

**NECHAKO RIVER FLOW CONTROL
1996/1997**

*NECHAKO FISHERIES CONSERVATION PROGRAM
Data Report No. RM96-4*

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ABSTRACT

The objective of the 1996/1997 Nechako River Flow Control Project was to ensure release of the Short Term Annual Water Allocation (STWA), as defined in the 1987 Settlement Agreement (Anon. 1987) (a mean annual release of 36.8 m³/s at Skins Lake Spillway and an approximate mean annual flow of 41.7 m³/s in the Nechako River below Cheslatta Falls). The recorded mean annual Skins Lake Spillway release was 94.7 m³/s, and the mean annual flow in the Nechako River below Cheslatta Falls was recorded at 99.9 m³/s. Releases of volumes of water in excess of those required for the Short Term Annual Water Allocation occurred in all months except April, May and August, 1996. Excluding summer cooling water releases and release of excess volume of water from the reservoir, calculated mean annual Skins Lake Spillway release attributable to the STWA was 37.6 m³/s.

INTRODUCTION

The 1987 Settlement Agreement specifies the Short Term and Long Term Annual Water Allocation from Nechako Reservoir and the Short Term and Long Term flow regime in the Nechako River below Cheslatta Falls. The Short Term Annual Water Allocation is specified as a mean annual release of 36.8 m³/s at Skins Lake Spillway and an approximate mean annual flow of 41.7 m³/s in the Nechako River below Cheslatta Falls.

This report provides a summary of recorded mean daily Skins Lake Spillway releases and flows in the Nechako River below Cheslatta Falls for the period April 1, 1996 to March 31, 1997. Also included is a comparison of recorded mean monthly flows and Short Term Flow Regime, defined in the Settlement Agreement, for Skins Lake Spillway and the Nechako River below Cheslatta Falls.

In 1996 and 1997, spilling occurred in all months except April, May and August, 1996, resulting in higher than normal discharges in the Nechako River.

OBJECTIVE AND RATIONALE

The objective of the Nechako River flow management project is to ensure release of the Short Term Annual Water Allocation. This objective is to be achieved by scheduling Nechako Reservoir releases appropriately to ensure the water allocation is utilized. Direction on the rate of timing and duration of Skins Lake Spillway releases is provided to Alcan Aluminium Ltd. (Alcan) by the Nechako Fisheries Conservation Program (NFCP) Technical Committee.

DATA REQUIREMENTS AND SOURCES

Project data requirements include mean daily Skins Lake Spillway releases and mean daily flows in the Nechako River below Cheslatta Falls. Data presented in the report for the period April 1, 1996 to December 31, 1996 are final Water of Survey of Canada (WSC) data. Data for the period January 1, 1997 to March 31, 1997 are preliminary WSC data and therefore, may vary slightly from the published WSC data for this period.

RESULTS

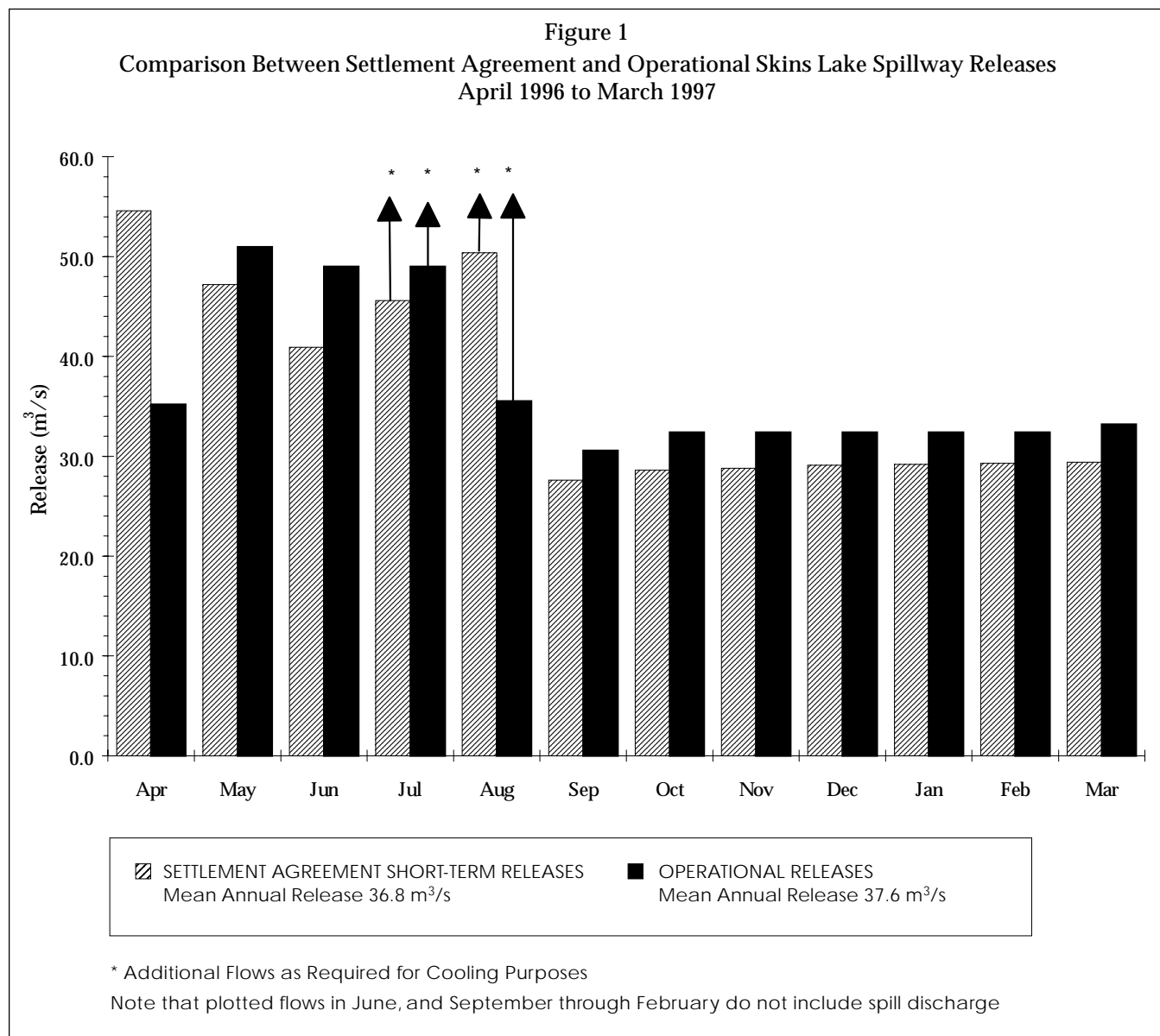
A comparison of Settlement Agreement and operational mean monthly Skins Lake Spillway releases is presented in Figure 1. The operational release is defined as the Water Survey of Canada recorded release made by Alcan, less forced spills and additional flows as required for cooling purposes, as per the 1996 Summer Water Temperature and Flow Management Project (Triton 1996). The operational mean annual release for the 1996/1997 water year was 37.6 m³/s. The Settlement Agreement Short Term annual water allocation specifies a mean annual release of 36.8 m³/s.

