



North Saskatchewan Watershed Alliance

Isle Lake and Lac Ste Anne Water Balance Assessment



Prepared For:
North Saskatchewan Watershed Alliance

Prepared by:
Sal Figliuzzi and Associates Ltd.
September 2016

North Saskatchewan Watershed Alliance

202-9440-49 Street

Edmonton, AB

T6B 2M9

Tel: (587) 525-6826

Email: water@nswa.ab.ca

Website: <http://www.nswa.ab.ca>

Thank you to the Government of Alberta for the continued support of WPACs in the province.



The North Saskatchewan Watershed Alliance (NSWA) is a non-profit society whose purpose is to protect and improve water quality and ecosystem functioning in the North Saskatchewan River watershed in Alberta. The organization is guided by a Board of Directors composed of member organizations from within the watershed. It is the designated Watershed Planning and Advisory Council (WPAC) for the North Saskatchewan River under the Government of Alberta's *Water for Life Strategy*.

This project has been funded by Environment and Climate Change Canada through the Environmental Damages Fund program



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada

This report was prepared by Sal Figliuzzi and Associates Ltd. for the North Saskatchewan Watershed Alliance.

Suggested citation:

North Saskatchewan Watershed Alliance (NSWA). 2016. Isle Lake and Lac Ste Anne Water Balance Assessment. Prepared by S. Figliuzzi and Associates, Ltd., Edmonton, AB., for the North Saskatchewan Watershed Alliance, Edmonton, AB. Available on the internet at:

http://www.nswa.ab.ca/resources/nswa_publications.

EXECUTIVE SUMMARY

The North Saskatchewan Watershed Alliance (NWSA) is undertaking an initiative to develop a better understanding of the hydrology and water quality of several waterbodies in the North Saskatchewan River basin, including Isle Lake and Lac Ste Anne. These lakes are popular recreational destinations and have significant shoreline development, but exhibit poor water quality conditions. The NSWA is preparing State of Watershed reports for both lakes to improve general knowledge and to support the future development of lake and watershed management plans.

Isle Lake is located about 80 km west of the City of Edmonton and has a surface area of 22.3 km². The lake has an effective drainage area of 238 km² and is fed by the headwaters of the Sturgeon River, as well as runoff from local areas adjacent to the lake. Outflows from Isle Lake form the next mainstem segment of the Sturgeon River, flowing downstream (eastward) into Lac Ste Anne.

Lac Ste Anne is a comparatively large lake, with a surface area of 51.7 km². It is maintained by outflows from Isle Lake and runoff from a 297 km² local (effective) drainage area. Outflows from Lac Ste Anne, in turn, form the next segment of the Sturgeon River, which flows through two more downstream lakes (Devil's Lake and Big Lake) before entering the North Saskatchewan River near the City of Fort Saskatchewan.

The objective of this report was to develop weekly balances for the two lakes and to quantify contribution of the lake outflows to the downstream flow regime of the Sturgeon River. Specifically, the report provides historical weekly time series (1955-2012) for each lake for all water balance parameters, including: a) precipitation, b) evaporation, c) inflows, d) water levels, and e) outflows.

The values of significant physical and hydrologic parameters estimated within this report are as follows:

Physical Parameters	Isle Lake	Lac Ste Anne (Local)	Total to outlet of Lac Ste Anne
Gross drainage area, including lake surface area (km ²)	261.0	404.0	665.0
Non-contributing drainage area (km ²)	-	55.0	55.0
Lake surface area at mean elevation (km ²)	22.3	51.7	74.0
Effective drainage area, excluding lake surface area (km ²)	238.7	297.3	536.0
Lake storage volume at mean elevation (dam ³)	88,800	237,500	

Hydrologic Parameters (1955 – 2012)	Isle Lake		Lac Ste Anne	
	Weekly mean	Annual mean	Weekly mean	Annual mean
Water level m (GSC)	729.812	729.812	722.776	722.776
Total surface inflow (dam ³)	348.7	18,100	713.7	37,100
Local area contribution to Lac Ste Anne inflow (dam ³)			437.0	22,700
Surface outflow (dam ³)	276.7	14,400	580.1	29,400
Net groundwater inflow ($G_i - G_o$; dam ³)	12.5	649	26.4	1,373
Mean annual precipitation (mm)		501.6		501.9
Precipitation input (dam ³)	216.5	11,300	501.0	26,000
Mean annual gross evaporation (mm)		696.6		696.6
Evaporation losses (dam ³)	300.2	15,600	692.8	36,000

While the study provides updated water balance estimates, there are uncertainties in the results that may be attributed to the following factors:

- Insufficient lake inflow measurement records
- Missing lake level data (especially during winter months)
- Lack of evaporation data (at time scales less than one month)
- Historical modifications to the lake outlet:
 - The construction/removal of an outlet weir
 - Beaver activities
 - Mechanical harvesting of channel vegetation

Significantly more detailed hydrologic modelling and a more complete hydrologic data base (based on more observations of lake water levels, outflows, stage discharge measurements, etc.) would be required to improve the accuracy of the results.

