This supplement contains detailed tabulations of average flows for the last week of April, the first week of May, and the second week of May for the following datasets:

(a) Observed (regulated) flows in the period 1972-2016

(b) Naturalised flows in the period 1972-2016, computed using a lag of 7 days

(c) Naturalised flows in the period 1972-2016, computed using a lag of 8 days

(d) Naturalised flows in the period 1972-1996, computed with the model described by Peters and Prowse (2001).

The designation “large ice-jam flood” follows the terminology used in the compilation of historical floods by Timoney (2009) who distinguished among small, moderate, and large events. It is the large variety that supplies considerable replenishment to the perched basins of the Peace Sector of the PAD. The 2014 event, which occurred after publication of Timoney’s (2009) paper, generated widespread flooding and is deemed to have been of the large variety. Please see published article for full citation of Timoney (2009).

Table S1. Annual values of average Peace Point flow (m3/s) in the last week of April.

Shading identifies years of large ice-jam floods. The footnote of Table 2 also applies to Tables 3 and 4.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | Observed(regulated) | Naturalized,7-day lag | Naturalized,8-day lag | Naturalized,Modelled(1) |
| 1972 | 2010 | 1454 | 1463 | 1336 |
| 1973 | 4399 | 3610 | 3584 | 3409 |
| 1974 | 4580 | 4174 | 4251 | 5010 |
| 1975 | 2411 | 1232 | 1218 | 1015 |
| 1976 | 3171 | 2604 | 2634 | 2493 |
| 1977 | 3000 | 2334 | 2310 | 2344 |
| 1978 | 2239 | 1483 | 1427 | 1250 |
| 1979 | 1463 | 861 | 874 | 776 |
| 1980 | 2011 | 1815 | 1820 | 1699 |
| 1981 | 2849 | 1913 | 1888 | 1512 |
| 1982 | 1616 | 821 | 820 | 736 |
| 1983 | 2161 | 2237 | 2132 | 1997 |
| 1984 | 2126 | 1812 | 1746 | 1546 |
| 1985 | 3180 | 2212 | 2270 | 2225 |
| 1986 | 2750 | 1875 | 1855 | 1698 |
| 1987 | 3087 | 1841 | 1844 | 1901 |
| 1988 | 2879 | 2426 | 2325 | 2073 |
| 1989 | 1591 | 1298 | 1205 | 879 |
| 1990 | 3727 | 3811 | 3727 | 3500 |
| 1991 | 3467 | 3625 | 3477 | 3383 |
| 1992 | 4240 | 4234 | 4143 | 3963 |
| 1993 | 2551 | 1962 | 1894 | 1676 |
| 1994 | 3884 | 4321 | 4223 | 4371 |
| 1995 | 1796 | 1813 | 1775 | 1672 |
| 1996 | 5139 | 5384 | 5308 | 5386 |
| 1997 | 6344 | 5905 | 5829 |  |
| 1998 | 3343 | 2503 | 2457 |  |
| 1999 | 3329 | 2928 | 2765 |  |
| 2000 | 1817 | 1233 | 1189 |  |
| 2001 | 1734 | 980 | 988 |  |
| 2002 | 1656 | 1196 | 1167 |  |
| 2003 | 2943 | 2399 | 2390 |  |
| 2004 | 2140 | 1966 | 1951 |  |
| 2005 | 3277 | 3046 | 2896 |  |
| 2006 | 1943 | 1444 | 1414 |  |
| 2007 | 4844 | 4869 | 4974 |  |
| 2008 | 2090 | 975 | 979 |  |
| 2009 | 3026 | 2326 | 2265 |  |
| 2010 | 1696 | 1762 | 1586 |  |
| 2011 | 2814 | 2033 | 2001 |  |
| 2012 | 2197 | 1784 | 1719 |  |
| 2013 | 1849 | 1223 | 1209 |  |
| 2014 | 2206 | 1777 | 1726 |  |
| 2015 | 3023 | 2780 | 2655 |  |
| 2016 | 1749 | 3026 | 2811 |  |

(1) Based on unpublished data by D. Peters

Table S2. Annual values of average Peace Point flow (m3/s) in the first week of May.

