, which are rated poor.

pH records rated excellent except for May 9, 10, May 20-23, July 7-13, July 21-24, Aug. 8-9, which are rated good.

Specific conductance records rated excellent except for Oct. 2-11, Oct. 23-28, Nov. 23 to Dec. 4, Dec. 23-30, Feb. 5-26, Mar. 5-14, Mar. 26 to Apr. 2, May 1-10, May 13-18, May 26 to June 1, June 8-12, June 27-29, July 14-17, July 26-29, Aug. 10-13, Aug. 23-27, Sept. 9-14, Sept. 29-30, which are rated good; Oct. 29 to Nov. 2, Dec. 5-14, Dec. 31 to Jan. 4, Feb. 27-29, Mar. 15-23, Apr. 3-7, May 19-23, June 2-6, June 13-16, June 30 to July 2, July 18-19, July 30 to Aug. 1, Aug. 14-15, Aug. 28-30, Sept. 15-18, which are rated fair; and Oct. 19-20, Nov. 3-15, Dec. 15-19, Jan. 5-22, Apr. 8-20, June 17-25, July 3-9, July 20-24, Aug. 2-9, Aug. 16-21, Aug. 31 to Sept. 6, Sept. 19-21, which are rated poor.

Water temperature records rated excellent.

Turbidity records rated excellent except for May 5-10, May 28 to June 1, June 10-13, July 21-24, Aug. 12-14, Aug. 23-24, Sept. 10-13, Sept. 23, which are rated good; June 2-6, June 14-17, Aug. 15-17, Aug. 25-26, Sept. 14-16, Sept. 24-25, which are rated fair; and June 18-25, Aug. 18-21, Aug. 27-30, Sept. 17-21, Sept. 26-30, which are rated poor.

Chlorophyll records rated excellent except for Apr. 24-27, May 18-23, Aug. 11-13, which are rated good; Apr. 28-30, Aug. 14-15, which are rated fair; and Aug. 16-17, Sept. 21, which are rated poor.

EXTREMES FOR PERIOD OF DAILY RECORD.--

DISSOLVED OXYGEN: Maximum recorded, 17.1 mg/L, Aug. 17, 2012; minimum recorded, 2.2 mg/L, Oct. 19, 2009.  
pH: Maximum recorded, 8.9 standard units, Aug. 16, 17, 2012; minimum recorded, 7.6 standard units, Sept. 7-21, 2012.  
SPECIFIC CONDUCTANCE: Maximum recorded, 2,840 microsiemens, Apr. 4, 2012; minimum recorded, 102 microsiemens, July 14, 2011.  
WATER TEMPERATURE: Maximum recorded, 31.8°C, July 13, 2012; minimum recorded, 5.6°C, Dec. 8, 2009, Dec. 24, 25, 2011.  
TURBIDITY: Maximum recorded, 110 FNU, May 16, 2012; minimum recorded, 9.0 FNU, Sept. 13, 2012.  
CHLOROPHYLL: Maximum recorded, 75.6 µg/L, July 5, 2012; minimum recorded, 12.9 µg/L, Sept. 26, 2012.

EXTREMES FOR CURRENT YEAR.--

DISSOLVED OXYGEN: Maximum recorded, 17.1 mg/L, Aug. 17; minimum recorded, 5.7 mg/L, Apr. 23, July 12, 13, Aug. 14.  
pH: Maximum recorded, 8.9 standard units, Aug. 16, 17; minimum recorded, 7.6 standard units, Sept. 7-21.  
SPECIFIC CONDUCTANCE: Maximum recorded, 2,840 microsiemens, Apr. 4; minimum recorded, 683 microsiemens, Oct. 9.  
WATER TEMPERATURE: Maximum recorded, 31.8°C, July 13; minimum recorded, 5.6°C, Dec. 24, 25.  
TURBIDITY: Maximum recorded, 110 FNU, May 16; minimum recorded, 9.0 FNU, Sept. 13.  
CHLOROPHYLL: Maximum recorded, 75.6 µg/L, July 5; minimum recorded, 12.9 µg/L, Sept. 26.

## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER  
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

| Day        | Max     | Min | Median | Max      | Min | Median | Max      | Min  | Median | Max     | Min  | Median |
|------------|---------|-----|--------|----------|-----|--------|----------|------|--------|---------|------|--------|
|            | October |     |        | November |     |        | December |      |        | January |      |        |
| 1          | 9.3     | 7.1 | 7.8    | 9.4      | 8.2 | 8.7    | 11.2     | 10.1 | 10.8   | 11.9    | 10.5 | 11.1   |
| 2          | 8.4     | 6.9 | 7.5    | 9.3      | 8.5 | 8.9    | 11.0     | 10.5 | 10.7   | 12.2    | 10.6 | 11.2   |
| 3          | 8.2     | 7.2 | 7.7    | 9.5      | 8.5 | 8.9    | 11.2     | 10.4 | 10.9   | 12.4    | 10.7 | 11.3   |
| 4          | 8.6     | 7.3 | 7.8    | 9.5      | 8.5 | 9.0    | 11.2     | 10.7 | 10.9   | 12.3    | 10.6 | 11.3   |
| 5          | 8.4     | 7.6 | 7.9    | 10.0     | 9.0 | 9.3    | 11.2     | 10.8 | 10.9   | 12.2    | 10.5 | 11.2   |
| 6          | 8.7     | 7.7 | 7.9    | 9.8      | 9.1 | 9.5    | 11.0     | 10.7 | 10.8   | 11.9    | 10.3 | 10.9   |
| 7          | 9.1     | 7.9 | 8.3    | 9.8      | 9.0 | 9.4    | 11.1     | 10.7 | 10.8   | 11.5    | 10.1 | 10.7   |
| 8          | 8.9     | 7.9 | 8.5    | 9.8      | 9.2 | 9.5    | 11.0     | 10.6 | 10.7   | 11.7    | 10.2 | 10.7   |
| 9          | 9.0     | 7.9 | 8.4    | 10.0     | 9.2 | 9.6    | 11.2     | 10.5 | 10.8   | 11.7    | 10.2 | 10.9   |
| 10         | 8.9     | 7.8 | 8.3    | 9.8      | 9.4 | 9.6    | 11.3     | 10.7 | 11.0   | 11.6    | 10.3 | 10.8   |
| 11         | 8.9     | 7.6 | 8.2    | 9.5      | 9.0 | 9.2    | 11.3     | 10.6 | 10.9   | 11.6    | 10.2 | 10.7   |
| 12         | 8.8     | 7.4 | 8.1    | 9.1      | 8.7 | 8.9    | 11.2     | 10.4 | 10.8   | 11.9    | 10.3 | 10.9   |
| 13         | 8.6     | 7.4 | 8.0    | 9.2      | 8.8 | 9.0    | 11.3     | 10.4 | 10.8   | 11.9    | 10.4 | 11.0   |
| 14         | 8.6     | 6.9 | 7.6    | 9.3      | 8.8 | 9.0    | 11.7     | 10.4 | 11.0   | 11.9    | 10.4 | 11.0   |
| 15         | 8.8     | 6.8 | 7.6    | 9.4      | 8.8 | 9.1    | 11.4     | 10.5 | 10.9   | 11.9    | 10.4 | 11.0   |
| 16         | 8.8     | 7.0 | 7.7    | 9.5      | 8.9 | 9.1    | 12.3     | 10.6 | 11.4   | 12.1    | 10.5 | 11.4   |
| 17         | 8.6     | 7.0 | 7.7    | 9.6      | 8.9 | 9.2    | 12.4     | 10.7 | 11.4   | 12.4    | 11.1 | 11.7   |
| 18         | 8.8     | 6.9 | 7.6    | 9.5      | 8.8 | 9.2    | 12.7     | 11.1 | 11.8   | 12.3    | 11.2 | 11.7   |
| 19         | 8.3     | 6.8 | 7.5    | 9.7      | 9.0 | 9.3    | 12.3     | 11.0 | 11.6   | 11.9    | 11.1 | 11.4   |
| 20         | 7.8     | 6.9 | 7.3    | 9.7      | 9.0 | 9.3    | 11.8     | 10.9 | 11.4   | 11.4    | 10.7 | 11.0   |
| 21         | 8.2     | 6.7 | 7.3    | 10.0     | 9.2 | 9.5    | 12.1     | 11.0 | 11.4   | 10.9    | 10.0 | 10.4   |
| 22         | 8.1     | 6.8 | 7.4    | 10.3     | 9.4 | 9.7    | 12.4     | 11.1 | 11.8   | 10.9    | 10.0 | 10.4   |
| 23         | 8.1     | 6.8 | 7.3    | 10.2     | 9.4 | 9.9    | 12.8     | 11.4 | 11.9   | 11.0    | 10.2 | 10.4   |
| 24         | 8.0     | 6.8 | 7.3    | 10.3     | 9.4 | 9.8    | 13.0     | 11.7 | 12.2   | 10.8    | 9.9  | 10.2   |
| 25         | 8.2     | 6.8 | 7.3    | 10.5     | 9.5 | 9.9    | 13.0     | 11.6 | 12.2   | 10.8    | 9.8  | 10.2   |
| 26         | 8.8     | 7.5 | 8.2    | 10.2     | 9.4 | 9.8    | 13.1     | 11.7 | 12.2   | 10.5    | 9.6  | 9.9    |
| 27         | 8.9     | 8.0 | 8.5    | 10.1     | 9.4 | 9.7    | 13.2     | 11.7 | 12.3   | 10.3    | 9.3  | 9.7    |
| 28         | 9.2     | 8.1 | 8.5    | 10.1     | 9.2 | 9.7    | 13.0     | 11.5 | 12.1   | 10.1    | 9.3  | 9.6    |
| 29         | 9.2     | 8.2 | 8.6    | 9.9      | 9.3 | 9.6    | 12.8     | 11.1 | 11.9   | 9.8     | 9.3  | 9.5    |
| 30         | 9.3     | 8.2 | 8.7    | 10.2     | 9.1 | 9.6    | 12.4     | 10.9 | 11.6   | 9.6     | 9.1  | 9.3    |
| 31         | 9.2     | 8.2 | 8.6    | ---      | --- | ---    | 12.0     | 10.7 | 11.3   | 9.6     | 8.9  | 9.1    |
| <b>Max</b> | 9.3     | 8.2 | 8.7    | 10.5     | 9.5 | 9.9    | 13.2     | 11.7 | 12.3   | 12.4    | 11.2 | 11.7   |
| <b>Min</b> | 7.8     | 6.7 | 7.3    | 9.1      | 8.2 | 8.7    | 11.0     | 10.1 | 10.7   | 9.6     | 8.9  | 9.1    |

## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER  
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