The operational release in excess of the specified 36.8 m³/s was due to the nature of the spillway gate setting schedule (especially during winter months) in response to changing reservoir elevations. Spillway gate settings are established by Alcan in response to direction received from the NFCP Technical Committee and are based on the current reservoir elevation

and anticipated reservoir inflow. During ice free conditions the spillway settings are reviewed periodically, typically weekly, to ensure the requested releases are achieved. Each year, during the fall, Alcan sets the gate(s) once for the entire upcoming winter. The winter release is typically set above the requested release in anticipation of the decreasing reservoir elevation over the winter months. This release regulation scheme results in differences between the recorded releases and directions provided by the NFCP Technical Committee.

A comparison of recorded and Settlement Agreement mean monthly flows in the Nechako River below

Cheslatta Falls is presented in Figure 2. The Settlement Agreement Short Term annual water allocation specifies an approximate mean annual flow of 41.7 m³/s in the Nechako River below Cheslatta Falls (plus additional flows as required for cooling purposes). Recorded mean daily Skins Lake Spillway releases and flow in the Nechako River below Cheslatta Falls for the 1996/1997 water year are presented in Table 1. The recorded mean annual Skins Lake Spillway release (including summer cooling water releases and spills) was 94.7 m³/s. The recorded mean annual flow in the Nechako River below Cheslatta falls was 99.9 m³/s.



REFERENCES

The calculated inflow between the measuring stations at the Skins Lake Spillway and Nechako River below Cheslatta Falls is subject to measurement error in either, or both gauges. During dry years, the inflow may be less than the combined gauging error (approximately plus or minus 5% for each gauge) resulting in a recorded negative inflow between upstream and downstream gauging stations. During wet years, similar gauging error may be present, but the inflow may be in excess of the combined gauging error resulting in recorded positive inflow, although possibly less than the actual inflow.

Anonymous. 1987. Settlement Agreement 1987.

Triton Environmental Consultants Ltd. 1996. The 1996 Summer Water Temperature and Flow Management Project. Nechako Fisheries Conservation Program Technical Report No. RM96-1. In review.