Shading identifies years of large ice-jam floods

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | Observed(regulated) | Naturalized,7-day lag | Naturalized,8-day lag | Naturalized,Modelled(1) |
| 1972 | 4529 | 4116 | 4048 | 3877 |
| 1973 | 4570 | 3773 | 3736 | 3656 |
| 1974 | 8001 | 7575 | 7462 | 7633 |
| 1975 | 2979 | 1927 | 1897 | 1673 |
| 1976 | 2980 | 2672 | 2510 | 2534 |
| 1977 | 2749 | 3372 | 3179 | 3078 |
| 1978 | 3057 | 3284 | 3074 | 2865 |
| 1979 | 2994 | 3014 | 2855 | 2125 |
| 1980 | 1487 | 2135 | 1947 | 1696 |
| 1981 | 4031 | 3981 | 3776 | 3812 |
| 1982 | 2671 | 1885 | 1859 | 1556 |
| 1983 | 2426 | 3124 | 3048 | 2982 |
| 1984 | 1733 | 1258 | 1340 | 1439 |
| 1985 | 3420 | 2260 | 2222 | 2173 |
| 1986 | 3053 | 2361 | 2362 | 2301 |
| 1987 | 2967 | 2124 | 1962 | 1884 |
| 1988 | 3234 | 3193 | 3046 | 3167 |
| 1989 | 2920 | 3819 | 3651 | 3598 |
| 1990 | 3380 | 3499 | 3503 | 3469 |
| 1991 | 3871 | 4424 | 4461 | 4382 |
| 1992 | 3979 | 4689 | 4522 | 4710 |
| 1993 | 2143 | 1981 | 1936 | 1872 |
| 1994 | 3429 | 4349 | 4317 | 4206 |
| 1995 | 2437 | 3180 | 3088 | 2871 |
| 1996 | 5466 | 5665 | 5733 | 5623 |
| 1997 | 7266 | 7424 | 7337 |  |
| 1998 | 2566 | 2711 | 2586 |  |
| 1999 | 3130 | 3730 | 3721 |  |
| 2000 | 2300 | 1933 | 1897 |  |
| 2001 | 2573 | 2232 | 2151 |  |
| 2002 | 2076 | 1812 | 1745 |  |
| 2003 | 4744 | 4926 | 4750 |  |
| 2004 | 2989 | 3003 | 2934 |  |
| 2005 | 2673 | 4130 | 4006 |  |
| 2006 | 1600 | 1752 | 1634 |  |
| 2007 | 5483 | 5379 | 5303 |  |
| 2008 | 2730 | 1812 | 1753 |  |
| 2009 | 3097 | 2786 | 2736 |  |
| 2010 | 1490 | 1971 | 1995 |  |
| 2011 | 4455 | 3806 | 3809 |  |
| 2012 | 2650 | 2744 | 2662 |  |
| 2013 | 3693 | 3497 | 3438 |  |
| 2014 | 5464 | 5463 | 5371 |  |
| 2015 | 3267 | 3499 | 3448 |  |
| 2016 | 1786 | 3334 | 3416 |  |

Table S3. Annual values of average Peace Point flow (m3/s) in the second week of May.

Shading identifies years of large ice-jam floods

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | Observed(regulated) | Naturalized,7-day lag | Naturalized,8-day lag | Naturalized,Modelled(1) |
| 1972 | 4356 | 4535 | 4442 | 4611 |
| 1973 | 4847 | 4932 | 4757 | 4901 |
| 1974 | 7533 | 7867 | 7785 | 7671 |
| 1975 | 2949 | 2260 | 2193 | 2068 |
| 1976 | 3754 | 5234 | 5030 | 5410 |
| 1977 | 3576 | 4845 | 4708 | 5194 |
| 1978 | 2756 | 3023 | 3109 | 3013 |
| 1979 | 5081 | 5368 | 5441 | 5241 |
| 1980 | 1414 | 2503 | 2569 | 2530 |
| 1981 | 3690 | 4491 | 4457 | 4570 |
| 1982 | 3859 | 3881 | 3745 | 3600 |
| 1983 | 2124 | 3001 | 2986 | 3020 |
| 1984 | 1893 | 1351 | 1315 | 1271 |
| 1985 | 4361 | 3729 | 3650 | 3396 |
| 1986 | 3016 | 2401 | 2314 | 2242 |
| 1987 | 3681 | 4474 | 4343 | 4510 |
| 1988 | 3067 | 3561 | 3499 | 3414 |
| 1989 | 3689 | 6027 | 5752 | 6490 |
| 1990 | 3201 | 4319 | 4115 | 4270 |
| 1991 | 2539 | 3847 | 3689 | 3903 |
| 1992 | 3983 | 5049 | 5029 | 5026 |
| 1993 | 2334 | 2923 | 2769 | 2755 |
| 1994 | 3150 | 4754 | 4639 | 4768 |
| 1995 | 2370 | 3332 | 3310 | 3242 |
| 1996 | 4294 | 4540 | 4457 | 4425 |
| 1997 | 6850 | 7478 | 7376 |  |
| 1998 | 2507 | 4295 | 4058 |  |
| 1999 | 2710 | 3024 | 2999 |  |
| 2000 | 2023 | 2082 | 2059 |  |
| 2001 | 2040 | 2032 | 2019 |  |
| 2002 | 3727 | 4101 | 4072 |  |
| 2003 | 2853 | 3580 | 3659 |  |
| 2004 | 2413 | 3464 | 3387 |  |
| 2005 | 1970 | 3099 | 3062 |  |
| 2006 | 1393 | 1856 | 1855 |  |
| 2007 | 6644 | 7085 | 6993 |  |
| 2008 | 3390 | 3226 | 3044 |  |
| 2009 | 3307 | 3761 | 1699 |  |
| 2010 | 1437 | 2206 | 2206 |  |
| 2011 | 3961 | 3588 | 3547 |  |
| 2012 | 2881 | 3369 | 3321 |  |
| 2013 | 4914 | 5211 | 5009 |  |
| 2014 | 3680 | 4430 | 4373 |  |
| 2015 | 3036 | 3149 | 3197 |  |
| 2016 | 1971 | 4195 | 4113 |  |