



2005 Water Year
BRODHEAD CREEK BASIN
01442500 Brodhead Creek at Minisink Hills, PA

Latitude: 40° 59 ' 55"

Longitude: 075° 08 ' 35"

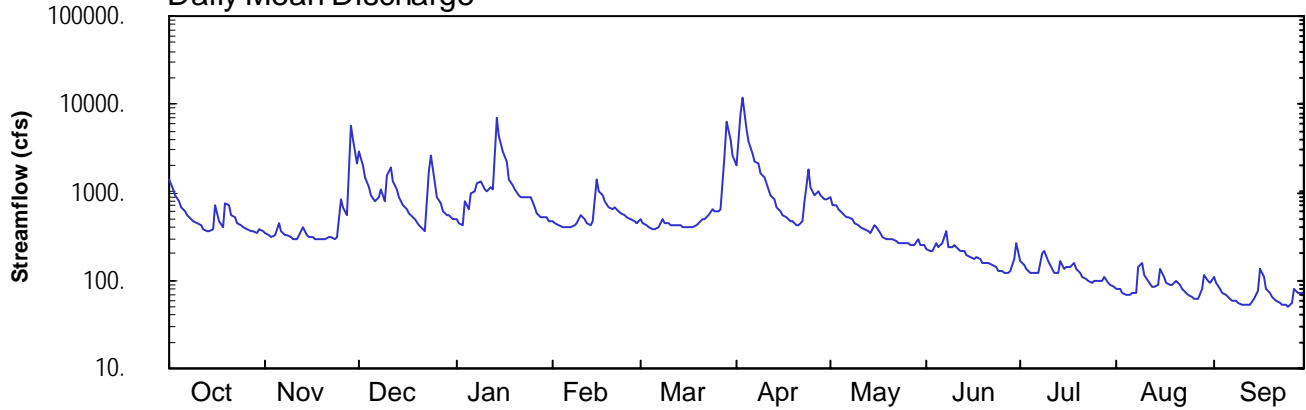
Hydrologic Unit Code: 02040104

Monroe County

Datum: 301.84 feet

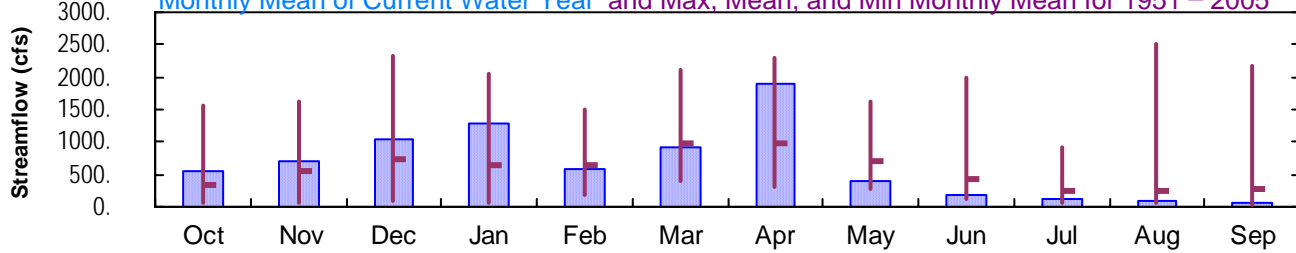
Drainage Area: 259. mi²

Daily Mean Discharge

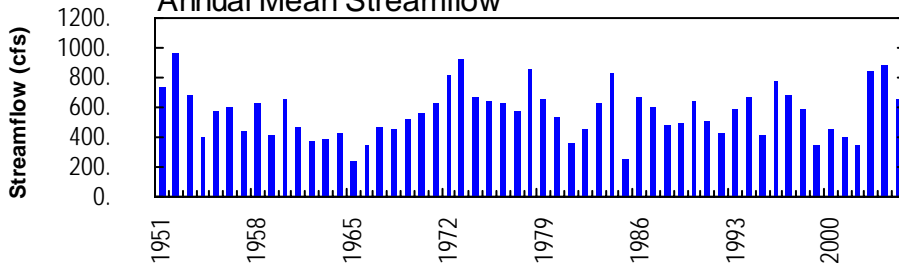


Monthly Statistics

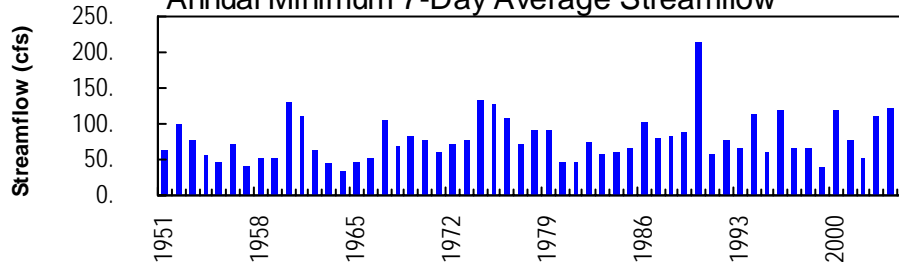
Monthly Mean of Current Water Year and Max, Mean, and Min Monthly Mean for 1951 – 2005



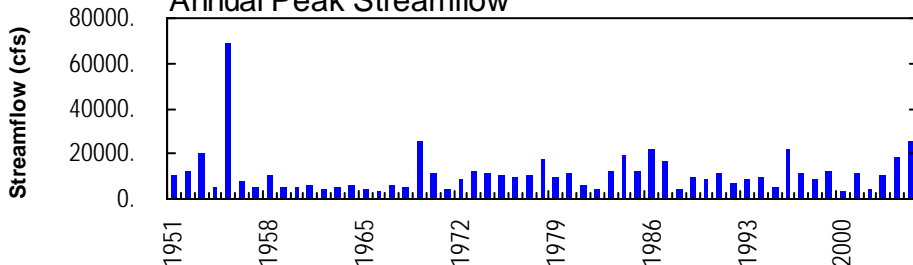
Annual Mean Streamflow



Annual Minimum 7-Day Average Streamflow



Annual Peak Streamflow



BRODHEAD CREEK BASIN

**01442500 BRODHEAD CREEK AT MINISINK HILLS, PA
(Pennsylvania Water-Quality Network Station)**

LOCATION.--Lat 40°59'55", long 75°08'35". Monroe County, Hydrologic Unit 02040104, on left bank at end of township route 646 at Minisink Hills, 500 ft upstream from Marshall Creek, 0.8 mi upstream from mouth, and 3.0 mi southeast of East Stroudsburg.

DRAINAGE AREA.--259 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1950 to current year.

REVISED RECORDS.--WSP 1232: 1951(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 301.84 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 19, 1955, water-stage recorder, and Aug. 23 to Nov. 24, 1955, nonrecording gage at site about 1,300 ft upstream at datum 2.19 ft higher. Nov. 25, 1955, to July 24, 1956, nonrecording gage at site 40 ft upstream at present datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year. Satellite telemetry at station. Flows may be affected by backwater from the Delaware River.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,300 ft³/s and maximum (*):

| Date | Time | Discharge ft ³ /s | Gage Height (ft) | Date | Time | Discharge ft ³ /s | Gage Height (ft) |
|---------|------|---------------------------------|---------------------|---------|------|---------------------------------|---------------------|
| Nov. 28 | 1345 | 12,800 | 9.58 | Mar. 29 | 0130 | 8,790 | 8.07 |
| Dec. 1 | 1445 | 4,570 | 6.16 | Apr. 3 | 0100 | *25,900 | 14.16 |
| Dec. 23 | 2100 | 6,200 | 6.93 | Apr. 4 | 0100 | a | 20.99 |
| Jan. 14 | 0845 | 11,700 | 9.15 | | | | |

a Backwater from Delaware River.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES**

