



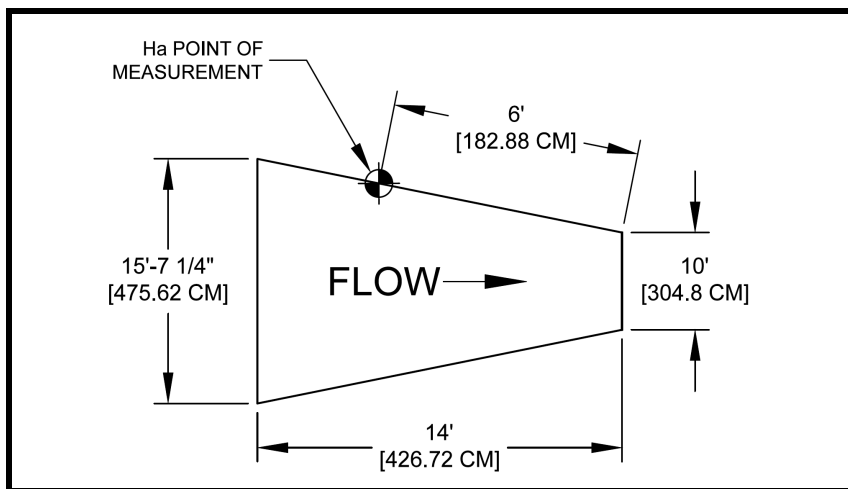
# 120-Inch Montana Flume Discharge Table

No Submergence ±3-5% Accuracy

Formulas (H in feet):  $CFS = 39.38 H_{ft}^{1.6}$   
 Formulas (H in meters):  $L/S = 7463 H_m^{1.6}$

$GPM = 17674 H_{ft}^{1.6}$   $MGD = 25.45 H_{ft}^{1.6}$   
 $M3/HR = 26870 H_m^{1.6}$

| FEET | INCHES | METERS | CFS                                                                  | GPM  | MGD   | L/S   | M3/HR |
|------|--------|--------|----------------------------------------------------------------------|------|-------|-------|-------|
| 0.01 | 0.12   | 0.0030 | Excessive error due to fluid-flow properties and boundary conditions |      |       |       |       |
| 0.02 | 0.24   | 0.0061 |                                                                      |      |       |       |       |
| 0.03 | 0.36   | 0.0091 |                                                                      |      |       |       |       |
| 0.04 | 0.48   | 0.0122 |                                                                      |      |       |       |       |
| 0.05 | 0.60   | 0.0152 |                                                                      |      |       |       |       |
| 0.06 | 0.72   | 0.0183 |                                                                      |      |       |       |       |
| 0.07 | 0.84   | 0.0213 |                                                                      |      |       |       |       |
| 0.08 | 0.96   | 0.0244 |                                                                      |      |       |       |       |
| 0.09 | 1.08   | 0.0274 |                                                                      |      |       |       |       |
| 0.10 | 1.20   | 0.0305 |                                                                      |      |       |       |       |
| 0.11 | 1.32   | 0.0335 |                                                                      |      |       |       |       |
| 0.12 | 1.44   | 0.0366 |                                                                      |      |       |       |       |
| 0.13 | 1.56   | 0.0396 |                                                                      |      |       |       |       |
| 0.14 | 1.68   | 0.0427 |                                                                      |      |       |       |       |
| 0.15 | 1.80   | 0.0457 |                                                                      |      |       |       |       |
| 0.16 | 1.92   | 0.0488 |                                                                      |      |       |       |       |
| 0.17 | 2.04   | 0.0518 |                                                                      |      |       |       |       |
| 0.18 | 2.16   | 0.0549 |                                                                      |      |       |       |       |
| 0.19 | 2.28   | 0.0579 |                                                                      |      |       |       |       |
| 0.20 | 2.40   | 0.0610 |                                                                      |      |       |       |       |
| 0.21 | 2.52   | 0.0640 |                                                                      |      |       |       |       |
| 0.22 | 2.64   | 0.0671 |                                                                      |      |       |       |       |
| 0.23 | 2.76   | 0.0701 |                                                                      |      |       |       |       |
| 0.24 | 2.88   | 0.0732 |                                                                      |      |       |       |       |
| 0.25 | 3.00   | 0.0762 |                                                                      |      |       |       |       |
| 0.26 | 3.12   | 0.0792 |                                                                      |      |       |       |       |
| 0.27 | 3.24   | 0.0823 |                                                                      |      |       |       |       |
| 0.28 | 3.36   | 0.0853 |                                                                      |      |       |       |       |
| 0.29 | 3.48   | 0.0884 |                                                                      |      |       |       |       |
| 0.30 | 3.60   | 0.0914 | 5.737                                                                | 2575 | 3.708 | 162.5 | 584.6 |