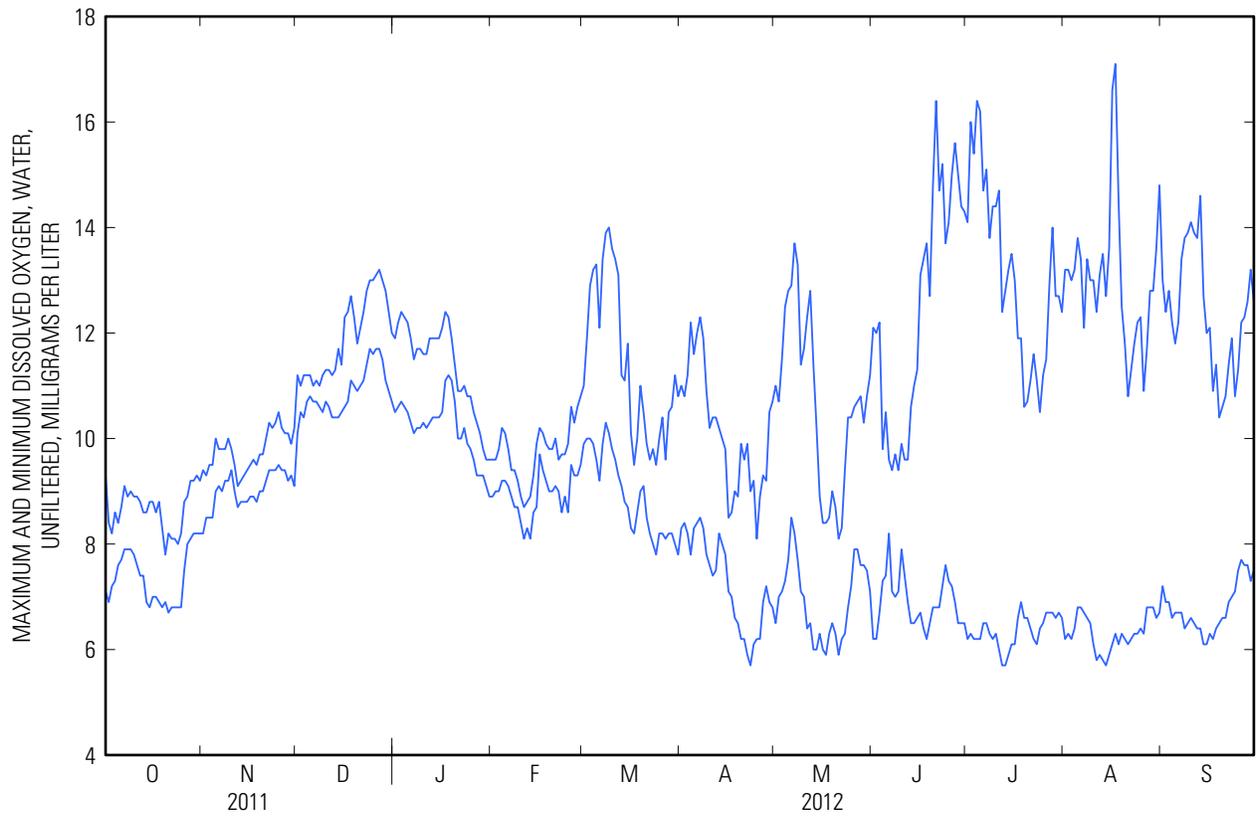
| Day        | Max      | Min | Median | Max   | Min  | Median | Max   | Min | Median | Max  | Min | Median |
|------------|----------|-----|--------|-------|------|--------|-------|-----|--------|------|-----|--------|
|            | February |     |        | March |      |        | April |     |        | May  |     |        |
| 1          | 9.6      | 8.9 | 9.3    | 11.0  | 9.9  | 10.5   | 11.0  | 8.3 | 9.5    | 11.0 | 6.5 | 8.4    |
| 2          | 9.6      | 9.0 | 9.3    | 11.9  | 10.0 | 10.8   | 10.8  | 8.4 | 9.4    | 10.7 | 7.0 | 8.5    |
| 3          | 9.8      | 9.0 | 9.3    | 12.9  | 10.0 | 11.3   | 11.2  | 8.2 | 9.4    | 11.5 | 7.1 | 8.8    |
| 4          | 10.2     | 9.2 | 9.7    | 13.2  | 9.9  | 11.2   | 12.2  | 7.8 | 9.8    | 12.5 | 7.3 | 9.4    |
| 5          | 10.1     | 9.2 | 9.7    | 13.3  | 9.6  | 11.0   | 11.6  | 8.3 | 9.8    | 12.8 | 7.7 | 10.1   |
| 6          | 9.8      | 9.1 | 9.5    | 12.1  | 9.2  | 10.6   | 12.0  | 8.4 | 10.0   | 12.9 | 8.5 | 10.5   |
| 7          | 9.4      | 8.9 | 9.2    | 13.4  | 9.9  | 11.7   | 12.3  | 8.5 | 10.1   | 13.7 | 8.2 | 10.4   |
| 8          | 9.4      | 8.7 | 9.1    | 13.9  | 10.3 | 11.9   | 11.9  | 8.3 | 9.7    | 13.3 | 7.7 | 9.4    |
| 9          | 9.2      | 8.7 | 9.0    | 14.0  | 10.1 | 11.6   | 10.9  | 7.8 | 9.2    | 11.4 | 7.1 | 8.9    |
| 10         | 8.9      | 8.4 | 8.7    | 13.6  | 9.8  | 11.4   | 10.2  | 7.6 | 8.8    | 11.7 | 7.0 | ---    |
| 11         | 8.7      | 8.1 | 8.4    | 13.4  | 9.6  | 11.2   | 10.4  | 7.4 | 8.5    | 12.3 | 6.4 | 8.7    |
| 12         | 8.8      | 8.3 | 8.6    | 13.1  | 9.3  | 11.0   | 10.4  | 7.5 | 8.7    | 12.8 | 6.5 | 8.7    |
| 13         | 8.9      | 8.1 | 8.5    | 11.2  | 9.1  | 10.2   | 10.2  | 8.2 | 9.1    | 11.4 | 6.0 | 8.0    |
| 14         | 9.3      | 8.6 | 8.9    | 11.1  | 8.8  | 9.8    | 10.0  | 8.0 | 9.1    | 10.2 | 6.0 | 7.7    |
| 15         | 9.9      | 8.7 | 9.4    | 11.8  | 8.7  | 9.9    | 9.8   | 7.8 | 8.1    | 8.9  | 6.3 | 7.4    |
| 16         | 10.2     | 9.7 | 9.8    | 10.1  | 8.3  | 9.3    | 8.5   | 7.1 | 7.7    | 8.4  | 6.0 | 7.1    |
| 17         | 10.1     | 9.4 | 9.7    | 9.5   | 8.2  | 8.8    | 8.6   | 7.0 | 7.9    | 8.4  | 5.9 | 7.2    |
| 18         | 9.9      | 9.2 | 9.6    | 10.0  | 8.6  | 9.2    | 9.0   | 6.6 | 7.8    | 8.5  | 6.3 | 7.3    |
| 19         | 9.8      | 9.0 | 9.4    | 11.0  | 9.0  | 9.5    | 8.9   | 6.5 | 7.6    | 9.0  | 6.5 | 7.4    |
| 20         | 9.8      | 9.0 | 9.4    | 10.5  | 9.1  | 9.5    | 9.9   | 6.2 | 7.4    | 8.7  | 6.3 | 7.1    |
| 21         | 10.0     | 9.1 | 9.5    | 9.9   | 8.5  | 9.1    | 9.6   | 6.2 | 7.5    | 8.1  | 5.9 | 6.9    |
| 22         | 9.6      | 9.0 | 9.3    | 9.6   | 8.2  | 8.9    | 9.9   | 5.9 | 7.2    | 8.3  | 6.2 | 7.2    |
| 23         | 9.7      | 8.6 | 9.2    | 9.8   | 8.0  | 8.8    | 9.0   | 5.7 | 7.1    | 9.4  | 6.3 | 7.5    |
| 24         | 9.7      | 8.9 | 9.2    | 9.5   | 7.8  | 8.8    | 9.2   | 6.1 | 7.2    | 10.4 | 6.8 | 8.3    |
| 25         | 9.9      | 8.6 | 9.4    | 10.0  | 8.2  | 8.8    | 8.1   | 6.2 | 7.0    | 10.4 | 7.2 | 8.6    |
| 26         | 10.6     | 9.5 | 10.0   | 10.4  | 8.2  | 9.1    | 8.9   | 6.2 | 7.2    | 10.6 | 7.9 | 9.0    |
| 27         | 10.3     | 9.3 | 9.8    | 9.6   | 8.1  | 9.1    | 9.3   | 6.9 | 8.1    | 10.7 | 7.9 | 8.9    |
| 28         | 10.6     | 9.3 | 9.9    | 10.5  | 8.2  | 9.0    | 9.2   | 7.2 | 8.0    | 10.8 | 7.6 | 8.7    |
| 29         | 10.8     | 9.5 | 10.1   | 10.6  | 8.2  | 9.3    | 10.5  | 6.9 | 8.2    | 10.3 | 7.6 | 8.4    |
| 30         | ---      | --- | ---    | 11.2  | 8.0  | 9.1    | 10.7  | 6.8 | 8.2    | 10.8 | 7.5 | 8.8    |
| 31         | ---      | --- | ---    | 10.8  | 7.8  | 9.3    | ---   | --- | ---    | 11.2 | 7.1 | 8.5    |
| <b>Max</b> | 10.8     | 9.7 | 10.1   | 14.0  | 10.3 | 11.9   | 12.3  | 8.5 | 10.1   | 13.7 | 8.5 | ---    |
| <b>Min</b> | 8.7      | 8.1 | 8.4    | 9.5   | 7.8  | 8.8    | 8.1   | 5.7 | 7.0    | 8.1  | 5.9 | ---    |

## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER  
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

| Day        | Max  | Min | Median | Max  | Min | Median | Max    | Min | Median | Max       | Min | Median |
|------------|------|-----|--------|------|-----|--------|--------|-----|--------|-----------|-----|--------|
|            | June |     |        | July |     |        | August |     |        | September |     |        |
| 1          | 12.1 | 6.2 | 8.0    | 14.1 | 6.2 | 8.8    | 13.2   | 6.2 | 8.7    | 13.0      | 7.2 | 8.6    |
| 2          | 12.0 | 6.2 | 8.4    | 16.0 | 6.3 | 9.2    | 13.2   | 6.3 | 8.6    | 12.4      | 6.9 | 8.3    |
| 3          | 12.2 | 6.7 | 8.7    | 15.4 | 6.2 | 9.2    | 13.0   | 6.2 | 8.6    | 12.8      | 6.9 | 8.2    |
| 4          | 9.8  | 7.3 | 8.8    | 16.4 | 6.2 | 9.5    | 13.2   | 6.4 | 8.8    | 12.2      | 6.6 | 8.2    |
| 5          | 10.5 | 7.4 | 8.9    | 16.2 | 6.2 | 9.5    | 13.8   | 6.8 | 9.0    | 11.8      | 6.7 | 8.0    |
| 6          | 9.6  | 8.2 | 8.8    | 14.7 | 6.5 | 9.4    | 13.4   | 6.8 | 8.7    | 12.2      | 6.7 | 7.8    |
| 7          | 9.4  | 7.1 | 8.2    | 15.1 | 6.5 | 9.3    | 12.1   | 6.7 | 8.4    | 13.4      | 6.7 | 8.4    |
| 8          | 9.7  | 7.0 | 8.1    | 13.8 | 6.3 | 8.7    | 13.4   | 6.6 | 8.7    | 13.8      | 6.4 | 8.2    |
| 9          | 9.4  | 7.1 | 8.3    | 14.4 | 6.2 | 9.0    | 13.0   | 6.5 | 8.1    | 13.9      | 6.5 | 8.6    |
| 10         | 9.9  | 7.9 | 8.7    | 14.4 | 6.3 | 9.0    | 13.0   | 6.1 | 7.7    | 14.1      | 6.6 | 8.7    |
| 11         | 9.6  | 7.4 | 8.3    | 14.7 | 6.0 | 8.7    | 12.4   | 5.8 | 8.0    | 13.9      | 6.5 | 8.3    |
| 12         | 9.6  | 6.9 | 8.0    | 12.4 | 5.7 | 7.9    | 13.1   | 5.9 | 8.0    | 13.8      | 6.4 | 8.4    |
| 13         | 10.6 | 6.5 | 8.1    | 12.8 | 5.7 | 7.6    | 13.5   | 5.8 | 7.9    | 14.6      | 6.4 | 8.2    |
| 14         | 11.0 | 6.5 | 8.1    | 13.2 | 5.9 | 8.3    | 12.7   | 5.7 | 7.6    | 12.7      | 6.1 | 7.7    |
| 15         | 11.3 | 6.6 | 8.4    | 13.5 | 6.1 | 8.4    | 13.6   | 5.9 | 8.2    | 12.0      | 6.1 | 7.7    |
| 16         | 13.1 | 6.7 | 9.0    | 13.0 | 6.1 | 8.5    | 16.6   | 6.1 | 8.9    | 12.1      | 6.3 | 7.6    |
| 17         | 13.4 | 6.4 | 9.0    | 11.9 | 6.6 | 8.4    | 17.1   | 6.3 | 9.4    | 10.9      | 6.2 | 7.3    |
| 18         | 13.7 | 6.2 | 8.7    | 11.9 | 6.9 | 8.6    | 14.5   | 6.1 | 8.5    | 11.4      | 6.4 | 7.8    |
| 19         | 12.7 | 6.5 | 9.0    | 10.6 | 6.6 | 7.9    | 12.5   | 6.3 | 8.5    | 10.4      | 6.5 | 7.6    |
| 20         | 14.8 | 6.8 | 9.7    | 10.7 | 6.6 | 8.0    | 11.8   | 6.2 | 8.0    | 10.6      | 6.6 | 7.8    |
| 21         | 16.4 | 6.8 | 10.2   | 11.1 | 6.4 | 8.0    | 10.8   | 6.1 | 7.9    | 10.8      | 6.6 | 7.7    |
| 22         | 14.7 | 6.8 | 9.7    | 11.6 | 6.2 | 8.0    | 11.3   | 6.2 | 7.7    | 11.4      | 6.9 | 8.2    |
| 23         | 15.2 | 7.2 | 10.1   | 11.1 | 6.1 | 7.8    | 11.8   | 6.3 | 7.6    | 11.9      | 7.0 | 8.4    |
| 24         | 13.7 | 7.6 | 9.8    | 10.5 | 6.4 | 7.6    | 12.2   | 6.3 | 7.8    | 10.8      | 7.1 | 8.3    |
| 25         | 14.1 | 7.3 | 9.5    | 11.2 | 6.5 | 8.1    | 12.3   | 6.4 | 7.9    | 11.3      | 7.5 | 8.8    |
| 26         | 15.0 | 7.2 | 10.1   | 11.5 | 6.7 | 8.4    | 10.9   | 6.3 | 7.8    | 12.2      | 7.7 | 9.0    |
| 27         | 15.6 | 6.9 | 9.8    | 12.9 | 6.7 | 8.8    | 11.7   | 6.8 | 8.1    | 12.3      | 7.6 | 8.8    |
| 28         | 15.0 | 6.5 | 9.2    | 14.0 | 6.7 | 8.9    | 12.8   | 6.8 | 8.4    | 12.6      | 7.6 | 8.8    |
| 29         | 14.4 | 6.5 | 9.0    | 12.7 | 6.6 | 8.6    | 12.8   | 6.8 | 8.2    | 13.2      | 7.3 | 8.9    |
| 30         | 14.3 | 6.5 | 9.0    | 12.7 | 6.7 | 8.6    | 13.6   | 6.6 | 8.4    | 12.6      | 7.5 | 8.8    |
| 31         | ---  | --- | ---    | 12.4 | 6.6 | 8.3    | 14.8   | 6.7 | 8.9    | ---       | --- | ---    |
| <b>Max</b> | 16.4 | 8.2 | 10.2   | 16.4 | 6.9 | 9.5    | 17.1   | 6.8 | 9.4    | 14.6      | 7.7 | 9.0    |
| <b>Min</b> | 9.4  | 6.2 | 8.0    | 10.5 | 5.7 | 7.6    | 10.8   | 5.7 | 7.6    | 10.4      | 6.1 | 7.3    |

11273400 San Joaquin River above Merced River, near Newman, CA—Continued



11273400 San Joaquin River above Merced River, near Newman, CA—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS  
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