Table of Contents

1. INTRODUCTION.....	1
2. WATER BALANCE	5
3. ESTIMATION OF LAKE WATER BALANCE PARAMETERS.....	6
3.1 Computation of Lake Surface Area and Storage.....	8
3.2 Computation of Precipitation and Precipitation Volume.....	12
3.3 Computation of Evaporation and Evaporation Losses	13
3.4 Computation of Contributing Drainage Area.....	15
3.5 Calculation of Surface Outflow for Isle Lake and Lac Ste Anne	17
3.6 Calculation of Local Area Surface Inflow and Surface Inflow	22
3.7 Calculation of Net Groundwater Inflow.....	27
4. LONG-TERM WEEKLY AND ANNUAL WATER BALANCE.....	28
5. SUMMARY AND CONCLUSIONS.....	30
6. REFERENCES.....	31
APPENDIX A.....	32
Table A.1: Isle Lake Elevation-Area-Storage.....	33
Table A.2: Lac Ste Anne Elevation-Area-Storage.....	35
Table A.3: Isle Lake weekly precipitation	37
Table: A.4: Lac Ste Anne Weekly Precipitation.....	41
Table: A.5: Isle Lake and Lac Ste Anne weekly gross lake evaporation	45
Table: A.6: Isle Lake Weekly Outflow.....	49
Table: A.7: Lac St Anne Weekly Outflow.....	53
Table: A.8: Isle Lake Weekly Inflow.....	57
Table: A.9: Lac St Anne Total Weekly Inflow	61
Table: A.10: Lac St Anne Weekly Local Area Inflow.....	65
Table A.11: Isle Lake Observed Weekly Water Levels	69
Table A.12: Isle Lake Simulated Weekly Water Levels	73
Table A.13: Lac Ste Anne Observed Weekly Water Levels.	77
Table A.14: Lac Ste Anne Simulated Weekly Water Levels.....	81

LIST OF TABLES

Table 1: Volume of water allocated and licenced consumption	7
Table 2: Climate stations near Isle Lake and Lac Ste Anne.	12
Table 3: Gross and effective drainage areas for Isle Lake and Lac Ste Anne.....	16
Table 4: Statistics resulting from the water balance model.....	22
Table 5: Hydrometric stations used for the Isle Lake and Lac Ste Anne water balance.....	26
Table 6: Long-term weekly and annual water balance parameters.....	30

LIST OF FIGURES

Figure 1: Location of Isle Lake and Lac Ste Anne.	3
Figure 2: Historical water levels for Isle Lake for 1972-2012.	4
Figure 3: Historical water levels for Lac Ste Anne for 1931-2012.	4
Figure 4: Schematic of the water balance components of Isle Lake and Lac Ste Anne.	7
Figure 5: Isle Lake bathymetric map.	9
Figure 6: Lac St Anne bathymetry map.....	10
Figure 7: Isle Lake elevation-area-storage curve.....	11
Figure 8: Lac St Anne elevation-area-storage curve.	11
Figure 9: Map of climate stations near Isle Lake and Lac St Anne.....	13
Figure 10: Gross lake evaporation over Alberta (1980 – 2009).	15
Figure 11: Map of Isle Lake and Lac Ste Anne watersheds.....	17
Figure 12: Elevation outflow curve for Isle Lake.....	18
Figure 13: Elevation outflow curve for Lac Ste Anne.	19
Figure 14: Simulated vs observed water levels for Isle Lake (1955 - 2012).	20
Figure 15: Simulated vs observed water levels for Lac Ste Anne (1955 - 2012).....	21
Figure 16: Map of hydrometric stations near Isle Lake and Lac Ste Anne.....	23
Figure 17: Recession curve for estimating missing November – February inflow data.	27
Figure 18: Long-term weekly water balance for Isle Lake.....	29
Figure 19: Long-term weekly water balance for Lac Ste Anne.....	29

1. INTRODUCTION

The North Saskatchewan Watershed Alliance (NWSA) is undertaking an initiative to develop a better understanding of the hydrology and water quality of several waterbodies in the North Saskatchewan River basin, including Isle Lake and Lac Ste Anne (Figure 1). These lakes are popular recreational destinations and have significant shoreline development, but exhibit poor water quality conditions. The NWSA is preparing State of Watershed reports for both lakes to improve general knowledge and to support the future development of lake and watershed management plans.

Isle Lake is located about 80 km west of the City of Edmonton and has a surface area of 22.3 km². The lake has an effective drainage area of 238 km² and is fed by the headwaters of the Sturgeon River, as well as runoff from local areas adjacent to the lake. Outflows from Isle Lake form the next mainstem segment of the Sturgeon River, flowing downstream (eastward) into Lac Ste Anne.

