

SWATARA CREEK BASIN

01573560 SWATARA CREEK NEAR HERSHEY, PA

LOCATION.--Lat 40°17'54", long 76°40'05", Dauphin County, Hydrologic Unit 02050305, on left bank, 0.4 mi downstream from Manada Creek, 0.5 mi upstream from State Highway 39, and 1.5 mi northwest of Hershey.

DRAINAGE AREA.--483 mi².

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder and gated concrete control. Datum of gage is 325.94 ft above sea level (levels by Susquehanna River Basin Commission).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. No diversion by Hershey Chocolate U.S.A. Satellite and landline telemetry at station.

COOPERATION.--Records of daily diversion furnished by Hershey Chocolate U.S.A., a division of Hershey Foods Corporation.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than a base discharge of 6,900 ft³/s and maximum (*):

| Date | Time | Discharge ft ³ /s | Gage Height (ft) | Date | Time | Discharge ft ³ /s | Gage Height (ft) |
|---------|------|---------------------------------|---------------------|--|------|---------------------------------|---------------------|
| Jan. 24 | 2230 | *8,110 | *6.65 | 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 | 134 | 167 | 158 | e82 | 811 | 968 | 642 | 403 | 182 | e110 | 69 | 63 |
| 2 | 151 | 152 | 146 | e90 | 1450 | 701 | 681 | 389 | 151 | e96 | 57 | 63 |
| 3 | 143 | 140 | 147 | e278 | 1960 | 569 | 634 | 384 | 216 | e98 | 55 | 62 |
| 4 | 154 | 145 | 141 | e803 | 1420 | 1170 | 575 | 365 | 188 | e94 | 80 | 57 |
| 5 | 158 | 142 | 138 | 420 | 1290 | 1300 | 602 | 353 | 177 | e86 | 69 | 59 |
| 6 | 144 | 142 | 157 | 302 | 1100 | 1110 | 509 | 337 | 168 | e80 | 52 | 134 |
| 7 | 134 | 135 | 129 | 316 | 993 | 1130 | 462 | 323 | 152 | e72 | 49 | 733 |
| 8 | 329 | 129 | 132 | 285 | 981 | 872 | 441 | 390 | 142 | e68 | 59 | 513 |
| 9 | 703 | 131 | 144 | 619 | 989 | 804 | 540 | 469 | 133 | e62 | 64 | 232 |
| 10 | 1250 | 134 | 140 | 2010 | 856 | 754 | 1450 | 356 | 128 | e60 | 57 | 159 |
| 11 | 785 | 150 | 132 | 839 | 764 | 750 | 1170 | 306 | 136 | e94 | 51 | 132 |
| 12 | 435 | 169 | 126 | 515 | 722 | 641 | 1230 | 277 | 135 | e88 | 54 | 112 |