Sources:

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Formulas (H in feet): CFS = 39.38  $H_{ft}^{1.6}$   
 Formulas (H in meters): L/S = 7463  $H_m^{1.6}$

GPM = 17674  $H_{ft}^{1.6}$  MGD = 25.45  $H_{ft}^{1.6}$   
 M3/HR = 26870  $H_m^{1.6}$

| FEET | INCHES | METERS | CFS   | GPM   | MGD   | L/S   | M3/HR |
|------|--------|--------|-------|-------|-------|-------|-------|
| 0.31 | 3.72   | 0.0945 | 6.046 | 2713  | 3.907 | 171.2 | 616.1 |
| 0.32 | 3.84   | 0.0975 | 6.361 | 2855  | 4.111 | 180.1 | 648.2 |
| 0.33 | 3.96   | 0.1006 | 6.682 | 2999  | 4.318 | 189.2 | 680.9 |
| 0.34 | 4.08   | 0.1036 | 7.009 | 3146  | 4.530 | 198.5 | 714.2 |
| 0.35 | 4.20   | 0.1067 | 7.341 | 3295  | 4.745 | 207.9 | 748.1 |
| 0.36 | 4.32   | 0.1097 | 7.680 | 3447  | 4.964 | 217.5 | 782.6 |
| 0.37 | 4.44   | 0.1128 | 8.024 | 3601  | 5.186 | 227.2 | 817.7 |
| 0.38 | 4.56   | 0.1158 | 8.374 | 3758  | 5.412 | 237.1 | 853.3 |
| 0.39 | 4.68   | 0.1189 | 8.729 | 3918  | 5.642 | 247.2 | 889.5 |
| 0.40 | 4.80   | 0.1219 | 9.090 | 4080  | 5.875 | 257.4 | 926.3 |
| 0.41 | 4.92   | 0.1250 | 9.456 | 4244  | 6.112 | 267.8 | 963.6 |
| 0.42 | 5.04   | 0.1280 | 9.828 | 4411  | 6.352 | 278.3 | 1001  |
| 0.43 | 5.16   | 0.1311 | 10.21 | 4580  | 6.596 | 289.0 | 1040  |
| 0.44 | 5.28   | 0.1341 | 10.59 | 4752  | 6.843 | 299.8 | 1079  |
| 0.45 | 5.40   | 0.1372 | 10.98 | 4926  | 7.093 | 310.8 | 1118  |
| 0.46 | 5.52   | 0.1402 | 11.37 | 5102  | 7.347 | 321.9 | 1158  |
| 0.47 | 5.64   | 0.1433 | 11.77 | 5281  | 7.604 | 333.2 | 1199  |
| 0.48 | 5.76   | 0.1463 | 12.17 | 5462  | 7.865 | 344.6 | 1240  |
| 0.49 | 5.88   | 0.1494 | 12.58 | 5645  | 8.129 | 356.2 | 1282  |
| 0.50 | 6.00   | 0.1524 | 12.99 | 5830  | 8.396 | 367.9 | 1324  |
| 0.51 | 6.12   | 0.1554 | 13.41 | 6018  | 8.666 | 379.7 | 1366  |
| 0.52 | 6.24   | 0.1585 | 13.83 | 6208  | 8.940 | 391.7 | 1409  |