Lac Ste Anne is a comparatively large lake, with a surface area of 51.7 km², and is also located on the Sturgeon River. It is maintained by outflows from Isle Lake and runoff from a 297 km² local (effective) drainage area. Outflows from Lac Ste Anne, in turn, form the next segment of the Sturgeon River, which flows through two more downstream lakes (Devil's (Matchayaw) Lake and Big Lake) before entering the North Saskatchewan River near the City of Fort Saskatchewan.

Recorded lake levels for Isle Lake have fluctuated between a maximum of 730.827 m (GSC - Geodetic Survey of Canada) in August 1989 and a minimum of 729.23 m in October 2009 (Figure 2). The mean level for the period of record is 729.81 m, with a standard deviation of 0.268 m.

Recorded lake levels for Lac Ste Anne have fluctuated between 721.99 m in October 1939 and 723.79 m in May 1974 (Figure 3). The mean level for the period of record is 722.78 m, with a standard deviation of 0.280 m. In 1951, a timber and rock weir with an estimated crest elevation of 723.78 m was constructed at the outlet of Lac Ste Anne for lake level stabilization (Alberta Environment, 1979). In 1954, lake levels rose above the crest elevation causing flooding, and consequently the weir was lowered to an approximate elevation of 723.60 m. There is no record of outlet modification until 1978, at which time the weir was removed and some downstream channelization was carried out.

The objective of this hydrologic report was to develop weekly water balances for the two lakes and to quantify contribution of the lake outflows to the downstream flow regime of the Sturgeon River. The report provides historical weekly time series (1955-2012) for each lake, for all water balance parameters, including: a) precipitation, b) evaporation, c) inflows, d) water levels, and e) outflows.

This report provides details of the hydrologic analyses conducted to estimate these various hydrologic parameters and discusses the results. More specifically, the report:

1. Extracts stage-discharge measurements previously used in the report "*Isle Lake/Lac Ste Anne - Study of Regulation by Outlet Control*" (Alberta Environment, 1979), that include high discharge measurements taken in 1974 (note: the original field measurements are currently missing) and combines the data extracted from that report with more recent (1990-1998) discharge measurements to develop stage-discharge curves for the outlets of Isle Lake and Lac Ste Anne.
2. Constructs historical weekly outflow estimates for each lake using the rating curves developed in item 1 and historical water level data for Isle Lake and Lac Ste Anne.
3. Generates a historical weekly water balance and a historical weekly time series for all water balance parameters including: (a) precipitation (b) evaporation (c) inflows (d) water levels (e) outflows, and (f) net groundwater inflows.

