# CHRISTINA RIVER BASIN

## 01480617  WEST BRANCH BRANDYWINE CREEK AT MODENA, PA

**LOCATION**.--Lat 39°57'42", long 75°48'06", Chester County, Hydrologic Unit 02040205, on left bank at bridge on SR 15068 at Modena, and 300 ft upstream from Dennis Run.

**DRAINAGE AREA**.--55.0 mi$^2$.

## WATER-DISCHARGE RECORDS

**PERIOD OF RECORD**.--January 1970 to current year.

**REVISED RECORDS**.--WDR PA-74-1: 1971-72(P), 1973.  WDR PA-75-1: 1974(m).

**GAGE**.--Water-stage recorder and crest-stage gage.  Elevation of gage is 265 ft above sea level, from topographic map.

**REMARKS**.--No estimated daily discharges.  Records fair.  Slight regulation from Rock Run Reservoir 5.6 mi upstream, capacity, 982 acre-ft, and by Lukens Steel Company.  Diversion from Rock Run Reservoir for municipal supply of city of Coatesville reenters creek upstream from gage.  Satellite telemetry at station.

**COOPERATION**.--Records of diversion provided by the city of Coatesville.

**PEAK DISCHARGES FOR CURRENT YEAR**.--Peak discharges greater than base discharge of 1,000 ft$^3$/s and maximum (*):

| Date | Time | Discharge ft$^3$/s | Gage Height (ft) | Date | Time | Discharge ft$^3$/s | Gage Height (ft) |
|---|---|---|---|---|---|---|---|
| Sept. 16 | 1730 | *6,090 | *10.38 | No other peak greater than base discharge. | | | |

### DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
### DAILY MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 21 | 19 | 21 | 20 | 36 | 148 | 61 | 44 | 31 | 24 | 15 | 17 |
| 2 | 19 | 19 | 22 | 16 | 119 | 73 | 66 | 43 | 32 | 27 | 13 | 16 |
| 3 | 19 | 19 | 22 | 407 | 102 | 60 | 57 | 43 | 34 | 26 | 12 | 17 |
| 4 | 32 | 19 | 22 | 103 | 57 | 103 | 58 | 44 | 32 | 24 | 13 | 18 |
| 5 | 28 | 20 | 21 | 38 | 46 | 79 | 65 | 43 | 30 | 22 | 15 | 51 |
| 6 | 22 | 20 | 21 | 35 | 42 | 72 | 54 | 42 | 29 | 21 | 14 | 40 |
| 7 | 22 | 20 | 21 | 35 | 41 | 88 | 53 | 42 | 29 | 21 | 15 | 59 |
| 8 | 71 | 20 | 27 | 31 | 56 | 56 | 49 | 43 | 29 | 20 | 17 | 35 |
| 9 | 105 | 19 | 27 | 72 | 54 | 52 | 70 | 43 | 28 | 19 | 15 | 40 |
| 10 | 169 | 20 | 24 | 111 | 46 | 51 | 194 | 40 | 28 | 18 | 15 | 50 |
| 11 | 47 | 27 | 22 | 40 | 41 | 50 | 108 | 39 | 28 | 18 | 15 | 28 |
| 12 | 29 | 24 | 21 | 37 | 49 | 48 | 154 | 40 | 29 | 18 | 13 | 21 |
| 13 | 27 | 21 | 20 | 58 | 81 | 45 | 86 | 54 | 30 | 18 | 14 | 18 |
| 14 | 27 | 21 | 20 | 48 | 51 | 48 | 69 | 42 | 36 | 18 | 34 | 18 |
| 15 | 25 | 20 | 20 | 139 | 43 | 69 | 63 | 39 | 31 | 18 | 26 | 21 |
| 16 | 24 | 19 | 20 | 110 | 42 | 69 | 73 | 37 | 28 | 18 | 18 | 2660 |
| 17 | 23 | 20 | 22 | 109 | 44 | 93 | 75 | 37 | 29 | 17 | 16 | 1010 |
| 18 | 22 | 21 | 21 | 445 | 171 | 121 | 62 | 38 | 30 | 15 | 14 | 101 |
| 19 | 20 | 21 | 21 | 273 | 103 | 69 | 56 | 39 | 29 | 16 | 14 | 61 |
| 20 | 19 | 22 | 20 | 69 | 62 | 57 | 55 | 39 | 27 | 18 | 21 | 47 |
| 21 | 19 | 23 | 20 | 55 | 52 | 97 | 55 | 36 | 27 | 17 | 23 | 68 |
| 22 | 19 | 21 | 23 | 64 | 44 | 534 | 68 | 34 | 28 | 18 | 19 | 114 |
| 23 | 18 | 21 | 22 | 63 | 43 | 144 | 73 | 47 | 27 | 18 | 17 | 64 |
| 24 | 18 | 21 | 21 | 281 | 43 | 101 | 71 | 75 | 25 | 17 | 16 | 45 |
| 25 | 18 | 23 | 21 | 134 | 43 | 85 | 56 | 52 | 25 | 16 | 16 | 42 |
| 26 | 18 | 60 | 18 | 69 | 42 | 73 | 52 | 40 | 25 | 15 | 108 | 37 |
| 27 | 20 | 38 | 19 | 53 | 42 | 67 | 49 | 37 | 24 | 15 | 62 | 36 |
| 28 | 20 | 24 | 20 | 49 | 86 | 68 | 47 | 35 | 24 | 15 | 27 | 39 |
| 29 | 20 | 22 | 23 | 43 | --- | 65 | 47 | 34 | 24 | 14 | 22 | 37 |
| 30 | 19 | 21 | 23 | 40 | --- | 58 | 45 | 32 | 24 | 14 | 20 | 167 |
| 31 | 19 | --- | 20 | 38 | --- | 55 | --- | 32 | --- | 15 | 17 | --- |
| TOTAL | 979 | 685 | 665 | 3085 | 1681 | 2798 | 2091 | 1285 | 852 | 570 | 676 | 4977 |
| MEAN | 31.6 | 22.8 | 21.5 | 99.5 | 60.0 | 90.3 | 69.7 | 41.5 | 28.4 | 18.4 | 21.8 | 166 |
| MAX | 169 | 60 | 27 | 445 | 171 | 534 | 194 | 75 | 36 | 27 | 108 | 2660 |
| MIN | 18 | 19 | 18 | 16 | 36 | 45 | 45 | 32 | 24 | 14 | 12 | 16 |
| CFSM | .57 | .42 | .39 | 1.81 | 1.09 | 1.64 | 1.27 | .75 | .52 | .33 | .40 | 3.02 |
| IN. | .66 | .46 | .45 | 2.09 | 1.14 | 1.89 | 1.41 | .87 | .58 | .39 | .46 | 3.37 |
| (†) | 0 | -0.5 | -0.1 | +4.1 | 0 | 0 | 0 | -1.4 | -0.6 | -2.6 | -1.3 | +6.1 |

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1999, BY WATER YEAR (WY)**

| | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MEAN | 55.8 | 73.5 | 93.7 | 106 | 109 | 125 | 119 | 95.7 | 82.2 | 70.4 | 47.2 | 55.9 |
| MAX | 190 | 144 | 306 | 330 | 235 | 308 | 241 | 213 | 302 | 236 | 123 | 186 |
| (WY) | 1997 | 1997 | 1997 | 1979 | 1971 | 1994 | 1983 | 1989 | 1972 | 1984 | 1971 | 1979 |
| MIN | 21.7 | 22.8 | 21.5 | 20.1 | 41.9 | 43.0 | 39.9 | 41.5 | 28.4 | 18.4 | 16.8 | 21.4 |
| (WY) | 1998 | 1999 | 1999 | 1981 | 1992 | 1985 | 1985 | 1999 | 1999 | 1999 | 1995 | 1981 |

† Change in contents from Rock Run Reservoir, equivalent in cubic feet per second.
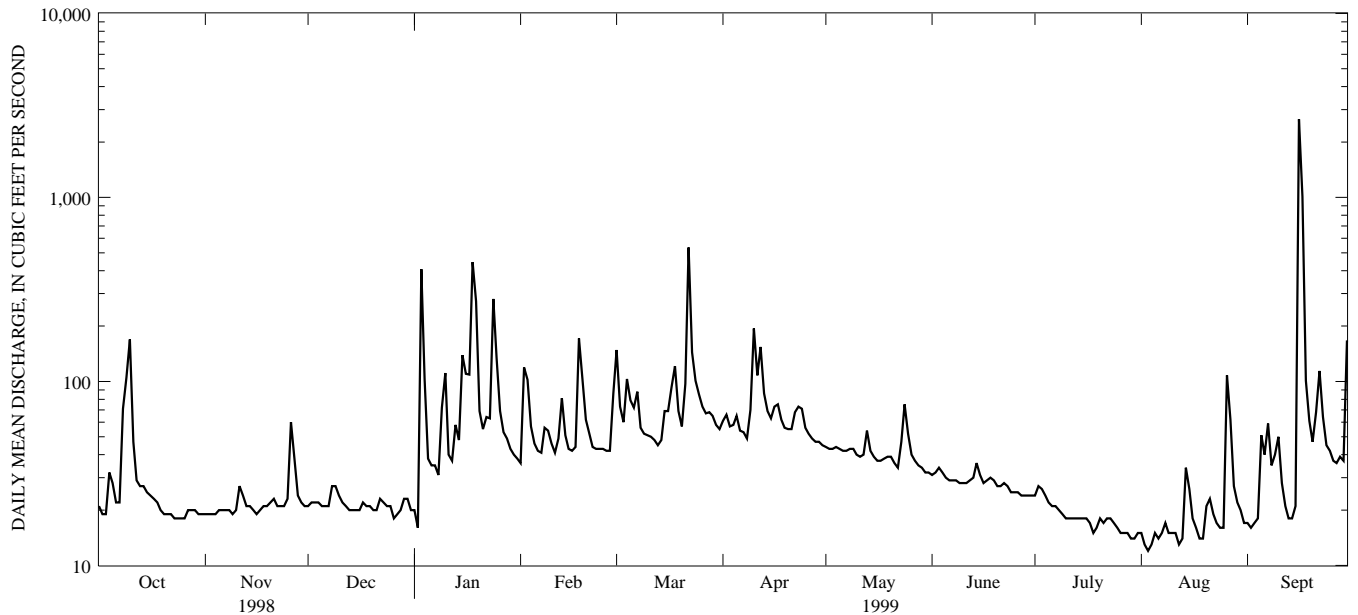
**CHRISTINA RIVER BASIN**