| 0.53 | 6.36   | 0.1615 | 14.26 | 6400  | 9.216 | 403.8 | 1453  |
| 0.54 | 6.48   | 0.1646 | 14.69 | 6594  | 9.496 | 416.1 | 1497  |
| 0.55 | 6.60   | 0.1676 | 15.13 | 6791  | 9.779 | 428.5 | 1542  |
| 0.56 | 6.72   | 0.1707 | 15.57 | 6989  | 10.06 | 441.0 | 1587  |
| 0.57 | 6.84   | 0.1737 | 16.02 | 7190  | 10.35 | 453.7 | 1632  |
| 0.58 | 6.96   | 0.1768 | 16.47 | 7393  | 10.65 | 466.5 | 1679  |
| 0.59 | 7.08   | 0.1798 | 16.93 | 7598  | 10.94 | 479.4 | 1725  |
| 0.60 | 7.20   | 0.1829 | 17.39 | 7805  | 11.24 | 492.5 | 1772  |
| 0.61 | 7.32   | 0.1859 | 17.86 | 8014  | 11.54 | 505.7 | 1820  |
| 0.62 | 7.44   | 0.1890 | 18.33 | 8225  | 11.85 | 519.0 | 1868  |
| 0.63 | 7.56   | 0.1920 | 18.80 | 8439  | 12.15 | 532.5 | 1916  |
| 0.64 | 7.68   | 0.1951 | 19.28 | 8654  | 12.46 | 546.1 | 1965  |
| 0.65 | 7.80   | 0.1981 | 19.77 | 8871  | 12.78 | 559.8 | 2014  |
| 0.66 | 7.92   | 0.2012 | 20.26 | 9091  | 13.09 | 573.6 | 2064  |
| 0.67 | 8.04   | 0.2042 | 20.75 | 9312  | 13.41 | 587.6 | 2114  |
| 0.68 | 8.16   | 0.2073 | 21.25 | 9535  | 13.73 | 601.7 | 2165  |
| 0.69 | 8.28   | 0.2103 | 21.75 | 9761  | 14.06 | 615.9 | 2216  |
| 0.70 | 8.40   | 0.2134 | 22.26 | 9988  | 14.38 | 630.3 | 2268  |
| 0.71 | 8.52   | 0.2164 | 22.77 | 10217 | 14.71 | 644.7 | 2320  |
| 0.72 | 8.64   | 0.2195 | 23.28 | 10449 | 15.05 | 659.3 | 2372  |
| 0.73 | 8.76   | 0.2225 | 23.80 | 10682 | 15.38 | 674.0 | 2425  |
| 0.74 | 8.88   | 0.2256 | 24.32 | 10917 | 15.72 | 688.9 | 2479  |
| 0.75 | 9.00   | 0.2286 | 24.85 | 11154 | 16.06 | 703.8 | 2532  |
| 0.76 | 9.12   | 0.2316 | 25.39 | 11393 | 16.41 | 718.9 | 2587  |
| 0.77 | 9.24   | 0.2347 | 25.92 | 11634 | 16.75 | 734.1 | 2641  |
| 0.78 | 9.36   | 0.2377 | 26.46 | 11876 | 17.10 | 749.4 | 2697  |
| 0.79 | 9.48   | 0.2408 | 27.01 | 12121 | 17.45 | 764.8 | 2752  |
| 0.80 | 9.60   | 0.2438 | 27.56 | 12367 | 17.81 | 780.4 | 2808  |