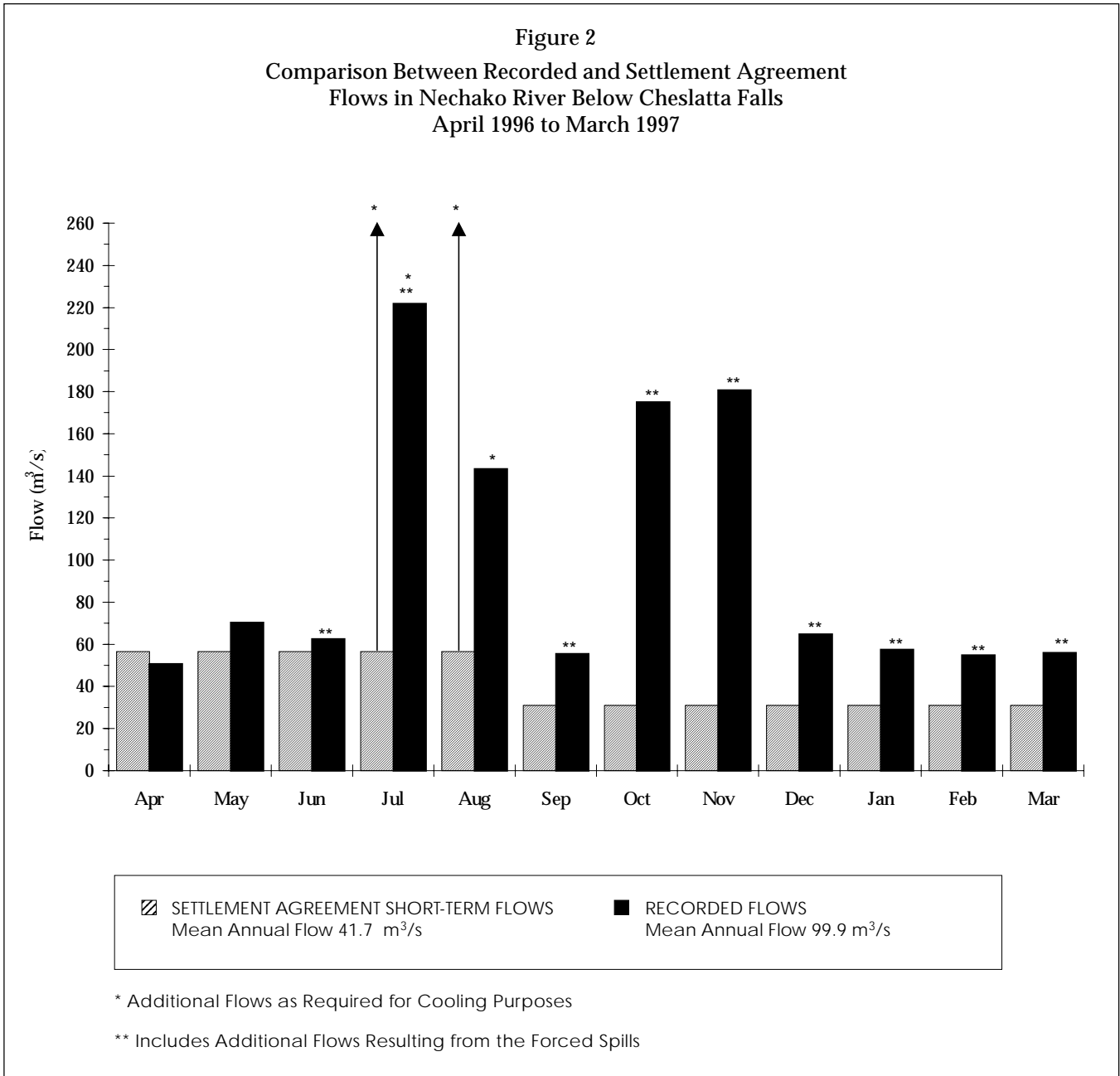


Table 1

Observed Skins Lake Spillway Releases and Flows in Nechako River Below Cheslatta Falls
1996/1997 Water Year (April 1, 1996 to March 31, 1997)

Note: records for 1996 are final WSC data and records for 1997 are preliminary WSC data

| Date 1996/1997 | Skins Lake Spillway Release | | Nechako R. Below Cheslatta Falls | |
|-------------------|--------------------------------|-------|-------------------------------------|-------|
| | (m ³ /s) | (cfs) | (m ³ /s) | (cfs) |
| Apr-01 | 32.9 | 1162 | 32.8 | 1158 |
| Apr-02 | 32.9 | 1162 | 33.0 | 1165 |
| Apr-03 | 32.9 | 1162 | 32.9 | 1162 |
| Apr-04 | 32.8 | 1158 | 32.8 | 1158 |
| Apr-05 | 32.8 | 1158 | 32.9 | 1162 |
| Apr-06 | 32.8 | 1158 | 33.0 | 1165 |
| Apr-07 | 32.8 | 1158 | 33.3 | 1176 |
| Apr-08 | 32.9 | 1162 | 34.5 | 1218 |
| Apr-09 | 33.0 | 1165 | 37.0 | 1307 |
| Apr-10 | 33.0 | 1165 | 39.0 | 1377 |
| Apr-11 | 33.1 | 1169 | 40.0 | 1413 |
| Apr-12 | 33.1 | 1169 | 41.1 | 1451 |
| Apr-13 | 33.1 | 1169 | 42.4 | 1497 |
| Apr-14 | 33.2 | 1172 | 44.0 | 1554 |
| Apr-15 | 33.2 | 1172 | 46.3 | 1635 |
| Apr-16 | 33.2 | 1172 | 49.6 | 1752 |
| Apr-17 | 33.3 | 1176 | 54.1 | 1911 |
| Apr-18 | 33.2 | 1172 | 57.0 | 2013 |
| Apr-19 | 33.3 | 1176 | 59.4 | 2098 |
| Apr-20 | 33.4 | 1180 | 60.9 | 2151 |
| Apr-21 | 33.4 | 1180 | 61.9 | 2186 |
| Apr-22 | 33.4 | 1180 | 63.5 | 2243 |
| Apr-23 | 33.5 | 1183 | 65.8 | 2324 |
| Apr-24 | 33.6 | 1187 | 67.9 | 2398 |
| Apr-25 | 33.6 | 1187 | 68.9 | 2433 |
| Apr-26 | 33.7 | 1190 | 70.0 | 2472 |
| Apr-27 | 43.7 | 1543 | 70.4 | 2486 |
| Apr-28 | 49.8 | 1759 | 70.6 | 2493 |
| Apr-29 | 49.8 | 1759 | 71.7 | 2532 |
| Apr-30 | 49.9 | 1762 | 72.1 | 2546 |

Table 1 (continued)

Observed Skins Lake Spillway Releases and Flows in Nechako River Below Cheslatta Falls
1996/1997 Water Year (April 1, 1996 to March 31, 1997)

Note: records for 1996 are final WSC data and records for 1997 are preliminary WSC data

| Date 1996/1997 | Skins Lake Spillway Release | | Nechako R. Below Cheslatta Falls | |
|-------------------|--------------------------------|-------|-------------------------------------|-------|
| | (m ³ /s) | (cfs) | (m ³ /s) | (cfs) |
| May-01 | 50.0 | 1766 | 72.2 | 2550 |
| May-02 | 50.0 | 1766 | 72.3 | 2553 |
| May-03 | 50.1 | 1769 | 72.4 | 2557 |
| May-04 | 50.2 | 1773 | 72.1 | 2546 |
| May-05 | 50.2 | 1773 | 71.7 | 2532 |
| May-06 | 50.2 | 1773 | 71.7 | 2532 |
| May-07 | 50.3 | 1776 | 71.6 | 2529 |
| May-08 | 50.3 | 1776 | 71.1 | 2511 |
| May-09 | 50.4 | 1780 | 70.3 | 2483 |
| May-10 | 50.4 | 1780 | 69.6 | 2458 |
| May-11 | 50.4 | 1780 | 69.0 | 2437 |
| May-12 | 50.5 | 1783 | 69.1 | 2440 |
| May-13 | 50.5 | 1783 | 70.0 | 2472 |
| May-14 | 50.6 | 1787 | 69.7 | 2461 |
| May-15 | 50.7 | 1790 | 69.7 | 2461 |
| May-16 | 50.7 | 1790 | 69.5 | 2454 |
| May-17 | 50.8 | 1794 | 69.6 | 2458 |
| May-18 | 50.9 | 1798 | 70.3 | 2483 |
| May-19 | 51.0 | 1801 | 69.9 | 2469 |
| May-20 | 51.1 | 1805 | 70.1 | 2476 |
| May-21 | 51.2 | 1808 | 71.1 | 2511 |
| May-22 | 51.3 | 1812 | 71.0 | 2507 |
| May-23 | 51.5 | 1819 | 70.9 | 2504 |
| May-24 | 51.6 | 1822 | 70.5 | 2490 |
| May-25 | 51.7 | 1826 | 70.2 | 2479 |
| May-26 | 51.9 | 1833 | 69.7 | 2461 |
| May-27 | 52.0 | 1836 | 69.0 | 2437 |
| May-28 | 52.1 | 1840 | 68.5 | 2419 |
| May-29 | 52.2 | 1843 | 68.0 | 2401 |
| May-30 | 52.4 | 1851 | 67.6 | 2387 |
| May-31 | 52.5 | 1854 | 67.1 | 2370 |