**01480617  WEST BRANCH BRANDYWINE CREEK AT MODENA, PA**--Continued

| SUMMARY STATISTICS | FOR 1998 CALENDAR YEAR | | FOR 1999 WATER YEAR | | WATER YEARS 1970 - 1999 | |
|---|---|---|---|---|---|---|
| ANNUAL TOTAL | 25074 | | 20344 | | | |
| ANNUAL MEAN | 68.7 | | 55.7 | | 86.0 | |
| HIGHEST ANNUAL MEAN | | | | | 130 | 1979 |
| LOWEST ANNUAL MEAN | | | | | 37.6 | 1981 |
| HIGHEST DAILY MEAN | 581 | Apr  2 | 2660 | Sep 16 | 4010 | Jun 22 1972 |
| LOWEST DAILY MEAN | 18 | Sep 28-30**a** | 12 | Aug  3 | 9.8 | Sep 13 1981 |
| ANNUAL SEVEN-DAY MINIMUM | 18 | Oct 20 | 14 | Jul 29 | 11 | Sep  4 1995 |
| INSTANTANEOUS PEAK FLOW | | | 6090 | Sep 16 | **b**9600 | Jun 29 1973 |
| INSTANTANEOUS PEAK STAGE | | | 10.38 | Sep 16 | 12.47 | Jun 29 1973 |
| ANNUAL RUNOFF (CFSM) | 1.25 | | 1.01 | | 1.56 | |
| ANNUAL RUNOFF (INCHES) | 16.96 | | 13.76 | | 21.25 | |
| 10 PERCENT EXCEEDS | 134 | | 85 | | 148 | |
| 50 PERCENT EXCEEDS | 44 | | 32 | | 57 | |
| 90 PERCENT EXCEEDS | 20 | | 18 | | 26 | |

**a** Also Oct. 23-26, Dec. 26.
**b** From rating curve extended above 7,800 ft$^3$/s on basis of slope-area measurement at gage height 11.48 ft.



1-YEAR HYDROGRAPH
OCTOBER 1, 1998 TO SEPTEMBER 30, 1999

**CHRISTINA RIVER BASIN**

**01480617  WEST BRANCH BRANDYWINE CREEK AT MODENA, PA**--Continued

**WATER-QUALITY RECORDS**

**PERIOD OF RECORD**.--October 1969 to October 1978, August 1981 to current year.

**PERIOD OF DAILY RECORD**.--
    SPECIFIC CONDUCTANCE:  May 1971 to October 1977, August 1981 to current year.
    pH:  May 1971 to October 1977, August 1981 to current year.
    WATER TEMPERATURES:  May 1971 to October 1977, August 1981 to current year.
    DISSOLVED OXYGEN:  May 1971 to October 1977, August 1981 to current year.

**INSTRUMENTATION**.--Water-quality monitor May 1971 to October 1977, August 1981 to current year.

**REMARKS**.--Data collection discontinued during winter months since 1981 water year.  Other interruptions in the record were due to malfunctions of the recording or monitoring instrument.

**EXTREMES FOR PERIOD OF DAILY RECORD**.--
    SPECIFIC CONDUCTANCE:  Maximum, 858 microsiemens, Jan. 10, 1977; minimum, 72 microsiemens, Nov. 16, 1985.
    pH:  Maximum, 10.0, Dec. 21, 1971; minimum, 5.9, July 14, 1991.
    WATER TEMPERATURE:  Maximum, 33.5°C, July 19, 1977; minimum, 0.0°C, many days during winters.
    DISSOLVED OXYGEN:  Maximum, 19.5 mg/L, Sept. 2, 1990; minimum, 0.6 mg/L, Nov. 1, 3, 1974.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

| DATE | TIME | AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028) | AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027) | DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061) | OXYGEN, DIS- SOLVED (MG/L) (00300) | PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400) | SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095) | TEMPER- ATURE WATER (DEG C) (00010) | HARD- NESS TOTAL (MG/L AS CACO3) (00900) | CALCIUM DIS- SOLVED (MG/L AS CA) (00915) |
|---|---|---|---|---|---|---|---|---|---|---|
| OCT 1998 | | | | | | | | | | |
| 19... | 0930 | 80020 | 1028 | 21 | 10.3 | 7.8 | 373 | 15.5 | 120 | 32 |

| DATE | MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925) | POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935) | SODIUM AD- SORP- TION RATIO (00931) | SODIUM, DIS- SOLVED (MG/L AS NA) (00930) | SODIUM PERCENT (00932) | ANC WATER UNFLTRD IT FIELD MG/L AS CACO3 (00419) | CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940) | FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950) | SILICA, DIS- SOLVED (MG/L AS SIO2) (00955) | SULFATE DIS- SOLVED (MG/L AS SO4) (00945) |
|---|---|---|---|---|---|---|---|---|---|---|
| OCT 1998 | | | | | | | | | | |
| 19... | 9.2 | 5.7 | .8 | 21 | 26 | 101 | 33 | .76 | 11 | 38 |

| DATE | NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608) | NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631) | NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613) | PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671) | SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301) | ALUM- INUM, DIS- SOLVED (µG/L AS AL) (01106) | ARSENIC DIS- SOLVED (µG/L AS AS) (01000) | BORON, DIS- SOLVED (µG/L AS B) (01020) | CADMIUM DIS- SOLVED (µG/L AS CD) (01025) |
|---|---|---|---|---|---|---|---|---|---|
| OCT 1998 | | | | | | | | | |
| 19... | .042 | 4.01 | .013 | .074 | 211 | 19 | <1 | 80 | <1.0 |

| DATE | CHRO- MIUM, DIS- SOLVED (µG/L AS CR) (01030) | COPPER, DIS- SOLVED (µG/L AS CU) (01040) | IRON, DIS- SOLVED (µG/L AS FE) (01046) | LEAD, DIS- SOLVED (µG/L AS PB) (01049) | MANGA- NESE, DIS- SOLVED (µG/L AS MN) (01056) | MERCURY DIS- SOLVED (µG/L AS HG) (71890) | MOLYB- DENUM, DIS- SOLVED (µG/L AS MO) (01060) | NICKEL, DIS- SOLVED (µG/L AS NI) (01065) | ZINC, DIS- SOLVED (µG/L AS ZN) (01090) |
|---|---|---|---|---|---|---|---|---|---|
| OCT 1998 | | | | | | | | | |
| 19... | 4.1 | 4.7 | 21 | 1.5 | 42 | <.1 | 67 | 12 | <20 |

# CHRISTINA RIVER BASIN

## 01480617  WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

| DATE | TIME | AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028) | AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027) | DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061) | OXYGEN, DIS- SOLVED (MG/L) (00300) | PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400) | SPE- CIFIC CON- DUCT- ANCE (µS/CM) (00095) | TEMPER- ATURE WATER (DEG C) (00010) | COLI- FORM, FECAL, 0.45 µM-MF (COLS./ 100 ML) (31616) | E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633) |
|---|---|---|---|---|---|---|---|---|---|---|
| MAR 1999 | | | | | | | | | | |
| 11... | 1025 | 1028 | 1028 | 51 | 12.9 | 8.2 | 285 | 4.0 | 150 | -- |
| 22... | 1030 | 1028 | 1028 | 786 | 12.7 | 7.8 | 146 | 5.0 | 5000 | -- |
| APR | | | | | | | | | | |
| 08... | 1556 | 1028 | 1028 | 50 | 12.0 | 9.2 | 301 | 17.5 | K6 | -- |
| 16... | 0735 | 1028 | 1028 | 63 | 10.4 | 7.6 | 265 | 11.5 | 390 | -- |
| 29... | 0800 | 1028 | 1028 | 48 | 8.3 | 7.6 | 283 | 12.0 | 240 | -- |
| MAY | | | | | | | | | | |
| 03... | 1033 | 1028 | 1028 | 43 | 8.3 | 7.8 | 296 | 13.5 | 280 | -- |
| 18... | 0958 | 1028 | 1028 | 39 | 9.7 | 7.8 | 307 | 16.0 | K1400 | 800 |
| 25... | 1330 | 1028 | 1028 | 48 | 10.2 | 7.8 | 276 | 17.5 | 2800 | -- |
| JUN | | | | | | | | | | |
| 02... | 1217 | 1028 | 1028 | 33 | 10.3 | 7.8 | 298 | 22.5 | 480 | -- |
| 23... | 1355 | 1028 | 1028 | 29 | 10.8 | 8.2 | 335 | 22.5 | K2000 | -- |
| 28... | 0635 | 1028 | 1028 | 24 | 7.3 | 7.5 | 356 | 23.0 | 2100 | -- |
| JUL | | | | | | | | | | |
| 15... | 1136 | 1028 | 1028 | 18 | 11.3 | 8.2 | 368 | 21.0 | K2200 | -- |
| 19... | 0936 | 1028 | 1028 | 15 | 8.4 | 7.8 | 409 | 24.5 | 2300 | -- |
| 26... | 1202 | 1028 | 1028 | 17 | 10.2 | 8.4 | 395 | 25.5 | 750 | -- |
| AUG | | | | | | | | | | |
| 03... | 1115 | 1028 | 1028 | 13 | 9.5 | 8.0 | 402 | 24.5 | 1300 | -- |
| 14... | 1215 | 1028 | 1028 | 26 | 5.7 | 7.7 | 328 | 26.0 | >6000 | >8000 |
| 16... | 1346 | 1028 | 1028 | 19 | 9.1 | 8.2 | 380 | 25.5 | 860 | 660 |
| 26... | 0914 | 1028 | 1028 | 46 | 6.1 | 7.7 | 252 | 20.5 | K11000 | K600 |
| SEP | | | | | | | | | | |
| 08... | 0918 | 1028 | 1028 | 33 | 7.8 | 7.6 | 333 | 22.5 | 4400 | -- |
| 13... | 1008 | 1028 | 1028 | 17 | 8.1 | 7.9 | 433 | 16.0 | 610 | 310 |
| 16... | 0917 | 1028 | 1028 | 776 | 7.6 | 7.5 | 410 | 19.0 | 4000 | 2900 |
| 27... | 1215 | 1028 | 1028 | 35 | 9.0 | 8.0 | 377 | 17.5 | K2700 | -- |