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 Formulas (H in meters): L/S = 7463 H<sub>m</sub><sup>1.6</sup>

GPM = 17674 H<sub>ft</sub><sup>1.6</sup> MGD = 25.45 H<sub>ft</sub><sup>1.6</sup>  
 M3/HR = 26870 H<sub>m</sub><sup>1.6</sup>

| FEET | INCHES | METERS | CFS   | GPM   | MGD   | L/S   | M3/HR |
|------|--------|--------|-------|-------|-------|-------|-------|
| 0.81 | 9.72   | 0.2469 | 28.11 | 12616 | 18.17 | 796.1 | 2864  |
| 0.82 | 9.84   | 0.2499 | 28.67 | 12866 | 18.53 | 811.8 | 2921  |
| 0.83 | 9.96   | 0.2530 | 29.23 | 13118 | 18.89 | 827.7 | 2978  |
| 0.84 | 10.08  | 0.2560 | 29.79 | 13371 | 19.26 | 843.8 | 3036  |
| 0.85 | 10.20  | 0.2591 | 30.36 | 13627 | 19.62 | 859.9 | 3094  |
| 0.86 | 10.32  | 0.2621 | 30.94 | 13884 | 19.99 | 876.1 | 3152  |
| 0.87 | 10.44  | 0.2652 | 31.51 | 14144 | 20.37 | 892.5 | 3211  |
| 0.88 | 10.56  | 0.2682 | 32.10 | 14405 | 20.74 | 909.0 | 3271  |
| 0.89 | 10.68  | 0.2713 | 32.68 | 14667 | 21.12 | 925.5 | 3330  |
| 0.90 | 10.80  | 0.2743 | 33.27 | 14932 | 21.50 | 942.2 | 3390  |
| 0.91 | 10.92  | 0.2774 | 33.86 | 15198 | 21.89 | 959.0 | 3451  |
| 0.92 | 11.04  | 0.2804 | 34.46 | 15466 | 22.27 | 976.0 | 3512  |
| 0.93 | 11.16  | 0.2835 | 35.06 | 15736 | 22.66 | 993.0 | 3573  |
| 0.94 | 11.28  | 0.2865 | 35.67 | 16008 | 23.05 | 1010  | 3635  |
| 0.95 | 11.40  | 0.2896 | 36.28 | 16281 | 23.45 | 1027  | 3697  |
| 0.96 | 11.52  | 0.2926 | 36.89 | 16556 | 23.84 | 1045  | 3759  |
| 0.97 | 11.64  | 0.2957 | 37.51 | 16833 | 24.24 | 1062  | 3822  |
| 0.98 | 11.76  | 0.2987 | 38.13 | 17112 | 24.64 | 1080  | 3885  |
| 0.99 | 11.88  | 0.3018 | 38.75 | 17392 | 25.05 | 1097  | 3949  |
| 1.00 | 12.00  | 0.3048 | 39.38 | 17674 | 25.45 | 1115  | 4013  |
| 1.01 | 12.12  | 0.3078 | 40.01 | 17957 | 25.86 | 1133  | 4077  |
| 1.02 | 12.24  | 0.3109 | 40.65 | 18243 | 26.27 | 1151  | 4142  |
