

#### 03456991 PIGEON RIVER NEAR CANTON, NC

French Broad-Holston Basin Pigeon Subbasin

LOCATION.--Lat 35°31′23″, long 82°50′48″ referenced to North American Datum of 1983, Haywood County, NC, Hydrologic Unit 06010106, on right bank 600 ft upstream from North Carolina Highway 215 bridge, 1.3 mi upstream from U.S. Highways 19/23 at Canton, and at river mile 64.9.

DRAINAGE AREA .-- 130 mi<sup>2</sup>.

#### **SURFACE-WATER RECORDS**

PERIOD OF RECORD.--May 1907 to June 1909, October 1928 to current year. Monthly discharge only for some periods published in WSP 1306. May 1907 to June 1909, October 1928 to September 1983, published as "Pigeon River at Canton, NC" (03457000).

REVISED RECORDS.--WSP 823: Drainage area. WSP 853: 1929-37(M). WSP 1306: 1903(M). WDR NC-91-1: 1984-89(M).

- GAGE.--Water-stage recorder. Datum of gage is 2,581.66 ft above National Geodetic Vertical Datim of 1929 (Tennessee Valley Authority bench mark). Prior to June 1909, nonrecording gage at bridge 1.2 mi downstream at different datum. December 6, 1928, to January 3, 1929, nonrecording gage at site 0.8 mi downstream at different datum. Prior to October 1, 1983, water-stage recorder at site 0.8 mi downstream at different datum. Satellite and telephone telemetry at streamgage.
- REMARKS.--No estimated daily discharges. Records good. Occasional diurnal fluctuation and considerable regulation at low flow, since 1932, caused by Lake Logan (station 03455773) on West Fork Pigeon River 11.2 mi upstream. Prior to regulation, maximum discharge: 21,500 ft<sup>3</sup>/s, August 16, 1928; gage height: 16.40 ft; minimum discharge: 39 ft<sup>3</sup>/s, September 3, 1930. Maximum discharge for period of record from rating curve extended above 20,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow. Minimum discharge for period of record, at former site, result of freezeup. Minimum discharge for current water year also occurred several days.
- EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of about 1810 is believed to have been approximately equal to that of August 30, 1940, and flood of June 15, 1876, reached a gage height of 18.3 ft; discharge, 25,700 ft³/s, at former site, from studies by Tennessee Valley Authority.

### 03456991 PIGEON RIVER NEAR CANTON, NC—Continued

### DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013 DAILY MEAN VALUES

|       | DAILY IMEAN VALUES |       |       |        |        |        |        |        |        |        |       |       |  |
|-------|--------------------|-------|-------|--------|--------|--------|--------|--------|--------|--------|-------|-------|--|
| Day   | 0ct                | Nov   | Dec   | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug   | Sep   |  |
| 1     | 168                | 125   | 88    | 336    | 1,080  | 644    | 478    | 743    | 294    | 500    | 341   | 206   |  |
| 2     | 1,730              | 120   | 89    | 382    | 883    | 587    | 417    | 685    | 350    | 819    | 322   | 194   |  |
| 3     | 617                | 120   | 88    | 318    | 774    | 537    | 390    | 672    | 405    | 1,940  | 295   | 208   |  |
| 4     | 435                | 119   | 88    | 284    | 682    | 497    | 425    | 731    | 300    | 3,510  | 279   | 175   |  |
| 5     | 360                | 116   | 86    | 262    | 620    | 525    | 484    | 6,010  | 282    | 3,580  | 267   | 163   |  |
| 6     | 317                | 117   | 86    | 253    | 568    | 607    | 434    | 3,670  | 499    | 2,230  | 252   | 153   |  |
| 7     | 316                | 123   | 88    | 234    | 543    | 487    | 403    | 1,980  | 400    | 2,350  | 364   | 149   |  |