**CHRISTINA RIVER BASIN**

**01480617  WEST BRANCH BRANDYWINE CREEK AT MODENA, PA**--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

| Benthic Macroinvertebrate | 10/19/98 Count |
|---|---|
| Platyhelminthes | |
|   Turbellaria (Flatworms) | |
|     Tricladida | |
|       Planariidae | 22 |
| Mollusca | |
|   Gastropoda (Snails) | |
|     Basommatophora | |
|       Ancylidae | |
|         *Ferrissia* | 19 |
|       Planorbidae | |
|         *Gyraulus* | 1 |
| Annelida (Segmented Worms) | |
|   Oligochaeta | 2 |
| Arthropoda | |
|   Acariformes | |
|     Hydrachnidia (Water Mites) | 167 |
|   Crustacea | |
|     Amphipoda (Scuds) | |
|       Gammaridae | |
|         *Gammarus* | 2 |
|   Insecta | |
|     Ephemeroptera (Mayflies) | |
|       Baetidae | |
|         *Baetis* | 2 |
|       Ephemerellidae | |
|         *Serratella* | 2 |
|       Heptageniidae | |
|         *Stenonema* | 15 |
|       Isonychiidae | |
|         *Isonychia* | 3 |
|     Megaloptera (Fishflies and Dobsonflies) | |
|       Corydalidae | |
|         *Corydalus* | 2 |
|     Trichoptera (Caddisflies) | |
|       Hydropsychidae | |
|         *Cheumatopsyche* | 230 |
|         *Hydropsyche* | 403 |
|       Hydroptilidae | |
|         *Hydroptila* | 1 |
|         *Leucotrichia* | 25 |
|       Leptoceridae | |
|         *Oecetis* | 1 |
|       Philopotamidae | |
|         *Chimarra* | 1 |
|     Lepidoptera | |
|       Pyralididae (Moths) | |
|         *Petrophila* | 69 |
|     Coleoptera (Beetles) | |
|       Elmidae (Riffle Beetles) | |
|         *Optioservus* | 102 |
|         *Stenelmis* | 103 |
|       Hydrophilidae | |
|         *Berosus* | 1 |
|       Psephenidae (Water Pennies) | |
|         *Psephenus* | 8 |
|     Diptera (True Flies) | |
|       Chironomidae (Midges) | 22 |
|       Empididae (Dance Flies) | |
|         *Hemerodromia* | 34 |
|       Tipulidae (Crane Flies) | |
|         *Antocha* | 15 |

| | |
|---|---|
| Total count | 1,252 |
| Total number of taxa | 25 |

# CHRISTINA RIVER BASIN

## 01480617  WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|-----|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|
| | | OCTOBER | | | NOVEMBER | | | DECEMBER | | | JANUARY | |
| 1 | 384 | 362 | 373 | 372 | 348 | 360 | --- | --- | --- | --- | --- | --- |
| 2 | 383 | 341 | 367 | 369 | 344 | 358 | --- | --- | --- | --- | --- | --- |
| 3 | 381 | 347 | 371 | 364 | 347 | 357 | --- | --- | --- | --- | --- | --- |
| 4 | 374 | 274 | 316 | 360 | 337 | 351 | --- | --- | --- | --- | --- | --- |
| 5 | 340 | 312 | 327 | 368 | 336 | 355 | --- | --- | --- | --- | --- | --- |
| 6 | 365 | 340 | 353 | 363 | 339 | 353 | --- | --- | --- | --- | --- | --- |
| 7 | 374 | 356 | 367 | 374 | 343 | 355 | --- | --- | --- | --- | --- | --- |
| 8 | 372 | 180 | 286 | 373 | 341 | 358 | --- | --- | --- | --- | --- | --- |
| 9 | 293 | 167 | 261 | 366 | 338 | 353 | --- | --- | --- | --- | --- | --- |
| 10 | 236 | 194 | 216 | 356 | 338 | 349 | --- | --- | --- | --- | --- | --- |
| 11 | 315 | 229 | 265 | 365 | 278 | 329 | --- | --- | --- | --- | --- | --- |
| 12 | 331 | 300 | 317 | 363 | 316 | 333 | --- | --- | --- | --- | --- | --- |
| 13 | 346 | 320 | 333 | 369 | 321 | 342 | --- | --- | --- | --- | --- | --- |
| 14 | 356 | 325 | 343 | 376 | 361 | 370 | --- | --- | --- | --- | --- | --- |
| 15 | 357 | 322 | 337 | 381 | 362 | 373 | --- | --- | --- | --- | --- | --- |
| 16 | 361 | 347 | 356 | 386 | 362 | 376 | --- | --- | --- | --- | --- | --- |
| 17 | 366 | 346 | 357 | 384 | 347 | 369 | --- | --- | --- | --- | --- | --- |
| 18 | 373 | 345 | 358 | 380 | 354 | 370 | --- | --- | --- | --- | --- | --- |
| 19 | 375 | 353 | 365 | 382 | 348 | 367 | --- | --- | --- | --- | --- | --- |
| 20 | 377 | 356 | 367 | 374 | 350 | 362 | --- | --- | --- | --- | --- | --- |
| 21 | 364 | 329 | 350 | 370 | 343 | 353 | --- | --- | --- | --- | --- | --- |
| 22 | 367 | 341 | 355 | 371 | 343 | 358 | --- | --- | --- | --- | --- | --- |
| 23 | 366 | 337 | 348 | 370 | 347 | 361 | --- | --- | --- | --- | --- | --- |
| 24 | 372 | 353 | 363 | 366 | 333 | 354 | --- | --- | --- | --- | --- | --- |
| 25 | 367 | 349 | 360 | 401 | 320 | 362 | --- | --- | --- | --- | --- | --- |
| 26 | --- | --- | --- | 394 | 174 | 291 | --- | --- | --- | --- | --- | --- |
| 27 | --- | --- | --- | 340 | 264 | 306 | --- | --- | --- | --- | --- | --- |
| 28 | --- | --- | --- | 356 | 335 | 341 | --- | --- | --- | --- | --- | --- |
| 29 | 365 | 319 | 341 | 375 | 344 | 357 | --- | --- | --- | --- | --- | --- |
| 30 | 373 | 329 | 355 | 377 | 359 | 368 | --- | --- | --- | --- | --- | --- |
| 31 | 368 | 351 | 361 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MONTH | 384 | 167 | 338 | 401 | 174 | 353 | --- | --- | --- | --- | --- | --- |

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|-----|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|
| | | FEBRUARY | | | MARCH | | | APRIL | | | MAY | |
| 1 | --- | --- | --- | 243 | 206 | 219 | 294 | 276 | 287 | 307 | 270 | 285 |
| 2 | --- | --- | --- | 275 | 243 | 258 | 291 | 275 | 282 | 307 | 244 | 283 |
| 3 | --- | --- | --- | 275 | 258 | 271 | 291 | 278 | 284 | 305 | 272 | 292 |
| 4 | --- | --- | --- | 261 | 234 | 250 | 288 | 261 | 284 | 302 | 285 | 295 |
| 5 | --- | --- | --- | 283 | 252 | 268 | 275 | 259 | 266 | 312 | 288 | 299 |
| 6 | --- | --- | --- | 287 | 267 | 280 | 290 | 275 | 280 | 312 | 293 | 304 |
| 7 | --- | --- | --- | 273 | 240 | 255 | 298 | 285 | 289 | 313 | 292 | 302 |
| 8 | --- | --- | --- | 291 | 273 | 279 | 304 | 292 | 298 | 313 | 292 | 303 |
| 9 | --- | --- | --- | 287 | 276 | 281 | 304 | 189 | 281 | 322 | 287 | 300 |
| 10 | --- | --- | --- | 369 | 286 | 304 | 231 | 199 | 211 | 312 | 288 | 299 |
| 11 | --- | --- | --- | 302 | 280 | 291 | 248 | 207 | 234 | 314 | 292 | 301 |
| 12 | --- | --- | --- | 316 | 282 | 299 | 245 | 202 | 226 | 313 | 284 | 297 |
| 13 | --- | --- | --- | 302 | 284 | 295 | 276 | 243 | 258 | 315 | 249 | 280 |
| 14 | --- | --- | --- | 491 | 287 | 318 | 288 | 269 | 276 | 300 | 279 | 289 |
| 15 | --- | --- | --- | 417 | 300 | 349 | 295 | 275 | 286 | 301 | 274 | 290 |
| 16 | --- | --- | --- | 323 | 286 | 299 | 292 | 249 | 281 | 304 | 289 | 297 |
| 17 | --- | --- | --- | 297 | 240 | 276 | 279 | 256 | 269 | 319 | 299 | 305 |
| 18 | --- | --- | --- | 243 | 210 | 232 | 277 | 262 | 270 | 323 | 295 | 305 |
| 19 | --- | --- | --- | 269 | 242 | 252 | 279 | 262 | 268 | 314 | 299 | 305 |
| 20 | --- | --- | --- | 281 | 256 | 268 | 282 | 273 | 277 | 323 | 303 | 312 |
| 21 | --- | --- | --- | 288 | 192 | 265 | 285 | 271 | 278 | 338 | 311 | 324 |
| 22 | --- | --- | --- | --- | --- | --- | 286 | 254 | 268 | 339 | 320 | 331 |
| 23 | --- | --- | --- | --- | --- | --- | 270 | 219 | 259 | 334 | 268 | 301 |
| 24 | --- | --- | --- | --- | --- | --- | 261 | 236 | 248 | 297 | 163 | 262 |
| 25 | --- | --- | --- | 280 | 262 | 267 | 279 | 223 | 260 | 315 | 261 | 285 |
| 26 | 318 | 298 | 309 | 288 | 277 | 283 | 283 | 242 | 267 | 331 | 306 | 319 |
| 27 | 323 | 297 | 309 | 289 | 284 | 286 | 290 | 205 | 262 | 334 | 301 | 322 |
| 28 | 322 | 218 | 271 | 288 | 279 | 283 | 298 | 281 | 289 | 357 | 317 | 341 |
| 29 | --- | --- | --- | 285 | 277 | 281 | 298 | 222 | 269 | 359 | 337 | 350 |
| 30 | --- | --- | --- | 291 | 282 | 286 | 270 | 193 | 243 | 363 | 344 | 355 |
| 31 | --- | --- | --- | 294 | 283 | 288 | --- | --- | --- | 364 | 335 | 351 |
| MONTH | 323 | 218 | 296 | 491 | 192 | 278 | 304 | 189 | 268 | 364 | 163 | 306 |