Table 1 (continued)

Observed Skins Lake Spillway Releases and Flows in Nechako River Below Cheslatta Falls
1996/1997 Water Year (April 1, 1996 to March 31, 1997)

Note: records for 1996 are final WSC data and records for 1997 are preliminary WSC data

| Date 1996/1997 | Skins Lake Spillway Release | | Nechako R. Below Cheslatta Falls | |
|-------------------|--------------------------------|-------|-------------------------------------|--------|
| | (m ³ /s) | (cfs) | (m ³ /s) | (cfs) |
| Jun-01 | 52.6 | 1858 | 67.0 | 2366 |
| Jun-02 | 52.8 | 1865 | 66.6 | 2352 |
| Jun-03 | 53.1 | 1875 | 66.4 | 2345 |
| Jun-04 | 53.3 | 1882 | 66.2 | 2338 |
| Jun-05 | 53.5 | 1889 | 65.3 | 2306 |
| Jun-06 | 53.7 | 1896 | 65.2 | 2303 |
| Jun-07 | 53.8 | 1900 | 64.7 | 2285 |
| Jun-08 | 54.0 | 1907 | 64.2 | 2267 |
| Jun-09 | 54.1 | 1911 | 63.5 | 2243 |
| Jun-10 | 54.3 | 1918 | 63.4 | 2239 |
| Jun-11 | 54.4 | 1921 | 62.7 | 2214 |
| Jun-12 | 54.5 | 1925 | 61.9 | 2186 |
| Jun-13 | 54.6 | 1928 | 61.5 | 2172 |
| Jun-14 | 54.7 | 1932 | 60.9 | 2151 |
| Jun-15 | 54.9 | 1939 | 60.9 | 2151 |
| Jun-16 | 54.9 | 1939 | 60.9 | 2151 |
| Jun-17 | 55.0 | 1942 | 60.6 | 2140 |
| Jun-18 | 55.1 | 1946 | 60.5 | 2137 |
| Jun-19 | 55.2 | 1949 | 60.3 | A 2129 |
| Jun-20 | 55.3 | 1953 | 59.8 | A 2112 |
| Jun-21 | 55.4 | 1956 | 59.7 | 2108 |
| Jun-22 | 55.5 | 1960 | 59.5 | 2101 |
| Jun-23 | 55.6 | 1964 | 59.7 | 2108 |
| Jun-24 | 55.8 | 1971 | 60.1 | 2122 |
| Jun-25 | 55.9 | 1974 | 59.9 | 2115 |
| Jun-26 | 56.0 | 1978 | 59.4 | 2098 |
| Jun-27 | 56.2 | 1985 | 59.2 | 2091 |
| Jun-28 | 95.5 | 3373 | 59.0 | 2084 |
| Jun-29 | 227.0 | 8017 | 60.8 | 2147 |
| Jun-30 | 227.0 | 8017 | 74.9 | 2645 |

Table 1 (continued)

Observed Skins Lake Spillway Releases and Flows in Nechako River Below Cheslatta Falls
1996/1997 Water Year (April 1, 1996 to March 31, 1997)

Note: records for 1996 are final WSC data and records for 1997 are preliminary WSC data

| Date 1996/1997 | Skins Lake Spillway Release | | Nechako R. Below Cheslatta Falls | |
|-------------------|--------------------------------|-------|-------------------------------------|-------|
| | (m ³ /s) | (cfs) | (m ³ /s) | (cfs) |
| Jul-01 | 227.0 | 8017 | 93.0 | 3284 |
| Jul-02 | 227.0 | 8017 | 110.0 | 3885 |
| Jul-03 | 236.0 | 8334 | 126.0 | 4450 |
| Jul-04 | 255.0 | 9005 | 143.0 | 5050 |
| Jul-05 | 255.0 | 9005 | 162.0 | 5721 |
| Jul-06 | 255.0 | 9005 | 177.0 | 6251 |
| Jul-07 | 255.0 | 9005 | 191.0 | 6745 |
| Jul-08 | 255.0 | 9005 | 205.0 | 7240 |
| Jul-09 | 255.0 | 9005 | 216.0 | 7628 |
| Jul-10 | 255.0 | 9005 | 224.0 | 7911 |
| Jul-11 | 255.0 | 9005 | 232.0 | 8193 |
| Jul-12 | 255.0 | 9005 | 238.0 | 8405 |
| Jul-13 | 255.0 | 9005 | 244.0 | 8617 |
| Jul-14 | 255.0 | 9005 | 248.0 | 8758 |
| Jul-15 | 255.0 | 9005 | 252.0 | 8899 |
| Jul-16 | 255.0 | 9005 | 255.0 | 9005 |
| Jul-17 | 255.0 | 9005 | 258.0 | 9111 |
| Jul-18 | 255.0 | 9005 | 263.0 | 9288 |
| Jul-19 | 255.0 | 9005 | 265.0 | 9358 |
| Jul-20 | 255.0 | 9005 | 267.0 | 9429 |
| Jul-21 | 255.0 | 9005 | 267.0 | 9429 |
| Jul-22 | 255.0 | 9005 | 267.0 | 9429 |
| Jul-23 | 255.0 | 9005 | 267.0 | 9429 |
| Jul-24 | 255.0 | 9005 | 269.0 | 9500 |
| Jul-25 | 255.0 | 9005 | 268.0 | 9464 |
| Jul-26 | 255.0 | 9005 | 269.0 | 9500 |
| Jul-27 | 175.0 | 6180 | 269.0 | 9500 |
| Jul-28 | 15.1 | 533 | 254.0 | 8970 |
| Jul-29 | 15.1 | 533 | 221.0 | 7805 |
| Jul-30 | 90.9 | 3210 | 189.0 | 6675 |
| Jul-31 | 170.0 | 6004 | 169.0 | 5968 |