| 8     | 276                | 121   | 90    | 222    | 542    | 460    | 387    | 1,490  | 575    | 1,560  | 411   | 145   |  |
| 9     | 256                | 114   | 86    | 212    | 486    | 431    | 367    | 1,210  | 408    | 1,230  | 328   | 142   |  |
| 10    | 232                | 112   | 96    | 206    | 459    | 414    | 354    | 1,040  | 1,870  | 1,170  | 278   | 139   |  |
| 11    | 212                | 109   | 138   | 298    | 747    | 420    | 346    | 942    | 900    | 1,210  | 272   | 135   |  |
| 12    | 202                | 109   | 100   | 361    | 584    | 981    | 2,520  | 845    | 660    | 951    | 260   | 178   |  |
| 13    | 192                | 154   | 91    | 284    | 656    | 628    | 1,000  | 745    | 562    | 896    | 250   | 173   |  |
| 14    | 182                | 128   | 88    | 954    | 568    | 558    | 790    | 682    | 539    | 1,050  | 242   | 142   |  |
| 15    | 312                | 116   | 86    | 3,460  | 524    | 522    | 728    | 629    | 451    | 1,040  | 223   | 132   |  |
| 16    | 235                | 112   | 95    | 3,550  | 495    | 491    | 640    | 582    | 411    | 831    | 214   | 127   |  |
| 17    | 194                | 107   | 177   | 3,310  | 452    | 460    | 616    | 544    | 395    | 726    | 202   | 126   |  |
| 18    | 182                | 106   | 161   | 2,610  | 430    | 457    | 576    | 694    | 376    | 713    | 213   | 123   |  |
| 19    | 173                | 106   | 125   | 1,600  | 430    | 510    | 972    | 593    | 355    | 616    | 477   | 123   |  |
| 20    | 164                | 106   | 174   | 1,200  | 394    | 427    | 925    | 534    | 321    | 640    | 434   | 122   |  |
| 21    | 158                | 103   | 381   | 967    | 372    | 405    | 743    | 542    | 304    | 625    | 321   | 180   |  |
| 22    | 154                | 100   | 198   | 800    | 575    | 383    | 667    | 536    | 283    | 622    | 280   | 303   |  |
| 23    | 150                | 99    | 172   | 694    | 581    | 370    | 611    | 524    | 278    | 547    | 253   | 152   |  |
| 24    | 144                | 96    | 285   | 616    | 508    | 501    | 573    | 462    | 284    | 519    | 232   | 136   |  |
| 25    | 141                | 95    | 286   | 572    | 457    | 499    | 534    | 422    | 467    | 567    | 216   | 402   |  |
| 26    | 139                | 95    | 1,630 | 550    | 1,190  | 428    | 493    | 400    | 318    | 456    | 203   | 297   |  |
| 27    | 136                | 95    | 810   | 487    | 935    | 402    | 518    | 381    | 324    | 463    | 199   | 203   |  |
| 28    | 135                | 95    | 542   | 458    | 738    | 387    | 1,090  | 359    | 286    | 415    | 192   | 173   |  |
| 29    | 143                | 91    | 500   | 432    |        | 370    | 1,240  | 340    | 260    | 376    | 183   | 158   |  |
| 30    | 133                | 90    | 396   | 2,310  |        | 378    | 856    | 323    | 232    | 351    | 179   | 150   |  |
| 31    | 128                |       | 345   | 1,950  |        | 487    |        | 309    |        | 346    | 180   |       |  |
| Total | 8,316              | 3,299 | 7,665 | 30,172 | 17,273 | 15,253 | 20,577 | 29,619 | 13,389 | 32,849 | 8,362 | 5,209 |  |
| Mean  | 268                | 110   | 247   | 973    | 617    | 492    | 686    | 955    | 446    | 1,060  | 270   | 174   |  |
| Max   | 1,730              | 154   | 1,630 | 3,550  | 1,190  | 981    | 2,520  | 6,010  | 1,870  | 3,580  | 477   | 402   |  |
| Min   | 128                | 90    | 86    | 206    | 372    | 370    | 346    | 309    | 232    | 346    | 179   | 122   |  |

### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2013<sup>a</sup>, BY WATER YEAR (WY)

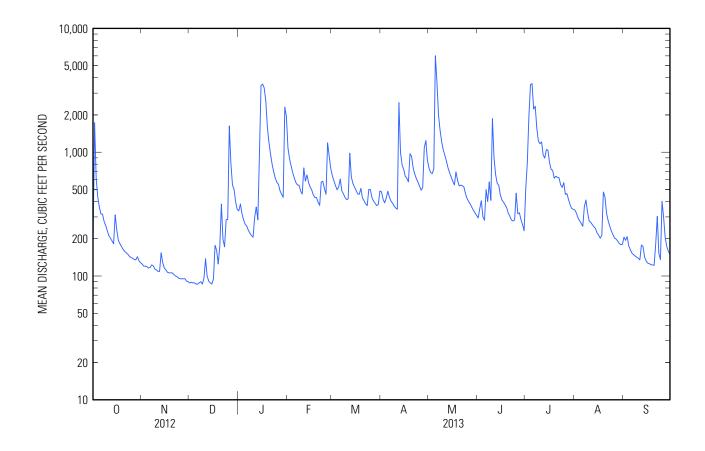
|      | Oct    | Nov    | Dec    | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Mean | 216    | 266    | 331    | 423    | 461    | 518    | 455    | 339    | 259    | 201    | 194    | 218    |
| Max  | 787    | 964    | 872    | 1,017  | 1,150  | 1,058  | 1,005  | 981    | 781    | 1,060  | 1,476  | 2,504  |
| (WY) | (1965) | (1980) | (1933) | (1937) | (1939) | (1975) | (1983) | (1976) | (1967) | (2013) | (1940) | (2004) |
| Min  | 48.2   | 59.2   | 64.5   | 85.3   | 150    | 155    | 167    | 132    | 82.8   | 57.7   | 61.6   | 47.8   |
| (WY) | (1955) | (1955) | (1940) | (1956) | (1941) | (1988) | (1986) | (1941) | (2008) | (2008) | (2007) | (1998) |