# CHRISTINA RIVER BASIN

## 01480617  WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25° CELSIUS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | JUNE | | | JULY | | | AUGUST | | | SEPTEMBER | |
| 1 | 365 | 345 | 354 | --- | --- | --- | 401 | 318 | 371 | 415 | 383 | 400 |
| 2 | 356 | 314 | 336 | 374 | 336 | 360 | 417 | 300 | 372 | 421 | 380 | 401 |
| 3 | 332 | 307 | 320 | 368 | 321 | 343 | 438 | 335 | 396 | 421 | 392 | 407 |
| 4 | 342 | 312 | 328 | 369 | 352 | 363 | 457 | 402 | 431 | 421 | 400 | 412 |
| 5 | 348 | 325 | 338 | 380 | 352 | 366 | 424 | 383 | 402 | 418 | 146 | 357 |
| 6 | 348 | 330 | 341 | 386 | 357 | 376 | 419 | 384 | 402 | 324 | 238 | 288 |
| 7 | 348 | 318 | 338 | 392 | 352 | 373 | 412 | 374 | 397 | 338 | 217 | 292 |
| 8 | 355 | 333 | 347 | 378 | 348 | 363 | 407 | 378 | 393 | 373 | 283 | 339 |
| 9 | 358 | 338 | 348 | 383 | 349 | 371 | 391 | 309 | 372 | 392 | 151 | 363 |
| 10 | 363 | 338 | 349 | 390 | 368 | 382 | 421 | 360 | 395 | 336 | 200 | 304 |
| 11 | 352 | 328 | 338 | 382 | 347 | 369 | 404 | 355 | 383 | 399 | 336 | 367 |
| 12 | 340 | 314 | 330 | 387 | 355 | 373 | 383 | 308 | 353 | 436 | 392 | 408 |
| 13 | 343 | 304 | 332 | 383 | 352 | 367 | 381 | 328 | 363 | 440 | 397 | 419 |
| 14 | 331 | 232 | 310 | 378 | 341 | 360 | 402 | 220 | 322 | 441 | 409 | 431 |
| 15 | 337 | 241 | 313 | 383 | 294 | 351 | 369 | 238 | 293 | 454 | 391 | 435 |
| 16 | 354 | 328 | 341 | 377 | 337 | 366 | 404 | 369 | 386 | 391 | 124 | 214 |
| 17 | 357 | 319 | 341 | 385 | 292 | 351 | 421 | 394 | 407 | --- | --- | --- |
| 18 | 348 | 316 | 333 | 391 | 280 | 344 | 426 | 375 | 398 | --- | --- | --- |
| 19 | 360 | 319 | 337 | 410 | 357 | 386 | 434 | 412 | 423 | --- | --- | --- |
| 20 | 361 | 337 | 350 | 386 | 359 | 368 | 451 | 339 | 398 | --- | --- | --- |
| 21 | 352 | 320 | 342 | 430 | 359 | 383 | 388 | 306 | 349 | --- | --- | --- |
| 22 | 347 | 320 | 335 | 433 | 359 | 390 | 403 | 367 | 385 | --- | --- | --- |
| 23 | 349 | 327 | 340 | 390 | 360 | 377 | 410 | 384 | 399 | 371 | 315 | 344 |
| 24 | 361 | 330 | 344 | 400 | 371 | 386 | 449 | 396 | 416 | 386 | 371 | 378 |
| 25 | 369 | 338 | 352 | 416 | 368 | 394 | 426 | 395 | 409 | 391 | 378 | 385 |
| 26 | 356 | 338 | 348 | 412 | 382 | 399 | 410 | 141 | 271 | 393 | 379 | 386 |
| 27 | 360 | 338 | 353 | 425 | 320 | 394 | 351 | 202 | 292 | 389 | 370 | 380 |
| 28 | 362 | 336 | 350 | 418 | 353 | 385 | 424 | 274 | 369 | 391 | 363 | 375 |
| 29 | 370 | 347 | 358 | 407 | 307 | 381 | 456 | 374 | 422 | 376 | 358 | 367 |
| 30 | --- | --- | --- | 429 | 383 | 407 | 417 | 373 | 398 | 377 | 171 | 256 |
| 31 | --- | --- | --- | 422 | 354 | 391 | 429 | 387 | 405 | --- | --- | --- |
| MONTH | 370 | 232 | 340 | 433 | 280 | 374 | 457 | 141 | 380 | 454 | 124 | 363 |

## PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | OCTOBER | | | NOVEMBER | | | DECEMBER | | | JANUARY | |
| 1 | 8.1 | 7.2 | 7.6 | 7.9 | 6.9 | 7.3 | --- | --- | --- | --- | --- | --- |
| 2 | 7.9 | 7.2 | 7.6 | 8.0 | 6.9 | 7.3 | --- | --- | --- | --- | --- | --- |
| 3 | 8.0 | 7.2 | 7.5 | 8.0 | 6.9 | 7.5 | --- | --- | --- | --- | --- | --- |
| 4 | 7.6 | 7.1 | 7.3 | 7.8 | 7.0 | 7.3 | --- | --- | --- | --- | --- | --- |
| 5 | 8.0 | 7.2 | 7.5 | 7.9 | 6.8 | 7.3 | --- | --- | --- | --- | --- | --- |
| 6 | 8.0 | 7.2 | 7.6 | 7.8 | 6.8 | 7.2 | --- | --- | --- | --- | --- | --- |
| 7 | 8.2 | 7.3 | 7.7 | 8.0 | 6.8 | 7.3 | --- | --- | --- | --- | --- | --- |
| 8 | 7.8 | 7.3 | 7.5 | 7.9 | 6.8 | 7.3 | --- | --- | --- | --- | --- | --- |
| 9 | 7.9 | 7.3 | 7.4 | 8.1 | 6.8 | 7.4 | --- | --- | --- | --- | --- | --- |
| 10 | 7.6 | 7.1 | 7.2 | 7.5 | 6.8 | 7.1 | --- | --- | --- | --- | --- | --- |
| 11 | 7.5 | 7.1 | 7.3 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12 | 7.6 | 7.1 | 7.4 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13 | 7.7 | 7.2 | 7.4 | 7.9 | 6.8 | 7.3 | --- | --- | --- | --- | --- | --- |
| 14 | 7.8 | 7.2 | 7.5 | 7.9 | 6.9 | 7.4 | --- | --- | --- | --- | --- | --- |
| 15 | 7.8 | 7.2 | 7.5 | 7.9 | 6.9 | 7.4 | --- | --- | --- | --- | --- | --- |
| 16 | 7.8 | 7.1 | 7.4 | 8.0 | 6.9 | 7.4 | --- | --- | --- | --- | --- | --- |
| 17 | 7.9 | 7.1 | 7.5 | 8.0 | 7.0 | 7.4 | --- | --- | --- | --- | --- | --- |
| 18 | 8.1 | 7.1 | 7.5 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 19 | 8.1 | 7.1 | 7.6 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20 | 8.0 | 7.1 | 7.5 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21 | 8.0 | 6.8 | 7.3 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22 | 8.0 | 6.8 | 7.3 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 23 | 7.9 | 6.8 | 7.3 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24 | 7.9 | 6.8 | 7.3 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25 | 7.8 | 6.8 | 7.3 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 26 | 7.3 | 6.8 | 7.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 27 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 28 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 29 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30 | 7.8 | 6.9 | 7.4 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 7.8 | 6.9 | 7.3 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MONTH | 8.2 | 6.8 | 7.4 | 8.1 | 6.8 | 7.3 | --- | --- | --- | --- | --- | --- |