Table 1 (continued)

Observed Skins Lake Spillway Releases and Flows in Nechako River Below Cheslatta Falls
1996/1997 Water Year (April 1, 1996 to March 31, 1997)

Note: records for 1996 are final WSC data and records for 1997 are preliminary WSC data

| Date 1996/1997 | Skins Lake Spillway Release | | Nechako R. Below Cheslatta Falls | |
|-------------------|--------------------------------|-------|-------------------------------------|-------|
| | (m ³ /s) | (cfs) | (m ³ /s) | (cfs) |
| Aug-01 | 170.0 | 6004 | 167.0 | 5898 |
| Aug-02 | 170.0 | 6004 | 168.0 | 5933 |
| Aug-03 | 170.0 | 6004 | 169.0 | 5968 |
| Aug-04 | 170.0 | 6004 | 170.0 | 6004 |
| Aug-05 | 170.0 | 6004 | 171.0 | 6039 |
| Aug-06 | 170.0 | 6004 | 171.0 | 6039 |
| Aug-07 | 170.0 | 6004 | 170.0 | 6004 |
| Aug-08 | 170.0 | 6004 | 171.0 | 6039 |
| Aug-09 | 170.0 | 6004 | 171.0 | 6039 |
| Aug-10 | 170.0 | 6004 | 171.0 | 6039 |
| Aug-11 | 170.0 | 6004 | 173.0 | 6109 |
| Aug-12 | 170.0 | 6004 | 172.0 | 6074 |
| Aug-13 | 170.0 | 6004 | 172.0 | 6074 |
| Aug-14 | 170.0 | 6004 | 173.0 | 6109 |
| Aug-15 | 170.0 | 6004 | 173.0 | 6109 |
| Aug-16 | 170.0 | 6004 | 173.0 | 6109 |
| Aug-17 | 170.0 | 6004 | 174.0 | 6145 |
| Aug-18 | 170.0 | 6004 | 174.0 | 6145 |
| Aug-19 | 118.0 | 4167 | 173.0 | 6109 |
| Aug-20 | 15.0 | 530 | 167.0 | 5898 |
| Aug-21 | 15.0 | 530 | 148.0 | 5227 |
| Aug-22 | 15.0 | 530 | 131.0 | 4626 |
| Aug-23 | 15.0 | 530 | 118.0 | 4167 |
| Aug-24 | 14.6 | 516 | 105.0 | 3708 |
| Aug-25 | 15.1 | 533 | 94.5 | 3337 |
| Aug-26 | 13.5 | 477 | 85.6 | 3023 |
| Aug-27 | 15.1 | 533 | 77.7 | 2744 |
| Aug-28 | 15.1 | 533 | 71.4 | 2521 |
| Aug-29 | 15.1 | 533 | 65.6 | 2317 |
| Aug-30 | 15.1 | 533 | 61.6 | 2175 |
| Aug-31 | 15.1 | 533 | 57.5 | 2031 |

Table 1 (continued)

Observed Skins Lake Spillway Releases and Flows in Nechako River Below Cheslatta Falls
1996/1997 Water Year (April 1, 1996 to March 31, 1997)

Note: records for 1996 are final WSC data and records for 1997 are preliminary WSC data

| Date 1996/1997 | Skins Lake Spillway Release | | Nechako R. Below Cheslatta Falls | |
|-------------------|--------------------------------|-------|-------------------------------------|-------|
| | (m ³ /s) | (cfs) | (m ³ /s) | (cfs) |
| Sep-01 | 15.1 | 533 | 54.2 | 1914 |
| Sep-02 | 15.1 | 533 | 50.0 | 1766 |
| Sep-03 | 26.4 | 932 | 47.6 | 1681 |
| Sep-04 | 32.9 | 1162 | 45.4 | 1603 |
| Sep-05 | 32.9 | 1162 | 43.6 | 1540 |
| Sep-06 | 32.9 | 1162 | 42.4 | 1497 |
| Sep-07 | 32.9 | 1162 | 42.2 | 1490 |
| Sep-08 | 33.1 | 1169 | 42.1 | 1487 |
| Sep-09 | 33.1 | 1169 | 40.9 | 1444 |
| Sep-10 | 41.0 | 1448 | 40.0 | 1413 |
| Sep-11 | 57.0 | 2013 | 39.7 | 1402 |
| Sep-12 | 57.0 | 2013 | 39.7 | 1402 |
| Sep-13 | 57.0 | 2013 | 41.1 | 1451 |
| Sep-14 | 57.0 | 2013 | 42.9 | 1515 |
| Sep-15 | 57.0 | 2013 | 44.2 | 1561 |
| Sep-16 | 57.0 | 2013 | 45.6 | 1610 |
| Sep-17 | 57.0 | 2013 | 46.9 | 1656 |
| Sep-18 | 57.0 | 2013 | 48.4 | 1709 |
| Sep-19 | 57.0 | 2013 | 49.9 | 1762 |
| Sep-20 | 75.8 | 2677 | 50.7 | 1790 |
| Sep-21 | 113.0 | 3991 | 52.1 | 1840 |
| Sep-22 | 113.0 | 3991 | 57.2 | 2020 |
| Sep-23 | 113.0 | 3991 | 63.7 | 2250 |
| Sep-24 | 113.0 | 3991 | 70.0 | 2472 |
| Sep-25 | 113.0 | 3991 | 75.7 | 2673 |
| Sep-26 | 113.0 | 3991 | 81.0 | 2861 |
| Sep-27 | 113.0 | 3991 | 85.9 | 3034 |
| Sep-28 | 113.0 | 3991 | 90.3 | 3189 |
| Sep-29 | 113.0 | 3991 | 94.0 | 3320 |
| Sep-30 | 113.0 | 3991 | 97.3 | 3436 |