## 03456991 PIGEON RIVER NEAR CANTON, NC—Continued

### **SUMMARY STATISTICS**

|                          | Calendar Y | ear 2012 | Water Yea       | r 2013 |   | Water Years 1932 - 2013 <sup>a</sup> |              |  |
|--------------------------|------------|----------|-----------------|--------|---|--------------------------------------|--------------|--|
| Annual total             | 99,748     |          | 191,983         |        |   |                                      |              |  |
| Annual mean              | 273        |          | 526             |        |   | 323                                  |              |  |
| Highest annual mean      |            |          |                 |        |   | 526                                  | 2013         |  |
| Lowest annual mean       |            |          |                 |        |   | 170                                  | 1988         |  |
| Highest daily mean       | 2,440      | Sep 18   | 6,010           | May    | 5 | 19,800                               | Sep 8, 2004  |  |
| Lowest daily mean        | 83         | Sep 14   | 86              | Dec    | 5 | 27                                   | Sep 7, 1954  |  |
| Annual seven-day minimum | 87         | Dec 3    | 87              | Dec    | 3 | 40                                   | Aug 19, 2008 |  |
| Maximum peak flow        |            |          | 9,330           | May    | 5 | b <sub>48,000</sub>                  | Sep 17, 2004 |  |
| Maximum peak stage       |            |          | 9.47            | May    | 5 | 22.80                                | Sep 17, 2004 |  |
| Instantaneous low flow   |            |          | b <sub>85</sub> | Dec    | 5 | b <sub>15</sub>                      | Jan 8, 1956  |  |
| 10 percent exceeds       | 468        |          | 969             |        |   | 604                                  |              |  |
| 50 percent exceeds       | 224        |          | 381             |        |   | 229                                  |              |  |
| 90 percent exceeds       | 100        |          | 117             |        |   | 85                                   |              |  |

a Regulated period only (1932-2013). See Remarks. b See Remarks.



#### 03456991 PIGEON RIVER NEAR CANTON, NC—Continued

#### **WATER-QUALITY RECORDS**

PERIOD OF RECORD.--July 2012 to September 2013.

PERIOD OF DAILY RECORD .--

WATER TEMPERATURE: July 2012 to September 2013.

INSTRUMENTATION.--Temperature probed from July 2012 to September 2013.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 24.0°C, September 1, 2012; minimum recorded, 1.6°C, February 17, 2013.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 22.1°C, August 30; minimum recorded, 1.6°C, February 17.

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

| Day   | Max | Min     | Mean |
|-------|-----|---------|------|-----|---------|------|-----|---------|------|-----|---------|------|
|       |     | October |      |     | Novembe | r    |     | Decembe | r    |     | January |      |
| 1     |     |         |      |     |         |      |     |         |      |     |         |      |
| 2     |     |         |      |     |         |      |     |         |      |     |         |      |
| 3     |     |         |      |     |         |      |     |         |      |     |         |      |
| 4     |     |         |      |     |         |      |     |         |      |     |         |      |
| 5     |     |         |      |     |         |      |     |         |      |     |         |      |
| 6     |     |         |      |     |         |      |     |         |      |     |         |      |
| 7     |     |         |      |     |         |      |     |         |      |     |         |      |
| 8     |     |         |      |     |         |      |     |         |      |     |         |      |
| 9     |     |         |      |     |         |      |     |         |      |     |         |      |
| 10    |     |         |      |     |         |      |     |         |      |     |         |      |
|       |     |         |      |     |         |      |     |         |      |     |         |      |
| 11    |     |         |      |     |         |      |     |         |      |     |         |      |
| 12    |     |         |      |     |         |      |     |         |      |     |         |      |
| 13    |     |         |      |     |         |      |     |         |      |     |         |      |
| 14    |     |         |      |     |         |      |     |         |      |     |         |      |
| 15    |     |         |      |     |         |      |     |         |      |     |         |      |
| 16    |     |         |      |     |         |      |     |         |      |     |         |      |
| 17    |     |         |      |     |         |      |     |         |      |     |         |      |
| 18    |     |         |      |     |         |      |     |         |      |     |         |      |
| 19    |     |         |      |     |         |      |     |         |      |     |         |      |
| 20    |     |         |      |     |         |      |     |         |      |     |         |      |
| 21    |     |         |      |     |         |      |     |         |      |     |         |      |
| 22    |     |         |      |     |         |      |     |         |      |     |         |      |
| 23    |     |         |      |     |         |      |     |         |      |     |         |      |
| 24    |     |         |      |     |         |      |     |         |      |     |         |      |
| 25    |     |         |      |     |         |      |     |         |      |     |         |      |
|       |     |         |      |     |         |      |     |         |      |     |         |      |
| 26    |     |         |      |     |         |      |     |         |      |     |         |      |
| 27    |     |         |      |     |         |      |     |         |      |     |         |      |
| 28    |     |         |      |     |         |      |     |         |      |     |         |      |
| 29    |     |         |      |     |         |      |     |         |      |     |         |      |
| 30    |     |         |      |     |         |      |     |         |      |     |         |      |
| 31    |     |         |      |     |         |      |     |         |      |     |         |      |
| Month |     |         |      |     |         |      |     |         |      |     |         |      |