## CHRISTINA RIVER BASIN

### 01480617  WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FEBRUARY | | | MARCH | | | APRIL | | | MAY | |
| 1 | --- | --- | --- | 8.1 | 7.7 | 7.8 | 8.7 | 7.6 | 8.0 | 8.7 | 7.5 | 8.0 |
| 2 | --- | --- | --- | 8.5 | 7.7 | 8.0 | 9.2 | 7.6 | 8.2 | 8.7 | 7.5 | 8.0 |
| 3 | --- | --- | --- | 8.7 | 7.7 | 8.1 | 9.3 | 7.6 | 8.3 | 8.4 | 7.5 | 7.9 |
| 4 | --- | --- | --- | 8.4 | 7.7 | 8.0 | 9.1 | 7.6 | 8.2 | 8.7 | 7.5 | 8.0 |
| 5 | --- | --- | --- | 8.7 | 7.7 | 8.1 | 9.1 | 7.5 | 8.2 | 8.8 | 7.5 | 8.1 |
| 6 | --- | --- | --- | 8.2 | 7.7 | 7.9 | 9.2 | 7.5 | 8.3 | 8.4 | 7.5 | 7.9 |
| 7 | --- | --- | --- | 8.6 | 7.7 | 8.0 | 9.2 | 7.5 | 8.3 | 8.3 | 7.6 | 7.8 |
| 8 | --- | --- | --- | 8.8 | 7.7 | 8.1 | 9.2 | 7.5 | 8.3 | 8.5 | 7.5 | 7.9 |
| 9 | --- | --- | --- | 8.9 | 7.7 | 8.2 | 8.5 | 7.6 | 7.9 | 8.6 | 7.5 | 7.9 |
| 10 | --- | --- | --- | 9.0 | 7.7 | 8.2 | 7.9 | 7.6 | 7.7 | 8.6 | 7.5 | 7.9 |
| 11 | --- | --- | --- | 9.0 | 7.7 | 8.2 | 7.8 | 7.6 | 7.7 | 8.6 | 7.5 | 8.0 |
| 12 | --- | --- | --- | 9.1 | 7.7 | 8.3 | 8.3 | 7.6 | 7.8 | 8.8 | 7.5 | 8.0 |
| 13 | --- | --- | --- | 9.2 | 7.7 | 8.3 | 8.8 | 7.6 | 8.0 | 7.8 | 7.4 | 7.6 |
| 14 | --- | --- | --- | 8.9 | 7.7 | 8.2 | 9.0 | 7.6 | 8.1 | 8.5 | 7.6 | 8.0 |
| 15 | --- | --- | --- | 9.1 | 7.7 | 8.2 | 9.0 | 7.6 | 8.2 | 8.6 | 7.6 | 8.0 |
| 16 | --- | --- | --- | 9.1 | 7.7 | 8.2 | 8.7 | 7.6 | 7.9 | 8.6 | 7.6 | 8.0 |
| 17 | --- | --- | --- | 9.2 | 7.6 | 8.2 | 9.1 | 7.6 | 8.3 | 8.5 | 7.6 | 8.0 |
| 18 | --- | --- | --- | 8.5 | 7.5 | 7.9 | 9.1 | 7.6 | 8.3 | 8.5 | 7.5 | 7.9 |
| 19 | --- | --- | --- | 8.8 | 7.5 | 8.1 | 9.1 | 7.6 | 8.3 | 8.1 | 7.3 | 7.7 |
| 20 | --- | --- | --- | 8.9 | 7.5 | 8.1 | 8.8 | 7.6 | 8.1 | 8.4 | 7.5 | 7.8 |
| 21 | --- | --- | --- | 8.5 | 7.5 | 7.9 | 9.2 | 7.6 | 8.3 | 8.3 | 7.5 | 7.8 |
| 22 | --- | --- | --- | --- | --- | --- | 9.0 | 7.6 | 8.3 | 8.3 | 7.5 | 7.8 |
| 23 | --- | --- | --- | --- | --- | --- | 8.5 | 7.5 | 7.9 | 7.7 | 7.5 | 7.6 |
| 24 | --- | --- | --- | --- | --- | --- | 8.9 | 7.6 | 8.2 | 7.8 | 7.5 | 7.6 |
| 25 | --- | --- | --- | 8.7 | 7.7 | 8.1 | 8.9 | 7.6 | 8.2 | 7.9 | 7.6 | 7.7 |
| 26 | 8.4 | 7.8 | 8.0 | 8.7 | 7.7 | 8.1 | 8.9 | 7.6 | 8.1 | 7.8 | 7.5 | 7.6 |
| 27 | 8.5 | 7.7 | 8.0 | 8.9 | 7.7 | 8.2 | 8.9 | 7.5 | 8.1 | 7.8 | 7.5 | 7.7 |
| 28 | 7.9 | 7.7 | 7.8 | 8.9 | 7.7 | 8.2 | 8.7 | 7.5 | 8.0 | 7.8 | 7.5 | 7.6 |
| 29 | --- | --- | --- | 9.1 | 7.7 | 8.3 | 8.8 | 7.5 | 8.1 | 7.9 | 7.5 | 7.7 |
| 30 | --- | --- | --- | 9.2 | 7.7 | 8.4 | 8.7 | 7.5 | 8.0 | 8.0 | 7.5 | 7.7 |
| 31 | --- | --- | --- | 9.1 | 7.7 | 8.3 | --- | --- | --- | 8.0 | 7.4 | 7.7 |
| MONTH | 8.5 | 7.7 | 7.9 | 9.2 | 7.5 | 8.1 | 9.3 | 7.5 | 8.1 | 8.8 | 7.3 | 7.8 |

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | JUNE | | | JULY | | | AUGUST | | | SEPTEMBER | |
| 1 | 7.9 | 7.4 | 7.6 | --- | --- | --- | 8.9 | 7.6 | 8.4 | 8.9 | 7.7 | 8.4 |
| 2 | 8.0 | 7.4 | 7.7 | 8.6 | 7.6 | 8.0 | 9.0 | 7.6 | 8.4 | 8.9 | 7.8 | 8.5 |
| 3 | 8.3 | 7.3 | 7.8 | 8.4 | 7.5 | 7.9 | 9.1 | 7.6 | 8.5 | 8.9 | 7.7 | 8.5 |
| 4 | 8.3 | 7.6 | 7.9 | 8.6 | 7.5 | 8.0 | 9.0 | 7.7 | 8.5 | 8.8 | 7.7 | 8.2 |
| 5 | 8.4 | 7.6 | 7.9 | 8.5 | 7.5 | 8.0 | 9.0 | 7.6 | 8.5 | 8.4 | 7.5 | 7.9 |
| 6 | 8.4 | 7.6 | 8.0 | 8.5 | 7.5 | 8.0 | 9.1 | 7.6 | 8.5 | 8.1 | 7.5 | 7.8 |
| 7 | 8.4 | 7.6 | 8.0 | 8.5 | 7.5 | 7.9 | 9.1 | 7.6 | 8.5 | 8.1 | 7.5 | 7.7 |
| 8 | 8.4 | 7.5 | 7.9 | 8.5 | 7.5 | 8.0 | 8.9 | 7.5 | 8.0 | 8.3 | 7.5 | 7.8 |
| 9 | 8.3 | 7.5 | 7.9 | 8.7 | 7.6 | 8.1 | 8.9 | 7.4 | 8.1 | 8.3 | 7.5 | 7.9 |
| 10 | 8.1 | 7.6 | 7.8 | 8.4 | 7.6 | 7.9 | 8.8 | 7.6 | 8.2 | 8.0 | 7.5 | 7.7 |
| 11 | 8.3 | 7.6 | 7.9 | 8.6 | 7.6 | 8.1 | 8.8 | 7.5 | 8.2 | 8.3 | 7.6 | 7.9 |
| 12 | 8.2 | 7.6 | 7.9 | 8.4 | 7.6 | 8.0 | 8.8 | 7.6 | 8.3 | 8.4 | 7.7 | 8.0 |
| 13 | 8.1 | 7.6 | 7.8 | 8.6 | 7.7 | 8.2 | 8.7 | 7.5 | 8.2 | 8.4 | 7.7 | 8.1 |
| 14 | 8.2 | 7.6 | 7.8 | 8.6 | 7.7 | 8.1 | 8.5 | 7.3 | 7.7 | 8.6 | 7.8 | 8.2 |
| 15 | 8.3 | 7.5 | 7.9 | 8.7 | 7.7 | 8.2 | 8.9 | 7.4 | 8.1 | 8.5 | 7.7 | 7.9 |
| 16 | 8.4 | 7.6 | 8.0 | 8.8 | 7.6 | 8.3 | 8.5 | 7.6 | 8.0 | 7.8 | 7.2 | 7.5 |
| 17 | 8.0 | 7.6 | 7.8 | 8.8 | 7.6 | 8.3 | 8.4 | 7.4 | 7.9 | --- | --- | --- |
| 18 | 8.4 | 7.6 | 8.0 | 8.9 | 7.6 | 8.3 | 8.4 | 7.5 | 8.0 | --- | --- | --- |
| 19 | 8.4 | 7.6 | 8.0 | 8.9 | 7.7 | 8.3 | 8.4 | 7.6 | 8.1 | --- | --- | --- |
| 20 | 8.3 | 7.6 | 8.0 | 8.5 | 7.3 | 7.9 | 8.3 | 7.6 | 7.8 | --- | --- | --- |
| 21 | 8.4 | 7.6 | 8.0 | 8.7 | 7.6 | 8.2 | 8.1 | 7.5 | 7.8 | --- | --- | --- |
| 22 | 8.5 | 7.6 | 8.1 | 8.7 | 7.5 | 8.2 | 8.4 | 7.7 | 8.0 | --- | --- | --- |
| 23 | 8.6 | 7.6 | 8.1 | 8.9 | 7.5 | 8.3 | 8.5 | 7.7 | 8.1 | 8.0 | 7.8 | 7.9 |
| 24 | 8.6 | 7.6 | 8.1 | 8.8 | 7.5 | 8.3 | 8.6 | 7.7 | 8.2 | 8.1 | 7.8 | 7.9 |
| 25 | 8.6 | 7.6 | 8.1 | 8.8 | 7.6 | 8.3 | 8.5 | 7.7 | 8.2 | 8.2 | 7.9 | 8.0 |
| 26 | 8.6 | 7.6 | 8.1 | 8.9 | 7.6 | 8.4 | 8.4 | 7.6 | 7.9 | 8.4 | 7.8 | 8.1 |
| 27 | 8.6 | 7.5 | 8.0 | 8.9 | 7.6 | 8.4 | 7.9 | 7.4 | 7.6 | 8.3 | 7.8 | 8.0 |
| 28 | 8.3 | 7.5 | 7.9 | 9.0 | 7.6 | 8.4 | 8.2 | 7.6 | 7.9 | 8.5 | 7.8 | 8.1 |
| 29 | 8.4 | 7.5 | 7.9 | 8.9 | 7.6 | 8.4 | 8.4 | 7.6 | 8.0 | 8.7 | 7.8 | 8.1 |
| 30 | --- | --- | --- | 8.8 | 7.6 | 8.3 | 8.6 | 7.7 | 8.1 | 8.1 | 7.6 | 7.8 |
| 31 | --- | --- | --- | 8.9 | 7.6 | 8.4 | 8.8 | 7.8 | 8.3 | --- | --- | --- |
| MONTH | 8.6 | 7.3 | 7.9 | 9.0 | 7.3 | 8.2 | 9.1 | 7.3 | 8.1 | 8.9 | 7.2 | 8.0 |