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|--------|-------|------|------|------|------|
| 1 | 1380 | 336 | 2900 | 484 | e460 | 484 | 2000 | 887 | 228 | 165 | 81 | 109 |
| 2 | 1060 | 321 | 2070 | 436 | e440 | 454 | 7850 | e730 | 219 | 151 | 78 | 92 |
| 3 | 912 | 317 | 1470 | 423 | e420 | 423 | e12000 | 711 | 213 | 133 | 74 | 81 |
| 4 | 781 | 330 | 1120 | 781 | 413 | e400 | e5200 | e630 | 264 | 124 | 68 | 74 |
| 5 | 677 | 441 | 919 | 640 | 407 | 384 | e3800 | e570 | 234 | 119 | 68 | 68 |
| 6 | 595 | 357 | 798 | 955 | 408 | 381 | 2770 | 533 | 264 | 122 | 71 | 63 |
| 7 | 542 | 326 | 890 | 1040 | 410 | 406 | 2250 | 512 | 361 | 119 | 71 | 59 |
| 8 | 504 | 319 | 1070 | 1300 | 419 | e500 | 2080 | 483 | 238 | 201 | 142 | 57 |
| 9 | 470 | 307 | 807 | 1300 | 451 | e450 | 1640 | 452 | 234 | 215 | 160 | 56 |
| 10 | 445 | 298 | 1580 | 1060 | 557 | e440 | 1440 | 428 | 255 | 164 | 116 | 54 |
| 11 | 414 | 296 | 1920 | 1010 | 497 | 434 | e1100 | 410 | 227 | 137 | 96 | 53 |
| 12 | 390 | 353 | 1350 | 1140 | 449 | 432 | e930 | 389 | 220 | 124 | 86 | 53 |
| 13 | 366 | 403 | 1080 | 1100 | 427 | 425 | e820 | 361 | 215 | 122 | 84 | 53 |
| 14 | 363 | 328 | 874 | 7010 | 471 | 418 | e690 | 352 | 198 | 169 | 90 | 61 |
| 15 | 381 | 312 | 722 | e4500 | 1410 | 404 | e600 | 424 | 188 | 138 | 135 | 74 |
| 16 | 719 | 307 | 633 | 2980 | 1040 | 404 | e560 | 399 | 171 | 143 | 108 | 132 |
| 17 | 471 | 300 | 583 | e2200 | 944 | 403 | e520 | 343 | 181 | 144 | 96 | 109 |
| 18 | 406 | 297 | 521 | e1400 | 801 | 411 | e480 | 318 | 171 | 155 | 87 | 81 |
| 19 | 757 | 296 | 497 | e1200 | e690 | 420 | e460 | 301 | 159 | 132 | 89 | 71 |
| 20 | 720 | 298 | e420 | 1110 | e630 | 455 | e430 | 296 | 154 | 121 | 98 | 65 |
| 21 | 560 | 318 | e410 | e940 | 660 | 490 | e420 | 295 | 158 | 112 | 90 | 60 |
| 22 | 509 | 304 | 360 | e900 | 613 | 488 | 459 | 279 | 151 | 105 | 80 | 55 |
| 23 | 458 | 296 | 1700 | e890 | 583 | 549 | 790 | 270 | 139 | 100 | 73 | 53 |
| 24 | 425 | 317 | 2650 | e880 | 541 | 627 | 1860 | 268 | 131 | 93 | 69 | 53 |
| 25 | 404 | 834 | 1240 | e860 | 522 | 616 | 1130 | 265 | 125 | 97 | 65 | 51 |
| 26 | 387 | 687 | e890 | e680 | e500 | 607 | 930 | 261 | 122 | 100 | 63 | 55 |
| 27 | 368 | 553 | e750 | e590 | 466 | 636 | 1020 | 252 | 120 | 98 | 63 | 80 |
| 28 | 356 | 5610 | e620 | e520 | 456 | 2660 | 941 | 248 | 125 | 108 | 80 | 73 |
| 29 | 342 | 3950 | e560 | e520 | --- | e6500 | 824 | 288 | 174 | 94 | 114 | 73 |
| 30 | 376 | 2170 | 537 | e510 | --- | e4000 | 816 | 254 | 269 | 88 | 97 | 71 |
| 31 | 364 | --- | 500 | e480 | --- | 2570 | --- | 246 | --- | 84 | 96 | --- |
| TOTAL | 16902 | 21581 | 32441 | 39839 | 16085 | 28271 | 56810 | 12455 | 5908 | 3977 | 2788 | 2089 |
| MEAN | 545 | 719 | 1046 | 1285 | 574 | 912 | 1894 | 402 | 197 | 128 | 89.9 | 69.6 |
| MAX | 1380 | 5610 | 2900 | 7010 | 1410 | 6500 | 12000 | 887 | 361 | 215 | 160 | 132 |
| MIN | 342 | 296 | 360 | 423 | 407 | 381 | 420 | 246 | 120 | 84 | 63 | 51 |
| CFM | 2.11 | 2.78 | 4.04 | 4.96 | 2.22 | 3.52 | 7.31 | 1.55 | 0.76 | 0.50 | 0.35 | 0.27 |
| IN. | 2.43 | 3.10 | 4.66 | 5.72 | 2.31 | 4.06 | 8.16 | 1.79 | 0.85 | 0.57 | 0.40 | 0.30 |