| 1.03 | 12.36  | 0.3139 | 41.29 | 18530 | 26.68 | 1169  | 4207  |
| 1.04 | 12.48  | 0.3170 | 41.93 | 18818 | 27.10 | 1187  | 4273  |
| 1.05 | 12.60  | 0.3200 | 42.58 | 19109 | 27.52 | 1206  | 4339  |
| 1.06 | 12.72  | 0.3231 | 43.23 | 19401 | 27.94 | 1224  | 4405  |
| 1.07 | 12.84  | 0.3261 | 43.88 | 19694 | 28.36 | 1243  | 4472  |
| 1.08 | 12.96  | 0.3292 | 44.54 | 19990 | 28.79 | 1261  | 4539  |
| 1.09 | 13.08  | 0.3322 | 45.20 | 20287 | 29.21 | 1280  | 4606  |
| 1.10 | 13.20  | 0.3353 | 45.87 | 20585 | 29.64 | 1299  | 4674  |
| 1.11 | 13.32  | 0.3383 | 46.54 | 20886 | 30.08 | 1318  | 4742  |
| 1.12 | 13.44  | 0.3414 | 47.21 | 21187 | 30.51 | 1337  | 4811  |
| 1.13 | 13.56  | 0.3444 | 47.89 | 21491 | 30.95 | 1356  | 4880  |
| 1.14 | 13.68  | 0.3475 | 48.57 | 21796 | 31.39 | 1375  | 4949  |
| 1.15 | 13.80  | 0.3505 | 49.25 | 22103 | 31.83 | 1395  | 5018  |
| 1.16 | 13.92  | 0.3536 | 49.94 | 22411 | 32.27 | 1414  | 5088  |
| 1.17 | 14.04  | 0.3566 | 50.63 | 22721 | 32.72 | 1434  | 5159  |
| 1.18 | 14.16  | 0.3597 | 51.32 | 23032 | 33.17 | 1453  | 5230  |
| 1.19 | 14.28  | 0.3627 | 52.02 | 23346 | 33.62 | 1473  | 5301  |
| 1.20 | 14.40  | 0.3658 | 52.72 | 23660 | 34.07 | 1493  | 5372  |
| 1.21 | 14.52  | 0.3688 | 53.42 | 23976 | 34.53 | 1513  | 5444  |
| 1.22 | 14.64  | 0.3719 | 54.13 | 24294 | 34.99 | 1533  | 5516  |
| 1.23 | 14.76  | 0.3749 | 54.84 | 24614 | 35.45 | 1553  | 5589  |
| 1.24 | 14.88  | 0.3780 | 55.56 | 24935 | 35.91 | 1573  | 5661  |
| 1.25 | 15.00  | 0.3810 | 56.28 | 25257 | 36.37 | 1594  | 5735  |
| 1.26 | 15.12  | 0.3840 | 57.00 | 25581 | 36.84 | 1614  | 5808  |
| 1.27 | 15.24  | 0.3871 | 57.72 | 25907 | 37.31 | 1635  | 5882  |
| 1.28 | 15.36  | 0.3901 | 58.45 | 26234 | 37.78 | 1655  | 5956  |
| 1.29 | 15.48  | 0.3932 | 59.19 | 26563 | 38.25 | 1676  | 6031  |
| 1.30 | 15.60  | 0.3962 | 59.92 | 26893 | 38.73 | 1697  | 6106  |