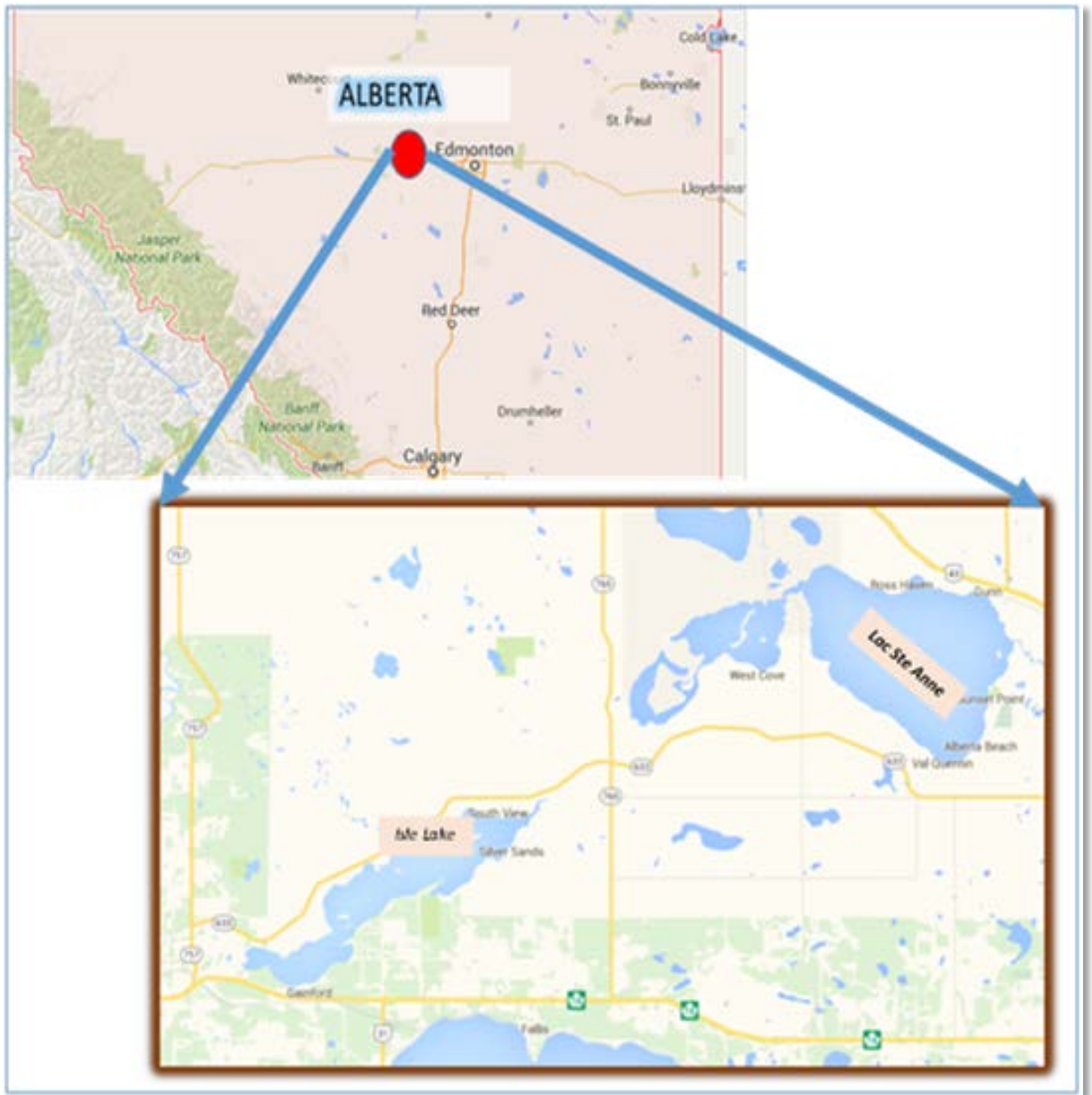


Figure 1: Location of Isle Lake and Lac Ste Anne. Adapted from Google Maps (2016).

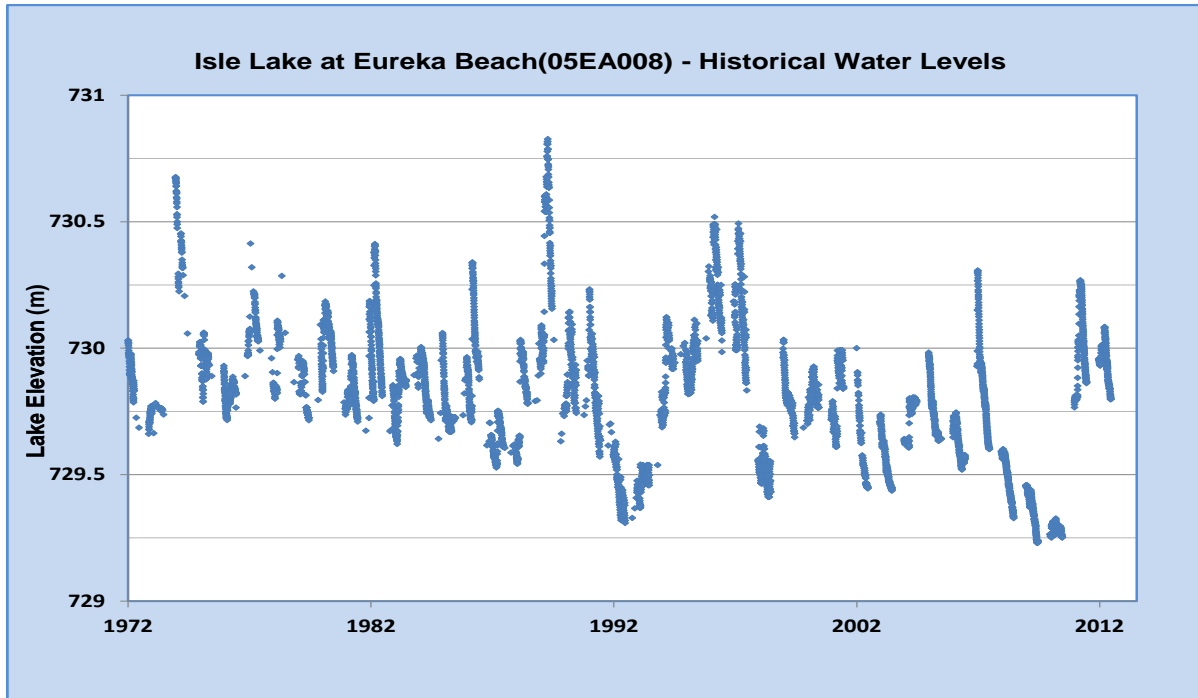


Figure 2: Historical water levels for Isle Lake for 1972-2012. (Water Survey of Canada: https://wateroffice.ec.gc.ca/search/searchResult_e.html).