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2005, BY WATER YEAR (WY)

| | | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| MEAN | 333 | 549 | 746 | 632 | 649 | 976 | 987 | 693 | 443 | 253 | 254 | 281 |
| MAX | 1560 | 1634 | 2321 | 2051 | 1498 | 2108 | 2293 | 1619 | 1988 | 923 | 2505 | 2167 |
| (WY) | 1956 | 1973 | 1997 | 1996 | 1951 | 1977 | 1983 | 1989 | 2003 | 1969 | 1955 | 2004 |
| MIN | 54.4 | 68.1 | 83.4 | 50.6 | 196 | 387 | 312 | 268 | 119 | 58.1 | 46.4 | 40.8 |
| (WY) | 1964 | 1965 | 1981 | 1981 | 1980 | 1985 | 1985 | 1962 | 1962 | 1999 | 1957 | 1964 |

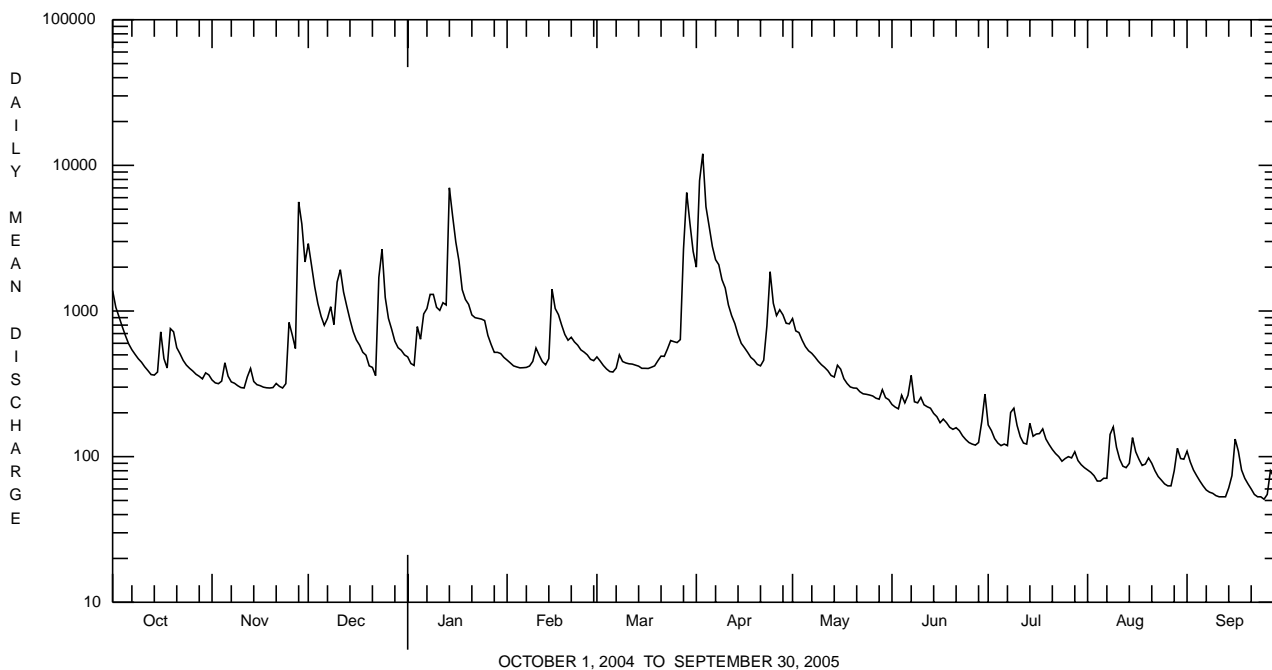
e Estimated.