**CHRISTINA RIVER BASIN**

**01480617  WEST BRANCH BRANDYWINE CREEK AT MODENA, PA**--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | OCTOBER | | | NOVEMBER | | | DECEMBER | | | JANUARY | |
| 1 | 21.0 | 18.0 | 19.5 | 12.0 | 9.5 | 11.0 | --- | --- | --- | --- | --- | --- |
| 2 | 18.0 | 15.0 | 16.0 | 12.0 | 10.0 | 11.0 | --- | --- | --- | --- | --- | --- |
| 3 | 16.0 | 13.5 | 14.5 | 10.5 | 9.5 | 10.0 | --- | --- | --- | --- | --- | --- |
| 4 | 14.5 | 13.5 | 14.0 | 10.0 | 8.5 | 9.5 | --- | --- | --- | --- | --- | --- |
| 5 | 16.5 | 14.0 | 15.0 | 9.0 | 7.0 | 8.0 | --- | --- | --- | --- | --- | --- |
| 6 | 16.5 | 14.0 | 15.0 | 8.0 | 7.0 | 7.5 | --- | --- | --- | --- | --- | --- |
| 7 | 16.5 | 15.0 | 16.0 | 9.5 | 7.0 | 8.5 | --- | --- | --- | --- | --- | --- |
| 8 | 18.0 | 16.5 | 17.0 | 10.5 | 9.0 | 9.5 | --- | --- | --- | --- | --- | --- |
| 9 | 17.5 | 16.5 | 16.5 | 11.0 | 9.0 | 10.0 | --- | --- | --- | --- | --- | --- |
| 10 | 16.5 | 15.5 | 16.0 | 10.5 | 8.5 | 9.5 | --- | --- | --- | --- | --- | --- |
| 11 | 18.0 | 14.5 | 16.0 | 13.5 | 10.5 | 12.0 | --- | --- | --- | --- | --- | --- |
| 12 | 17.0 | 15.5 | 16.5 | 11.0 | 8.5 | 9.5 | --- | --- | --- | --- | --- | --- |
| 13 | 18.0 | 16.0 | 17.0 | 9.5 | 8.0 | 8.5 | --- | --- | --- | --- | --- | --- |
| 14 | 17.5 | 15.5 | 17.0 | 10.0 | 7.5 | 9.0 | --- | --- | --- | --- | --- | --- |
| 15 | 15.5 | 13.5 | 14.5 | 10.5 | 9.0 | 10.0 | --- | --- | --- | --- | --- | --- |
| 16 | 15.5 | 12.5 | 14.0 | 10.0 | 8.0 | 9.0 | --- | --- | --- | --- | --- | --- |
| 17 | 15.5 | 12.5 | 14.0 | 11.5 | 9.5 | 10.5 | --- | --- | --- | --- | --- | --- |
| 18 | 16.5 | 13.0 | 15.0 | 11.0 | 9.0 | 10.0 | --- | --- | --- | --- | --- | --- |
| 19 | 17.0 | 15.5 | 16.0 | 10.0 | 7.5 | 8.5 | --- | --- | --- | --- | --- | --- |
| 20 | 16.0 | 14.0 | 15.0 | 11.5 | 9.5 | 10.5 | --- | --- | --- | --- | --- | --- |
| 21 | 14.5 | 12.5 | 13.5 | 10.5 | 8.5 | 9.5 | --- | --- | --- | --- | --- | --- |
| 22 | 13.0 | 11.0 | 12.0 | 9.0 | 7.5 | 8.0 | --- | --- | --- | --- | --- | --- |
| 23 | 12.5 | 9.5 | 11.0 | 9.0 | 6.5 | 7.5 | --- | --- | --- | --- | --- | --- |
| 24 | 13.5 | 10.5 | 12.0 | 9.5 | 8.5 | 9.0 | --- | --- | --- | --- | --- | --- |
| 25 | 14.0 | 11.0 | 12.5 | 8.5 | 7.0 | 8.0 | --- | --- | --- | --- | --- | --- |
| 26 | --- | --- | --- | 9.5 | 8.0 | 9.0 | --- | --- | --- | --- | --- | --- |
| 27 | --- | --- | --- | 9.5 | 8.0 | 8.5 | --- | --- | --- | --- | --- | --- |
| 28 | 15.0 | 13.5 | 14.0 | 9.0 | 6.5 | 8.0 | --- | --- | --- | --- | --- | --- |
| 29 | 14.5 | 12.0 | 13.5 | 10.0 | 7.0 | 8.5 | --- | --- | --- | --- | --- | --- |
| 30 | 12.5 | 10.5 | 11.5 | 10.5 | 8.5 | 9.5 | --- | --- | --- | --- | --- | --- |
| 31 | 12.0 | 10.0 | 11.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MONTH | 21.0 | 9.5 | 14.7 | 13.5 | 6.5 | 9.2 | --- | --- | --- | --- | --- | --- |

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FEBRUARY | | | MARCH | | | APRIL | | | MAY | |
| 1 | --- | --- | --- | 6.0 | 4.5 | 5.0 | 11.5 | 10.0 | 11.0 | 17.5 | 12.0 | 14.5 |
| 2 | --- | --- | --- | 7.0 | 3.5 | 5.0 | 14.0 | 11.0 | 12.5 | 17.0 | 12.5 | 14.5 |
| 3 | --- | --- | --- | 9.5 | 5.0 | 7.0 | 15.0 | 11.0 | 13.0 | 14.5 | 13.0 | 13.5 |
| 4 | --- | --- | --- | 10.0 | 4.5 | 7.0 | 16.0 | 12.0 | 14.0 | 16.0 | 13.0 | 14.5 |
| 5 | --- | --- | --- | 6.5 | 3.5 | 5.0 | 15.0 | 11.0 | 13.0 | 19.5 | 14.0 | 16.5 |
| 6 | --- | --- | --- | 6.0 | 4.5 | 5.5 | 14.0 | 10.0 | 12.0 | 18.0 | 15.5 | 16.5 |
| 7 | --- | --- | --- | 6.0 | 2.5 | 4.0 | 16.0 | 11.0 | 13.0 | 15.5 | 14.5 | 15.0 |
| 8 | --- | --- | --- | 5.0 | 1.0 | 3.0 | 17.0 | 11.5 | 14.5 | 18.0 | 15.0 | 16.5 |
| 9 | --- | --- | --- | 3.5 | 1.5 | 3.0 | 15.5 | 10.5 | 13.0 | 19.5 | 15.5 | 17.0 |
| 10 | --- | --- | --- | 7.0 | 2.5 | 4.5 | 13.5 | 9.5 | 11.0 | 19.5 | 14.5 | 17.0 |
| 11 | --- | --- | --- | 6.0 | 2.5 | 4.5 | 11.5 | 9.0 | 9.5 | 20.0 | 14.5 | 17.0 |
| 12 | --- | --- | --- | 5.0 | 2.5 | 4.0 | 12.0 | 9.0 | 10.0 | 20.5 | 15.0 | 18.0 |
| 13 | --- | --- | --- | 7.0 | 2.5 | 5.0 | 13.0 | 8.0 | 10.5 | 19.0 | 15.0 | 16.5 |
| 14 | --- | --- | --- | 6.0 | 2.0 | 4.5 | 14.0 | 9.0 | 11.5 | 18.5 | 13.5 | 15.5 |
| 15 | --- | --- | --- | 6.0 | 1.5 | 3.5 | 12.5 | 9.5 | 11.5 | 17.5 | 13.5 | 15.5 |
| 16 | --- | --- | --- | 7.5 | 3.0 | 5.0 | 12.0 | 10.5 | 11.5 | 17.0 | 13.0 | 15.0 |
| 17 | --- | --- | --- | 9.5 | 4.0 | 6.5 | 12.0 | 10.0 | 11.0 | 18.5 | 13.5 | 16.0 |
| 18 | --- | --- | --- | 11.0 | 6.5 | 8.5 | 12.5 | 9.5 | 11.0 | 20.5 | 15.0 | 17.5 |
| 19 | --- | --- | --- | 10.0 | 7.0 | 8.0 | 12.0 | 8.5 | 10.5 | 18.5 | 17.5 | 18.0 |
| 20 | --- | --- | --- | 10.0 | 6.0 | 8.0 | 11.0 | 9.5 | 10.0 | 20.5 | 15.5 | 18.0 |
| 21 | --- | --- | --- | 8.0 | 6.0 | 7.0 | 11.5 | 8.5 | 10.0 | 20.5 | 14.5 | 17.5 |
| 22 | --- | --- | --- | --- | --- | --- | 16.0 | 10.5 | 13.0 | 21.0 | 16.0 | 18.5 |
| 23 | --- | --- | --- | --- | --- | --- | 15.0 | 12.0 | 13.0 | 19.0 | 17.5 | 18.0 |
| 24 | --- | --- | --- | --- | --- | --- | 14.5 | 9.5 | 12.0 | 18.0 | 16.0 | 17.0 |
| 25 | --- | --- | --- | 10.5 | 7.0 | 9.0 | 15.0 | 9.5 | 12.0 | 18.5 | 14.0 | 16.0 |
| 26 | 6.0 | 3.0 | 4.5 | 10.0 | 6.0 | 8.0 | 16.0 | 10.0 | 13.0 | 18.5 | 14.5 | 16.5 |
| 27 | 6.0 | 3.0 | 4.5 | 8.5 | 6.0 | 7.5 | 17.0 | 11.5 | 14.0 | 19.0 | 15.0 | 17.0 |
| 28 | 6.5 | 5.5 | 6.0 | 9.0 | 7.5 | 8.0 | 15.0 | 12.0 | 13.5 | 20.5 | 14.5 | 17.5 |
| 29 | --- | --- | --- | 12.5 | 7.5 | 10.0 | 17.5 | 12.0 | 14.5 | 22.5 | 16.5 | 19.5 |
| 30 | --- | --- | --- | 12.5 | 8.0 | 10.5 | 17.5 | 12.0 | 15.0 | 23.5 | 18.0 | 20.5 |
| 31 | --- | --- | --- | 13.0 | 8.0 | 10.5 | --- | --- | --- | 23.5 | 18.5 | 21.0 |
| MONTH | 6.5 | 3.0 | 5.0 | 13.0 | 1.0 | 6.3 | 17.5 | 8.0 | 12.1 | 23.5 | 12.0 | 16.8 |