Table 1 (continued)

Observed Skins Lake Spillway Releases and Flows in Nechako River Below Cheslatta Falls
1996/1997 Water Year (April 1, 1996 to March 31, 1997)

Note: records for 1996 are final WSC data and records for 1997 are preliminary WSC data

| Date 1996/1997 | Skins Lake Spillway Release | | Nechako R. Below Cheslatta Falls | |
|-------------------|--------------------------------|-------|-------------------------------------|-------|
| | (m ³ /s) | (cfs) | (m ³ /s) | (cfs) |
| Oct-01 | 113.0 | 3991 | 99.9 | 3528 |
| Oct-02 | 112.0 | 3955 | 103.0 | 3637 |
| Oct-03 | 112.0 | 3955 | 105.0 | 3708 |
| Oct-04 | 112.0 | 3955 | 108.0 | 3814 |
| Oct-05 | 112.0 | 3955 | 110.0 | 3885 |
| Oct-06 | 112.0 | 3955 | 111.0 | 3920 |
| Oct-07 | 112.0 | 3955 | 113.0 | 3991 |
| Oct-08 | 151.0 | 5333 | 114.0 | 4026 |
| Oct-09 | 228.0 | 8052 | 119.0 | 4202 |
| Oct-10 | 227.0 | 8017 | 132.0 | 4662 |
| Oct-11 | 227.0 | 8017 | 146.0 | 5156 |
| Oct-12 | 227.0 | 8017 | 158.0 | 5580 |
| Oct-13 | 227.0 | 8017 | 169.0 | 5968 |
| Oct-14 | 227.0 | 8017 | 179.0 | 6321 |
| Oct-15 | 226.0 | 7981 | 188.0 | 6639 |
| Oct-16 | 226.0 | 7981 | 194.0 | 6851 |
| Oct-17 | 226.0 | 7981 | 198.0 | 6992 |
| Oct-18 | 225.0 | 7946 | 203.0 | 7169 |
| Oct-19 | 225.0 | 7946 | 208.0 | 7346 |
| Oct-20 | 225.0 | 7946 | 211.0 | 7451 |
| Oct-21 | 225.0 | 7946 | 214.0 | 7557 |
| Oct-22 | 225.0 | 7946 | 217.0 | 7663 |
| Oct-23 | 224.0 | 7911 | 218.0 | 7699 |
| Oct-24 | 224.0 | 7911 | 221.0 | 7805 |
| Oct-25 | 224.0 | 7911 | 222.0 | 7840 |
| Oct-26 | 223.0 | 7875 | 223.0 | 7875 |
| Oct-27 | 223.0 | 7875 | 225.0 | 7946 |
| Oct-28 | 223.0 | 7875 | 227.0 | 8017 |
| Oct-29 | 228.0 | 8052 | 228.0 | 8052 |
| Oct-30 | 228.0 | 8052 | 228.0 | 8052 |
| Oct-31 | 228.0 | 8052 | 229.0 | 8087 |

Table 1 (continued)

Observed Skins Lake Spillway Releases and Flows in Nechako River Below Cheslatta Falls
1996/1997 Water Year (April 1, 1996 to March 31, 1997)

Note: records for 1996 are final WSC data and records for 1997 are preliminary WSC data

| Date 1996/1997 | Skins Lake Spillway Release | | Nechako R. Below Cheslatta Falls | |
|-------------------|--------------------------------|-------|-------------------------------------|-------|
| | (m ³ /s) | (cfs) | (m ³ /s) | (cfs) |
| Nov-01 | 227.0 | 8017 | 229.0 | 8087 |
| Nov-02 | 227.0 | 8017 | 230.0 | 8122 |
| Nov-03 | 227.0 | 8017 | 232.0 | 8193 |
| Nov-04 | 227.0 | 8017 | 232.0 | 8193 |
| Nov-05 | 227.0 | 8017 | 231.0 | 8158 |
| Nov-06 | 226.0 | 7981 | 232.0 | 8193 |
| Nov-07 | 226.0 | 7981 | 231.0 | 8158 |
| Nov-08 | 227.0 | 8017 | 232.0 | 8193 |
| Nov-09 | 229.0 | 8087 | 233.0 | 8228 |
| Nov-10 | 229.0 | 8087 | 233.0 | 8228 |
| Nov-11 | 229.0 | 8087 | 234.0 | 8264 |
| Nov-12 | 228.0 | 8052 | 234.0 | 8264 |
| Nov-13 | 228.0 | 8052 | 234.0 | 8264 |
| Nov-14 | 228.0 | 8052 | 234.0 | 8264 |
| Nov-15 | 172.0 | 6074 | 234.0 | 8264 |
| Nov-16 | 61.1 | 2158 | 223.0 | 7875 |
| Nov-17 | 61.0 | 2154 | 201.0 | 7098 |
| Nov-18 | 61.0 | 2154 | 179.0 | 6321 |
| Nov-19 | 60.9 | 2151 | 161.0 | 5686 |
| Nov-20 | 60.9 | 2151 | 145.0 | 5121 |
| Nov-21 | 60.9 | 2151 | 133.0 | 4697 |
| Nov-22 | 60.8 | 2147 | 124.0 | 4379 |
| Nov-23 | 60.8 | 2147 | 115.0 | 4061 |
| Nov-24 | 60.8 | 2147 | 108.0 | 3814 |
| Nov-25 | 60.8 | 2147 | 102.0 | 3602 |
| Nov-26 | 60.7 | 2144 | 96.1 | 3394 |
| Nov-27 | 60.8 | 2147 | 92.7 | 3274 |
| Nov-28 | 60.7 | 2144 | 88.7 | 3132 |
| Nov-29 | 60.7 | 2144 | 85.1 | 3005 |
| Nov-30 | 60.7 | 2144 | 82.2 | 2903 |