### 03456991 PIGEON RIVER NEAR CANTON, NC—Continued

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

| Day      | Max | Min      | Mean | Max | Min   | Mean | Max | Min   | Mean | Max | Min | Mean |
|----------|-----|----------|------|-----|-------|------|-----|-------|------|-----|-----|------|
|          |     | February | 1    |     | March |      |     | April |      |     | May |      |
| 1        |     |          |      |     |       |      |     |       |      |     |     |      |
| 2        |     |          |      |     |       |      |     |       |      |     |     |      |
| 3        |     |          |      |     |       |      |     |       |      |     |     |      |
| 4        |     |          |      |     |       |      |     |       |      |     |     |      |
| 5        |     |          |      |     |       |      |     |       |      |     |     |      |
| 6        |     |          |      |     |       |      |     |       |      |     |     |      |
| 7        |     |          |      |     |       |      |     |       |      |     |     |      |
| 8        |     |          |      |     |       |      |     |       |      |     |     |      |
| 9        |     |          |      |     |       |      |     |       |      |     |     |      |
| 10       |     |          |      |     |       |      |     |       |      |     |     |      |
| 11       |     |          |      |     |       |      |     |       |      |     |     |      |
| 12       |     |          |      |     |       |      |     |       |      |     |     |      |
| 13       |     |          |      |     |       |      |     |       |      |     |     |      |
| 14       |     |          |      |     |       |      |     |       |      |     |     |      |
| 15       |     |          |      |     |       |      |     |       |      |     |     |      |
| 16       |     |          |      |     |       |      |     |       |      |     |     |      |
| 17       |     |          |      |     |       |      |     |       |      |     |     |      |
| 18       |     |          |      |     |       |      |     |       |      |     |     |      |
| 19       |     |          |      |     |       |      |     |       |      |     |     |      |
| 20       |     |          |      |     |       |      |     |       |      |     |     |      |
| 21       |     |          |      |     |       |      |     |       |      |     |     |      |
| 22       |     |          |      |     |       |      |     |       |      |     |     |      |
| 23       |     |          |      |     |       |      |     |       |      |     |     |      |
| 23<br>24 |     |          |      |     |       |      |     |       |      |     |     |      |
| 25       |     |          |      |     |       |      |     |       |      |     |     |      |
|          |     |          |      |     |       |      |     |       |      |     |     |      |
| 26       |     |          |      |     |       |      |     |       |      |     |     |      |
| 27       |     |          |      |     |       |      |     |       |      |     |     |      |
| 28       |     |          |      |     |       |      |     |       |      |     |     |      |
| 29       |     |          |      |     |       |      |     |       |      |     |     |      |
| 30       |     |          |      |     |       |      |     |       |      |     |     |      |
| 31       |     |          |      |     |       |      |     |       |      |     |     |      |
| Month    |     |          |      |     |       |      |     |       |      |     |     |      |

### 03456991 PIGEON RIVER NEAR CANTON, NC—Continued

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

| Day   | Max | Min  | Mean | Max | Min  | Mean | Max  | Min    | Mean | Max  | Min      | Mean |
|-------|-----|------|------|-----|------|------|------|--------|------|------|----------|------|
|       |     | June |      |     | July |      |      | August |      | ;    | Septembe | r    |
| 1     |     |      |      |     |      |      | 22.4 | 19.2   | 20.7 | 24.0 | 21.6     | 22.8 |
| 2     |     |      |      |     |      |      | 23.1 | 20.4   | 21.9 | 23.5 | 21.9     | 22.7 |
| 3     |     |      |      |     |      |      | 22.8 | 21.1   | 21.9 | 22.6 | 21.6     | 22.1 |
| 4     |     |      |      |     |      |      | 22.2 | 20.5   | 21.4 | 22.0 | 20.8     | 21.4 |
| 5     |     |      |      |     |      |      | 22.9 | 21.0   | 22.0 | 22.8 | 20.8     | 21.7 |
| 6     |     |      |      |     |      |      | 22.5 | 21.4   | 22.1 | 23.0 | 21.3     | 22.1 |
| 7     |     |      |      |     |      |      | 22.2 | 21.1   | 21.7 | 23.4 | 21.0     | 22.2 |
| 8     |     |      |      |     |      |      | 22.6 | 20.6   | 21.6 | 22.5 | 20.7     | 21.6 |
| 9     |     |      |      |     |      |      | 22.3 | 20.8   | 21.5 | 21.0 | 18.7     | 19.9 |
| 10    |     |      |      |     |      |      | 21.0 | 19.8   | 20.4 | 19.9 | 17.5     | 18.9 |
| 11    |     |      |      |     |      |      | 21.9 | 20.2   | 20.9 | 20.1 | 17.7     | 18.9 |
| 12    |     |      |      |     |      |      | 21.6 | 19.2   | 20.6 | 20.8 | 17.9     | 19.2 |
| 13    |     |      |      |     |      |      | 21.8 | 20.0   | 20.9 | 19.6 | 17.5     | 18.7 |
| 14    |     |      |      |     |      |      | 22.8 | 20.1   | 21.4 | 19.2 | 17.6     | 18.5 |
| 15    |     |      |      |     |      |      | 22.1 | 20.4   | 21.3 | 19.8 | 17.2     | 18.6 |
| 16    |     |      |      |     |      |      | 22.6 | 19.7   | 21.1 | 20.1 | 18.5     | 19.4 |
| 17    |     |      |      |     |      |      | 21.6 | 20.3   | 20.8 | 19.5 | 18.4     | 18.9 |
| 18    |     |      |      |     |      |      | 21.5 | 19.9   | 20.6 | 18.8 | 16.1     | 17.2 |
| 19    |     |      |      |     |      |      | 20.9 | 19.8   | 20.3 | 17.0 | 14.7     | 15.9 |
| 20    |     |      |      |     |      |      | 21.3 | 19.4   | 20.3 | 17.2 | 14.7     | 16.0 |
| 21    |     |      |      |     |      |      | 20.5 | 18.9   | 19.9 | 17.2 | 15.1     | 16.3 |
| 22    |     |      |      |     |      |      | 20.9 | 18.4   | 19.7 | 17.8 | 15.7     | 16.8 |
| 23    |     |      |      |     |      |      | 21.4 | 18.8   | 20.1 | 17.5 | 15.2     | 16.2 |
| 24    |     |      |      |     |      |      | 22.2 | 19.7   | 20.8 | 15.5 | 13.4     | 14.5 |
| 25    |     |      |      |     |      |      | 21.6 | 19.4   | 20.5 | 15.2 | 13.4     | 14.3 |
| 26    |     |      |      |     |      |      | 22.0 | 19.4   | 20.6 | 17.0 | 14.9     | 15.8 |
| 27    |     |      |      |     |      |      | 22.8 | 19.4   | 21.1 | 17.1 | 15.7     | 16.5 |
| 28    |     |      |      |     |      |      | 22.0 | 19.8   | 21.1 | 17.3 | 16.1     | 16.8 |
| 29    |     |      |      |     |      |      | 22.1 | 20.4   | 21.3 | 17.6 | 17.0     | 17.2 |
| 30    |     |      |      |     |      |      | 22.1 | 20.8   | 21.5 | 17.6 | 16.3     | 16.9 |
| 31    |     |      |      |     |      |      | 23.3 | 20.5   | 21.9 |      |          |      |
| Month |     |      |      |     |      |      | 23.3 | 18.4   | 21.0 | 24.0 | 13.4     | 18.6 |