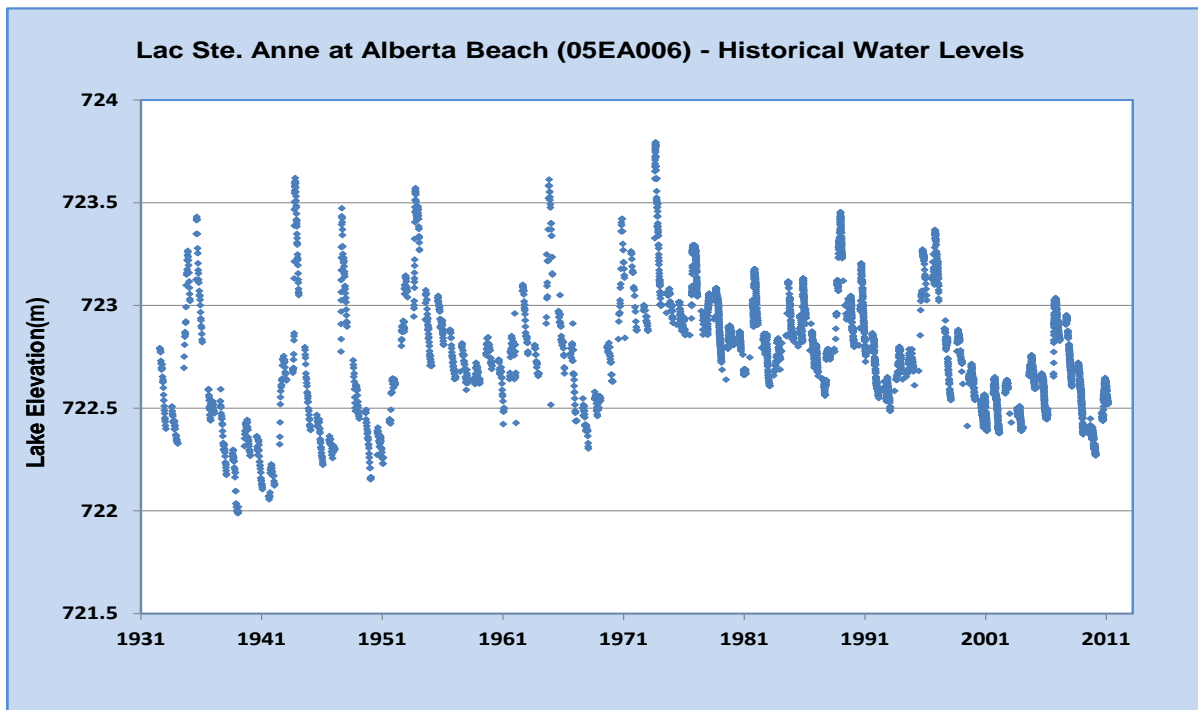


Figure 3: Historical water levels for Lac Ste Anne for 1931-2012. (Water Survey of Canada: https://wateroffice.ec.gc.ca/search/searchResult_e.html).

2. WATER BALANCE

A water balance is an accounting of all water inputs to and outflows from a water body. In its simplest form, the water balance can be represented by the following relationship:

$$\Delta S = I - O \quad (1)$$

where:

ΔS = the change in lake water storage

I = water inputs to the lake

O = water outflows from the lake

For any given time, Equation (1) can be expanded to its individual components and expressed as follows:

$$\Delta S = (S_i + P_i + G_i + D_i) - (S_o + EL + G_o + D_o) \quad (2)$$

where:

Inputs:

S_i = the surface inflow into the lake from the drainage area (**DA**)

P_i = Precipitation input – rain and snow falling directly on the lake surface area (**L_A**)

G_i = Groundwater inflow – water entering the lake via buried channels and connections to aquifers

D_i = Water diverted into the lake due to human activities

Outputs:

S_o = Surface outflow – generally through a channel leaving the lake

EL = Evaporation losses – evaporation (**E**) from lake surface area (**L_A**)

G_o = Groundwater outflow - water leaving the lake through the groundwater system

D_o = Water diverted from the lake due to human activities

The absolute quantity of surface inflow, precipitation and evaporation cannot be measured directly for all lakes; therefore, equation (2) is often expanded and expressed as follows:

$$\Delta S = (DA \cdot SR + [L_A \cdot P] + Gi + Di) - (So + [L_A \cdot EL] + Go + Do) \quad (3)$$

The first term within the brackets refers to the water inputs to the lake, while the second term expresses the outputs from the lake. If the equation is re-organized according to the different hydrological components, we obtain the following equation:

$$\Delta S = (DA \cdot SR - So) + (L_A \cdot [P - E]) + (Gi - Go) + (Di - Do) \quad (4)$$

where:

SR = the specific runoff (runoff per unit area) estimated from nearby gauged stream courses, and all other parameters are as previously defined.

The first term summarizes the net surface flows (runoff from the upstream areas minus surface outflow from the lake); the second term indicates precipitation inputs and evaporation losses weighted by the lake surface area; the third term indicates groundwater inflows and outflows; and the fourth term refers to the water diversions into and from the lake. Each of these components, and how they have been computed, are explained in the following chapters.