BRODHEAD CREEK BASIN

01442500 BRODHEAD CREEK AT MINISINK HILLS, PA--Continued

| SUMMARY STATISTICS | FOR 2004 CALENDAR YEAR | | FOR 2005 WATER YEAR | | WATER YEARS 1951 - 2005 | |
|--------------------------|------------------------|--------|---------------------|--------|-------------------------|-------------|
| ANNUAL TOTAL | 277311 | | 239146 | | 566 | |
| ANNUAL MEAN | 758 | | 655 | | 957 | |
| HIGHEST ANNUAL MEAN | | | | | 238 | |
| LOWEST ANNUAL MEAN | | | | | 1965 | |
| HIGHEST DAILY MEAN | e13000 | Sep 18 | e12000 | Apr 3 | 30500 | Aug 19 1955 |
| LOWEST DAILY MEAN | 105 | Jul 11 | 51 | Sep 25 | 30 | Sep 26 1964 |
| ANNUAL SEVEN-DAY MINIMUM | 122 | Jul 5 | 55 | Sep 7 | 33 | Sep 6 1964 |
| MAXIMUM PEAK FLOW | | | bc25900 | Apr 3 | b68800 | Aug 19 1955 |
| MAXIMUM PEAK STAGE | | | a20.99 | Apr 4 | d27.00 | Aug 19 1955 |
| INSTANTANEOUS LOW FLOW | | | | | 29 | Sep 27 1964 |
| ANNUAL RUNOFF (CFSM) | 2.93 | | 2.53 | | 2.18 | |
| ANNUAL RUNOFF (INCHES) | 39.83 | | 34.35 | | 29.68 | |
| 10 PERCENT EXCEEDS | 1320 | | 1220 | | 1210 | |
| 50 PERCENT EXCEEDS | 480 | | 406 | | 353 | |
| 90 PERCENT EXCEEDS | 242 | | 80 | | 93 | |

- a Backwater from Delaware River.
- b From rating curve extended above 10,100 ft³/s on basis of slope-area measurement of peak flow.
- c Corresponding gage height of 14.16 ft.
- d From floodmark, at site about 1,300 ft upstream at datum 2.19 ft higher.
- e Estimated.



BRODHEAD CREEK BASIN

01442500 BRODHEAD CREEK AT MINISINK HILLS, PA--Continued
(Pennsylvania Water-Quality Network Station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2002 to current year.

COOPERATION.--Samples were collected as part of the Pennsylvania Department of Environmental Protection Water-Quality Network (WQN) with cooperation from the Pennsylvania Department of Environmental Protection.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

| Date | Time | Agency collecting sample, code (00027) | Agency analyzing sample, code (00028) | Instantaneous discharge, cfs (00061) | Dissolved oxygen, mg/L (00300) | pH, water, unfltrd field, std units (00400) | pH, water, unfltrd lab, std units (00403) | Specif. conductance, wat unfltrd lab, 25 degC (90095) | Specif. conductance, wat unfltrd lab, 25 degC (00095) | Temperature, water, deg C (00010) | Hardness, water, mg/L as CaCO3 (00900) | Calcium, water, unfltrd recover-able, mg/L (00916) | Magnesium, water, unfltrd recover-able, mg/L (00927) |
|----------------|------|--|---------------------------------------|--------------------------------------|--------------------------------|---|---|---|---|-----------------------------------|--|--|--|
| NOV 2004 03... | 1330 | 1028 | 9813 | 320 | 12.9 | 8.0 | 7.2 | 160 | 153 | 11.4 | 44 | 14 | 2.3 |
| JAN 2005 13... | 1200 | 1028 | 9813 | 1020 | 13.3 | 7.0 | 7.0 | 150 | 143 | 4.3 | 36 | 11 | 1.9 |
| MAR 10... | 0830 | 1028 | 9813 | E440 | 15.8 | 7.4 | 7.5 | 188 | 183 | .1 | 45 | 14 | 2.3 |
| MAY 19... | 1130 | 1028 | 9813 | 302 | 12.1 | 8.4 | 7.9 | 170 | 164 | 13.8 | 47 | 15 | 2.2 |
| JUL 07... | 1330 | 1028 | 9813 | 120 | 9.0 | 7.8 | 7.8 | 212 | 215 | 21.1 | 60 | 19 | 2.8 |
| SEP 12... | 1200 | 1028 | 9813 | 55 | 9.2 | 7.7 | 7.8 | 265 | 263 | 19.0 | 74 | 24 | 3.1 |