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GPM = 17674  $H_{ft}^{1.6}$  MGD = 25.45  $H_{ft}^{1.6}$   
 M3/HR = 26870  $H_m^{1.6}$

| FEET | INCHES | METERS | CFS   | GPM   | MGD   | L/S  | M3/HR |
|------|--------|--------|-------|-------|-------|------|-------|
| 1.31 | 15.72  | 0.3993 | 60.66 | 27225 | 39.21 | 1718 | 6181  |
| 1.32 | 15.84  | 0.4023 | 61.40 | 27558 | 39.69 | 1739 | 6257  |
| 1.33 | 15.96  | 0.4054 | 62.15 | 27893 | 40.17 | 1760 | 6333  |
| 1.34 | 16.08  | 0.4084 | 62.90 | 28229 | 40.65 | 1781 | 6409  |
| 1.35 | 16.20  | 0.4115 | 63.65 | 28567 | 41.14 | 1803 | 6486  |
| 1.36 | 16.32  | 0.4145 | 64.41 | 28906 | 41.63 | 1824 | 6563  |
| 1.37 | 16.44  | 0.4176 | 65.17 | 29247 | 42.12 | 1846 | 6641  |
| 1.38 | 16.56  | 0.4206 | 65.93 | 29589 | 42.61 | 1867 | 6718  |
| 1.39 | 16.68  | 0.4237 | 66.70 | 29933 | 43.11 | 1889 | 6796  |
| 1.40 | 16.80  | 0.4267 | 67.47 | 30278 | 43.60 | 1911 | 6875  |
| 1.41 | 16.92  | 0.4298 | 68.24 | 30625 | 44.10 | 1933 | 6953  |
| 1.42 | 17.04  | 0.4328 | 69.01 | 30973 | 44.60 | 1954 | 7033  |
| 1.43 | 17.16  | 0.4359 | 69.79 | 31323 | 45.11 | 1977 | 7112  |
| 1.44 | 17.28  | 0.4389 | 70.58 | 31674 | 45.61 | 1999 | 7192  |
| 1.45 | 17.40  | 0.4420 | 71.36 | 32027 | 46.12 | 2021 | 7272  |
| 1.46 | 17.52  | 0.4450 | 72.15 | 32381 | 46.63 | 2043 | 7352  |
| 1.47 | 17.64  | 0.4481 | 72.94 | 32737 | 47.14 | 2066 | 7433  |
| 1.48 | 17.76  | 0.4511 | 73.74 | 33094 | 47.66 | 2088 | 7514  |
| 1.49 | 17.88  | 0.4542 | 74.54 | 33452 | 48.17 | 2111 | 7595  |
| 1.50 | 18.00  | 0.4572 | 75.34 | 33812 | 48.69 | 2134 | 7677  |
| 1.51 | 18.12  | 0.4602 | 76.14 | 34174 | 49.21 | 2156 | 7759  |
| 1.52 | 18.24  | 0.4633 | 76.95 | 34536 | 49.73 | 2179 | 7842  |
| 1.53 | 18.36  | 0.4663 | 77.76 | 34901 | 50.26 | 2202 | 7924  |
| 1.54 | 18.48  | 0.4694 | 78.58 | 35266 | 50.79 | 2225 | 8007  |
| 1.55 | 18.60  | 0.4724 | 79.40 | 35634 | 51.31 | 2249 | 8091  |
| 1.56 | 18.72  | 0.4755 | 80.22 | 36002 | 51.85 | 2272 | 8174  |
| 1.57 | 18.84  | 0.4785 | 81.04 | 36372 | 52.38 | 2295 | 8258  |
| 1.58 | 18.96  | 0.4816 | 81.87 | 36743 | 52.91 | 2319 | 8343  |
| 1.59 | 19.08  | 0.4846 | 82.70 | 37116 | 53.45 | 2342 | 8427  |
| 1.60 | 19.20  | 0.4877 | 83.53 | 37490 | 53.99 | 2366 | 8512  |
| 1.61 | 19.32  | 0.4907 | 84.37 | 37866 | 54.53 | 2389 | 8597  |
| 1.62 | 19.44  | 0.4938 | 85.21 | 38243 | 55.07 | 2413 | 8683  |
| 1.63 | 19.56  | 0.4968 | 86.05 | 38621 | 55.62 | 2437 | 8769  |
| 1.64 | 19.68  | 0.4999 | 86.90 | 39001 | 56.16 | 2461 | 8855  |
| 1.65 | 19.80  | 0.5029 | 87.75 | 39382 | 56.71 | 2485 | 8942  |
| 1.66 | 19.92  | 0.5060 | 88.60 | 39765 | 57.26 | 2509 | 9029  |
| 1.67 | 20.04  | 0.5090 | 89.46 | 40149 | 57.82 | 2533 | 9116  |
| 1.68 | 20.16  | 0.5121 | 90.32 | 40534 | 58.37 | 2558 | 9203  |
| 1.69 | 20.28  | 0.5151 | 91.18 | 40921 | 58.93 | 2582 | 9291  |
| 1.70 | 20.40  | 0.5182 | 92.04 | 41309 | 59.49 | 2607 | 9379  |
| 1.71 | 20.52  | 0.5212 | 92.91 | 41699 | 60.05 | 2631 | 9468  |
| 1.72 | 20.64  | 0.5243 | 93.78 | 42090 | 60.61 | 2656 | 9556  |
| 1.73 | 20.76  | 0.5273 | 94.66 | 42482 | 61.18 | 2681 | 9645  |
| 1.74 | 20.88  | 0.5304 | 95.53 | 42875 | 61.74 | 2706 | 9735  |
| 1.75 | 21.00  | 0.5334 | 96.41 | 43270 | 62.31 | 2730 | 9825  |
| 1.76 | 21.12  | 0.5364 | 97.30 | 43667 | 62.88 | 2755 | 9914  |
| 1.77 | 21.24  | 0.5395 | 98.18 | 44064 | 63.46 | 2781 | 10005 |
| 1.78 | 21.36  | 0.5425 | 99.07 | 44463 | 64.03 | 2806 | 10095 |
| 1.79 | 21.48  | 0.5456 | 99.96 | 44864 | 64.61 | 2831 | 10186 |
| 1.80 | 21.60  | 0.5486 | 100.9 | 45265 | 65.18 | 2856 | 10277 |