3. ESTIMATION OF LAKE WATER BALANCE PARAMETERS FOR ISLE LAKE AND LAC STE ANNE

Where data were available, the water balance parameters for Isle Lake and Lac Ste Anne were determined using directly measured data, or regional data. Where data were not available, the water balance parameters were estimated using the following modified volumetric water balance equation:

$$\Delta S = \Sigma Si + (L_A [P - E]) - So + (Gi - Go) \quad (5)$$

Within the above modified equation, **Si** has been replaced by ΣSi , the sum of all surface inflows. For Lake Isle, ΣSi is composed of the effective local drainage area (**DA**) times the specific runoff (**SR**); while for Lac Ste Anne it is composed of: (a) the effective local drainage area (**DA**) times the specific runoff (**SR**), plus (b) the surface outflow from Isle Lake flowing into Lac Ste Anne.

Water allocation and consumption is not quantitatively significant in any of the lakes. For example, within the Isle Lake drainage basin, water consumption is estimated at about 1.50% of the annual surface inflow, while this percentage is reduced to 0.78% for Lac Ste Anne (specific volumes of water allocation and use for each lake are shown in Table 1). Since water use in both basins is

minor relative to other parameters, the term $(D_i - D_o)$ has been set to zero. The revised water balance components for the two lakes are illustrated in Figure 4 below.

Table 1: Volume of water allocated and licenced consumption within the upstream drainage area for Isle Lake and Lac Ste Anne. (Data from Alberta Environment and Parks – Water Use Reporting System (WURS), accessed in 2016).

Lake	Licensed Allocation (Q, dam ³)	Licensed Consumption (C, dam ³)	Mean annual surface inflow (I, dam ³)	% Water allocated (Q/I)	% Water consumed (C/I)
Isle Lake	285.17	271.6	18,100	1.57	1.50
Lac Ste Anne	303.67	290.1	37,100	0.81	0.78

The weekly water balance calculations were conducted using Microsoft Excel 2013. The sections of this report that follow describe how each of parameters within the above equation are estimated.

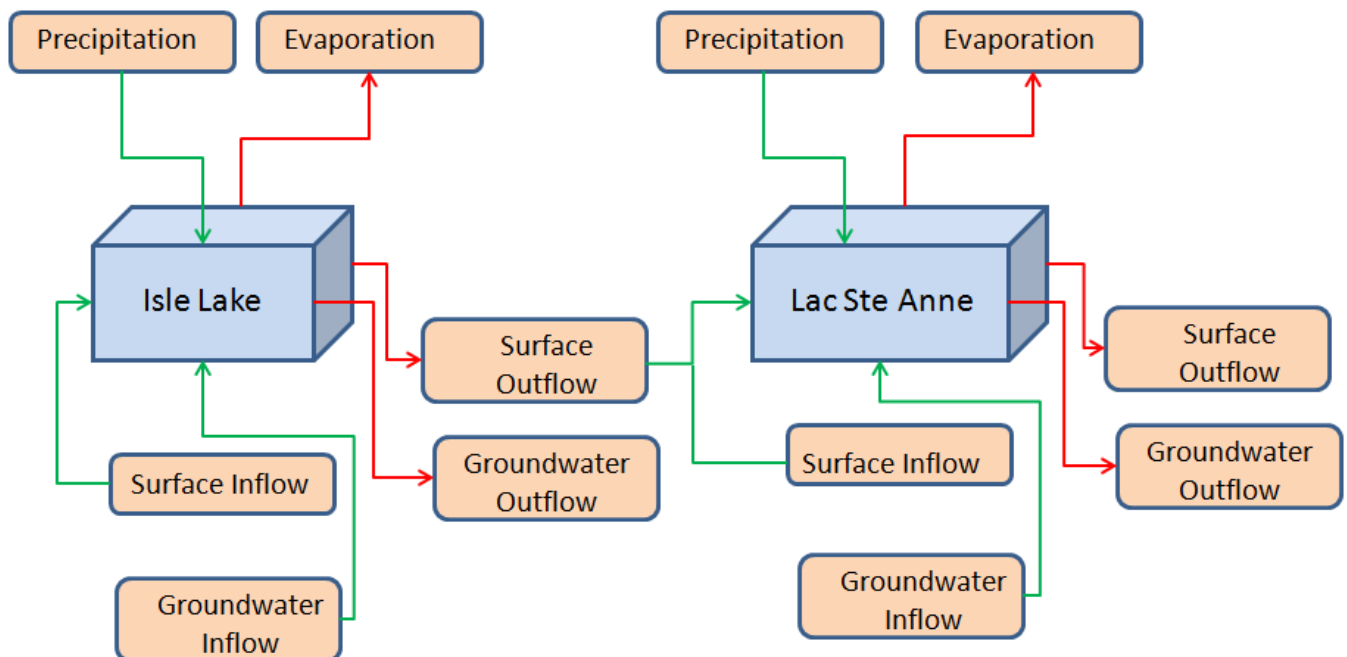


Figure 4: Schematic of the water balance components of Isle Lake and Lac Ste Anne.