Table 1 (continued)

Observed Skins Lake Spillway Releases and Flows in Nechako River Below Cheslatta Falls
1996/1997 Water Year (April 1, 1996 to March 31, 1997)

Note: records for 1996 are final WSC data and records for 1997 are preliminary WSC data

| Date 1996/1997 | Skins Lake Spillway Release | | Nechako R. Below Cheslatta Falls | |
|-------------------|--------------------------------|-------|-------------------------------------|--------|
| | (m ³ /s) | (cfs) | (m ³ /s) | (cfs) |
| Dec-01 | 60.7 | 2144 | 80.1 | 2829 |
| Dec-02 | 60.6 | 2140 | 77.2 | 2726 |
| Dec-03 | 60.6 | 2140 | 75.3 | 2659 |
| Dec-04 | 60.6 | 2140 | 73.3 | 2589 |
| Dec-05 | 60.6 | 2140 | 72.2 | 2550 |
| Dec-06 | 60.6 | 2140 | 70.7 | 2497 |
| Dec-07 | 60.5 | 2137 | 69.4 | 2451 |
| Dec-08 | 60.5 | 2137 | 68.5 | 2419 |
| Dec-09 | 60.5 | 2137 | 67.3 | 2377 |
| Dec-10 | 60.4 | 2133 | 66.5 | 2348 |
| Dec-11 | 60.4 | 2133 | 65.8 | 2324 |
| Dec-12 | 60.4 | 2133 | 65.0 | 2295 |
| Dec-13 | 60.3 | 2129 | 64.2 | 2267 |
| Dec-14 | 60.3 | 2129 | 63.6 | 2246 |
| Dec-15 | 60.3 | 2129 | 63.2 | 2232 |
| Dec-16 | 60.3 | 2129 | 63.0 | 2225 |
| Dec-17 | 60.2 | 2126 | 62.2 | 2197 |
| Dec-18 | 60.2 | 2126 | 61.6 | 2175 |
| Dec-19 | 60.2 | 2126 | 61.4 | 2168 |
| Dec-20 | 60.1 | 2122 | 61.0 | 2154 |
| Dec-21 | 60.1 | 2122 | 60.7 | 2144 |
| Dec-22 | 60.1 | 2122 | 60.8 | B 2147 |
| Dec-23 | 60.1 | 2122 | 60.8 | B 2147 |
| Dec-24 | 60.0 | 2119 | 61.3 | 2165 |
| Dec-25 | 60.0 | 2119 | 60.4 | B 2133 |
| Dec-26 | 60.0 | 2119 | 59.8 | B 2112 |
| Dec-27 | 59.9 | 2115 | 59.7 | B 2108 |
| Dec-28 | 59.9 | 2115 | 59.2 | B 2091 |
| Dec-29 | 59.8 | 2112 | 58.8 | B 2077 |
| Dec-30 | 59.8 | 2112 | 58.9 | B 2080 |
| Dec-31 | 59.7 | 2108 | 58.9 | B 2080 |

Table 1 (continued)

Observed Skins Lake Spillway Releases and Flows in Nechako River Below Cheslatta Falls
1996/1997 Water Year (April 1, 1996 to March 31, 1997)

Note: records for 1996 are final WSC data and records for 1997 are preliminary WSC data

| Date 1996/1997 | Skins Lake Spillway Release | | Nechako R. Below Cheslatta Falls | | |
|-------------------|--------------------------------|-------|-------------------------------------|---|-------|
| | (m ³ /s) | (cfs) | (m ³ /s) | | (cfs) |
| Jan-01 | 59.7 | 2108 | 58.8 | * | 2077 |
| Jan-02 | 59.7 | 2108 | 58.7 | * | 2073 |
| Jan-03 | 59.7 | 2108 | 58.6 | * | 2069 |
| Jan-04 | 59.6 | 2105 | 58.5 | * | 2066 |
| Jan-05 | 59.6 | 2105 | 58.4 | * | 2062 |
| Jan-06 | 59.6 | 2105 | 58.3 | * | 2059 |
| Jan-07 | 59.5 | 2101 | 58.2 | * | 2055 |
| Jan-08 | 59.5 | 2101 | 58.1 | * | 2052 |
| Jan-09 | 59.5 | 2101 | 58.1 | | 2052 |
| Jan-10 | 59.5 | 2101 | 58.1 | | 2052 |
| Jan-11 | 59.5 | 2101 | 58.1 | | 2052 |
| Jan-12 | 59.5 | 2101 | 58.1 | | 2052 |
| Jan-13 | 59.4 | 2098 | 57.9 | | 2045 |
| Jan-14 | 59.4 | 2098 | 57.9 | | 2045 |
| Jan-15 | 59.4 | 2098 | 57.5 | | 2031 |
| Jan-16 | 59.3 | 2094 | 57.2 | | 2020 |
| Jan-17 | 59.2 | 2091 | 57.2 | | 2020 |
| Jan-18 | 59.2 | 2091 | 57.0 | | 2013 |
| Jan-19 | 59.2 | 2091 | 56.9 | | 2009 |
| Jan-20 | 59.1 | 2087 | 56.7 | | 2002 |
| Jan-21 | 59.1 | 2087 | 56.7 | | 2002 |
| Jan-22 | 59.1 | 2087 | 56.5 | | 1995 |
| Jan-23 | 59.0 | 2084 | 56.4 | | 1992 |
| Jan-24 | 59.0 | 2084 | 56.5 | * | 1995 |
| Jan-25 | 59.0 | 2084 | 56.5 | * | 1995 |
| Jan-26 | 58.9 | 2080 | 56.5 | * | 1995 |
| Jan-27 | 58.9 | 2080 | 56.5 | * | 1995 |
| Jan-28 | 58.8 | 2077 | 56.5 | * | 1995 |
| Jan-29 | 58.8 | 2077 | 56.5 | * | 1995 |
| Jan-30 | 58.8 | 2077 | 56.5 | * | 1995 |
| Jan-31 | 58.8 | 2077 | 56.5 | * | 1995 |