### 03456991 PIGEON RIVER NEAR CANTON, NC—Continued

# TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

| Day   | Max  | Min     | Mean |
|-------|------|---------|------|------|---------|------|------|---------|------|------|---------|------|
| -     |      | October |      |      | Novembe | r    |      | Decembe | r    |      | January |      |
| 1     | 17.0 | 16.4    | 16.6 | 8.4  | 6.9     | 7.6  | 6.0  | 3.9     | 5.0  | 6.1  | 4.8     | 5.2  |
| 2     | 17.0 | 15.2    | 16.1 | 8.9  | 6.7     | 7.8  | 7.2  | 4.9     | 6.1  | 6.2  | 5.9     | 6.1  |
| 3     | 16.7 | 15.1    | 15.9 | 9.8  | 7.5     | 8.7  | 8.2  | 6.2     | 7.2  | 5.9  | 4.7     | 5.4  |
| 4     | 16.6 | 14.8    | 15.9 | 11.0 | 9.3     | 10.1 | 8.5  | 6.5     | 7.6  | 4.7  | 3.0     | 3.7  |
| 5     | 16.2 | 13.9    | 15.2 | 10.4 | 9.0     | 9.7  | 9.7  | 8.3     | 9.0  | 4.3  | 2.2     | 3.2  |
| 6     | 16.0 | 14.1    | 15.2 | 9.1  | 8.1     | 8.4  | 8.8  | 8.3     | 8.5  | 5.8  | 4.3     | 5.0  |
| 7     | 15.7 | 13.6    | 14.7 | 8.3  | 7.7     | 8.0  | 9.3  | 7.7     | 8.5  | 5.3  | 3.6     | 4.4  |
| 8     | 13.6 | 12.2    | 12.7 | 8.7  | 7.0     | 7.8  | 9.9  | 8.1     | 9.0  | 4.4  | 2.8     | 3.8  |
| 9     | 13.6 | 11.9    | 12.6 | 8.1  | 6.1     | 7.2  | 10.4 | 9.0     | 9.7  | 5.4  | 4.0     | 4.5  |
| 10    | 13.0 | 11.5    | 12.2 | 8.5  | 6.3     | 7.4  | 10.7 | 10.0    | 10.4 | 8.0  | 5.4     | 6.6  |
| 11    | 12.9 | 11.1    | 12.1 | 9.1  | 6.7     | 8.0  | 10.4 | 7.8     | 9.2  | 9.5  | 8.0     | 8.7  |
| 12    | 13.7 | 12.2    | 12.9 | 11.1 | 9.1     | 10.2 | 7.8  | 6.5     | 6.9  | 10.5 | 8.9     | 9.6  |
| 13    | 14.1 | 12.7    | 13.5 | 10.8 | 8.3     | 9.7  | 7.6  | 6.2     | 6.8  | 10.8 | 9.6     | 10.2 |
| 14    | 13.6 | 12.5    | 13.1 | 8.3  | 6.4     | 7.1  | 6.6  | 5.0     | 5.9  | 10.8 | 9.5     | 10.3 |
| 15    | 15.0 | 13.3    | 14.2 | 8.4  | 6.4     | 7.3  | 6.6  | 5.1     | 5.9  | 10.4 | 9.7     | 10.0 |
| 16    | 14.2 | 12.1    | 13.1 | 7.8  | 6.2     | 7.1  | 8.1  | 6.5     | 7.3  | 10.9 | 10.2    | 10.5 |
| 17    | 12.9 | 11.3    | 12.3 | 7.1  | 5.5     | 6.4  | 8.6  | 8.1     | 8.3  | 10.6 | 7.8     | 9.6  |
| 18    | 14.3 | 12.0    | 13.0 | 6.9  | 4.9     | 6.0  | 8.5  | 7.1     | 8.0  | 7.8  | 6.4     | 7.0  |
| 19    | 13.8 | 12.2    | 12.9 | 7.7  | 5.6     | 6.6  | 7.1  | 5.5     | 6.4  | 7.4  | 5.6     | 6.4  |
| 20    | 12.9 | 11.4    | 12.2 | 8.4  | 6.6     | 7.5  | 7.0  | 6.0     | 6.5  | 7.6  | 5.5     | 6.4  |
| 21    | 12.3 | 10.7    | 11.6 | 8.3  | 6.5     | 7.5  | 6.9  | 4.2     | 5.5  | 6.9  | 5.1     | 5.9  |
| 22    | 12.7 | 10.7    | 11.7 | 8.0  | 6.2     | 7.2  | 4.2  | 2.5     | 3.3  | 5.6  | 3.8     | 4.5  |
| 23    | 13.5 | 11.6    | 12.6 | 7.5  | 5.8     | 6.7  | 3.9  | 2.2     | 2.9  | 5.1  | 2.9     | 3.9  |
| 24    | 13.8 | 11.9    | 12.9 | 6.6  | 5.0     | 5.8  | 6.1  | 3.9     | 5.2  | 4.9  | 3.8     | 4.3  |
| 25    | 13.9 | 11.9    | 13.0 | 5.0  | 3.3     | 4.3  | 6.3  | 5.1     | 5.7  | 4.7  | 2.7     | 3.3  |
| 26    | 15.0 | 12.9    | 13.9 | 5.7  | 3.2     | 4.5  | 6.6  | 5.8     | 6.3  | 5.5  | 4.1     | 4.8  |
| 27    | 14.2 | 13.2    | 13.6 | 6.8  | 5.7     | 6.4  | 5.8  | 4.7     | 5.2  | 5.4  | 3.1     | 4.3  |
| 28    | 13.3 | 10.8    | 12.2 | 7.2  | 5.9     | 6.5  | 5.7  | 4.1     | 4.8  | 7.4  | 4.8     | 6.0  |
| 29    | 10.8 | 7.5     | 9.0  | 6.0  | 4.2     | 5.1  | 6.0  | 5.1     | 5.5  | 9.1  | 5.7     | 7.2  |
| 30    | 7.5  | 7.0     | 7.1  | 5.5  | 3.6     | 4.6  | 5.1  | 3.2     | 3.9  | 10.2 | 8.7     | 9.4  |
| 31    | 8.7  | 6.8     | 7.7  |      |         |      | 5.0  | 2.6     | 3.7  | 8.7  | 5.7     | 7.2  |
| Month | 17.0 | 6.8     | 13.0 | 11.1 | 3.2     | 7.2  | 10.7 | 2.2     | 6.6  | 10.9 | 2.2     | 6.4  |
|       |      |         |      |      |         |      |      |         |      |      |         |      |