| Date | ANC, wat unfltrd end pt, lab, mg/L as CaCO3 (00417) | Sulfate water, fltrd, mg/L (00945) | Residue on evap. at 105degC wat fltrd, mg/L (00515) | Residue total at 105 deg. C, suspended, mg/L (00530) | Ammonia water, unfltrd mg/L as N (00610) | Nitrate water, unfltrd mg/L as N (00620) | Nitrite water, unfltrd mg/L as N (00615) | Total nitrogen, water, unfltrd mg/L (00600) | Ortho-phosphate, water, unfltrd mg/L as P (70507) | Phosphorus, water, unfltrd mg/L (00665) | Organic carbon, water, unfltrd mg/L (00680) | Aluminum, water, unfltrd recover-able, mg/L (01105) | Copper, water, unfltrd recover-able, mg/L (01042) |
|----------------|---|------------------------------------|---|--|--|--|--|---|---|---|---|---|---|
| NOV 2004 03... | 31 | 12 | 92 | <2 | .050 | .37 | <.040 | .54 | .07 | .07 | 1.9 | <200 | <10 |
| JAN 2005 13... | 22 | 11 | 110 | <2 | .020 | .47 | <.040 | .48 | .01 | .01 | 1.4 | <200 | <10 |
| MAR 10... | 25 | 12 | 100 | <2 | .070 | .50 | <.040 | .61 | .01 | .02 | 1.4 | <200 | <10 |
| MAY 19... | 29 | 12 | 140 | 4 | .070 | .35 | <.040 | .44 | .03 | .04 | -- | <200 | <10 |
| JUL 07... | 42 | 16 | 130 | <2 | .060 | .49 | <.040 | .68 | .08 | .11 | -- | <200 | <10 |
| SEP 12... | 52 | 19 | 230 | 10 | .040 | .63 | .060 | .86 | .15 | .18 | -- | <200 | <10 |

| Date | Iron, water, unfltrd recover-able, mg/L (01045) | Lead, water, unfltrd recover-able, mg/L (01051) | Manganese, water, unfltrd recover-able, mg/L (01055) | Nickel, water, unfltrd recover-able, mg/L (01067) | Zinc, water, unfltrd recover-able, mg/L (01092) |
|----------------|---|---|--|---|---|
| NOV 2004 03... | 40 | <1.0 | 10 | <50 | <10 |
| JAN 2005 13... | 130 | <1.0 | 20 | <50 | <10 |
| MAR 10... | 80 | <1.0 | 30 | <50 | 12 |
| MAY 19... | 60 | <1.0 | 20 | <50 | 10 |
| JUL 07... | 90 | <1.0 | 20 | <50 | <10 |
| SEP 12... | 50 | <1.0 | 30 | <50 | <10 |

BRODHEAD CREEK BASIN

01442500 BRODHEAD CREEK AT MINISINK HILLS, PA--Continued

BIOLOGICAL DATA
BENTHIC MACROINVERTEBRATES

REMARKS.--Samples were collected using a D-Frame net with a mesh size of 500 μ m. Samples represent counts per 100 animal (approximate) subsamples.

| Date | 09/06/04 |
|---------------------------|----------|
| Benthic macroinvertebrate | Count |
| Arthropoda | |
| Crustacea | |
| Amphipoda (SCUDS) | |
| Gammaridae | |
| <i>Gammarus</i> | 1 |
| Insecta | |
| Ephemeroptera (MAYFLIES) | |
| Baetidae | |
| <i>Acentrella</i> | 46 |
| <i>Baetis</i> | 4 |
| Heptageniidae | |
| <i>Epeorus</i> | 1 |
| Trichoptera (CADDISFLIES) | |
| Philopotamidae | |
| <i>Chimarra</i> | 1 |
| Rhyacophilidae | |
| <i>Rhyacophila</i> | 1 |
| Diptera (TRUE FLIES) | |
| Chironomidae (MIDGES) | 59 |
| Empididae (DANCE FLIES) | |
| <i>Hemerodromia</i> | 1 |
| Simuliidae (BLACK FLIES) | |
| <i>Simulium</i> | 11 |
| Total Organisms | 125 |
| Total Taxa | 9 |