**CHRISTINA RIVER BASIN**

**01480617  WEST BRANCH BRANDYWINE CREEK AT MODENA, PA**--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | JUNE | | | JULY | | | AUGUST | | | SEPTEMBER | |
| 1 | 23.0 | 18.5 | 21.0 | --- | --- | --- | 28.0 | 25.0 | 26.5 | 21.0 | 18.0 | 19.5 |
| 2 | 24.5 | 20.0 | 22.0 | 25.5 | 22.0 | 23.5 | 27.5 | 23.5 | 25.5 | 21.0 | 18.5 | 20.0 |
| 3 | 23.5 | 20.5 | 22.0 | 26.0 | 22.0 | 24.0 | 26.5 | 22.5 | 24.5 | 22.0 | 18.0 | 20.5 |
| 4 | 23.0 | 18.5 | 21.0 | 28.5 | 23.0 | 25.5 | 25.5 | 22.0 | 24.0 | 22.0 | 20.5 | 21.5 |
| 5 | 22.0 | 17.5 | 20.0 | 29.5 | 24.0 | 27.0 | 25.5 | 22.0 | 24.0 | 23.5 | 21.5 | 22.0 |
| 6 | 23.0 | 17.5 | 20.0 | 30.0 | 24.5 | 27.5 | 25.5 | 21.0 | 23.5 | 24.5 | 21.5 | 23.0 |
| 7 | 25.5 | 19.0 | 22.0 | 28.0 | 24.5 | 26.5 | 25.5 | 21.5 | 23.5 | 24.0 | 22.0 | 23.0 |
| 8 | 26.5 | 21.0 | 24.0 | 26.5 | 22.0 | 24.5 | 24.5 | 23.0 | 24.0 | 25.0 | 22.0 | 23.0 |
| 9 | 26.0 | 21.0 | 23.5 | 26.0 | 21.0 | 24.0 | 24.5 | 21.5 | 23.0 | 24.5 | 22.0 | 23.0 |
| 10 | 24.0 | 19.5 | 21.0 | 25.0 | 22.5 | 23.5 | 23.5 | 19.5 | 22.0 | 23.0 | 21.0 | 22.0 |
| 11 | 23.0 | 17.5 | 20.0 | 25.0 | 20.0 | 22.5 | 25.0 | 20.5 | 23.0 | 22.5 | 19.0 | 21.0 |
| 12 | 21.0 | 17.5 | 19.5 | 23.0 | 19.5 | 21.0 | 25.5 | 22.0 | 24.0 | 22.0 | 18.0 | 20.0 |
| 13 | 21.5 | 19.5 | 20.5 | 24.5 | 19.0 | 21.5 | 26.5 | 23.5 | 25.0 | 21.5 | 18.0 | 20.0 |
| 14 | 23.0 | 19.5 | 21.5 | 23.0 | 20.0 | 21.5 | 27.5 | 24.0 | 25.5 | 22.0 | 19.5 | 21.0 |
| 15 | 24.5 | 20.0 | 22.0 | 25.0 | 19.0 | 22.0 | 24.5 | 22.5 | 23.5 | 21.5 | 20.0 | 20.5 |
| 16 | 22.5 | 19.0 | 21.0 | 27.0 | 21.0 | 24.0 | 26.5 | 22.0 | 24.0 | 20.0 | 18.0 | 19.0 |
| 17 | 21.0 | 18.5 | 19.0 | 28.0 | 22.5 | 25.0 | 27.0 | 22.5 | 25.0 | --- | --- | --- |
| 18 | 21.5 | 17.0 | 19.0 | 28.5 | 23.0 | 26.0 | 26.0 | 23.0 | 25.0 | --- | --- | --- |
| 19 | 22.0 | 17.0 | 19.5 | 27.5 | 24.0 | 26.0 | 25.0 | 22.0 | 23.5 | --- | --- | --- |
| 20 | 20.0 | 18.0 | 18.5 | 26.5 | 24.0 | 24.5 | 24.0 | 21.5 | 22.5 | --- | --- | --- |
| 21 | 18.5 | 17.0 | 18.0 | 25.5 | 22.0 | 24.0 | 21.5 | 20.0 | 20.5 | --- | --- | --- |
| 22 | 23.0 | 16.0 | 19.5 | 26.0 | 22.5 | 24.0 | 22.0 | 19.0 | 20.5 | --- | --- | --- |
| 23 | 23.5 | 18.5 | 21.0 | 28.0 | 23.5 | 25.5 | 24.0 | 18.5 | 21.5 | 17.0 | 13.5 | 15.5 |
| 24 | 24.5 | 18.5 | 21.5 | 27.0 | 23.5 | 25.5 | 23.0 | 20.5 | 22.0 | 18.5 | 14.5 | 16.5 |
| 25 | 23.5 | 19.0 | 21.5 | 27.5 | 24.0 | 26.0 | 23.0 | 20.0 | 22.0 | 19.0 | 15.5 | 17.0 |
| 26 | 25.5 | 20.0 | 23.0 | 27.0 | 23.5 | 25.5 | 23.5 | 20.5 | 22.0 | 19.0 | 15.5 | 17.0 |
| 27 | 26.0 | 21.5 | 24.0 | 27.0 | 23.0 | 25.0 | 23.5 | 21.0 | 22.0 | 18.0 | 17.0 | 17.5 |
| 28 | 24.5 | 22.5 | 23.5 | 27.5 | 23.0 | 25.5 | 25.0 | 20.5 | 23.0 | 19.0 | 17.5 | 18.0 |
| 29 | 26.5 | 22.5 | 24.5 | 26.5 | 22.5 | 24.5 | 24.5 | 21.0 | 23.0 | 20.0 | 18.0 | 19.0 |
| 30 | --- | --- | --- | 25.5 | 23.0 | 24.5 | 22.5 | 18.5 | 20.0 | 19.5 | 16.5 | 18.0 |
| 31 | --- | --- | --- | 28.0 | 23.0 | 25.5 | 20.5 | 18.0 | 19.0 | --- | --- | --- |
| MONTH | 26.5 | 16.0 | 21.2 | 30.0 | 19.0 | 24.5 | 28.0 | 18.0 | 23.1 | 25.0 | 13.5 | 19.9 |

**OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999**

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | OCTOBER | | | NOVEMBER | | | DECEMBER | | | JANUARY | |
| 1 | 10.8 | 8.1 | 9.2 | 13.4 | 10.6 | 11.8 | --- | --- | --- | --- | --- | --- |
| 2 | 11.5 | 8.5 | 9.8 | 13.4 | 10.6 | 11.7 | --- | --- | --- | --- | --- | --- |
| 3 | 11.8 | 9.0 | 10.3 | 13.8 | 10.9 | 12.1 | --- | --- | --- | --- | --- | --- |
| 4 | 10.6 | 9.5 | 10.0 | 12.2 | 10.0 | 11.2 | --- | --- | --- | --- | --- | --- |
| 5 | 11.6 | 9.8 | 10.5 | 12.3 | 9.7 | 10.9 | --- | --- | --- | --- | --- | --- |
| 6 | 12.0 | 9.5 | 10.5 | 12.4 | 10.1 | 11.1 | --- | --- | --- | --- | --- | --- |
| 7 | 11.1 | 9.1 | 9.9 | 12.5 | 10.3 | 11.1 | --- | --- | --- | --- | --- | --- |
| 8 | 9.5 | 8.7 | 9.1 | 12.5 | 9.9 | 10.8 | --- | --- | --- | --- | --- | --- |
| 9 | 9.7 | 9.2 | 9.5 | 12.7 | 9.8 | 11.0 | --- | --- | --- | --- | --- | --- |
| 10 | 9.8 | 9.5 | 9.7 | 11.8 | 10.2 | 10.8 | --- | --- | --- | --- | --- | --- |
| 11 | 10.2 | 9.3 | 9.8 | 10.7 | 9.8 | 10.1 | --- | --- | --- | --- | --- | --- |
| 12 | 10.5 | 9.3 | 9.8 | 12.4 | 10.0 | 11.1 | --- | --- | --- | --- | --- | --- |
| 13 | 10.4 | 9.2 | 9.7 | 12.7 | 10.7 | 11.5 | --- | --- | --- | --- | --- | --- |
| 14 | 10.5 | 9.0 | 9.6 | 12.8 | 10.7 | 11.5 | --- | --- | --- | --- | --- | --- |
| 15 | 11.4 | 9.2 | 10.3 | 12.8 | 10.3 | 11.3 | --- | --- | --- | --- | --- | --- |
| 16 | 11.7 | 9.9 | 10.6 | 13.3 | 10.4 | 11.7 | --- | --- | --- | --- | --- | --- |
| 17 | 12.1 | 10.0 | 10.7 | 13.0 | 10.5 | 11.5 | --- | --- | --- | --- | --- | --- |
| 18 | 12.2 | 9.6 | 10.7 | 12.4 | 10.4 | 11.1 | --- | --- | --- | --- | --- | --- |
| 19 | 12.0 | 9.1 | 10.3 | 12.6 | 10.2 | 11.2 | --- | --- | --- | --- | --- | --- |
| 20 | 12.6 | 9.1 | 10.6 | 12.0 | 10.2 | 10.9 | --- | --- | --- | --- | --- | --- |
| 21 | 13.0 | 9.7 | 11.0 | 12.4 | 10.0 | 11.1 | --- | --- | --- | --- | --- | --- |
| 22 | 13.2 | 10.0 | 11.4 | 12.6 | 10.6 | 11.5 | --- | --- | --- | --- | --- | --- |
| 23 | 13.4 | 10.7 | 11.7 | 12.6 | 10.8 | 11.5 | --- | --- | --- | --- | --- | --- |
| 24 | 13.1 | 10.3 | 11.4 | 12.6 | 10.4 | 11.3 | --- | --- | --- | --- | --- | --- |
| 25 | 12.8 | 10.0 | 11.1 | 12.8 | 10.8 | 11.6 | --- | --- | --- | --- | --- | --- |
| 26 | 11.4 | 8.1 | 9.5 | 11.4 | 10.6 | 11.1 | --- | --- | --- | --- | --- | --- |
| 27 | --- | --- | --- | 11.8 | 11.0 | 11.3 | --- | --- | --- | --- | --- | --- |
| 28 | 11.9 | 8.7 | 10.2 | 12.1 | 11.0 | 11.4 | --- | --- | --- | --- | --- | --- |
| 29 | 12.4 | 9.7 | 10.8 | 12.1 | 10.9 | 11.5 | --- | --- | --- | --- | --- | --- |
| 30 | 13.0 | 10.2 | 11.4 | 11.8 | 10.6 | 11.1 | --- | --- | --- | --- | --- | --- |
| 31 | 13.0 | 10.5 | 11.5 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MONTH | 13.4 | 8.1 | 10.4 | 13.8 | 9.7 | 11.3 | --- | --- | --- | --- | --- | --- |