### 03456991 PIGEON RIVER NEAR CANTON, NC—Continued

# TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

| Day      | Max | Min        | Mean | Max        | Min   | Mean       | Max  | Min   | Mean | Max  | Min  | Mean |
|----------|-----|------------|------|------------|-------|------------|------|-------|------|------|------|------|
| <u> </u> |     | February   | ,    |            | March |            |      | April |      |      | May  |      |
| 1        | 5.7 | 4.0        | 5.2  | 5.2        | 4.3   | 4.7        | 11.1 | 8.0   | 9.4  | 14.4 | 11.9 | 13.0 |
| 2        | 5.2 | 3.2        | 4.1  | 5.1        | 4.0   | 4.5        | 10.5 | 7.1   | 9.0  | 13.3 | 11.9 | 12.5 |
| 3        | 5.7 | 4.4        | 5.0  | 4.9        | 2.7   | 3.7        | 10.3 | 7.1   | 8.9  | 13.0 | 11.7 | 12.3 |
| 4        | 5.6 | 3.2        | 4.3  | 5.8        | 1.7   | 3.6        | 9.9  | 6.5   | 7.6  | 12.2 | 10.6 | 11.0 |
| 5        | 6.6 | 3.2<br>4.4 | 5.4  | 5.8<br>5.9 | 4.1   | 3.0<br>4.9 | 9.9  | 6.4   | 7.6  | 10.6 | 9.4  | 9.8  |
| J        | 0.0 | 4.4        | 3.4  | 3.9        | 4.1   | 4.9        | 9.5  | 0.4   | 7.0  | 10.0 | 9.4  | 9.0  |
| 6        | 7.0 | 4.4        | 5.7  | 5.7        | 3.4   | 4.2        | 11.0 | 6.2   | 8.6  | 12.0 | 9.4  | 10.4 |
| 7        | 6.3 | 4.8        | 5.5  | 6.1        | 2.8   | 4.3        | 12.2 | 7.9   | 10.1 | 12.2 | 9.2  | 10.5 |
| 8        | 6.9 | 5.8        | 6.3  | 6.6        | 3.3   | 5.0        | 13.7 | 9.2   | 11.5 | 11.7 | 10.2 | 10.9 |
| 9        | 6.4 | 4.1        | 5.4  | 7.7        | 3.3   | 5.5        | 15.1 | 10.6  | 12.9 | 14.0 | 10.2 | 11.9 |
| 10       | 6.4 | 4.6        | 5.6  | 8.7        | 5.6   | 7.1        | 16.2 | 11.7  | 14.1 | 14.1 | 11.2 | 12.5 |
| 11       | 7.8 | 6.3        | 7.0  | 8.5        | 7.0   | 7.8        | 16.0 | 13.0  | 14.6 | 14.1 | 12.2 | 13.0 |
| 12       | 7.2 | 5.8        | 6.6  | 9.3        | 7.0   | 8.0        | 15.8 | 11.8  | 13.2 | 14.8 | 11.7 | 13.1 |
| 13       | 7.8 | 6.1        | 6.8  | 8.1        | 5.5   | 6.9        | 13.6 | 9.5   | 11.4 | 13.7 | 9.9  | 11.7 |
| 14       | 7.5 | 5.3        | 6.4  | 6.7        | 3.5   | 5.3        | 11.9 | 9.3   | 10.6 | 14.5 | 9.5  | 11.8 |
| 15       | 7.1 | 4.5        | 5.9  | 9.0        | 3.9   | 6.1        | 15.2 | 10.3  | 12.3 | 16.6 | 11.8 | 14.0 |
| 16       | 6.8 | 3.6        | 5.2  | 11.2       | 7.2   | 9.1        | 15.9 | 11.2  | 13.4 | 15.8 | 13.1 | 14.4 |
| 17       | 3.8 | 1.6        | 2.9  | 11.8       | 8.7   | 10.4       | 15.3 | 12.5  | 13.8 | 16.0 | 13.0 | 14.5 |
| 18       | 5.1 | 1.7        | 3.4  | 11.4       | 9.0   | 9.7        | 15.9 | 12.5  | 14.0 | 15.6 | 13.8 | 14.6 |
| 19       | 6.0 | 3.6        | 4.8  | 10.7       | 7.8   | 9.2        | 15.4 | 12.3  | 14.0 | 15.8 | 13.7 | 14.7 |
| 20       | 5.2 | 2.8        | 4.0  | 9.6        | 6.2   | 8.0        | 12.9 | 9.5   | 11.2 | 17.8 | 13.8 | 15.5 |
| 21       | 6.2 | 2.7        | 4.3  | 8.5        | 4.7   | 6.5        | 12.5 | 8.5   | 10.4 | 16.9 | 14.2 | 15.7 |
| 22       | 6.2 | 5.0        | 5.6  | 7.1        | 3.8   | 5.6        | 13.6 | 8.9   | 11.0 | 16.9 | 14.4 | 15.6 |
| 23       | 7.1 | 5.4        | 6.2  | 8.2        | 5.8   | 6.9        | 14.0 | 9.1   | 11.5 | 17.9 | 14.8 | 16.2 |
| 24       | 8.2 | 5.6        | 6.9  | 8.5        | 6.9   | 7.8        | 13.4 | 10.4  | 12.0 | 17.4 | 14.6 | 15.9 |
| 25       | 7.2 | 4.9        | 5.7  | 8.1        | 5.9   | 6.7        | 14.3 | 10.7  | 12.5 | 15.9 | 12.1 | 14.2 |
| 26       | 6.8 | 5.3        | 6.0  | 6.3        | 4.0   | 5.2        | 13.6 | 9.4   | 11.7 | 15.6 | 12.5 | 14.2 |
| 27       | 8.1 | 5.2        | 6.5  | 7.3        | 3.5   | 5.4        | 13.3 | 10.9  | 11.5 | 16.6 | 13.0 | 15.0 |
| 28       | 6.8 | 5.2        | 5.7  | 7.8        | 3.8   | 6.0        | 10.9 | 10.4  | 10.6 | 18.1 | 14.6 | 16.3 |
| 29       |     |            |      | 7.5        | 4.1   | 5.8        | 14.3 | 10.2  | 11.9 | 18.6 | 15.3 | 17.2 |
| 30       |     |            |      | 9.7        | 5.9   | 7.6        | 15.4 | 11.0  | 12.9 | 19.1 | 15.4 | 17.4 |
| 31       |     |            |      | 9.8        | 7.9   | 8.9        |      |       |      | 19.7 | 16.6 | 18.3 |
| Month    | 8.2 | 1.6        | 5.4  | 11.8       | 1.7   | 6.5        | 16.2 | 6.2   | 11.5 | 19.7 | 9.2  | 13.8 |