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| FEET | INCHES | METERS | CFS   | GPM   | MGD   | L/S  | M3/HR |
|------|--------|--------|-------|-------|-------|------|-------|
| 1.81 | 21.72  | 0.5517 | 101.8 | 45668 | 65.77 | 2882 | 10369 |
| 1.82 | 21.84  | 0.5547 | 102.7 | 46073 | 66.35 | 2907 | 10461 |
| 1.83 | 21.96  | 0.5578 | 103.6 | 46478 | 66.93 | 2933 | 10553 |
| 1.84 | 22.08  | 0.5608 | 104.5 | 46885 | 67.52 | 2959 | 10645 |
| 1.85 | 22.20  | 0.5639 | 105.4 | 47294 | 68.11 | 2984 | 10738 |
| 1.86 | 22.32  | 0.5669 | 106.3 | 47703 | 68.70 | 3010 | 10831 |
| 1.87 | 22.44  | 0.5700 | 107.2 | 48114 | 69.29 | 3036 | 10924 |
| 1.88 | 22.56  | 0.5730 | 108.1 | 48527 | 69.88 | 3062 | 11018 |
| 1.89 | 22.68  | 0.5761 | 109.0 | 48940 | 70.48 | 3088 | 11112 |
| 1.90 | 22.80  | 0.5791 | 110.0 | 49355 | 71.07 | 3114 | 11206 |
| 1.91 | 22.92  | 0.5822 | 110.9 | 49772 | 71.67 | 3141 | 11301 |
| 1.92 | 23.04  | 0.5852 | 111.8 | 50189 | 72.28 | 3167 | 11395 |
| 1.93 | 23.16  | 0.5883 | 112.8 | 50608 | 72.88 | 3193 | 11491 |
| 1.94 | 23.28  | 0.5913 | 113.7 | 51028 | 73.48 | 3220 | 11586 |
| 1.95 | 23.40  | 0.5944 | 114.6 | 51450 | 74.09 | 3247 | 11682 |
| 1.96 | 23.52  | 0.5974 | 115.6 | 51873 | 74.70 | 3273 | 11778 |
| 1.97 | 23.64  | 0.6005 | 116.5 | 52297 | 75.31 | 3300 | 11874 |
| 1.98 | 23.76  | 0.6035 | 117.5 | 52722 | 75.92 | 3327 | 11971 |
| 1.99 | 23.88  | 0.6066 | 118.4 | 53149 | 76.54 | 3354 | 12067 |
| 2.00 | 24.00  | 0.6096 | 119.4 | 53577 | 77.15 | 3381 | 12165 |
| 2.01 | 24.12  | 0.6126 | 120.3 | 54006 | 77.77 | 3408 | 12262 |
| 2.02 | 24.24  | 0.6157 | 121.3 | 54437 | 78.39 | 3435 | 12360 |
| 2.03 | 24.36  | 0.6187 | 122.3 | 54868 | 79.01 | 3462 | 12458 |
| 2.04 | 24.48  | 0.6218 | 123.2 | 55301 | 79.64 | 3490 | 12556 |
| 2.05 | 24.60  | 0.6248 | 124.2 | 55736 | 80.26 | 3517 | 12655 |
| 2.06 | 24.72  | 0.6279 | 125.2 | 56172 | 80.89 | 3545 | 12754 |
| 2.07 | 24.84  | 0.6309 | 126.1 | 56608 | 81.52 | 3572 | 12853 |
| 2.08 | 24.96  | 0.6340 | 127.1 | 57047 | 82.15 | 3600 | 12952 |
| 2.09 | 25.08  | 0.6370 | 128.1 | 57486 | 82.78 | 3627 | 13052 |
| 2.10 | 25.20  | 0.6401 | 129.1 | 57927 | 83.42 | 3655 | 13152 |
| 2.11 | 25.32  | 0.6431 | 130.1 | 58369 | 84.05 | 3683 | 13253 |
| 2.12 | 25.44  | 0.6462 | 131.0 | 58812 | 84.69 | 3711 | 13353 |
| 2.13 | 25.56  | 0.6492 | 132.0 | 59256 | 85.33 | 3739 | 13454 |
| 2.14 | 25.68  | 0.6523 | 133.0 | 59702 | 85.97 | 3767 | 13555 |
| 2.15 | 25.80  | 0.6553 | 134.0 | 60149 | 86.62 | 3796 | 13657 |
| 2.16 | 25.92  | 0.6584 | 135.0 | 60597 | 87.26 | 3824 | 13759 |
| 2.17 | 26.04  | 0.6614 | 136.0 | 61047 | 87.91 | 3852 | 13861 |
| 2.18 | 26.16  | 0.6645 | 137.0 | 61498 | 88.56 | 3881 | 13963 |
| 2.19 | 26.28  | 0.6675 | 138.0 | 61950 | 89.21 | 3909 | 14066 |
| 2.20 | 26.40  | 0.6706 | 139.0 | 62403 | 89.86 | 3938 | 14169 |
| 2.21 | 26.52  | 0.6736 | 140.1 | 62857 | 90.52 | 3966 | 14272 |
| 2.22 | 26.64  | 0.6767 | 141.1 | 63313 | 91.17 | 3995 | 14375 |
| 2.23 | 26.76  | 0.6797 | 142.1 | 63770 | 91.83 | 4024 | 14479 |
| 2.24 | 26.88  | 0.6828 | 143.1 | 64228 | 92.49 | 4053 | 14583 |
| 2.25 | 27.00  | 0.6858 | 144.1 | 64688 | 93.15 | 4082 | 14687 |
| 2.26 | 27.12  | 0.6888 | 145.2 | 65148 | 93.82 | 4111 | 14792 |
| 2.27 | 27.24  | 0.6919 | 146.2 | 65610 | 94.48 | 4140 | 14897 |
| 2.28 | 27.36  | 0.6949 | 147.2 | 66073 | 95.15 | 4169 | 15002 |
| 2.29 | 27.48  | 0.6980 | 148.3 | 66537 | 95.82 | 4199 | 15107 |
| 2.30 | 27.60  | 0.7010 | 149.3 | 67003 | 96.49 | 4228 | 15213 |