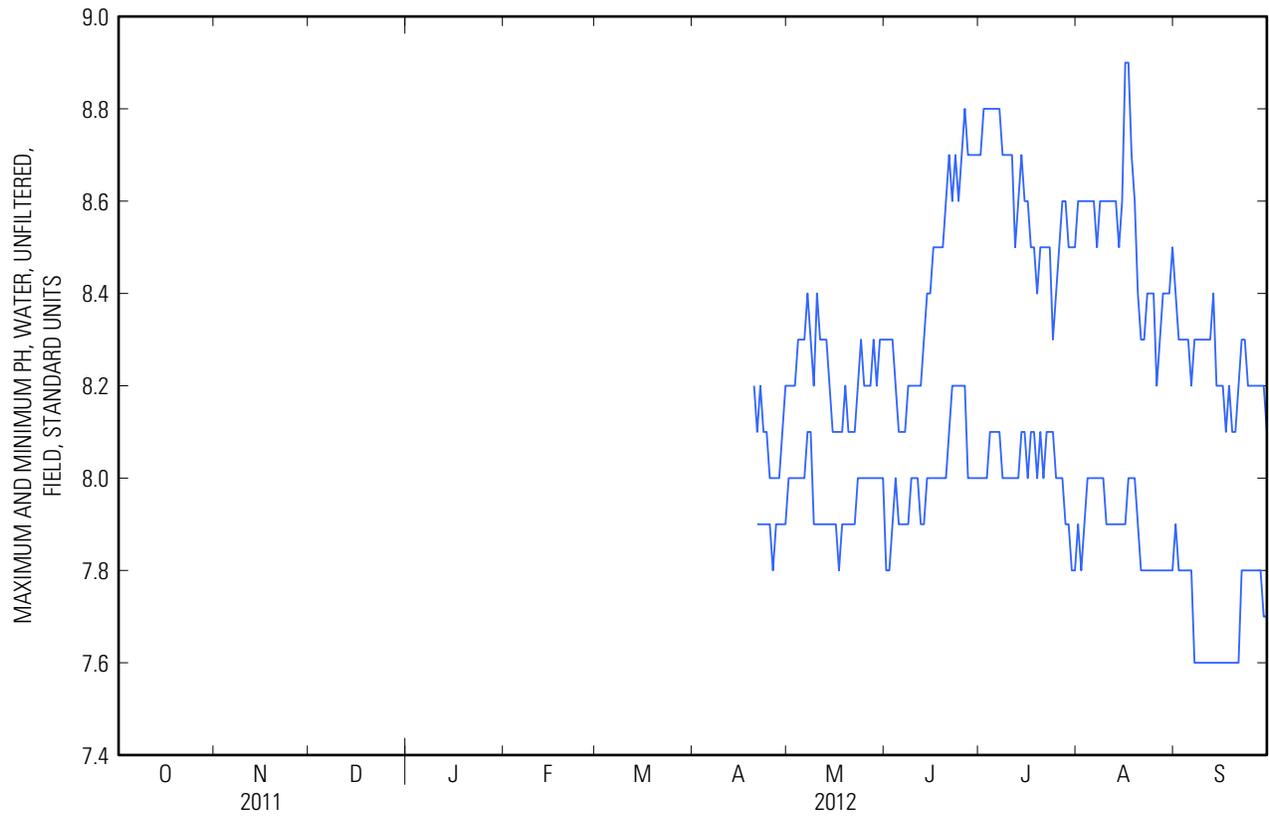
| Day        | Max      | Min | Median | Max   | Min | Median | Max   | Min | Median | Max | Min | Median |
|------------|----------|-----|--------|-------|-----|--------|-------|-----|--------|-----|-----|--------|
|            | February |     |        | March |     |        | April |     |        | May |     |        |
| 1          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.2 | 8.0 | 8.1    |
| 2          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.2 | 8.0 | 8.1    |
| 3          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.2 | 8.0 | 8.1    |
| 4          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.3 | 8.0 | 8.1    |
| 5          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.3 | 8.0 | 8.1    |
| 6          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.3 | 8.0 | 8.2    |
| 7          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.4 | 8.1 | 8.2    |
| 8          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.3 | 8.1 | 8.2    |
| 9          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.2 | 7.9 | 8.1    |
| 10         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.4 | 7.9 | 8.0    |
| 11         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.3 | 7.9 | 8.1    |
| 12         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.3 | 7.9 | 8.1    |
| 13         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.3 | 7.9 | 8.1    |
| 14         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.2 | 7.9 | 8.0    |
| 15         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.1 | 7.9 | 8.0    |
| 16         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.1 | 7.9 | 8.0    |
| 17         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.1 | 7.8 | 8.0    |
| 18         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.1 | 7.9 | 8.0    |
| 19         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.2 | 7.9 | 8.0    |
| 20         | ---      | --- | ---    | ---   | --- | ---    | 8.2   | --- | ---    | 8.1 | 7.9 | 8.0    |
| 21         | ---      | --- | ---    | ---   | --- | ---    | 8.1   | 7.9 | 8.0    | 8.1 | 7.9 | 8.0    |
| 22         | ---      | --- | ---    | ---   | --- | ---    | 8.2   | 7.9 | 8.0    | 8.1 | 7.9 | 8.0    |
| 23         | ---      | --- | ---    | ---   | --- | ---    | 8.1   | 7.9 | 8.0    | 8.2 | 8.0 | 8.1    |
| 24         | ---      | --- | ---    | ---   | --- | ---    | 8.1   | 7.9 | 8.0    | 8.3 | 8.0 | 8.1    |
| 25         | ---      | --- | ---    | ---   | --- | ---    | 8.0   | 7.9 | 7.9    | 8.2 | 8.0 | 8.1    |
| 26         | ---      | --- | ---    | ---   | --- | ---    | 8.0   | 7.8 | 7.9    | 8.2 | 8.0 | 8.1    |
| 27         | ---      | --- | ---    | ---   | --- | ---    | 8.0   | 7.9 | 7.9    | 8.2 | 8.0 | 8.1    |
| 28         | ---      | --- | ---    | ---   | --- | ---    | 8.0   | 7.9 | 7.9    | 8.3 | 8.0 | 8.1    |
| 29         | ---      | --- | ---    | ---   | --- | ---    | 8.1   | 7.9 | 7.9    | 8.2 | 8.0 | 8.1    |
| 30         | ---      | --- | ---    | ---   | --- | ---    | 8.2   | 7.9 | 8.0    | 8.3 | 8.0 | 8.1    |
| 31         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.3 | 8.0 | 8.1    |
| <b>Max</b> | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.4 | 8.1 | 8.2    |
| <b>Min</b> | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 8.1 | 7.8 | 8.0    |

## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

pH, WATER, UNFILTERED, FIELD, STANDARD UNITS  
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

| Day        | Max  | Min | Median | Max  | Min | Median | Max    | Min | Median | Max       | Min | Median |
|------------|------|-----|--------|------|-----|--------|--------|-----|--------|-----------|-----|--------|
|            | June |     |        | July |     |        | August |     |        | September |     |        |
| 1          | 8.3  | 7.8 | 8.0    | 8.7  | 8.0 | 8.2    | 8.6    | 7.9 | 8.2    | 8.4       | 7.9 | 8.1    |
| 2          | 8.3  | 7.8 | 8.0    | 8.8  | 8.0 | 8.3    | 8.6    | 7.8 | 8.2    | 8.3       | 7.8 | 8.0    |
| 3          | 8.3  | 7.9 | 8.0    | 8.8  | 8.0 | 8.3    | 8.6    | 7.9 | 8.2    | 8.3       | 7.8 | 8.0    |
| 4          | 8.2  | 8.0 | 8.0    | 8.8  | 8.1 | 8.4    | 8.6    | 8.0 | 8.2    | 8.3       | 7.8 | 8.0    |
| 5          | 8.1  | 7.9 | 8.0    | 8.8  | 8.1 | 8.4    | 8.6    | 8.0 | 8.3    | 8.3       | 7.8 | 8.0    |
| 6          | 8.1  | 7.9 | 8.0    | 8.8  | 8.1 | 8.4    | 8.6    | 8.0 | 8.2    | 8.2       | 7.8 | 7.9    |
| 7          | 8.1  | 7.9 | 8.0    | 8.8  | 8.1 | 8.3    | 8.5    | 8.0 | 8.2    | 8.3       | 7.6 | 7.9    |
| 8          | 8.2  | 7.9 | 8.0    | 8.7  | 8.0 | 8.3    | 8.6    | 8.0 | 8.3    | 8.3       | 7.6 | 7.9    |
| 9          | 8.2  | 8.0 | 8.1    | 8.7  | 8.0 | 8.3    | 8.6    | 8.0 | 8.2    | 8.3       | 7.6 | 7.9    |
| 10         | 8.2  | 8.0 | 8.1    | 8.7  | 8.0 | 8.3    | 8.6    | 7.9 | 8.2    | 8.3       | 7.6 | 7.9    |
| 11         | 8.2  | 8.0 | 8.1    | 8.7  | 8.0 | 8.3    | 8.6    | 7.9 | 8.2    | 8.3       | 7.6 | 7.9    |
| 12         | 8.2  | 7.9 | 8.0    | 8.5  | 8.0 | 8.3    | 8.6    | 7.9 | 8.2    | 8.3       | 7.6 | 7.9    |
| 13         | 8.3  | 7.9 | 8.1    | 8.6  | 8.0 | 8.2    | 8.6    | 7.9 | 8.2    | 8.4       | 7.6 | 7.9    |
| 14         | 8.4  | 8.0 | 8.1    | 8.7  | 8.1 | 8.3    | 8.5    | 7.9 | 8.1    | 8.2       | 7.6 | 7.9    |
| 15         | 8.4  | 8.0 | 8.2    | 8.6  | 8.1 | 8.3    | 8.6    | 7.9 | 8.2    | 8.2       | 7.6 | 7.9    |
| 16         | 8.5  | 8.0 | 8.2    | 8.6  | 8.0 | 8.3    | 8.9    | 7.9 | 8.3    | 8.2       | 7.6 | 7.8    |
| 17         | 8.5  | 8.0 | 8.2    | 8.5  | 8.1 | 8.3    | 8.9    | 8.0 | 8.4    | 8.1       | 7.6 | 7.8    |
| 18         | 8.5  | 8.0 | 8.2    | 8.5  | 8.1 | 8.3    | 8.7    | 8.0 | 8.3    | 8.2       | 7.6 | 7.8    |
| 19         | 8.5  | 8.0 | 8.2    | 8.4  | 8.0 | 8.2    | 8.6    | 8.0 | 8.2    | 8.1       | 7.6 | 7.8    |
| 20         | 8.6  | 8.0 | 8.3    | 8.5  | 8.1 | 8.2    | 8.4    | 7.9 | 8.2    | 8.1       | 7.6 | 7.8    |
| 21         | 8.7  | 8.1 | 8.3    | 8.5  | 8.0 | 8.2    | 8.3    | 7.8 | 8.0    | 8.2       | 7.6 | 7.8    |
| 22         | 8.6  | 8.2 | 8.5    | 8.5  | 8.1 | 8.3    | 8.3    | 7.8 | 8.0    | 8.3       | 7.8 | 8.0    |
| 23         | 8.7  | 8.2 | 8.4    | 8.5  | 8.1 | 8.2    | 8.4    | 7.8 | 8.0    | 8.3       | 7.8 | 8.0    |
| 24         | 8.6  | 8.2 | 8.4    | 8.3  | 8.1 | 8.2    | 8.4    | 7.8 | 8.0    | 8.2       | 7.8 | 7.9    |
| 25         | 8.7  | 8.2 | 8.5    | 8.4  | 8.0 | 8.1    | 8.4    | 7.8 | 8.0    | 8.2       | 7.8 | 7.9    |
| 26         | 8.8  | 8.2 | 8.5    | 8.5  | 8.0 | 8.2    | 8.2    | 7.8 | 8.0    | 8.2       | 7.8 | 7.9    |
| 27         | 8.7  | 8.0 | 8.3    | 8.6  | 8.0 | 8.2    | 8.3    | 7.8 | 8.0    | 8.2       | 7.8 | 7.9    |
| 28         | 8.7  | 8.0 | 8.2    | 8.6  | 7.9 | 8.2    | 8.4    | 7.8 | 8.0    | 8.2       | 7.8 | 7.9    |
| 29         | 8.7  | 8.0 | 8.2    | 8.5  | 7.9 | 8.1    | 8.4    | 7.8 | 8.0    | 8.2       | 7.7 | 7.9    |
| 30         | 8.7  | 8.0 | 8.2    | 8.5  | 7.8 | 8.1    | 8.4    | 7.8 | 8.0    | 8.1       | 7.7 | 7.9    |
| 31         | ---  | --- | ---    | 8.5  | 7.8 | 8.1    | 8.5    | 7.8 | 8.1    | ---       | --- | ---    |
| <b>Max</b> | 8.8  | 8.2 | 8.5    | 8.8  | 8.1 | 8.4    | 8.9    | 8.0 | 8.4    | 8.4       | 7.9 | 8.1    |
| <b>Min</b> | 8.1  | 7.8 | 8.0    | 8.3  | 7.8 | 8.1    | 8.2    | 7.8 | 8.0    | 8.1       | 7.6 | 7.8    |

11273400 San Joaquin River above Merced River, near Newman, CA—Continued



## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

| Day        | Max     | Min   | Median | Max      | Min   | Median | Max      | Min   | Median | Max     | Min   | Median |
|------------|---------|-------|--------|----------|-------|--------|----------|-------|--------|---------|-------|--------|
|            | October |       |        | November |       |        | December |       |        | January |       |        |
| 1          | 1,180   | 1,000 | 1,140  | 1,060    | 982   | 993    | 1,750    | 1,660 | 1,740  | 2,260   | 2,190 | 2,220  |
| 2          | 1,000   | 898   | 929    | 1,110    | 1,060 | 1,100  | 1,820    | 1,730 | 1,750  | 2,290   | 2,170 | 2,210  |
| 3          | 944     | 878   | 900    | 1,110    | 1,090 | 1,090  | 1,850    | 1,810 | 1,830  | 2,320   | 2,260 | 2,290  |
| 4          | 986     | 930   | 953    | 1,120    | 1,090 | 1,100  | 1,960    | 1,830 | 1,940  | 2,340   | 2,280 | 2,300  |
| 5          | 934     | 863   | 905    | 1,140    | 1,110 | 1,130  | 2,070    | 1,960 | 2,040  | 2,450   | 2,310 | 2,420  |
| 6          | 877     | 826   | 847    | 1,150    | 1,120 | 1,130  | 2,070    | 2,020 | 2,040  | 2,470   | 2,400 | 2,440  |
| 7          | 832     | 783   | 819    | 1,130    | 1,090 | 1,110  | 2,080    | 2,010 | 2,030  | 2,480   | 2,400 | 2,460  |
| 8          | 829     | 789   | 820    | 1,140    | 1,110 | 1,130  | 2,100    | 2,010 | 2,070  | 2,420   | 2,280 | 2,350  |
| 9          | 789     | 683   | 688    | 1,140    | 1,080 | 1,130  | 2,180    | 2,090 | 2,120  | 2,360   | 2,270 | 2,290  |
| 10         | 744     | 693   | 716    | 1,090    | 1,030 | 1,040  | 2,140    | 2,080 | 2,100  | 2,460   | 2,360 | 2,390  |
| 11         | 782     | 742   | 767    | 1,120    | 1,040 | 1,070  | 2,170    | 2,070 | 2,140  | 2,460   | 2,270 | 2,340  |
| 12         | 806     | 749   | 767    | 1,190    | 1,120 | 1,160  | 2,200    | 2,070 | 2,110  | 2,350   | 2,280 | 2,330  |
| 13         | 875     | 806   | 842    | 1,220    | 1,160 | 1,200  | 2,250    | 2,200 | 2,230  | 2,370   | 2,290 | 2,320  |
| 14         | 909     | 867   | 898    | 1,250    | 1,200 | 1,220  | 2,360    | 2,240 | 2,310  | 2,380   | 2,320 | 2,340  |
| 15         | 984     | 903   | 952    | 1,260    | 1,180 | 1,210  | 2,320    | 2,270 | 2,300  | 2,380   | 2,310 | 2,340  |
| 16         | 968     | 933   | 949    | ---      | ---   | ---    | 2,350    | 2,210 | 2,310  | 2,400   | 2,290 | 2,340  |
| 17         | 997     | 962   | 969    | ---      | ---   | ---    | 2,220    | 2,180 | 2,200  | 2,470   | 2,380 | 2,440  |
| 18         | 1,040   | 997   | 1,040  | 1,050    | 961   | 1,030  | 2,230    | 2,100 | 2,180  | 2,460   | 2,380 | 2,400  |
| 19         | 1,080   | 1,030 | 1,060  | 961      | 874   | 919    | 2,130    | 1,980 | 2,100  | 2,560   | 2,450 | 2,510  |
| 20         | 1,080   | 1,050 | 1,060  | 1,000    | 876   | 935    | 2,160    | 2,080 | 2,120  | 2,620   | 2,510 | 2,580  |
| 21         | 1,090   | 1,070 | 1,070  | 1,080    | 1,000 | 1,050  | 2,140    | 2,100 | 2,130  | 2,570   | 2,410 | 2,480  |
| 22         | 1,070   | 1,060 | 1,070  | 1,170    | 1,080 | 1,120  | 2,170    | 2,100 | 2,160  | 2,460   | 2,380 | 2,420  |
| 23         | 1,060   | 1,000 | 1,040  | 1,230    | 1,170 | 1,210  | 2,180    | 2,140 | 2,150  | ---     | ---   | ---    |
| 24         | 1,000   | 968   | 973    | 1,290    | 1,230 | 1,250  | 2,250    | 2,180 | 2,210  | ---     | ---   | ---    |
| 25         | 983     | 947   | 977    | 1,360    | 1,270 | 1,340  | 2,280    | 2,230 | 2,260  | ---     | ---   | ---    |
| 26         | 996     | 949   | 986    | 1,410    | 1,360 | 1,400  | 2,240    | 2,190 | 2,210  | ---     | ---   | ---    |
| 27         | 989     | 957   | 978    | 1,480    | 1,410 | 1,460  | 2,280    | 2,200 | 2,250  | ---     | ---   | ---    |
| 28         | 986     | 933   | 950    | 1,580    | 1,480 | 1,520  | 2,310    | 2,260 | 2,290  | 2,200   | 2,100 | 2,180  |
| 29         | 1,030   | 986   | 1,020  | 1,610    | 1,580 | 1,600  | 2,300    | 2,230 | 2,280  | 2,330   | 2,200 | 2,260  |
| 30         | 1,040   | 1,010 | 1,020  | 1,670    | 1,610 | 1,660  | 2,240    | 2,150 | 2,190  | 2,360   | 2,240 | 2,340  |
| 31         | 1,020   | 984   | 1,010  | ---      | ---   | ---    | 2,200    | 2,150 | 2,180  | 2,240   | 2,080 | 2,160  |
| <b>Max</b> | 1,180   | 1,070 | 1,140  | ---      | ---   | ---    | 2,360    | 2,270 | 2,310  | ---     | ---   | ---    |
| <b>Min</b> | 744     | 683   | 688    | ---      | ---   | ---    | 1,750    | 1,660 | 1,740  | ---     | ---   | ---    |

## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

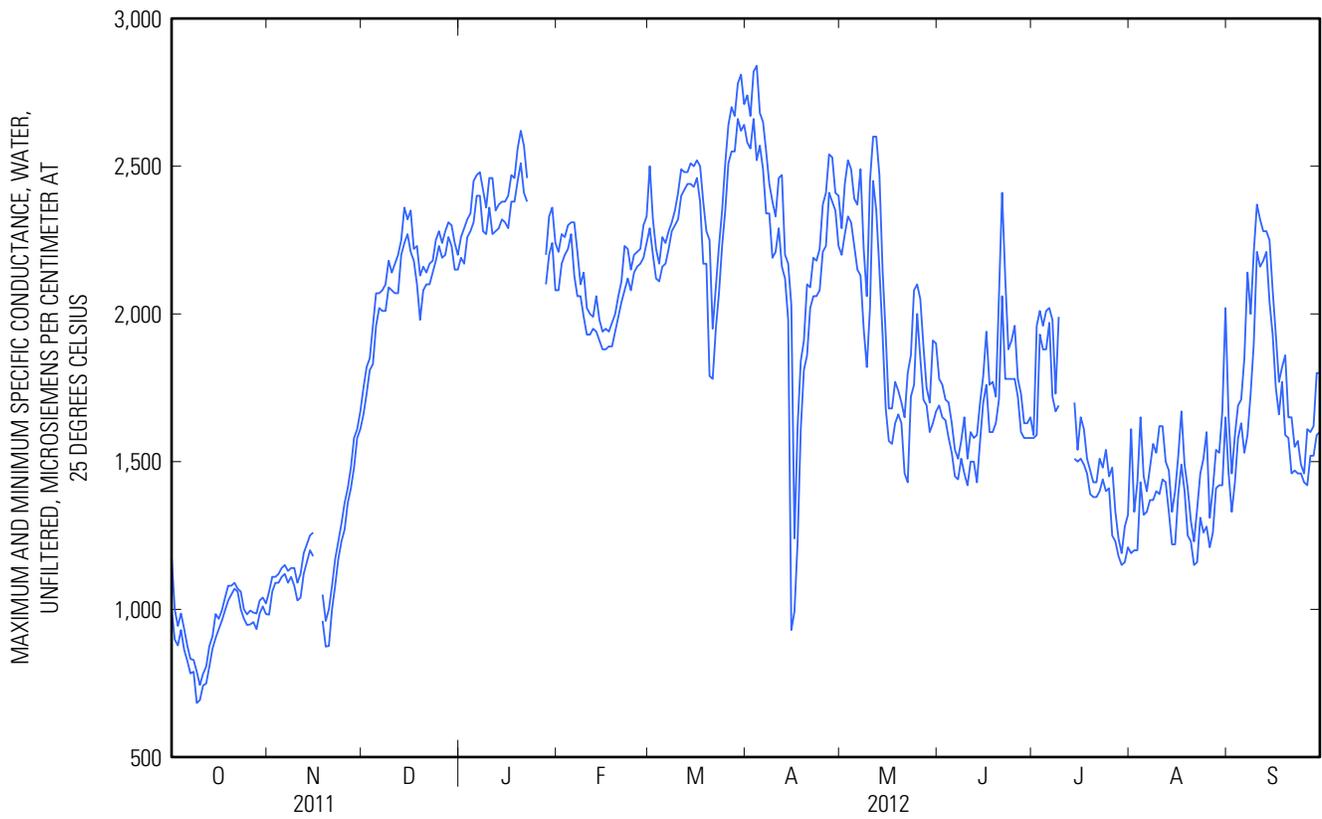
| Day        | Max      | Min   | Median | Max   | Min   | Median | Max   | Min   | Median | Max   | Min   | Median |
|------------|----------|-------|--------|-------|-------|--------|-------|-------|--------|-------|-------|--------|
|            | February |       |        | March |       |        | April |       |        | May   |       |        |
| 1          | 2,210    | 2,080 | 2,140  | 2,500 | 2,290 | 2,310  | 2,740 | 2,580 | 2,700  | 2,290 | 2,200 | 2,250  |
| 2          | 2,270    | 2,170 | 2,210  | 2,320 | 2,200 | 2,220  | 2,670 | 2,560 | 2,600  | 2,440 | 2,270 | 2,370  |
| 3          | 2,260    | 2,200 | 2,210  | 2,220 | 2,120 | 2,140  | 2,820 | 2,660 | 2,760  | 2,520 | 2,330 | 2,420  |
| 4          | 2,300    | 2,220 | 2,270  | 2,170 | 2,110 | 2,140  | 2,840 | 2,520 | 2,750  | 2,490 | 2,310 | 2,370  |
| 5          | 2,310    | 2,270 | 2,280  | 2,260 | 2,160 | 2,220  | 2,680 | 2,570 | 2,620  | 2,390 | 2,230 | 2,330  |
| 6          | 2,310    | 2,130 | 2,250  | 2,240 | 2,170 | 2,200  | 2,650 | 2,490 | 2,590  | 2,370 | 2,150 | 2,220  |
| 7          | 2,210    | 2,060 | 2,120  | 2,280 | 2,220 | 2,260  | 2,550 | 2,340 | 2,460  | 2,490 | 2,130 | 2,200  |
| 8          | 2,100    | 2,060 | 2,080  | 2,310 | 2,280 | 2,300  | 2,440 | 2,340 | 2,390  | 2,220 | 1,950 | 2,120  |
| 9          | 2,140    | 1,990 | 2,090  | 2,350 | 2,300 | 2,340  | 2,380 | 2,190 | 2,300  | 2,060 | 1,820 | 1,910  |
| 10         | 2,020    | 1,930 | 1,960  | 2,410 | 2,320 | 2,340  | 2,330 | 2,210 | 2,270  | 2,450 | 2,020 | 2,140  |
| 11         | 2,000    | 1,930 | 1,970  | 2,490 | 2,400 | 2,470  | 2,460 | 2,290 | 2,340  | 2,600 | 2,450 | 2,500  |
| 12         | 1,990    | 1,950 | 1,970  | 2,480 | 2,420 | 2,450  | 2,470 | 2,160 | 2,360  | 2,600 | 2,350 | 2,430  |
| 13         | 2,060    | 1,940 | 1,980  | 2,480 | 2,440 | 2,450  | 2,200 | 2,120 | 2,140  | 2,470 | 2,150 | 2,420  |
| 14         | 1,980    | 1,910 | 1,960  | 2,510 | 2,440 | 2,490  | 2,170 | 1,980 | 2,080  | 2,150 | 1,930 | 1,970  |
| 15         | 1,940    | 1,880 | 1,900  | 2,500 | 2,430 | 2,470  | 2,030 | 930   | 1,030  | 1,930 | 1,680 | 1,850  |
| 16         | 1,950    | 1,880 | 1,900  | 2,520 | 2,460 | 2,500  | 1,240 | 993   | 1,060  | 1,680 | 1,570 | 1,630  |
| 17         | 1,940    | 1,890 | 1,920  | 2,500 | 2,380 | 2,480  | 1,620 | 1,230 | 1,480  | 1,680 | 1,560 | 1,610  |
| 18         | 1,970    | 1,890 | 1,920  | 2,380 | 2,170 | 2,290  | 1,840 | 1,610 | 1,710  | 1,770 | 1,630 | 1,690  |
| 19         | 2,000    | 1,940 | 1,970  | 2,280 | 2,170 | 2,250  | 1,910 | 1,810 | 1,850  | 1,740 | 1,660 | 1,710  |
| 20         | 2,060    | 1,990 | 2,020  | 2,250 | 1,790 | 1,920  | 2,100 | 1,860 | 1,990  | 1,700 | 1,630 | 1,670  |
| 21         | 2,110    | 2,040 | 2,060  | 1,950 | 1,780 | 1,840  | 2,090 | 2,020 | 2,060  | 1,650 | 1,460 | 1,540  |
| 22         | 2,230    | 2,080 | 2,160  | 2,090 | 1,950 | 2,040  | 2,190 | 2,060 | 2,170  | 1,800 | 1,430 | 1,520  |
| 23         | 2,220    | 2,120 | 2,160  | 2,230 | 2,070 | 2,140  | 2,180 | 2,060 | 2,110  | 1,860 | 1,720 | 1,760  |
| 24         | 2,150    | 2,080 | 2,130  | 2,350 | 2,230 | 2,280  | 2,220 | 2,080 | 2,120  | 2,080 | 1,760 | 1,960  |
| 25         | 2,200    | 2,140 | 2,180  | 2,510 | 2,350 | 2,470  | 2,370 | 2,210 | 2,300  | 2,100 | 2,000 | 2,060  |
| 26         | 2,210    | 2,160 | 2,200  | 2,640 | 2,510 | 2,560  | 2,410 | 2,230 | 2,320  | 2,050 | 1,850 | 1,900  |
| 27         | 2,220    | 2,170 | 2,190  | 2,700 | 2,550 | 2,640  | 2,540 | 2,410 | 2,490  | 1,890 | 1,710 | 1,810  |
| 28         | 2,300    | 2,190 | 2,240  | 2,670 | 2,550 | 2,600  | 2,530 | 2,380 | 2,440  | 1,750 | 1,690 | 1,710  |
| 29         | 2,330    | 2,240 | 2,290  | 2,780 | 2,660 | 2,740  | 2,410 | 2,350 | 2,380  | 1,700 | 1,600 | 1,620  |
| 30         | ---      | ---   | ---    | 2,810 | 2,620 | 2,700  | 2,400 | 2,230 | 2,320  | 1,910 | 1,630 | 1,870  |
| 31         | ---      | ---   | ---    | 2,710 | 2,640 | 2,670  | ---   | ---   | ---    | 1,900 | 1,670 | 1,740  |
| <b>Max</b> | 2,330    | 2,270 | 2,290  | 2,810 | 2,660 | 2,740  | 2,840 | 2,660 | 2,760  | 2,600 | 2,450 | 2,500  |
| <b>Min</b> | 1,940    | 1,880 | 1,900  | 1,950 | 1,780 | 1,840  | 1,240 | 930   | 1,030  | 1,650 | 1,430 | 1,520  |

## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

| Day        | Max   | Min   | Median | Max   | Min   | Median | Max    | Min   | Median | Max       | Min   | Median |
|------------|-------|-------|--------|-------|-------|--------|--------|-------|--------|-----------|-------|--------|
|            | June  |       |        | July  |       |        | August |       |        | September |       |        |
| 1          | 1,780 | 1,690 | 1,740  | 1,590 | 1,580 | 1,580  | 1,610  | 1,190 | 1,260  | 1,650     | 1,460 | 1,580  |
| 2          | 1,760 | 1,650 | 1,690  | 1,960 | 1,590 | 1,710  | 1,330  | 1,200 | 1,280  | 1,460     | 1,330 | 1,440  |
| 3          | 1,710 | 1,640 | 1,690  | 2,010 | 1,930 | 1,980  | 1,430  | 1,200 | 1,310  | 1,590     | 1,430 | 1,490  |
| 4          | 1,700 | 1,580 | 1,640  | 1,960 | 1,880 | 1,930  | 1,650  | 1,430 | 1,540  | 1,690     | 1,580 | 1,650  |
| 5          | 1,630 | 1,530 | 1,570  | 2,010 | 1,880 | 1,950  | 1,450  | 1,320 | 1,410  | 1,710     | 1,630 | 1,680  |
| 6          | 1,540 | 1,450 | 1,500  | 2,020 | 1,970 | 2,000  | 1,400  | 1,330 | 1,350  | 1,850     | 1,530 | 1,680  |
| 7          | 1,510 | 1,440 | 1,470  | 1,980 | 1,720 | 1,930  | 1,480  | 1,370 | 1,430  | 2,140     | 1,590 | 1,800  |
| 8          | 1,570 | 1,510 | 1,550  | 1,730 | 1,670 | 1,720  | 1,560  | 1,370 | 1,510  | 2,000     | 1,730 | 1,840  |
| 9          | 1,650 | 1,460 | 1,570  | 1,990 | 1,690 | 1,830  | 1,530  | 1,400 | 1,450  | 2,210     | 1,900 | 2,080  |
| 10         | 1,510 | 1,420 | 1,450  | ---   | ---   | ---    | 1,620  | 1,390 | 1,520  | 2,370     | 2,210 | 2,310  |
| 11         | 1,600 | 1,500 | 1,560  | ---   | ---   | ---    | 1,620  | 1,440 | 1,560  | 2,320     | 2,160 | 2,230  |
| 12         | 1,580 | 1,500 | 1,520  | ---   | ---   | ---    | 1,500  | 1,430 | 1,450  | 2,280     | 2,180 | 2,210  |
| 13         | 1,590 | 1,430 | 1,530  | ---   | ---   | ---    | 1,470  | 1,330 | 1,440  | 2,280     | 2,210 | 2,230  |
| 14         | 1,700 | 1,570 | 1,640  | 1,700 | 1,510 | 1,580  | 1,330  | 1,220 | 1,270  | 2,250     | 2,040 | 2,120  |
| 15         | 1,790 | 1,700 | 1,760  | 1,540 | 1,500 | 1,510  | 1,400  | 1,220 | 1,290  | 2,080     | 1,930 | 2,040  |
| 16         | 1,940 | 1,760 | 1,820  | 1,650 | 1,510 | 1,550  | 1,520  | 1,390 | 1,470  | 1,930     | 1,750 | 1,850  |
| 17         | 1,760 | 1,600 | 1,710  | 1,610 | 1,490 | 1,540  | 1,670  | 1,490 | 1,520  | 1,770     | 1,660 | 1,690  |
| 18         | 1,770 | 1,600 | 1,680  | 1,510 | 1,460 | 1,500  | 1,490  | 1,400 | 1,460  | 1,820     | 1,770 | 1,790  |
| 19         | 1,720 | 1,630 | 1,680  | 1,470 | 1,390 | 1,440  | 1,410  | 1,250 | 1,330  | 1,860     | 1,590 | 1,750  |
| 20         | 2,060 | 1,710 | 1,850  | 1,430 | 1,380 | 1,400  | 1,300  | 1,230 | 1,270  | 1,650     | 1,580 | 1,590  |
| 21         | 2,410 | 2,060 | 2,190  | 1,430 | 1,380 | 1,410  | 1,230  | 1,150 | 1,170  | 1,650     | 1,460 | 1,570  |
| 22         | 2,120 | 1,780 | 1,900  | 1,510 | 1,400 | 1,470  | 1,340  | 1,160 | 1,250  | 1,550     | 1,470 | 1,510  |
| 23         | 1,880 | 1,780 | 1,820  | 1,480 | 1,440 | 1,460  | 1,460  | 1,310 | 1,340  | 1,570     | 1,460 | 1,540  |
| 24         | 1,910 | 1,780 | 1,830  | 1,540 | 1,400 | 1,430  | 1,510  | 1,260 | 1,400  | 1,490     | 1,460 | 1,470  |
| 25         | 1,960 | 1,780 | 1,870  | 1,450 | 1,410 | 1,420  | 1,600  | 1,280 | 1,380  | 1,460     | 1,430 | 1,450  |
| 26         | 1,780 | 1,720 | 1,750  | 1,480 | 1,250 | 1,400  | 1,310  | 1,210 | 1,250  | 1,610     | 1,420 | 1,440  |
| 27         | 1,730 | 1,600 | 1,700  | 1,330 | 1,230 | 1,290  | 1,410  | 1,260 | 1,350  | 1,600     | 1,520 | 1,560  |
| 28         | 1,630 | 1,580 | 1,600  | 1,240 | 1,180 | 1,220  | 1,540  | 1,410 | 1,520  | 1,620     | 1,520 | 1,600  |
| 29         | 1,630 | 1,580 | 1,600  | 1,190 | 1,150 | 1,160  | 1,530  | 1,420 | 1,520  | 1,800     | 1,590 | 1,690  |
| 30         | 1,650 | 1,580 | 1,610  | 1,280 | 1,160 | 1,240  | 1,670  | 1,420 | 1,540  | 1,800     | 1,600 | 1,700  |
| 31         | ---   | ---   | ---    | 1,320 | 1,210 | 1,230  | 2,020  | 1,650 | 1,800  | ---       | ---   | ---    |
| <b>Max</b> | 2,410 | 2,060 | 2,190  | ---   | ---   | ---    | 2,020  | 1,650 | 1,800  | 2,370     | 2,210 | 2,310  |
| <b>Min</b> | 1,510 | 1,420 | 1,450  | ---   | ---   | ---    | 1,230  | 1,150 | 1,170  | 1,460     | 1,330 | 1,440  |

