

STREAMS TRIBUTARY TO LAKE ERIE

04213075 BRANDY RUN NEAR GIRARD, PA

LOCATION.--Lat 41°59'31", long 80°17'29", Erie County, Hydrologic Unit 04120101, on left bank 100 ft upstream from highway bridge on Tannery Road, 0.5 mi upstream from mouth, and 1.8 mi southeast of Girard.

DRAINAGE AREA.--4.45 mi².

PERIOD OF RECORD.--May 1986 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 800 ft above sea level, from topographic map.

REVISED RECORDS.--WDR PA-94-3: 1987-89 (M).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 200 ft³/s and maximum (*):

| Date | Time | Discharge ft ³ /s | Gage Height (ft) | Date | Time | Discharge ft ³ /s | Gage Height (ft) |
|--------|------|---------------------------------|---------------------|----------------------------------|------|---------------------------------|---------------------|
| May 25 | 1845 | *139 | *1.63 | (No peaks above base discharge.) | | | |

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES**

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 1.3 | 1.6 | 11 | e1.4 | 18 | 5.6 | 13 | 3.2 | 3.7 | 3.1 | .69 | 1.9 |
| 2 | 1.3 | 1.7 | e6.8 | e1.3 | 14 | 5.9 | 9.9 | 4.3 | 4.4 | 3.0 | .65 | 1.2 |
| 3 | 1.3 | 2.1 | e5.5 | e1.3 | 13 | 6.8 | 9.0 | 4.2 | 6.9 | 3.1 | 1.4 | 1.1 |
| 4 | 3.7 | 1.9 | e4.6 | e1.3 | 12 | 6.7 | 8.2 | 4.0 | 9.1 | 3.2 | .99 | .98 |
| 5 | 5.9 | 1.7 | e3.5 | e1.3 | 13 | 7.6 | 6.7 | 3.9 | 5.4 | 3.1 | .82 | .89 |
| 6 | 7.0 | 1.6 | e2.8 | e1.2 | 13 | 7.7 | 8.2 | 3.7 | 4.2 | 3.0 | .69 | .86 |
| 7 | 7.4 | 1.7 | e2.6 | e1.2 | 10 | 7.7 | 6.9 | 3.7 | 3.6 | 3.0 | .63 | .63 |
| 8 | 8.6 | 1.7 | e2.5 | e1.1 | 12 | 8.0 | 5.8 | 3.9 | 3.1 | 2.9 | .61 | .50 |
| 9 | 10 | 1.8 | e2.4 | e1.1 | 55 | 8.3 | 5.9 | 4.0 | 2.9 | 2.8 | .52 | .47 |
| 10 | 14 | 6.2 | e2.3 | e1.1 | 39 | 8.9 | 6.7 | 3.7 | 2.8 | 2.8 | .52 | .48 |
| 11 | 5.3 | 4.9 | e3.0 | e1.0 | 11 | 9.5 | 5.5 | 3.6 | 3.0 | 2.8 | .51 | .50 |
| 12 | 2.7 | 3.0 | 33 | e.95 | 12 | 12 | 5.0 | 10 | 2.7 | 2.7 | .59 | .49 |
| 13 | 1.8 | 2.6 | 11 | e.90 | 7.0 | 40 | 4.2 | 6.1 | 2.5 | 2.7 | .68 | .60 |
| 14 | 1.6 | 2.6 | 6.2 | e.87 | 21 | 19 | 3.9 | 5.6 | 2.5 | 2.7 | .54 | .89 |
| 15 | 1.4 | 2.8 | 3.8 | e1.6 | 24 | 10 | 4.2 | 4.9 | 2.4 | 2.7 | .50 | .68 |
| 16 | 1.3 | 3.6 | 16 | 11 | 8.4 | 8.5 | 9.4 | 4.4 | 2.7 | 2.6 | .50 | .55 |
| 17 | 1.4 | 7.1 | 51 | 6.3 | 6.5 | 8.8 | 19 | 4.1 | 2.4 | 2.5 | .56 | .51 |
| 18 | 1.4 | 6.1 | e18 | 4.9 | 7.5 | 8.5 | 12 | 3.8 | 2.6 | 3.4 | .51 | .49 |
| 19 | 1.4 | 5.3 | e12 | 3.9 | 14 | 10 | 7.5 | 3.6 | 3.2 | 1.6 | 2.8 | .42 |
| 20 | 1.3 | 4.7 | e9.0 | 2.9 | 4.1 | 13 | 7.7 | 3.4 | 3.3 | 1.2 | 1.5 | .48 |
| 21 | 1.3 | 7.6 | e7.3 | 6.0 | 4.4 | 12 | 14 | 3.5 | 5.4 | 1.1 | 2.3 | .51 |
| 22 | 1.3 | 6.6 | e6.7 | e3.2 | 16 | 11 | 11 | 6.9 | 5.1 | 1.1 | 1.1 | .53 |
| 23 | 1.5 | 6.5 | e6.1 | e2.6 | 6.2 | 7.7 | 8.3 | 6.3 | 4.0 | 1.0 | 1.8 | .47 |
| 24 | 1.8 | 6.0 | e5.0 | e2.3 | 14 | 7.0 | 5.7 | 4.1 | 3.7 | .96 | 1.4 | .91 |
| 25 | 1.9 | 6.5 | e4.1 | e2.0 | 5.6 | 6.8 | 4.5 | 30 | 3.5 | .91 | 1.1 | 1.4 |
| 26 | 1.7 | 37 | e3.4 | e1.8 | 4.5 | 7.2 | 3.8 | 14 | 3.4 | .98 | 3.1 | 2.1 |
| 27 | 1.7 | 54 | e3.0 | e1.7 | 3.5 | 7.1 | 3.7 | 6.3 | 3.3 | .79 | 2.8 | 3.6 |
| 28 | 1.7 | 27 | e2.2 | e1.6 | 3.1 | 7.7 | 3.3 | 5.8 | 3.2 | .75 | 1.2 | 1.3 |
| 29 | 1.6 | 19 | e1.8 | e1.6 | --- | 9.6 | 3.1 | 4.8 | 3.1 | .74 | 1.1 | .80 |
| 30 | 1.6 | 27 | e1.6 | e4.2 | --- | 14 | 3.0 | 3.9 | 3.1 | .75 | .99 | .56 |
| 31 | 1.6 | --- | e1.4 | 36 | --- | 14 | --- | 3.3 | --- | .70 | 2.1 | --- |
| TOTAL | 97.8 | 261.9 | 249.6 | 109.62 | 371.8 | 316.6 | 219.1 | 177.0 | 111.2 | 64.68 | 35.20 | 26.80 |
| MEAN | 3.15 | 8.73 | 8.05 | 3.54 | 13.3 | 10.2 | 7.30 | 5.71 | 3.71 | 2.09 | 1.14 | .89 |
| MAX | 14 | 54 | 51 | 36 | 55 | 40 | 19 | 30 | 9.1 | 3.4 | 3.1 | 3.6 |
| MIN | 1.3 | 1.6 | 1.4 | .87 | 3.1 | 5.6 | 3.0 | 3.2 | 2.4 | .70 | .50 | .42 |
| CFSM | .71 | 1.96 | 1.81 | .79 | 2.98 | 2.30 | 1.64 | 1.28 | .83 | .47 | .26 | .20 |
| IN. | .82 | 2.19 | 2.09 | .92 | 3.11 | 2.65 | 1.83 | 1.48 | .93 | .54 | .29 | .22 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2001, BY WATER YEAR (WY)

| | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| MEAN | 4.99 | 7.56 | 8.78 | 8.91 | 8.95 | 9.98 | 11.8 | 6.16 | 3.92 | 2.15 | 3.45 | 3.46 |
| MAX | 12.1 | 17.2 | 17.0 | 19.2 | 28.7 | 17.6 | 22.8 | 14.4 | 10.9 | 6.13 | 19.1 | 11.1 |
| (WY) | 1988 | 1993 | 1998 | 1998 | 1990 | 1989 | 1996 | 1989 | 1994 | 1992 | 1987 | 1992 |
| MIN | 1.24 | .89 | 1.49 | 3.13 | 2.21 | 3.71 | 6.24 | 1.56 | .86 | .71 | .49 | .75 |
| (WY) | 1999 | 1999 | 1999 | 1987 | 1987 | 1999 | 1999 | 1991 | 1991 | 1999 | 1991 | 1995 |

e Estimated.

STREAMS TRIBUTARY TO LAKE ERIE

04213075 BRANDY RUN NEAR GIRARD, PA--Continued

| SUMMARY STATISTICS | FOR 2000 CALENDAR YEAR | | FOR 2001 WATER YEAR | | WATER YEARS 1986 - 2001 | |
|--------------------------|------------------------|--------|---------------------|---------|-------------------------|-------------|
| ANNUAL TOTAL | 2026.49 | | 2041.30 | | | |
| ANNUAL MEAN | 5.54 | | 5.59 | | 6.68 | |
| HIGHEST ANNUAL MEAN | | | | | 9.84 | |
| LOWEST ANNUAL MEAN | | | | | 2.82 | |
| HIGHEST DAILY MEAN | 88 | Apr 8 | 55 | Feb 9 | 405 | Aug 2 1987 |
| LOWEST DAILY MEAN | .69 | Sep 30 | .42 | Sep 19 | .14 | Aug 3 1991 |
| ANNUAL SEVEN-DAY MINIMUM | .83 | Sep 4 | .49 | Sep 17 | .16 | Aug 1 1991 |
| MAXIMUM PEAK FLOW | | | 139 | May 25 | a708 | Jun 13 1994 |
| MAXIMUM PEAK STAGE | | | 1.63 | May 25 | b3.36 | Jun 13 1994 |
| INSTANTANEOUS LOW FLOW | | | .40 | Aug 12c | .19 | Jul 11 1986 |
| ANNUAL RUNOFF (CFSM) | 1.24 | | 1.26 | | 1.50 | |
| ANNUAL RUNOFF (INCHES) | 16.94 | | 17.06 | | 20.40 | |
| 10 PERCENT EXCEEDS | 10 | | 12 | | 13 | |
| 50 PERCENT EXCEEDS | 2.7 | | 3.3 | | 3.2 | |
| 90 PERCENT EXCEEDS | 1.2 | | .77 | | .90 | |

- a From rating curve extended above 140 ft³/s.
- b Maximum gage height, 4.55 ft., Dec. 19, 1989 (backwater from ice).
- c Also Aug. 14, 15, 17, 18, Sept. 8-13, 18-24, 30.