Table 1 (continued)

Observed Skins Lake Spillway Releases and Flows in Nechako River Below Cheslatta Falls
1996/1997 Water Year (April 1, 1996 to March 31, 1997)

Note: records for 1996 are final WSC data and records for 1997 are preliminary WSC data

| Date 1996/1997 | Skins Lake Spillway Release | | Nechako R. Below Cheslatta Falls | |
|-------------------|--------------------------------|-------|-------------------------------------|--------|
| | (m ³ /s) | (cfs) | (m ³ /s) | (cfs) |
| Feb-01 | 58.7 | 2073 | 56.0 | 1978 |
| Feb-02 | 58.7 | 2073 | 55.8 | 1971 |
| Feb-03 | 58.6 | 2069 | 55.6 | * 1964 |
| Feb-04 | 58.6 | 2069 | 55.4 | * 1956 |
| Feb-05 | 58.6 | 2069 | 55.2 | 1949 |
| Feb-06 | 58.5 | 2066 | 55.2 | 1949 |
| Feb-07 | 58.5 | 2066 | 55.2 | 1949 |
| Feb-08 | 58.5 | 2066 | 55.0 | 1942 |
| Feb-09 | 58.4 | 2062 | 54.8 | * 1935 |
| Feb-10 | 58.4 | 2062 | 54.8 | 1935 |
| Feb-11 | 58.4 | 2062 | 54.5 | 1925 |
| Feb-12 | 58.3 | 2059 | 54.5 | 1925 |
| Feb-13 | 58.3 | 2059 | 54.5 | 1925 |
| Feb-14 | 58.3 | 2059 | 54.5 | 1925 |
| Feb-15 | 58.2 | 2055 | 54.5 | 1925 |
| Feb-16 | 58.2 | 2055 | 54.5 | 1925 |
| Feb-17 | 58.2 | 2055 | 54.5 | 1925 |
| Feb-18 | 58.2 | 2055 | 54.3 | 1918 |
| Feb-19 | 58.1 | 2052 | 54.5 | 1925 |
| Feb-20 | 58.1 | 2052 | 54.5 | 1925 |
| Feb-21 | 58.1 | 2052 | 54.5 | 1925 |
| Feb-22 | 58.0 | 2048 | 54.5 | 1925 |
| Feb-23 | 58.0 | 2048 | 54.5 | 1925 |
| Feb-24 | 57.9 | 2045 | 54.5 | 1925 |
| Feb-25 | 57.9 | 2045 | 54.5 | 1925 |
| Feb-26 | 57.8 | 2041 | 54.5 | 1925 |
| Feb-27 | 57.8 | 2041 | 54.5 | 1925 |
| Feb-28 | 57.7 | 2038 | 54.5 | 1925 |

Table 1 (continued)

Observed Skins Lake Spillway Releases and Flows in Nechako River Below Cheslatta Falls
1996/1997 Water Year (April 1, 1996 to March 31, 1997)

Note: records for 1996 are final WSC data and records for 1997 are preliminary WSC data

| Date 1996/1997 | Skins Lake Spillway Release | | Nechako R. Below Cheslatta Falls | |
|-------------------|--------------------------------|------------------|-------------------------------------|-------------|
| | (m ³ /s) | (cfs) | (m ³ /s) | (cfs) |
| Mar-01 | 57.7 | 2038 | 54.8 | 1935 |
| Mar-02 | 57.7 | 2038 | 56.9 | 2009 |
| Mar-03 | 57.6 | 2034 | 56.0 | 1978 |
| Mar-04 | 57.6 | 2034 | 56.5 | 1995 |
| Mar-05 | 57.5 | 2031 | 55.8 | 1971 |
| Mar-06 | 57.5 | 2031 | 55.8 | 1971 |
| Mar-07 | 57.5 | 2031 | 55.8 | 1971 |
| Mar-08 | 57.4 | 2027 | 55.8 | 1971 |
| Mar-09 | 57.4 | 2027 | 55.8 | 1971 |
| Mar-10 | 57.3 | 2024 | 55.8 | 1971 |
| Mar-11 | 57.3 | 2024 | 55.6 | * 1964 |
| Mar-12 | 57.3 | 2024 | 55.4 | * 1956 |
| Mar-13 | 57.2 | 2020 | 55.2 | * 1949 |
| Mar-14 | 57.2 | 2020 | 55.0 | * 1942 |
| Mar-15 | 57.1 | 2016 | 54.8 | 1935 |
| Mar-16 | 57.1 | 2016 | 54.8 | 1935 |
| Mar-17 | 57.1 | 2016 | 54.8 | 1935 |
| Mar-18 | 57.0 | 2013 | 54.8 | 1935 |
| Mar-19 | 57.0 | 2013 | 54.8 | 1935 |
| Mar-20 | 56.9 | 2009 | 54.8 | 1935 |
| Mar-21 | 56.9 | 2009 | 55.0 | 1942 |
| Mar-22 | 56.9 | 2009 | 55.0 | 1942 |
| Mar-23 | 56.8 | 2006 | 55.0 | 1942 |
| Mar-24 | 56.8 | 2006 | 55.2 | 1949 |
| Mar-25 | 56.8 | 2006 | 55.2 | 1949 |
| Mar-26 | 56.8 | 2006 | 55.2 | 1949 |
| Mar-27 | 56.7 | 2002 | 58.4 | 2062 |
| Mar-28 | 56.7 | 2002 | 58.4 | 2062 |
| Mar-29 | 56.7 | 2002 | 58.4 | 2062 |
| Mar-30 | 56.7 | 2002 | 58.4 | 2062 |
| Mar-31 | 56.6 | 1999 | 59.2 | 2091 |
| Mean Annual | 94.7 | 3343 | 99.9 | 3527 |
| A-MANUAL GAUGE | | B-ICE CONDITIONS | | E-ESTIMATED |