11273400 San Joaquin River above Merced River, near Newman, CA—Continued



## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

**TEMPERATURE, WATER, DEGREES CELSIUS**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

| Day        | Max     | Min  | Median | Max      | Min  | Median | Max      | Min | Median | Max     | Min  | Median |
|------------|---------|------|--------|----------|------|--------|----------|-----|--------|---------|------|--------|
|            | October |      |        | November |      |        | December |     |        | January |      |        |
| <b>1</b>   | 23.9    | 21.0 | 22.4   | 16.6     | 14.6 | 15.6   | 10.6     | 8.8 | 9.7    | 10.1    | 8.8  | 9.4    |
| <b>2</b>   | 23.4    | 20.8 | 21.9   | 15.4     | 13.4 | 14.4   | 9.9      | 8.0 | 9.0    | 9.7     | 8.6  | 9.3    |
| <b>3</b>   | 21.8    | 20.0 | 20.8   | 15.1     | 13.5 | 14.4   | 9.3      | 7.8 | 8.7    | 10.4    | 8.6  | 9.4    |
| <b>4</b>   | 21.2    | 19.2 | 20.0   | 14.7     | 13.4 | 14.0   | 9.0      | 7.3 | 8.3    | 10.5    | 8.8  | 9.8    |
| <b>5</b>   | 20.0    | 18.6 | 19.3   | 13.4     | 12.2 | 12.9   | 8.8      | 7.1 | 8.1    | 10.9    | 9.0  | 10.0   |
| <b>6</b>   | 18.6    | 17.1 | 17.6   | 13.7     | 12.3 | 12.8   | 9.0      | 7.0 | 8.0    | 11.1    | 9.2  | 10.3   |
| <b>7</b>   | 18.4    | 16.1 | 17.0   | 13.5     | 11.9 | 12.7   | 9.0      | 7.2 | 8.2    | 10.9    | 9.3  | 10.2   |
| <b>8</b>   | 18.9    | 16.5 | 17.6   | 13.2     | 11.4 | 12.4   | 9.0      | 7.2 | 8.2    | 10.5    | 8.6  | 9.8    |
| <b>9</b>   | 19.4    | 17.1 | 18.1   | 13.0     | 11.3 | 12.3   | 9.0      | 7.2 | 8.1    | 10.5    | 8.6  | 9.8    |
| <b>10</b>  | 19.4    | 17.9 | 18.7   | 12.8     | 11.3 | 12.2   | 8.9      | 7.2 | 8.1    | 10.4    | 8.5  | 9.7    |
| <b>11</b>  | 21.3    | 18.9 | 19.6   | 12.1     | 11.8 | 11.9   | 9.3      | 7.5 | 8.3    | 10.4    | 8.3  | 9.6    |
| <b>12</b>  | 21.1    | 19.3 | 20.3   | 12.9     | 11.6 | 12.1   | 9.7      | 8.8 | 9.0    | 10.3    | 8.3  | 9.5    |
| <b>13</b>  | 21.2    | 19.0 | 20.1   | 13.5     | 11.6 | 12.6   | 9.9      | 8.2 | 9.0    | 10.3    | 8.3  | 9.4    |
| <b>14</b>  | 21.5    | 19.4 | 20.4   | 13.8     | 12.3 | 13.0   | 9.7      | 8.0 | 9.0    | 10.2    | 8.2  | 9.4    |
| <b>15</b>  | 22.3    | 20.0 | 20.9   | 13.9     | 12.3 | 13.1   | 9.6      | 8.6 | 9.0    | 10.4    | 8.2  | 9.4    |
| <b>16</b>  | 22.2    | 20.4 | 21.2   | 14.0     | 12.3 | 13.2   | 9.4      | 7.8 | 8.8    | 9.4     | 7.8  | 8.7    |
| <b>17</b>  | 22.1    | 19.9 | 21.0   | 14.0     | 12.4 | 13.2   | 8.8      | 8.0 | 8.3    | 8.4     | 6.3  | 7.5    |
| <b>18</b>  | 22.2    | 19.9 | 21.1   | 13.8     | 12.9 | 13.4   | 8.5      | 7.0 | 8.0    | 8.4     | 6.2  | 7.5    |
| <b>19</b>  | 21.6    | 19.9 | 20.8   | 13.6     | 12.5 | 13.1   | 9.0      | 7.5 | 8.1    | 7.5     | 6.5  | 7.1    |
| <b>20</b>  | 21.1    | 19.1 | 20.2   | 12.9     | 12.2 | 12.6   | 8.4      | 7.7 | 8.0    | 8.9     | 7.4  | 8.0    |
| <b>21</b>  | 20.7    | 18.8 | 19.9   | 12.4     | 11.7 | 12.0   | 8.6      | 7.0 | 7.8    | 10.9    | 8.9  | 9.9    |
| <b>22</b>  | 20.6    | 18.4 | 19.6   | 12.3     | 11.1 | 11.7   | 7.9      | 6.4 | 7.4    | 9.8     | 9.1  | 9.5    |
| <b>23</b>  | 20.5    | 18.5 | 19.5   | 11.8     | 11.0 | 11.5   | 7.5      | 5.8 | 6.8    | 10.7    | 9.2  | 10.1   |
| <b>24</b>  | 20.4    | 18.8 | 19.6   | 12.0     | 11.0 | 11.4   | 7.3      | 5.6 | 6.6    | 11.3    | 9.5  | 10.4   |
| <b>25</b>  | 19.7    | 18.1 | 18.9   | 12.7     | 11.0 | 11.8   | 7.3      | 5.6 | 6.6    | 12.0    | 10.0 | 10.8   |
| <b>26</b>  | 18.1    | 15.7 | 16.6   | 12.3     | 11.8 | 12.0   | 7.6      | 5.8 | 6.7    | 13.1    | 10.8 | 11.6   |
| <b>27</b>  | 16.8    | 14.8 | 15.8   | 11.9     | 11.3 | 11.7   | 8.2      | 6.3 | 7.2    | 13.3    | 11.8 | 12.6   |
| <b>28</b>  | 16.7    | 15.0 | 15.9   | 12.1     | 11.5 | 11.8   | 8.6      | 6.8 | 7.6    | 12.7    | 10.5 | 11.8   |
| <b>29</b>  | 16.7    | 14.9 | 15.9   | 11.6     | 11.2 | 11.4   | 9.3      | 7.8 | 8.5    | 12.8    | 10.6 | 11.6   |
| <b>30</b>  | 16.8    | 14.9 | 15.8   | 12.1     | 10.6 | 11.4   | 10.0     | 8.3 | 9.1    | 12.9    | 11.1 | 12.0   |
| <b>31</b>  | 17.1    | 15.3 | 16.1   | ---      | ---  | ---    | 10.1     | 8.9 | 9.5    | 13.3    | 11.6 | 12.4   |
| <b>Max</b> | 23.9    | 21.0 | 22.4   | 16.6     | 14.6 | 15.6   | 10.6     | 8.9 | 9.7    | 13.3    | 11.8 | 12.6   |
| <b>Min</b> | 16.7    | 14.8 | 15.8   | 11.6     | 10.6 | 11.4   | 7.3      | 5.6 | 6.6    | 7.5     | 6.2  | 7.1    |

## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

**TEMPERATURE, WATER, DEGREES CELSIUS**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

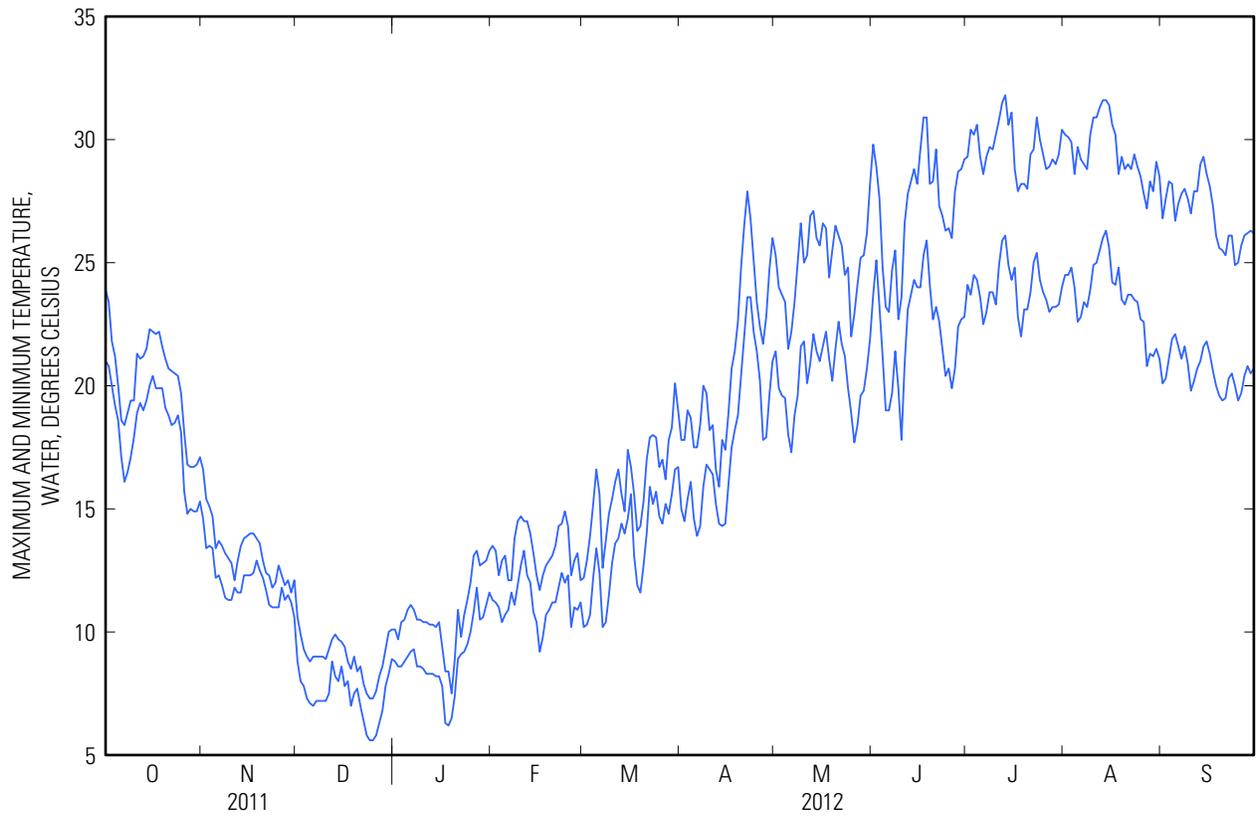
| Day        | Max      | Min  | Median | Max   | Min  | Median | Max   | Min  | Median | Max  | Min  | Median |
|------------|----------|------|--------|-------|------|--------|-------|------|--------|------|------|--------|
|            | February |      |        | March |      |        | April |      |        | May  |      |        |
| <b>1</b>   | 13.5     | 11.3 | 12.3   | 12.2  | 10.2 | 11.3   | 17.8  | 15.0 | 16.3   | 25.3 | 21.4 | 23.2   |
| <b>2</b>   | 13.3     | 11.2 | 12.1   | 12.9  | 10.3 | 11.7   | 17.8  | 14.5 | 15.8   | 24.0 | 19.9 | 21.9   |
| <b>3</b>   | 12.3     | 11.0 | 11.6   | 13.9  | 10.7 | 12.3   | 19.0  | 15.4 | 16.5   | 23.7 | 19.6 | 21.4   |
| <b>4</b>   | 12.9     | 10.4 | 11.4   | 15.2  | 12.2 | 13.4   | 18.7  | 16.1 | 17.2   | 23.4 | 19.5 | 21.1   |
| <b>5</b>   | 13.1     | 10.7 | 11.8   | 16.6  | 13.4 | 14.7   | 17.5  | 14.6 | 15.8   | 21.5 | 18.0 | 20.2   |
| <b>6</b>   | 12.1     | 10.9 | 11.6   | 15.6  | 12.4 | 14.7   | 17.5  | 13.9 | 15.3   | 22.2 | 17.3 | 19.6   |
| <b>7</b>   | 12.1     | 11.6 | 11.8   | 12.6  | 10.2 | 11.8   | 18.4  | 14.3 | 15.7   | 23.4 | 18.8 | 20.8   |
| <b>8</b>   | 13.8     | 11.1 | 12.2   | 13.7  | 10.4 | 12.0   | 20.0  | 15.9 | 17.1   | 25.0 | 19.6 | 21.4   |
| <b>9</b>   | 14.5     | 11.9 | 12.9   | 14.8  | 11.5 | 12.9   | 19.7  | 16.8 | 18.1   | 26.6 | 21.6 | 23.5   |
| <b>10</b>  | 14.7     | 12.7 | 13.6   | 15.4  | 12.8 | 13.9   | 18.2  | 16.6 | 17.4   | 25.0 | 21.8 | 23.8   |
| <b>11</b>  | 14.5     | 13.3 | 13.8   | 16.1  | 13.6 | 14.5   | 18.4  | 16.4 | 17.0   | 25.3 | 20.1 | 22.5   |
| <b>12</b>  | 14.5     | 12.3 | 13.4   | 16.6  | 13.8 | 15.1   | 16.6  | 15.2 | 16.0   | 26.9 | 20.9 | 23.3   |
| <b>13</b>  | 14.0     | 12.0 | 13.2   | 15.6  | 14.4 | 14.6   | 15.9  | 14.4 | 15.3   | 27.1 | 22.1 | 24.6   |
| <b>14</b>  | 13.2     | 10.8 | 11.9   | 14.9  | 14.0 | 14.4   | 17.8  | 14.3 | 15.4   | 26.0 | 21.4 | 23.5   |
| <b>15</b>  | 12.3     | 10.4 | 11.6   | 17.4  | 14.6 | 15.5   | 17.4  | 14.4 | 16.1   | 25.7 | 21.0 | 23.0   |
| <b>16</b>  | 11.7     | 9.2  | 10.3   | 16.7  | 15.6 | 16.0   | 18.9  | 16.0 | 16.9   | 26.6 | 21.6 | 23.6   |
| <b>17</b>  | 12.3     | 9.8  | 10.8   | 15.6  | 13.1 | 14.3   | 20.7  | 17.5 | 18.6   | 26.4 | 22.2 | 23.9   |
| <b>18</b>  | 12.7     | 10.7 | 11.6   | 14.1  | 11.9 | 12.9   | 21.4  | 18.2 | 19.8   | 24.4 | 21.1 | 22.6   |
| <b>19</b>  | 12.9     | 10.9 | 11.9   | 14.3  | 11.6 | 12.6   | 22.6  | 18.8 | 20.1   | 25.5 | 20.2 | 22.1   |
| <b>20</b>  | 13.1     | 11.2 | 12.1   | 15.3  | 12.7 | 13.7   | 24.8  | 20.4 | 21.7   | 26.5 | 21.5 | 23.3   |
| <b>21</b>  | 13.5     | 11.2 | 12.2   | 17.0  | 14.0 | 14.9   | 26.5  | 22.0 | 23.6   | 26.1 | 22.6 | 24.0   |
| <b>22</b>  | 14.3     | 11.8 | 12.8   | 17.9  | 15.9 | 16.7   | 27.9  | 23.6 | 25.2   | 25.7 | 21.7 | 23.4   |
| <b>23</b>  | 14.4     | 12.4 | 13.3   | 18.0  | 15.2 | 16.8   | 26.8  | 23.6 | 25.2   | 24.5 | 21.2 | 22.6   |
| <b>24</b>  | 14.9     | 12.0 | 13.2   | 17.9  | 15.7 | 16.7   | 25.1  | 22.2 | 23.7   | 24.8 | 19.9 | 22.0   |
| <b>25</b>  | 14.3     | 12.3 | 13.4   | 16.7  | 14.7 | 15.6   | 23.4  | 21.4 | 22.4   | 22.0 | 18.9 | 20.5   |
| <b>26</b>  | 12.3     | 10.2 | 11.8   | 17.0  | 14.4 | 15.6   | 22.4  | 20.2 | 21.3   | 22.9 | 17.7 | 19.9   |
| <b>27</b>  | 12.9     | 11.0 | 11.8   | 16.2  | 15.2 | 15.8   | 21.7  | 17.8 | 19.7   | 24.1 | 18.4 | 21.2   |
| <b>28</b>  | 13.2     | 10.9 | 11.9   | 17.8  | 14.8 | 15.3   | 22.8  | 17.9 | 19.8   | 25.2 | 19.6 | 21.9   |
| <b>29</b>  | 12.1     | 11.2 | 11.7   | 18.3  | 15.6 | 16.7   | 24.7  | 19.6 | 21.4   | 25.3 | 19.8 | 22.4   |
| <b>30</b>  | ---      | ---  | ---    | 20.1  | 16.6 | 17.7   | 26.0  | 21.0 | 22.9   | 26.2 | 20.7 | 22.9   |
| <b>31</b>  | ---      | ---  | ---    | 19.0  | 16.7 | 18.0   | ---   | ---  | ---    | 28.2 | 21.9 | 24.0   |
| <b>Max</b> | 14.9     | 13.3 | 13.8   | 20.1  | 16.7 | 18.0   | 27.9  | 23.6 | 25.2   | 28.2 | 22.6 | 24.6   |
| <b>Min</b> | 11.7     | 9.2  | 10.3   | 12.2  | 10.2 | 11.3   | 15.9  | 13.9 | 15.3   | 21.5 | 17.3 | 19.6   |

## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

**TEMPERATURE, WATER, DEGREES CELSIUS**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

| Day        | Max  | Min  | Median | Max  | Min  | Median | Max    | Min  | Median | Max       | Min  | Median |
|------------|------|------|--------|------|------|--------|--------|------|--------|-----------|------|--------|
|            | June |      |        | July |      |        | August |      |        | September |      |        |
| 1          | 29.8 | 23.7 | 26.1   | 29.3 | 24.1 | 26.1   | 30.2   | 24.5 | 27.1   | 26.8      | 20.1 | 23.1   |
| 2          | 28.9 | 25.1 | 26.7   | 30.4 | 23.7 | 26.1   | 30.1   | 24.5 | 27.0   | 27.6      | 20.3 | 23.1   |
| 3          | 27.6 | 23.2 | 25.1   | 30.2 | 24.5 | 27.1   | 29.9   | 24.8 | 27.1   | 28.3      | 21.1 | 24.0   |
| 4          | 24.8 | 21.2 | 23.4   | 30.6 | 24.3 | 26.9   | 28.6   | 24.0 | 26.2   | 28.2      | 21.9 | 24.5   |
| 5          | 23.2 | 19.0 | 20.8   | 29.3 | 23.6 | 26.0   | 29.7   | 22.6 | 25.2   | 26.7      | 22.1 | 24.2   |
| 6          | 23.0 | 19.0 | 21.2   | 28.6 | 22.5 | 25.2   | 29.2   | 22.8 | 25.8   | 27.4      | 21.6 | 24.3   |
| 7          | 24.7 | 19.7 | 21.7   | 29.3 | 23.0 | 25.5   | 29.0   | 23.4 | 25.9   | 27.8      | 21.1 | 24.0   |
| 8          | 25.5 | 21.4 | 22.7   | 29.7 | 23.8 | 26.3   | 28.8   | 23.2 | 25.6   | 28.0      | 21.6 | 24.2   |
| 9          | 22.7 | 19.9 | 21.4   | 29.6 | 23.8 | 26.2   | 30.2   | 23.9 | 27.1   | 27.6      | 20.9 | 23.7   |
| 10         | 23.6 | 17.8 | 20.0   | 30.2 | 23.3 | 26.1   | 30.9   | 24.9 | 27.3   | 27.0      | 19.8 | 23.1   |
| 11         | 26.6 | 20.9 | 23.1   | 30.8 | 24.9 | 27.4   | 30.9   | 25.0 | 27.6   | 27.9      | 20.2 | 23.3   |
| 12         | 27.8 | 23.1 | 24.9   | 31.5 | 25.9 | 28.1   | 31.3   | 25.5 | 28.0   | 27.9      | 20.7 | 24.0   |
| 13         | 28.3 | 23.7 | 25.6   | 31.8 | 26.1 | 28.7   | 31.6   | 26.0 | 28.4   | 29.0      | 21.0 | 24.2   |
| 14         | 28.8 | 24.3 | 26.2   | 30.6 | 24.9 | 27.6   | 31.6   | 26.3 | 28.4   | 29.3      | 21.6 | 25.0   |
| 15         | 28.2 | 24.0 | 26.1   | 31.1 | 24.3 | 27.1   | 31.4   | 25.6 | 27.9   | 28.6      | 21.8 | 24.7   |
| 16         | 29.6 | 24.0 | 26.3   | 28.8 | 24.8 | 26.5   | 30.6   | 24.2 | 27.2   | 28.1      | 21.3 | 24.2   |
| 17         | 30.9 | 25.3 | 27.7   | 27.9 | 22.8 | 24.6   | 30.2   | 24.1 | 26.9   | 27.3      | 20.6 | 23.5   |
| 18         | 30.9 | 25.9 | 28.0   | 28.2 | 22.0 | 24.4   | 28.6   | 24.8 | 26.2   | 26.1      | 20.0 | 22.9   |
| 19         | 28.2 | 24.1 | 26.4   | 28.2 | 23.1 | 24.9   | 29.3   | 23.5 | 25.8   | 25.6      | 19.6 | 22.2   |
| 20         | 28.3 | 22.7 | 24.9   | 28.0 | 23.1 | 25.1   | 28.8   | 23.3 | 25.7   | 25.5      | 19.4 | 22.0   |
| 21         | 29.6 | 23.2 | 25.8   | 29.4 | 23.8 | 26.0   | 29.0   | 23.7 | 26.0   | 25.3      | 19.5 | 21.9   |
| 22         | 27.3 | 22.6 | 25.0   | 29.6 | 25.0 | 26.9   | 28.8   | 23.7 | 25.6   | 26.1      | 20.3 | 22.4   |
| 23         | 26.9 | 21.5 | 23.6   | 30.9 | 25.4 | 27.5   | 29.4   | 23.5 | 26.0   | 26.1      | 20.5 | 23.1   |
| 24         | 26.3 | 20.4 | 22.8   | 30.0 | 24.3 | 27.1   | 28.9   | 23.4 | 25.8   | 24.9      | 20.0 | 22.3   |
| 25         | 26.4 | 20.7 | 23.0   | 29.4 | 23.8 | 26.5   | 28.5   | 22.7 | 25.4   | 25.0      | 19.4 | 21.8   |
| 26         | 26.0 | 19.9 | 22.6   | 28.8 | 23.5 | 25.8   | 27.8   | 22.6 | 24.6   | 25.7      | 19.7 | 22.2   |
| 27         | 27.9 | 20.7 | 23.6   | 28.9 | 23.0 | 25.6   | 27.2   | 20.8 | 23.4   | 26.1      | 20.4 | 22.7   |
| 28         | 28.7 | 22.4 | 25.0   | 29.2 | 23.2 | 25.8   | 28.3   | 21.3 | 24.1   | 26.2      | 20.8 | 23.1   |
| 29         | 28.8 | 22.7 | 25.1   | 29.0 | 23.2 | 25.8   | 27.9   | 21.2 | 24.2   | 26.3      | 20.5 | 23.1   |
| 30         | 29.2 | 22.8 | 25.5   | 29.4 | 23.3 | 25.9   | 29.1   | 21.5 | 24.6   | 26.2      | 20.7 | 23.1   |
| 31         | ---  | ---  | ---    | 30.4 | 24.0 | 26.6   | 28.5   | 21.1 | 24.2   | ---       | ---  | ---    |
| <b>Max</b> | 30.9 | 25.9 | 28.0   | 31.8 | 26.1 | 28.7   | 31.6   | 26.3 | 28.4   | 29.3      | 22.1 | 25.0   |
| <b>Min</b> | 22.7 | 17.8 | 20.0   | 27.9 | 22.0 | 24.4   | 27.2   | 20.8 | 23.4   | 24.9      | 19.4 | 21.8   |

11273400 San Joaquin River above Merced River, near Newman, CA—Continued



## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

**TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

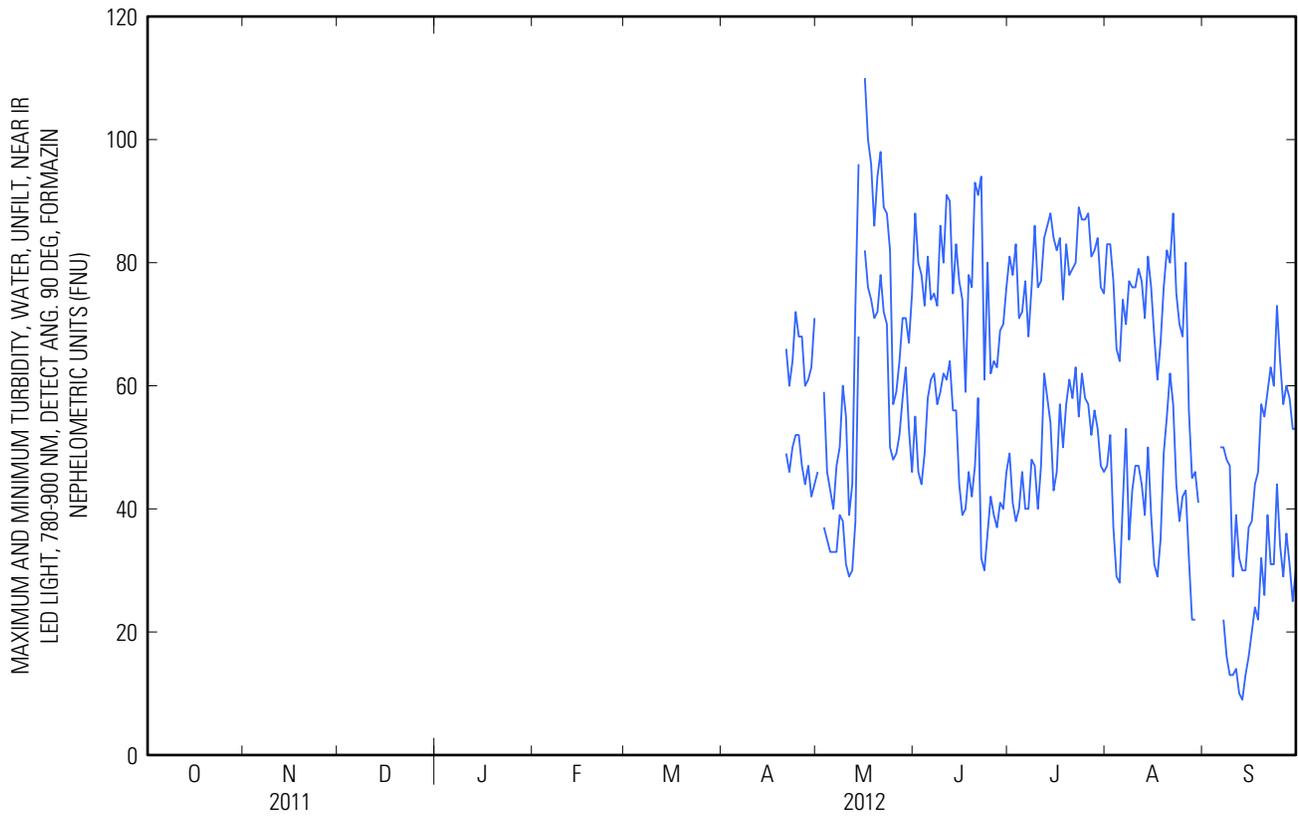
| Day        | Max      | Min | Median | Max   | Min | Median | Max   | Min | Median | Max | Min | Median |
|------------|----------|-----|--------|-------|-----|--------|-------|-----|--------|-----|-----|--------|
|            | February |     |        | March |     |        | April |     |        | May |     |        |
| 1          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | --- | 46  | ---    |
| 2          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | --- | --- | ---    |
| 3          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 59  | 37  | ---    |
| 4          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 46  | 35  | 39     |
| 5          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 43  | 33  | 38     |
| 6          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 40  | 33  | 36     |
| 7          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 47  | 33  | 40     |
| 8          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 50  | 39  | 44     |
| 9          | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 60  | 38  | 48     |
| 10         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 55  | 31  | 42     |
| 11         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 39  | 29  | 32     |
| 12         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 44  | 30  | 38     |
| 13         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 73  | 38  | 60     |
| 14         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 96  | 68  | ---    |
| 15         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | --- | --- | ---    |
| 16         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 110 | 82  | ---    |
| 17         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 100 | 76  | 87     |
| 18         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 96  | 74  | 85     |
| 19         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 86  | 71  | 80     |
| 20         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 94  | 72  | 84     |
| 21         | ---      | --- | ---    | ---   | --- | ---    | 66    | 49  | 59     | 98  | 78  | 90     |
| 22         | ---      | --- | ---    | ---   | --- | ---    | 60    | 46  | 53     | 89  | 72  | 82     |
| 23         | ---      | --- | ---    | ---   | --- | ---    | 64    | 50  | 56     | 88  | 70  | 77     |
| 24         | ---      | --- | ---    | ---   | --- | ---    | 72    | 52  | 59     | 82  | 50  | 64     |
| 25         | ---      | --- | ---    | ---   | --- | ---    | 68    | 52  | 60     | 57  | 48  | 52     |
| 26         | ---      | --- | ---    | ---   | --- | ---    | 68    | 47  | 55     | 59  | 49  | 54     |
| 27         | ---      | --- | ---    | ---   | --- | ---    | 60    | 44  | 48     | 64  | 52  | 58     |
| 28         | ---      | --- | ---    | ---   | --- | ---    | 61    | 47  | 50     | 71  | 58  | 64     |
| 29         | ---      | --- | ---    | ---   | --- | ---    | 63    | 42  | 52     | 71  | 63  | 67     |
| 30         | ---      | --- | ---    | ---   | --- | ---    | 71    | 44  | 50     | 67  | 53  | 61     |
| 31         | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | 75  | 46  | 62     |
| <b>Max</b> | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | --- | --- | ---    |
| <b>Min</b> | ---      | --- | ---    | ---   | --- | ---    | ---   | --- | ---    | --- | --- | ---    |

## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

**TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

| Day        | Max  | Min | Median | Max  | Min | Median | Max    | Min | Median | Max       | Min | Median |
|------------|------|-----|--------|------|-----|--------|--------|-----|--------|-----------|-----|--------|
|            | June |     |        | July |     |        | August |     |        | September |     |        |
| 1          | 88   | 55  | 66     | 81   | 49  | 67     | 83     | 47  | 63     | ---       | --- | ---    |
| 2          | 80   | 46  | 65     | 78   | 41  | 64     | 83     | 52  | 66     | ---       | --- | ---    |
| 3          | 78   | 44  | 61     | 83   | 38  | 57     | 77     | 37  | 60     | ---       | --- | ---    |
| 4          | 73   | 49  | 62     | 71   | 40  | 56     | 66     | 29  | 46     | ---       | --- | ---    |
| 5          | 81   | 58  | 70     | 72   | 46  | 57     | 64     | 28  | 43     | ---       | --- | ---    |
| 6          | 74   | 61  | 68     | 77   | 40  | 58     | 74     | 41  | 53     | 50        | --- | ---    |
| 7          | 75   | 62  | 68     | 68   | 40  | 58     | 70     | 53  | 59     | 50        | 22  | 34     |
| 8          | 73   | 57  | 67     | 76   | 48  | 64     | 77     | 35  | 58     | 48        | 16  | 27     |
| 9          | 86   | 59  | 76     | 86   | 47  | 68     | 76     | 43  | 55     | 47        | 13  | 23     |
| 10         | 80   | 62  | 75     | 76   | 40  | 64     | 76     | 47  | 61     | 29        | 13  | 21     |
| 11         | 91   | 61  | 69     | 77   | 47  | 62     | 79     | 47  | 61     | 39        | 14  | 25     |
| 12         | 90   | 64  | 72     | 84   | 62  | 70     | 77     | 44  | 58     | 32        | 10  | 21     |
| 13         | 75   | 56  | 67     | 86   | 58  | 72     | 71     | 39  | 56     | 30        | 9.0 | 19     |
| 14         | 83   | 56  | 65     | 88   | 54  | 73     | 81     | 50  | 62     | 30        | 13  | 21     |
| 15         | 77   | 44  | 64     | 84   | 43  | 67     | 76     | 39  | 58     | 37        | 16  | 26     |
| 16         | 74   | 39  | 58     | 82   | 46  | 61     | 68     | 31  | 47     | 38        | 20  | 28     |
| 17         | 59   | 40  | 50     | 84   | 57  | 69     | 61     | 29  | 43     | 44        | 24  | 34     |
| 18         | 78   | 46  | 56     | 74   | 50  | 66     | 67     | 35  | 48     | 46        | 22  | 32     |
| 19         | 76   | 42  | 57     | 83   | 57  | 70     | 76     | 49  | 59     | 57        | 32  | 41     |
| 20         | 93   | 47  | 73     | 78   | 61  | 70     | 82     | 55  | 70     | 55        | 26  | 39     |
| 21         | 91   | 58  | 75     | 79   | 58  | 72     | 80     | 62  | 70     | 59        | 39  | 47     |
| 22         | 94   | 32  | 42     | 80   | 63  | 71     | 88     | 57  | 73     | 63        | 31  | 42     |
| 23         | 61   | 30  | 44     | 89   | 55  | 70     | 75     | 44  | 59     | 60        | 31  | 45     |
| 24         | 80   | 36  | 46     | 87   | 62  | 72     | 70     | 38  | 54     | 73        | 44  | 55     |
| 25         | 62   | 42  | 47     | 87   | 58  | 73     | 68     | 42  | 54     | 64        | 34  | 46     |
| 26         | 64   | 39  | 50     | 88   | 57  | 76     | 80     | 43  | 58     | 57        | 29  | 40     |
| 27         | 63   | 37  | 49     | 81   | 52  | 68     | 56     | 32  | 42     | 60        | 36  | 45     |
| 28         | 69   | 41  | 53     | 82   | 56  | 67     | 45     | 22  | 32     | 58        | 31  | 43     |
| 29         | 70   | 40  | 58     | 84   | 53  | 69     | 46     | 22  | 32     | 53        | 25  | 37     |
| 30         | 76   | 46  | 64     | 76   | 47  | 62     | 41     | --- | ---    | 53        | 30  | 39     |
| 31         | ---  | --- | ---    | 75   | 46  | 60     | ---    | --- | ---    | ---       | --- | ---    |
| <b>Max</b> | 94   | 64  | 76     | 89   | 63  | 76     | ---    | --- | ---    | ---       | --- | ---    |
| <b>Min</b> | 59   | 30  | 42     | 68   | 38  | 56     | ---    | --- | ---    | ---       | --- | ---    |

11273400 San Joaquin River above Merced River, near Newman, CA—Continued



## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

**CHLOROPHYLL A, ESTIMATED, WATER, IN-SITU, IVF, CONCENTRATION ESTIMATED FROM REFERENCE MATERIAL, UG/L**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

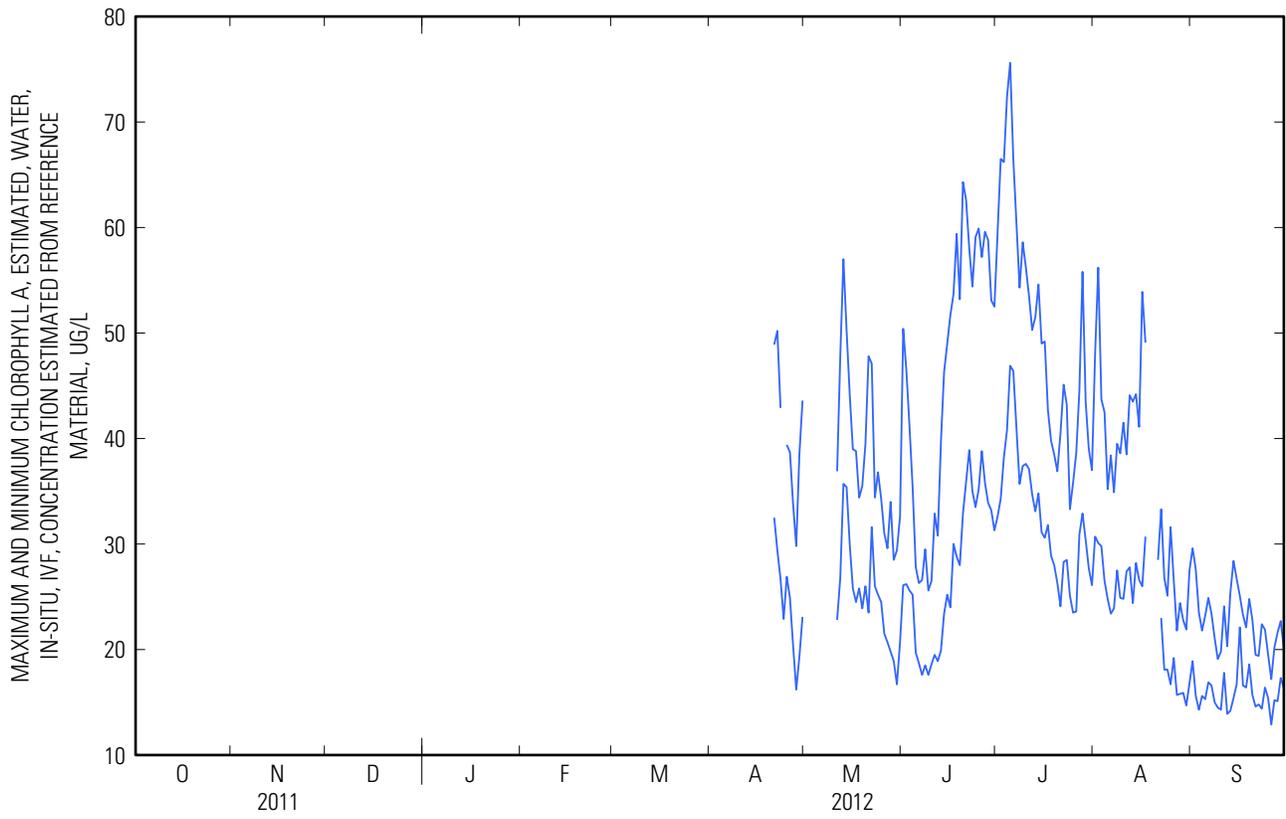
| Day        | Max      | Min | Median | Max   | Min | Median | Max   | Min  | Median | Max  | Min  | Median |
|------------|----------|-----|--------|-------|-----|--------|-------|------|--------|------|------|--------|
|            | February |     |        | March |     |        | April |      |        | May  |      |        |
| 1          | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | ---  | ---  | ---    |
| 2          | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | ---  | ---  | ---    |
| 3          | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | ---  | ---  | ---    |
| 4          | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | ---  | ---  | ---    |
| 5          | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | ---  | ---  | ---    |
| 6          | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | ---  | ---  | ---    |
| 7          | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | ---  | ---  | ---    |
| 8          | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | ---  | ---  | ---    |
| 9          | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | ---  | ---  | ---    |
| 10         | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | ---  | ---  | ---    |
| 11         | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | 36.9 | 22.8 | 28.8   |
| 12         | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | 47.8 | 26.8 | 31.6   |
| 13         | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | 57.0 | 35.7 | 43.2   |
| 14         | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | 50.3 | 35.4 | 39.6   |
| 15         | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | 44.2 | 30.0 | 35.6   |
| 16         | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | 39.0 | 25.8 | 31.3   |
| 17         | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | 38.8 | 24.5 | 31.5   |
| 18         | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | 34.4 | 25.8 | 30.0   |
| 19         | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | 35.5 | 23.9 | 28.4   |
| 20         | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | 39.5 | 26.0 | 30.9   |
| 21         | ---      | --- | ---    | ---   | --- | ---    | 48.9  | 32.5 | 40.6   | 47.8 | 23.5 | 29.5   |
| 22         | ---      | --- | ---    | ---   | --- | ---    | 50.2  | 29.4 | 38.6   | 47.1 | 31.6 | 36.5   |
| 23         | ---      | --- | ---    | ---   | --- | ---    | 42.9  | 26.7 | 35.5   | 34.4 | 26.0 | 31.9   |
| 24         | ---      | --- | ---    | ---   | --- | ---    | ---   | 22.9 | ---    | 36.8 | 25.2 | 30.5   |
| 25         | ---      | --- | ---    | ---   | --- | ---    | 39.4  | 26.9 | ---    | 34.3 | 24.5 | 30.4   |
| 26         | ---      | --- | ---    | ---   | --- | ---    | 38.7  | 24.9 | 30.2   | 31.0 | 21.5 | 26.7   |
| 27         | ---      | --- | ---    | ---   | --- | ---    | 33.8  | 20.4 | 24.9   | 29.6 | 20.7 | 26.8   |
| 28         | ---      | --- | ---    | ---   | --- | ---    | 29.8  | 16.2 | 23.2   | 34.0 | 19.8 | 24.9   |
| 29         | ---      | --- | ---    | ---   | --- | ---    | 38.5  | 19.3 | 25.4   | 28.5 | 18.9 | 22.8   |
| 30         | ---      | --- | ---    | ---   | --- | ---    | 43.6  | 23.1 | 32.6   | 29.4 | 16.7 | 20.8   |
| 31         | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | 32.6 | 20.7 | 24.9   |
| <b>Max</b> | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | ---  | ---  | ---    |
| <b>Min</b> | ---      | --- | ---    | ---   | --- | ---    | ---   | ---  | ---    | ---  | ---  | ---    |

## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

**CHLOROPHYLL A, ESTIMATED, WATER, IN-SITU, IVF, CONCENTRATION ESTIMATED FROM REFERENCE MATERIAL, UG/L**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

| Day        | Max  | Min  | Median | Max  | Min  | Median | Max    | Min  | Median | Max       | Min  | Median |
|------------|------|------|--------|------|------|--------|--------|------|--------|-----------|------|--------|
|            | June |      |        | July |      |        | August |      |        | September |      |        |
| <b>1</b>   | 50.4 | 26.1 | 30.7   | 59.5 | 32.6 | 43.7   | 48.0   | 30.7 | 37.4   | 29.6      | 18.9 | 22.5   |
| <b>2</b>   | 46.5 | 26.2 | 34.2   | 66.5 | 34.3 | 44.7   | 56.2   | 30.1 | 39.1   | 27.6      | 15.6 | 17.4   |
| <b>3</b>   | 41.2 | 25.6 | 33.5   | 66.2 | 38.2 | 51.8   | 43.7   | 29.8 | 36.4   | 23.5      | 14.3 | 16.0   |
| <b>4</b>   | 35.4 | 25.2 | 29.9   | 72.4 | 40.8 | 53.5   | 42.5   | 26.5 | 31.2   | 21.8      | 15.6 | 18.8   |
| <b>5</b>   | 27.8 | 19.7 | 23.9   | 75.6 | 46.9 | 58.4   | 35.2   | 24.8 | 29.4   | 23.2      | 15.3 | 18.4   |
| <b>6</b>   | 26.3 | 18.7 | 23.2   | 66.5 | 46.4 | 54.4   | 38.4   | 23.4 | 28.2   | 24.9      | 16.9 | 19.6   |
| <b>7</b>   | 26.6 | 17.6 | 22.9   | 60.4 | 41.0 | 49.8   | 34.9   | 23.9 | 28.6   | 23.4      | 16.6 | 20.8   |
| <b>8</b>   | 29.5 | 18.5 | 22.9   | 54.3 | 35.7 | 44.0   | 39.5   | 27.5 | 30.7   | 21.1      | 15.0 | 17.6   |
| <b>9</b>   | 25.6 | 17.6 | 21.7   | 58.6 | 37.4 | 44.8   | 38.6   | 24.9 | 31.0   | 19.1      | 14.5 | 16.8   |
| <b>10</b>  | 26.5 | 18.6 | 21.8   | 56.2 | 37.6 | 49.5   | 41.5   | 24.8 | 29.1   | 19.8      | 14.3 | 17.8   |
| <b>11</b>  | 32.9 | 19.5 | 23.5   | 53.5 | 37.1 | 45.7   | 38.5   | 27.4 | 32.5   | 24.1      | 17.8 | 20.3   |
| <b>12</b>  | 30.8 | 18.9 | 24.1   | 50.3 | 34.7 | 42.4   | 44.1   | 27.8 | 31.9   | 20.3      | 13.9 | 17.7   |
| <b>13</b>  | 39.7 | 19.9 | 26.6   | 51.5 | 33.1 | 42.1   | 43.5   | 24.4 | 32.6   | 25.4      | 14.2 | 18.0   |
| <b>14</b>  | 46.3 | 23.4 | 32.6   | 54.6 | 34.8 | 43.0   | 44.2   | 28.2 | 33.0   | 28.4      | 15.4 | 18.8   |
| <b>15</b>  | 49.0 | 25.2 | 35.6   | 49.0 | 31.1 | 40.4   | 41.1   | 26.6 | 31.3   | 26.7      | 16.7 | 19.9   |
| <b>16</b>  | 51.7 | 24.0 | 37.2   | 49.2 | 30.6 | 40.0   | 53.9   | 26.0 | 35.2   | 25.1      | 22.1 | 20.9   |
| <b>17</b>  | 53.7 | 30.0 | 40.7   | 42.7 | 31.8 | 37.2   | 49.1   | 30.7 | 39.6   | 23.3      | 16.6 | 20.6   |
| <b>18</b>  | 59.4 | 28.8 | 36.7   | 39.8 | 28.9 | 34.9   | ---    | ---  | ---    | 22.1      | 16.4 | 20.4   |
| <b>19</b>  | 53.2 | 28.0 | 38.5   | 38.5 | 28.0 | 32.4   | ---    | ---  | ---    | 24.8      | 18.6 | 21.4   |
| <b>20</b>  | 64.3 | 32.9 | 42.6   | 36.9 | 26.3 | 30.0   | ---    | ---  | ---    | 22.8      | 15.7 | 18.4   |
| <b>21</b>  | 62.6 | 35.9 | 50.6   | 40.5 | 24.1 | 28.9   | 28.5   | ---  | ---    | 19.5      | 14.6 | 17.9   |
| <b>22</b>  | 58.0 | 38.9 | 52.2   | 45.1 | 28.3 | 33.7   | 33.3   | 23.0 | 25.9   | 19.4      | 14.8 | 17.6   |
| <b>23</b>  | 54.4 | 35.0 | 43.7   | 43.2 | 28.5 | 33.9   | 26.8   | 18.1 | 22.4   | 22.4      | 14.4 | 18.0   |
| <b>24</b>  | 59.1 | 33.5 | 40.7   | 33.3 | 25.1 | 28.0   | 25.1   | 18.1 | 21.4   | 21.9      | 16.4 | 19.5   |
| <b>25</b>  | 59.9 | 35.2 | 48.0   | 35.8 | 23.5 | 28.5   | 31.6   | 16.7 | 21.3   | 19.5      | 15.4 | 17.0   |
| <b>26</b>  | 57.2 | 38.8 | 47.7   | 38.6 | 23.6 | 28.6   | 26.6   | 19.2 | 22.7   | 17.2      | 12.9 | 15.4   |
| <b>27</b>  | 59.6 | 35.8 | 44.2   | 44.5 | 30.9 | 34.9   | 21.8   | 15.7 | 18.1   | 20.2      | 15.2 | 17.1   |
| <b>28</b>  | 58.8 | 33.9 | 43.2   | 55.8 | 32.9 | 40.8   | 24.4   | 15.8 | 18.1   | 21.6      | 15.1 | 17.7   |
| <b>29</b>  | 53.1 | 33.2 | 43.9   | 43.5 | 30.4 | 37.6   | 22.8   | 15.9 | 18.4   | 22.7      | 17.3 | 18.6   |
| <b>30</b>  | 52.5 | 31.3 | 41.6   | 39.0 | 27.7 | 33.3   | 21.9   | 14.7 | 17.6   | 20.1      | 16.4 | 18.0   |
| <b>31</b>  | ---  | ---  | ---    | 37.0 | 26.1 | 30.4   | 27.5   | 16.8 | 19.2   | ---       | ---  | ---    |
| <b>Max</b> | 64.3 | 38.9 | 52.2   | 75.6 | 46.9 | 58.4   | ---    | ---  | ---    | 29.6      | 22.1 | 22.5   |
| <b>Min</b> | 25.6 | 17.6 | 21.7   | 33.3 | 23.5 | 28.0   | ---    | ---  | ---    | 17.2      | 12.9 | 15.4   |

11273400 San Joaquin River above Merced River, near Newman, CA—Continued



## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

**CROSS SECTION ANALYSES**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

Part 1 of 2

[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter]

| Sample date-time | Barometric pressure, mm Hg (00025) | Dissolved oxygen, water, unfiltered, mg/L (00300) | Dissolved oxygen, water, unfiltered, % saturation (00301) | pH, water, unfiltered, field, standard units (00400) | Specific conductance, water, unfiltered, µS/cm at 25°C (00095) | Temperature, water, °C (00010) | Turbidity, water, unfiltered, monochrome near infra-red LED light, 780-900 nm, detection angle 90 +/- 2.5 degrees, FNU (63680) | Depth to bottom at sample location, ft (81903) | Sampling depth, ft (00003) |
|------------------|------------------------------------|---------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|----------------------------|
| 07-24-2012 1304  | 764                                | 8.5                                               | 107                                                       | 8.1                                                  | 1,410                                                          | 27.1                           | 78                                                                                                                             | 1.10                                           | 0.66                       |
| 07-24-2012 1306  | 764                                | 8.7                                               | 110                                                       | 8.1                                                  | 1,410                                                          | 27.0                           | 79                                                                                                                             | .65                                            | .39                        |
| 07-24-2012 1309  | 764                                | 8.8                                               | 110                                                       | 8.1                                                  | 1,410                                                          | 27.1                           | 77                                                                                                                             | .90                                            | .54                        |
| 07-24-2012 1312  | 764                                | 8.8                                               | 111                                                       | 8.1                                                  | 1,410                                                          | 27.1                           | 80                                                                                                                             | 1.10                                           | .66                        |
| 07-24-2012 1314  | 764                                | 8.8                                               | 111                                                       | 8.1                                                  | 1,410                                                          | 27.2                           | 83                                                                                                                             | 1.30                                           | .78                        |
| 07-24-2012 1316  | 764                                | 8.9                                               | 112                                                       | 8.1                                                  | 1,410                                                          | 27.2                           | 80                                                                                                                             | 1.40                                           | .84                        |
| 07-24-2012 1318  | 764                                | 8.9                                               | 112                                                       | 8.1                                                  | 1,410                                                          | 27.2                           | 80                                                                                                                             | 1.90                                           | 1.14                       |
| 07-24-2012 1320  | 764                                | 8.5                                               | 108                                                       | 8.1                                                  | 1,410                                                          | 27.3                           | 80                                                                                                                             | 2.00                                           | 1.20                       |
| 07-24-2012 1322  | 764                                | 9.0                                               | 113                                                       | 8.1                                                  | 1,410                                                          | 27.3                           | 76                                                                                                                             | 2.30                                           | 1.38                       |
| 07-24-2012 1324  | 764                                | 9.1                                               | 114                                                       | 8.1                                                  | 1,410                                                          | 27.4                           | 70                                                                                                                             | 1.70                                           | 1.02                       |
| 09-06-2012 1031  | 765                                | 8.5                                               | 98                                                        | 8.1                                                  | 1,790                                                          | 22.6                           | 27                                                                                                                             | .62                                            | .37                        |
| 09-06-2012 1032  | 765                                | 8.3                                               | 96                                                        | 8.1                                                  | 1,790                                                          | 22.5                           | 31                                                                                                                             | 1.52                                           | .91                        |
| 09-06-2012 1033  | 765                                | 8.3                                               | 95                                                        | 8.1                                                  | 1,790                                                          | 22.5                           | 32                                                                                                                             | 1.55                                           | .93                        |
| 09-06-2012 1034  | 765                                | 8.3                                               | 95                                                        | 8.1                                                  | 1,790                                                          | 22.5                           | 35                                                                                                                             | 1.35                                           | .80                        |
| 09-06-2012 1035  | 765                                | 8.2                                               | 95                                                        | 8.1                                                  | 1,790                                                          | 22.5                           | 34                                                                                                                             | 1.82                                           | 1.09                       |
| 09-06-2012 1036  | 765                                | 8.2                                               | 95                                                        | 8.1                                                  | 1,790                                                          | 22.5                           | 34                                                                                                                             | 2.30                                           | 1.38                       |
| 09-06-2012 1037  | 765                                | 8.3                                               | 95                                                        | 8.1                                                  | 1,790                                                          | 22.5                           | 32                                                                                                                             | 2.64                                           | .53                        |
| 09-06-2012 1038  | 765                                | 8.3                                               | 96                                                        | 8.1                                                  | 1,790                                                          | 22.5                           | 34                                                                                                                             | 2.64                                           | 2.11                       |
| 09-06-2012 1039  | 765                                | 8.3                                               | 96                                                        | 8.1                                                  | 1,790                                                          | 22.5                           | 32                                                                                                                             | 2.57                                           | .51                        |
| 09-06-2012 1040  | 765                                | 8.3                                               | 96                                                        | 8.1                                                  | 1,790                                                          | 22.5                           | 32                                                                                                                             | 2.57                                           | 2.06                       |
| 09-06-2012 1041  | 765                                | 8.3                                               | 96                                                        | 8.1                                                  | 1,790                                                          | 22.6                           | 32                                                                                                                             | 2.80                                           | .56                        |
| 09-06-2012 1042  | 765                                | 8.3                                               | 96                                                        | 8.1                                                  | 1,790                                                          | 22.6                           | 34                                                                                                                             | 2.80                                           | 2.24                       |
| 09-06-2012 1043  | 765                                | 8.3                                               | 96                                                        | 8.1                                                  | 1,790                                                          | 22.6                           | 32                                                                                                                             | 1.50                                           | .90                        |

Note: Instantaneous discharge at the mean time of cross-sectional measurements: July 24, 234 ft<sup>3</sup>/s; Sept. 6, 178 ft<sup>3</sup>/s.

## 11273400 San Joaquin River above Merced River, near Newman, CA—Continued

**CROSS SECTION ANALYSES**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

Part 2 of 2

[%, percent; FNU, Formazin nephelometric units; LED, light-emitting diode; ft, feet; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius;  $\mu\text{S}/\text{cm}$ , microsiemens per centimeter;  $\mu\text{g}/\text{L}$ , micrograms per liter]

| <b>Sample date-time</b> | <b>Stream width, ft (00004)</b> | <b>Location in cross section, distance from left bank looking down-stream, ft (00009)</b> | <b>Chlorophyll a, estimated, water, in-situ, in-vivo fluorescence (IVF), concentration estimated from reference material, <math>\mu\text{g}/\text{L}</math> (32316)</b> |
|-------------------------|---------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 07-24-2012 1304         | 121                             | 6.00                                                                                      | 27.5                                                                                                                                                                    |
| 07-24-2012 1306         | 121                             | 18.0                                                                                      | 27.8                                                                                                                                                                    |
| 07-24-2012 1309         | 121                             | 30.0                                                                                      | 22.7                                                                                                                                                                    |
| 07-24-2012 1312         | 121                             | 42.0                                                                                      | 28.3                                                                                                                                                                    |
| 07-24-2012 1314         | 121                             | 54.0                                                                                      | 27.8                                                                                                                                                                    |
| 07-24-2012 1316         | 121                             | 66.0                                                                                      | 26.5                                                                                                                                                                    |
| 07-24-2012 1318         | 121                             | 78.0                                                                                      | 27.7                                                                                                                                                                    |
| 07-24-2012 1320         | 121                             | 90.0                                                                                      | 28.1                                                                                                                                                                    |
| 07-24-2012 1322         | 121                             | 102                                                                                       | 28.2                                                                                                                                                                    |
| 07-24-2012 1324         | 121                             | 114                                                                                       | 29.5                                                                                                                                                                    |
| 09-06-2012 1031         | 66.0                            | 3.30                                                                                      | 17.8                                                                                                                                                                    |
| 09-06-2012 1032         | 66.0                            | 9.90                                                                                      | 18.4                                                                                                                                                                    |
| 09-06-2012 1033         | 66.0                            | 16.5                                                                                      | 18.5                                                                                                                                                                    |
| 09-06-2012 1034         | 66.0                            | 23.1                                                                                      | 18.9                                                                                                                                                                    |
| 09-06-2012 1035         | 66.0                            | 29.7                                                                                      | 19.1                                                                                                                                                                    |
| 09-06-2012 1036         | 66.0                            | 36.3                                                                                      | 19.0                                                                                                                                                                    |
| 09-06-2012 1037         | 66.0                            | 42.9                                                                                      | 18.6                                                                                                                                                                    |
| 09-06-2012 1038         | 66.0                            | 42.9                                                                                      | 18.7                                                                                                                                                                    |
| 09-06-2012 1039         | 66.0                            | 49.5                                                                                      | 19.3                                                                                                                                                                    |
| 09-06-2012 1040         | 66.0                            | 49.5                                                                                      | 19.3                                                                                                                                                                    |
| 09-06-2012 1041         | 66.0                            | 56.1                                                                                      | 19.4                                                                                                                                                                    |
| 09-06-2012 1042         | 66.0                            | 56.1                                                                                      | 18.2                                                                                                                                                                    |
| 09-06-2012 1043         | 66.0                            | 62.7                                                                                      | 18.5                                                                                                                                                                    |

Note: Instantaneous discharge at the mean time of cross-sectional measurements: July 24, 234 ft<sup>3</sup>/s; Sept. 6, 178 ft<sup>3</sup>/s.