3.1 Computation of Lake Surface Area (L_A) and Storage (S)

To conduct a water balance analysis for Isle Lake and Lac Ste Anne using equation (5), the **elevation-lake surface area curve** is required to compute the volume of precipitation and evaporation, while the **elevation-storage curve** is required to determine the change in storage and elevation. The computation of the lake surface area (L_A) and storage (S), were initially conducted using 50 m x 50 m bathymetric data provided by Alberta Environment and Parks (AEP, 2008, accessed online at: <http://ags.aer.ca/alberta-lake-bathymetry-data.htm>). These data were published after AEP had reviewed and updated the bathymetry for the two lakes, validated against more recent data (Shuttle Radar Topography Mission "SRTM" imagery and Indian Remote Sensing "IRS" imagery) and corrected where necessary. Elevation-area-capacity curves were then developed from these data.

These curves, however, showed significant departures from those developed from earlier ground surveys conducted in August 1963 for Isle Lake and June 1965 for Lac Ste Anne. Further information on these surveys can be obtained from the publication, "Atlas of Alberta Lakes" (Mitchell and Prepas, 1990). A decision was made, in consultation with AEP, that the original bathymetry from the ground surveys provided the best estimate of the elevation-area-capacity curves and should be used in the revised water balance analysis. The bathymetric contour maps and elevation-area-capacity relation for Isle Lake and Lac Ste Anne, provided by AEP, are shown in Figures 5 and 6 and Appendix A, Tables A.1 and A.2. The resulting elevation-area-capacity curves are shown in Figure 7 and Figure 8.