| 13 | 326 | 170 | 124 | e429 | 825 | 608 | 1080 | 272 | 142 | e80 | 53 | 111 |
| 14 | 315 | 151 | 120 | e371 | 704 | 570 | 933 | 253 | 146 | 77 | 193 | 107 |
| 15 | 359 | 141 | 121 | e309 | 617 | 650 | 816 | 238 | 204 | 79 | 344 | 104 |
| 16 | 280 | 141 | 121 | e299 | 584 | 865 | 813 | 245 | 223 | 84 | 186 | 1720 |
| 17 | 260 | 139 | 119 | e316 | 597 | 963 | 853 | 236 | 171 | 70 | 119 | 5330 |
| 18 | 229 | 139 | 122 | e1100 | 760 | 975 | 729 | 220 | 300 | 71 | 90 | 1810 |
| 19 | 206 | 136 | 124 | 4940 | 725 | 901 | 615 | 243 | 290 | 69 | 83 | 1020 |
| 20 | 189 | 141 | 112 | 2410 | 624 | 825 | 643 | 269 | 211 | 76 | 108 | 711 |
| 21 | 179 | 140 | 116 | e1250 | 562 | 938 | 704 | 236 | e140 | 75 | 109 | 599 |
| 22 | 176 | 151 | 114 | e1700 | 496 | 2740 | 655 | 211 | e130 | 82 | 89 | 805 |
| 23 | 182 | 148 | 122 | e3000 | 402 | 2130 | 665 | 260 | e125 | 83 | 78 | 707 |
| 24 | 173 | 135 | 118 | e6300 | e380 | 1650 | 850 | 325 | e115 | 73 | 72 | 464 |
| 25 | 176 | 128 | 99 | 5540 | e374 | 1410 | 696 | 473 | e112 | 75 | 71 | 387 |
| 26 | 153 | 197 | 92 | 2670 | e370 | 1180 | 598 | 315 | e113 | 75 | 73 | 338 |
| 27 | 145 | 357 | e90 | 1980 | e365 | 1030 | 570 | 236 | e105 | 73 | 96 | 289 |
| 28 | 162 | 251 | e86 | 1620 | 559 | 963 | 525 | 224 | e100 | 69 | 80 | 308 |
| 29 | 154 | 203 | e82 | 1400 | --- | 895 | 482 | 193 | e103 | 69 | 75 | 366 |
| 30 | 151 | 173 | e81 | 1170 | --- | 760 | 460 | 166 | e110 | 79 | 69 | 3050 |
| 31 | 169 | --- | e80 | 967 | --- | 685 | --- | 183 | --- | 79 | 67 | --- |
| TOTAL | 8504 | 4777 | 3733 | 44330 | 22280 | 31507 | 21623 | 9150 | 4748 | 2446 | 2771 | 20545 |
| MEAN | 274 | 159 | 120 | 1430 | 796 | 1016 | 721 | 295 | 158 | 78.9 | 89.4 | 685 |
| MAX | 1250 | 357 | 158 | 6300 | 1960 | 2740 | 1450 | 473 | 300 | 110 | 344 | 5330 |
| MIN | 134 | 128 | 80 | 82 | 365 | 569 | 441 | 166 | 100 | 60 | 49 | 57 |
| CFSM | .57 | .33 | .25 | 2.96 | 1.65 | 2.10 | 1.49 | .61 | .33 | .16 | .19 | 1.42 |
| IN. | .65 | .37 | .29 | 3.41 | 1.72 | 2.43 | 1.67 | .70 | .37 | .19 | .21 | 1.58 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 1999, BY WATER YEAR (WY)

| | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| MEAN | 573 | 754 | 974 | 1027 | 1004 | 1410 | 1228 | 908 | 587 | 434 | 305 | 336 |
| MAX | 2632 | 1427 | 2693 | 3370 | 1963 | 3848 | 3207 | 2708 | 1959 | 1536 | 1036 | 1320 |
| (WY) | 1977 | 1993 | 1997 | 1979 | 1998 | 1994 | 1993 | 1989 | 1982 | 1989 | 1978 | 1987 |
| MIN | 85.3 | 152 | 111 | 79.9 | 226 | 459 | 420 | 295 | 158 | 78.9 | 89.4 | 73.0 |
| (WY) | 1981 | 1982 | 1981 | 1981 | 1980 | 1985 | 1995 | 1999 | 1999 | 1999 | 1999 | 1980 |

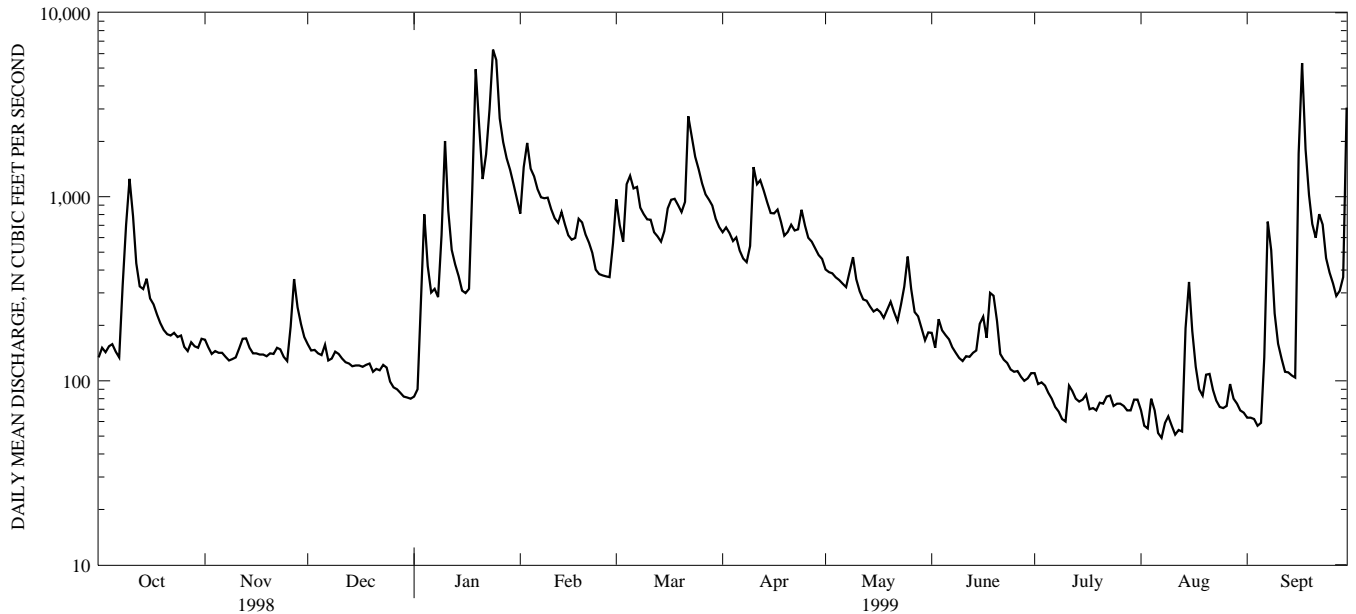
e Estimated.

SWATARA CREEK BASIN

01573560 SWATARA CREEK NEAR HERSHEY, PA--Continued

| SUMMARY STATISTICS | FOR 1998 CALENDAR YEAR | | | FOR 1999 WATER YEAR | | | WATER YEARS 1976 - 1999 | |
|--------------------------|------------------------|-----|----|---------------------|-----|----|-------------------------|-------------|
| ANNUAL TOTAL | 332004 | | | 176414 | | | | |
| ANNUAL MEAN | 910 | | | 483 | | | 794 | |
| HIGHEST ANNUAL MEAN | | | | | | | 1225 | |
| LOWEST ANNUAL MEAN | | | | | | | 380 | |
| HIGHEST DAILY MEAN | 5890 | Jan | 9 | e6300 | Jan | 24 | 23800 | Jan 25 1979 |
| LOWEST DAILY MEAN | e80 | Dec | 31 | 49 | Aug | 7 | 49 | Aug 7 1999 |
| ANNUAL SEVEN-DAY MINIMUM | a87 | Dec | 25 | 55 | Aug | 6 | 55 | Aug 6 1999 |
| INSTANTANEOUS PEAK FLOW | | | | 8110 | Jan | 24 | b29400 | Sep 27 1975 |
| INSTANTANEOUS PEAK STAGE | | | | 6.65 | Jan | 24 | 15.36 | Sep 27 1975 |
| INSTANTANEOUS LOW FLOW | | | | 48 | Aug | 7 | 59 | Sep 21 1985 |
| ANNUAL RUNOFF (CFSM) | 1.88 | | | 1.00 | | | 1.64 | |
| ANNUAL RUNOFF (INCHES) | 25.57 | | | 13.59 | | | 22.34 | |
| 10 PERCENT EXCEEDS | 2180 | | | 1090 | | | 1770 | |
| 50 PERCENT EXCEEDS | 468 | | | 211 | | | 440 | |
| 90 PERCENT EXCEEDS | 131 | | | 75 | | | 132 | |

- a Computed using estimated daily discharges.
- b From rating curve extended above 12,200 ft³/s.
- e Estimated.



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