### 03456991 PIGEON RIVER NEAR CANTON, NC—Continued

# TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

| WATER YEAR UCTUBER 2012 TO SEPTEMBER 2013 |      |      |      |      |      |      |      |        |      |      |          |      |
|---|------|------|------|------|------|------|------|--------|------|------|----------|------|
| Day                                       | Max  | Min  | Mean | Max  | Min  | Mean | Max  | Min    | Mean | Max  | Min      | Mean |
|   |      | June |      |      | July |      |      | August |      |      | Septembe | er   |
| 1   | 20.3 | 17.3 | 19.0 | 20.1 | 18.1 | 19.3 | 19.8 | 17.8   | 18.7 | 21.5 | 19.7     | 20.6 |
| 2   | 20.1 | 17.1 | 18.2 | 19.7 | 16.8 | 18.1 | 20.4 | 17.4   | 19.0 | 21.4 | 20.0     | 20.7 |
| 3   | 19.2 | 16.3 | 17.7 | 19.2 | 15.5 | 17.4 | 20.3 | 18.3   | 19.5 | 21.8 | 19.7     | 20.7 |
| 4   | 19.6 | 16.4 | 18.2 | 15.7 | 15.0 | 15.3 | 20.5 | 18.2   | 19.5 | 21.5 | 19.4     | 20.5 |
| 5   | 19.4 | 16.9 | 18.4 | 16.2 | 14.9 | 15.4 | 20.6 | 17.8   | 19.3 | 21.6 | 19.8     | 20.7 |
| 6   | 18.8 | 16.7 | 18.0 | 16.7 | 14.9 | 15.6 | 21.1 | 18.9   | 20.1 | 21.0 | 18.8     | 20.0 |
| 7   | 18.8 | 16.9 | 17.8 | 16.0 | 15.0 | 15.5 | 20.7 | 18.4   | 19.5 | 20.9 | 18.9     | 19.8 |
| 8   | 19.5 | 16.8 | 18.1 | 17.2 | 14.9 | 15.8 | 19.9 | 17.6   | 18.6 | 20.3 | 18.9     | 19.6 |
| 9   | 19.0 | 16.8 | 18.0 | 17.7 | 15.1 | 16.2 | 21.0 | 18.3   | 19.7 | 20.7 | 18.7     | 19.7 |
| 10  | 18.4 | 15.6 | 16.5 | 18.4 | 15.6 | 16.8 | 20.9 | 19.6   | 20.3 | 21.5 | 19.0     | 20.1 |
| 11  | 18.5 | 15.0 | 16.5 | 16.8 | 15.6 | 16.2 | 21.0 | 19.4   | 20.2 | 21.4 | 19.3     | 20.3 |
| 12  | 19.1 | 15.5 | 17.1 | 17.9 | 15.5 | 16.4 | 21.0 | 19.7   | 20.6 | 20.8 | 19.7     | 20.2 |
| 13  | 19.1 | 16.4 | 17.8 | 16.9 | 15.5 | 16.2 | 20.9 | 19.5   | 20.4 | 20.8 | 19.0     | 19.8 |
| 14  | 18.9 | 16.0 | 17.4 | 16.5 | 15.6 | 16.0 | 20.7 | 19.4   | 20.1 | 19.3 | 17.3     | 18.4 |
| 15  | 19.0 | 15.2 | 17.1 | 17.6 | 15.5 | 16.4 | 19.8 | 18.1   | 19.0 | 18.9 | 16.6     | 17.7 |
| 16  | 19.8 | 16.1 | 18.0 | 19.0 | 15.9 | 17.2 | 19.4 | 17.6   | 18.5 | 19.0 | 16.7     | 17.9 |
| 17  | 19.4 | 17.5 | 18.3 | 19.0 | 16.5 | 17.6 | 18.6 | 17.6   | 17.9 | 19.3 | 18.0     | 18.5 |
| 18  | 18.4 | 17.0 | 17.7 | 19.7 | 16.4 | 17.8 | 19.3 | 17.3   | 18.2 | 18.3 | 17.2     | 17.6 |
| 19  | 18.9 | 16.5 | 17.8 | 20.2 | 16.8 | 18.4 | 18.7 | 17.7   | 18.2 | 18.6 | 16.7     | 17.6 |
| 20  | 19.4 | 16.4 | 18.0 | 19.3 | 17.2 | 18.0 | 19.0 | 17.0   | 18.0 | 19.4 | 17.6     | 18.5 |
| 21  | 20.0 | 17.0 | 18.6 | 19.0 | 16.6 | 17.6 | 18.8 | 17.4   | 18.0 | 19.0 | 16.9     | 17.9 |
| 22  | 20.0 | 16.9 | 18.8 | 19.3 | 16.5 | 17.8 | 19.9 | 17.1   | 18.4 | 18.6 | 16.5     | 17.3 |
| 23  | 19.8 | 17.4 | 18.8 | 19.6 | 16.9 | 18.4 | 20.2 | 18.1   | 19.3 | 18.2 | 16.3     | 17.2 |
| 24  | 20.7 | 17.6 | 19.1 | 19.7 | 17.4 | 18.6 | 20.7 | 18.4   | 19.6 | 18.3 | 16.2     | 17.3 |
| 25  | 20.6 | 18.1 | 19.5 | 20.4 | 17.3 | 18.7 | 19.8 | 17.6   | 18.8 | 17.9 | 16.4     | 17.1 |
| 26  | 20.3 | 17.7 | 19.1 | 19.9 | 16.9 | 18.5 | 18.9 | 17.6   | 18.3 | 17.1 | 15.8     | 16.4 |
| 27  | 21.2 | 18.6 | 19.9 | 19.2 | 17.6 | 18.3 | 18.9 | 17.6   | 18.3 | 17.3 | 15.5     | 16.5 |
| 28  | 21.2 | 19.4 | 20.4 | 20.1 | 17.3 | 18.7 | 20.1 | 18.3   | 19.1 | 16.8 | 15.8     | 16.4 |
| 29  | 21.4 | 18.9 | 20.3 | 20.0 | 17.1 | 18.8 | 21.5 | 19.5   | 20.3 | 16.8 | 15.6     | 16.3 |
| 30  | 20.6 | 18.6 | 19.8 | 19.9 | 17.0 | 18.6 | 22.1 | 20.4   | 21.1 | 17.1 | 15.6     | 16.3 |
| 31  |      |      |      | 19.7 | 17.7 | 18.5 | 21.5 | 20.4   | 21.0 |      |          |      |
| Month                                     | 21.4 | 15.0 | 18.3 | 20.4 | 14.9 | 17.4 | 22.1 | 17.0   | 19.3 | 21.8 | 15.5     | 18.6 |

| '    | Max  | Min | Mean |
|------|------|-----|------|
| Year | 22.1 | 1.6 | 12.0 |