# CHRISTINA RIVER BASIN

## 01480617  WEST BRANCH BRANDYWINE CREEK AT MODENA, PA--Continued

OXYGEN, DISSOLVED (MG/L), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FEBRUARY | | | MARCH | | | APRIL | | | MAY | |
| 1 | --- | --- | --- | 11.5 | 10.8 | 11.1 | 11.8 | 9.3 | 10.4 | 11.9 | 9.6 | 10.6 |
| 2 | --- | --- | --- | 12.1 | 10.6 | 11.3 | 12.3 | 9.0 | 10.4 | 11.9 | 9.7 | 10.6 |
| 3 | --- | --- | --- | 11.9 | 9.7 | 11.0 | 12.9 | 8.9 | 10.5 | 11.4 | 9.7 | 10.5 |
| 4 | --- | --- | --- | 11.6 | 9.6 | 10.8 | 12.7 | 8.6 | 10.1 | --- | --- | --- |
| 5 | --- | --- | --- | 12.6 | 11.0 | 11.7 | 12.6 | 8.6 | 10.3 | --- | --- | --- |
| 6 | --- | --- | --- | 12.0 | 10.8 | 11.4 | 13.1 | 8.9 | 10.8 | --- | --- | --- |
| 7 | --- | --- | --- | 12.7 | 10.8 | 11.8 | 12.6 | 8.6 | 10.3 | --- | --- | --- |
| 8 | --- | --- | --- | 13.3 | 11.5 | 12.4 | 12.5 | 8.2 | 10.1 | --- | --- | --- |
| 9 | --- | --- | --- | 13.4 | 11.3 | 12.3 | 11.1 | 8.1 | 9.7 | --- | --- | --- |
| 10 | --- | --- | --- | 13.2 | 10.8 | 11.9 | 11.1 | 10.0 | 10.5 | --- | --- | --- |
| 11 | --- | --- | --- | 13.2 | 10.8 | 11.8 | 11.6 | 10.1 | 11.0 | --- | --- | --- |
| 12 | --- | --- | --- | 13.6 | 10.9 | 12.1 | 12.0 | 10.6 | 11.2 | --- | --- | --- |
| 13 | --- | --- | --- | 13.6 | 10.5 | 12.0 | 12.9 | 10.4 | 11.6 | --- | --- | --- |
| 14 | --- | --- | --- | 13.4 | 10.5 | 11.7 | 13.2 | 9.9 | 11.4 | --- | --- | --- |
| 15 | --- | --- | --- | 13.6 | 11.0 | 12.1 | 13.6 | 9.9 | 11.5 | --- | --- | --- |
| 16 | --- | --- | --- | 13.4 | 10.6 | 11.9 | 12.5 | 10.0 | 11.0 | --- | --- | --- |
| 17 | --- | --- | --- | 13.3 | 10.0 | 11.5 | 13.3 | 10.6 | 11.8 | --- | --- | --- |
| 18 | --- | --- | --- | 12.0 | 9.9 | 10.8 | 13.6 | 10.6 | 11.8 | --- | --- | --- |
| 19 | --- | --- | --- | 13.0 | 10.0 | 11.1 | 12.8 | 8.9 | 10.9 | --- | --- | --- |
| 20 | --- | --- | --- | 13.5 | 9.8 | 11.3 | 11.4 | 8.9 | 10.0 | 10.6 | 8.2 | 9.2 |
| 21 | --- | --- | --- | 12.7 | 9.8 | 10.9 | 12.1 | 9.2 | 10.4 | 10.8 | 8.3 | 9.3 |
| 22 | --- | --- | --- | --- | --- | --- | 11.7 | 8.4 | 9.9 | 10.6 | 8.0 | 9.2 |
| 23 | --- | --- | --- | --- | --- | --- | 10.8 | 8.4 | 9.5 | 9.3 | 8.0 | 8.6 |
| 24 | --- | --- | --- | --- | --- | --- | 11.8 | 9.3 | 10.4 | 9.3 | 8.6 | 9.0 |
| 25 | --- | --- | --- | 12.2 | 10.5 | 11.2 | 12.1 | 9.3 | 10.5 | 10.4 | 8.8 | 9.6 |
| 26 | 12.5 | 11.0 | 11.7 | 12.5 | 10.6 | 11.4 | 12.0 | 9.1 | 10.4 | 10.2 | 8.8 | 9.4 |
| 27 | 12.4 | 10.8 | 11.5 | 12.7 | 10.6 | 11.5 | 11.9 | 9.0 | 10.3 | 10.4 | 8.8 | 9.5 |
| 28 | 11.1 | 10.7 | 10.8 | 12.6 | 10.5 | 11.4 | 11.9 | 9.2 | 10.6 | 10.6 | 8.6 | 9.5 |
| 29 | --- | --- | --- | 12.9 | 9.9 | 11.3 | 12.3 | 9.4 | 10.8 | 10.5 | 8.3 | 9.3 |
| 30 | --- | --- | --- | 13.1 | 9.9 | 11.2 | 12.0 | 9.4 | 10.5 | 10.4 | 7.8 | 9.0 |
| 31 | --- | --- | --- | 13.0 | 9.2 | 11.1 | --- | --- | --- | 10.4 | 7.8 | 8.9 |
| MONTH | 12.5 | 10.7 | 11.3 | 13.6 | 9.2 | 11.5 | 13.6 | 8.1 | 10.6 | 11.9 | 7.8 | 9.5 |

| DAY | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN | MAX | MIN | MEAN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | JUNE | | | JULY | | | AUGUST | | | SEPTEMBER | |
| 1 | 10.3 | 7.8 | 8.8 | --- | --- | --- | 11.3 | 5.8 | 8.4 | 10.5 | 7.3 | 8.8 |
| 2 | 10.4 | 7.7 | 8.9 | 9.8 | 6.9 | 8.1 | 12.0 | 5.9 | 8.7 | 10.5 | 7.1 | 8.7 |
| 3 | 8.9 | 6.8 | 7.9 | 9.7 | 6.3 | 7.8 | 11.8 | 6.1 | 8.7 | 10.6 | 7.2 | 8.7 |
| 4 | 9.5 | 7.3 | 8.2 | 9.9 | 6.3 | 7.9 | 11.2 | 6.2 | 8.6 | 9.5 | 6.8 | 8.0 |
| 5 | 9.9 | 7.5 | 8.6 | 10.0 | 6.0 | 7.6 | 11.0 | 6.3 | 8.6 | 9.4 | 6.7 | 7.6 |
| 6 | 10.0 | 7.8 | 8.7 | 10.2 | 5.8 | 7.6 | 11.2 | 6.4 | 8.7 | 8.5 | 7.0 | 7.6 |
| 7 | 9.8 | 7.1 | 8.4 | 10.3 | 5.7 | 7.6 | 11.1 | 6.4 | 8.7 | 8.6 | 6.9 | 7.6 |
| 8 | 9.4 | 7.0 | 8.0 | 10.6 | 6.2 | 8.0 | 9.9 | 6.0 | 7.4 | 9.0 | 6.7 | 7.7 |
| 9 | 9.5 | 7.0 | 8.1 | 11.0 | 6.5 | 8.3 | 10.4 | 6.1 | 8.1 | 9.1 | 6.5 | 7.5 |
| 10 | 9.6 | 7.2 | 8.4 | 10.3 | 6.3 | 7.8 | 10.8 | 6.7 | 8.4 | 8.3 | 7.0 | 7.5 |
| 11 | 10.3 | 8.1 | 9.1 | 11.0 | 7.0 | 8.6 | 10.5 | 6.7 | 8.5 | 8.6 | 6.8 | 7.5 |
| 12 | 10.3 | 8.2 | 9.2 | 10.5 | 7.0 | 8.6 | 10.8 | 6.1 | 8.3 | 9.4 | 7.0 | 8.0 |
| 13 | 9.8 | 7.4 | 8.7 | 11.4 | 7.3 | 9.1 | 9.8 | 5.9 | 7.6 | 9.6 | 6.9 | 8.0 |
| 14 | 9.7 | 7.4 | 8.6 | 11.6 | 7.2 | 9.0 | 8.7 | 5.4 | 6.6 | 9.5 | 6.8 | 8.0 |
| 15 | 9.9 | 7.4 | 8.6 | 12.1 | 7.5 | 9.5 | 10.1 | 6.3 | 7.7 | 7.9 | 6.7 | 7.4 |
| 16 | 10.5 | 7.7 | 8.9 | 12.7 | 7.1 | 9.2 | 9.1 | 6.0 | 7.2 | --- | --- | --- |
| 17 | 9.9 | 8.0 | 8.8 | 12.5 | 6.6 | 9.0 | 8.9 | 5.8 | 7.0 | --- | --- | --- |
| 18 | 10.7 | 8.6 | 9.5 | 12.0 | 6.4 | 8.7 | 8.8 | 5.4 | 7.1 | --- | --- | --- |
| 19 | 10.9 | 8.7 | 9.7 | 12.4 | 6.1 | 8.7 | 9.2 | 6.3 | 7.5 | --- | --- | --- |
| 20 | 10.9 | 8.6 | 9.7 | 10.5 | 4.1 | 7.5 | 8.6 | 6.6 | 7.4 | --- | --- | --- |
| 21 | 10.8 | 9.0 | 9.9 | 11.1 | 6.8 | 8.7 | 9.2 | 7.3 | 8.2 | --- | --- | --- |
| 22 | 11.0 | 8.5 | 9.8 | 10.8 | 6.6 | 8.4 | 9.3 | 7.7 | 8.5 | --- | --- | --- |
| 23 | 10.8 | 8.1 | 9.4 | 10.9 | 6.6 | 8.4 | 9.5 | 7.6 | 8.5 | 9.0 | 8.5 | 8.7 |
| 24 | 10.9 | 7.9 | 9.2 | 10.7 | 6.4 | 8.3 | 9.2 | 7.4 | 8.3 | 8.9 | 8.4 | 8.6 |
| 25 | 11.0 | 7.9 | 9.3 | 10.9 | 6.3 | 8.4 | 9.1 | 7.6 | 8.2 | 9.1 | 8.4 | 8.6 |
| 26 | 11.3 | 7.6 | 9.2 | 11.0 | 6.3 | 8.5 | 8.4 | 7.4 | 8.0 | 9.5 | 8.4 | 8.8 |
| 27 | 10.9 | 7.5 | 8.9 | 11.5 | 6.4 | 8.8 | 8.2 | 6.6 | 7.7 | 9.4 | 8.3 | 8.7 |
| 28 | 10.5 | 7.2 | 8.6 | 11.8 | 6.3 | 8.6 | 8.4 | 6.6 | 7.4 | 9.8 | 8.2 | 8.8 |
| 29 | 10.5 | 7.4 | 8.6 | 11.9 | 6.3 | 8.7 | 8.6 | 6.6 | 7.5 | 9.8 | 8.1 | 8.7 |
| 30 | --- | --- | --- | 11.9 | 6.3 | 8.5 | 9.6 | 6.9 | 8.1 | 8.9 | 8.0 | 8.5 |
| 31 | --- | --- | --- | 11.7 | 6.4 | 8.8 | 10.1 | 7.3 | 8.6 | --- | --- | --- |
| MONTH | 11.3 | 6.8 | 8.9 | 12.7 | 4.1 | 8.4 | 12.0 | 5.4 | 8.0 | 10.6 | 6.5 | 8.2 |
| YEAR | 13.8 | 4.1 | 9.7 | | | | | | | | | |