Sources:

Water Measurement Manual, 3rd Edition, United States Department of the Interior, Bureau of Reclamation

ASTM D 1941-91 (2007): Standard Test Method for Open Channel Flow Measurement of Water with Parshall Flume



# 120-Inch Montana Flume Discharge Table

No Submergence ±3-5% Accuracy

Formulas (H in feet): CFS = 39.38  $H_{ft}^{1.6}$   
 Formulas (H in meters): L/S = 7463  $H_m^{1.6}$

GPM = 17674  $H_{ft}^{1.6}$  MGD = 25.45  $H_{ft}^{1.6}$   
 M3/HR = 26870  $H_m^{1.6}$

| FEET | INCHES | METERS | CFS   | GPM   | MGD   | L/S  | M3/HR |
|------|--------|--------|-------|-------|-------|------|-------|
| 2.31 | 27.72  | 0.7041 | 150.3 | 67470 | 97.16 | 4257 | 15319 |
| 2.32 | 27.84  | 0.7071 | 151.4 | 67937 | 97.83 | 4287 | 15425 |
| 2.33 | 27.96  | 0.7102 | 152.4 | 68407 | 98.51 | 4317 | 15532 |
| 2.34 | 28.08  | 0.7132 | 153.5 | 68877 | 99.19 | 4346 | 15639 |
| 2.35 | 28.20  | 0.7163 | 154.5 | 69349 | 99.87 | 4376 | 15746 |
| 2.36 | 28.32  | 0.7193 | 155.6 | 69821 | 100.5 | 4406 | 15853 |
| 2.37 | 28.44  | 0.7224 | 156.6 | 70295 | 101.2 | 4436 | 15961 |
| 2.38 | 28.56  | 0.7254 | 157.7 | 70770 | 101.9 | 4466 | 16068 |
| 2.39 | 28.68  | 0.7285 | 158.7 | 71247 | 102.6 | 4496 | 16177 |
| 2.40 | 28.80  | 0.7315 | 159.8 | 71724 | 103.3 | 4526 | 16285 |
| 2.41 | 28.92  | 0.7346 | 160.9 | 72203 | 104.0 | 4556 | 16394 |
| 2.42 | 29.04  | 0.7376 | 161.9 | 72683 | 104.7 | 4586 | 16503 |
| 2.43 | 29.16  | 0.7407 | 163.0 | 73164 | 105.4 | 4617 | 16612 |
| 2.44 | 29.28  | 0.7437 | 164.1 | 73647 | 106.1 | 4647 | 16721 |
| 2.45 | 29.40  | 0.7468 | 165.2 | 74130 | 106.8 | 4678 | 16831 |
| 2.46 | 29.52  | 0.7498 | 166.3 | 74615 | 107.4 | 4708 | 16941 |
| 2.47 | 29.64  | 0.7529 | 167.3 | 75101 | 108.1 | 4739 | 17052 |
| 2.48 | 29.76  | 0.7559 | 168.4 | 75588 | 108.9 | 4770 | 17162 |
| 2.49 | 29.88  | 0.7590 | 169.5 | 76076 | 109.6 | 4801 | 17273 |
| 2.50 | 30.00  | 0.7620 | 170.6 | 76565 | 110.3 | 4831 | 17384 |
| 2.51 | 30.12  | 0.7650 | 171.7 | 77056 | 111.0 | 4862 | 17496 |
| 2.52 | 30.24  | 0.7681 | 172.8 | 77548 | 111.7 | 4893 | 17607 |
| 2.53 | 30.36  | 0.7711 | 173.9 | 78041 | 112.4 | 4924 | 17719 |
| 2.54 | 30.48  | 0.7742 | 175.0 | 78535 | 113.1 | 4956 | 17831 |
| 2.55 | 30.60  | 0.7772 | 176.1 | 79030 | 113.8 | 4987 | 17944 |
| 2.56 | 30.72  | 0.7803 | 177.2 | 79527 | 114.5 | 5018 | 18057 |
| 2.57 | 30.84  | 0.7833 | 178.3 | 80024 | 115.2 | 5050 | 18169 |
| 2.58 | 30.96  | 0.7864 | 179.4 | 80523 | 116.0 | 5081 | 18283 |
| 2.59 | 31.08  | 0.7894 | 180.5 | 81023 | 116.7 | 5113 | 18396 |
| 2.60 | 31.20  | 0.7925 | 181.6 | 81524 | 117.4 | 5144 | 18510 |
| 2.61 | 31.32  | 0.7955 | 182.8 | 82026 | 118.1 | 5176 | 18624 |
| 2.62 | 31.44  | 0.7986 | 183.9 | 82530 | 118.8 | 5208 | 18738 |
| 2.63 | 31.56  | 0.8016 | 185.0 | 83034 | 119.6 | 5240 | 18853 |
| 2.64 | 31.68  | 0.8047 | 186.1 | 83540 | 120.3 | 5272 | 18968 |
| 2.65 | 31.80  | 0.8077 | 187.3 | 84047 | 121.0 | 5303 | 19083 |
| 2.66 | 31.92  | 0.8108 | 188.4 | 84555 | 121.8 | 5336 | 19198 |
| 2.67 | 32.04  | 0.8138 | 189.5 | 85064 | 122.5 | 5368 | 19314 |
| 2.68 | 32.16  | 0.8169 | 190.7 | 85574 | 123.2 | 5400 | 19430 |
| 2.69 | 32.28  | 0.8199 | 191.8 | 86086 | 124.0 | 5432 | 19546 |
| 2.70 | 32.40  | 0.8230 | 193.0 | 86599 | 124.7 | 5465 | 19662 |
| 2.71 | 32.52  | 0.8260 | 194.1 | 87112 | 125.4 | 5497 | 19779 |
| 2.72 | 32.64  | 0.8291 | 195.2 | 87627 | 126.2 | 5529 | 19896 |
| 2.73 | 32.76  | 0.8321 | 196.4 | 88143 | 126.9 | 5562 | 20013 |
| 2.74 | 32.88  | 0.8352 | 197.5 | 88660 | 127.7 | 5595 | 20130 |
| 2.75 | 33.00  | 0.8382 | 198.7 | 89179 | 128.4 | 5627 | 20248 |

Sources:

Water Measurement Manual, 3rd Edition, United States Department of the Interior, Bureau of Reclamation

ASTM D 1941-91 (2007): Standard Test Method for Open Channel Flow Measurement of Water with Parshall Flume