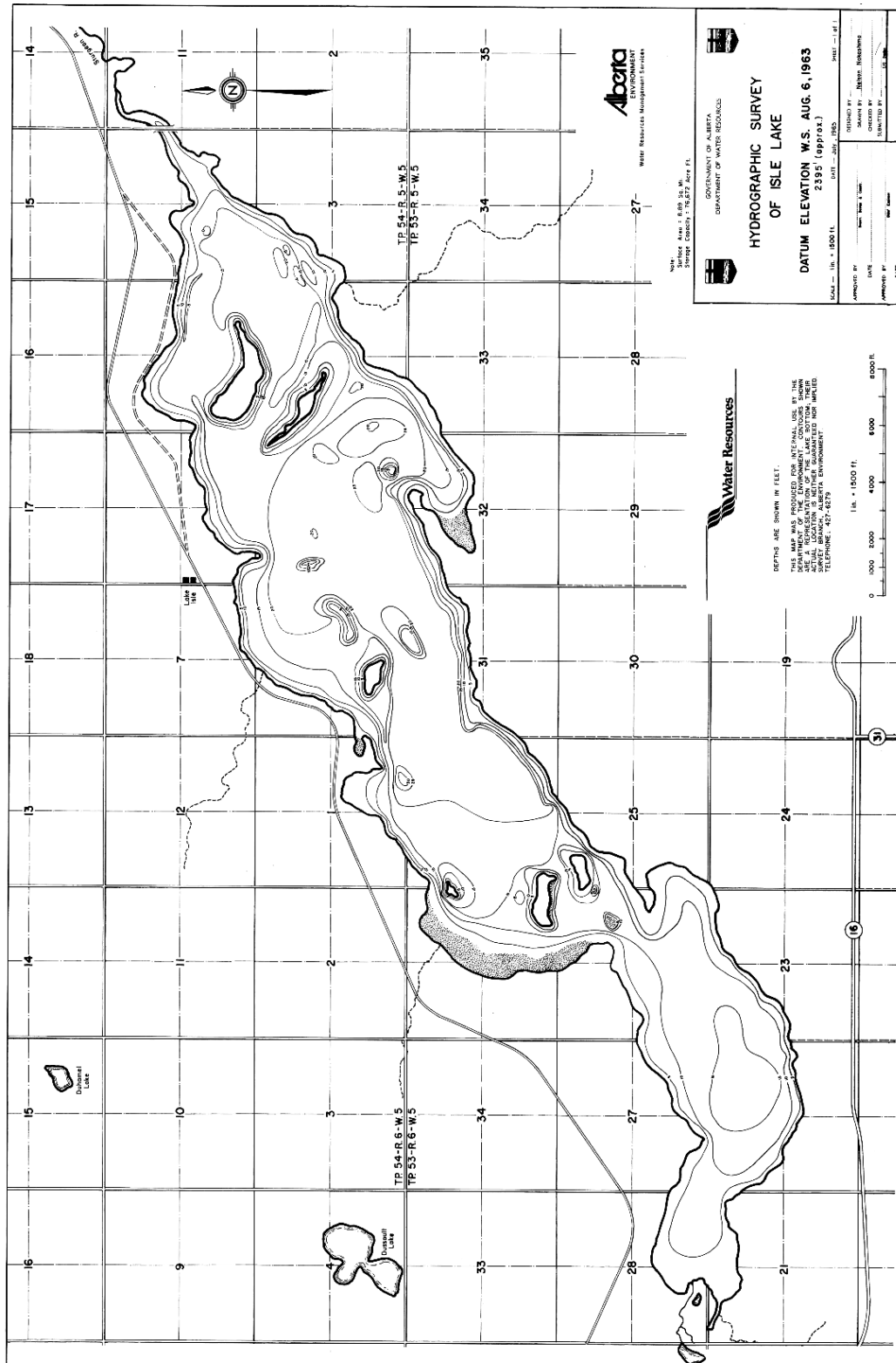


Figure 5: Isle Lake bathymetric map (elevations contours in m.a.s.l.). (AEP, 1963).

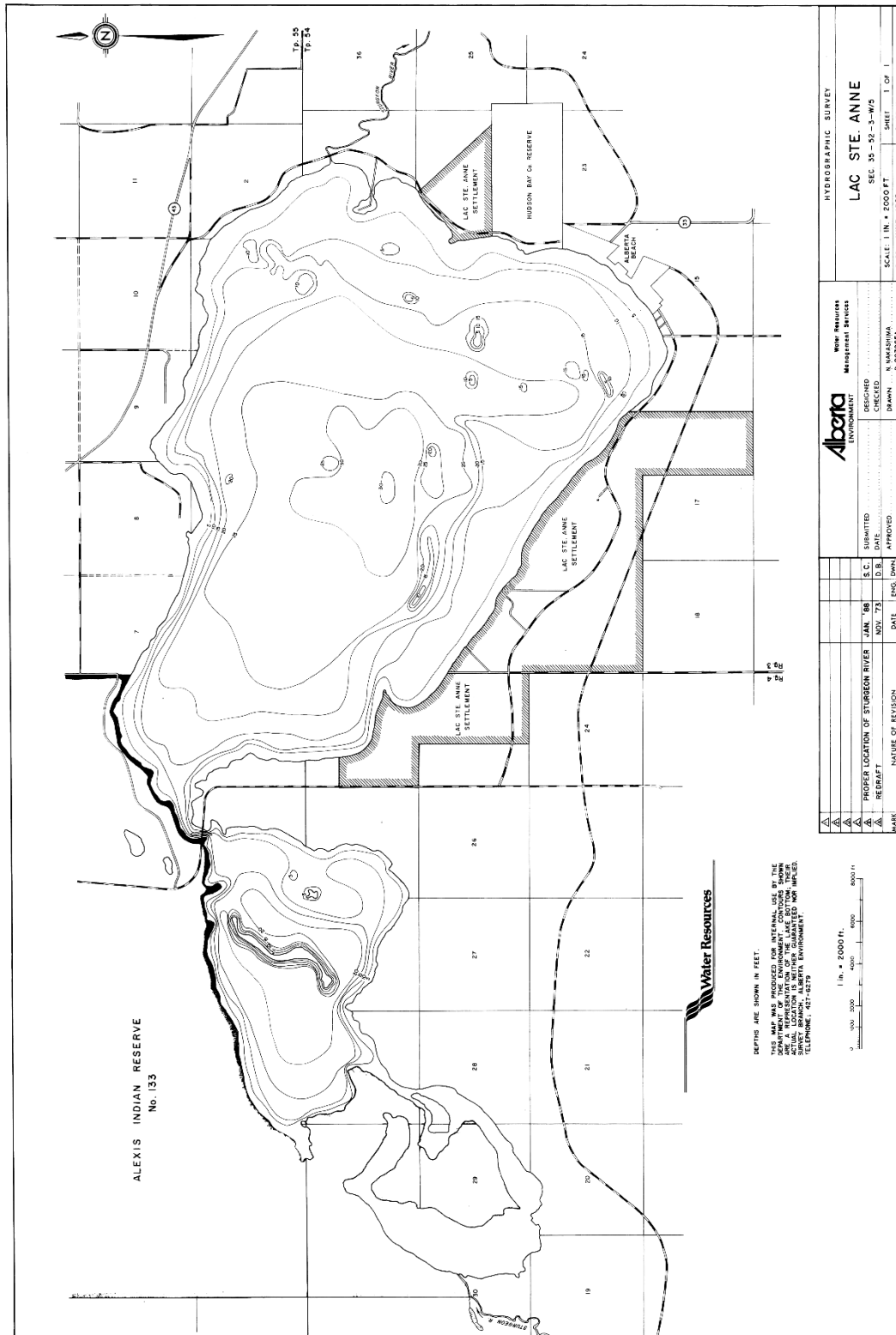


Figure 6: Lac St Anne bathymetry map (elevation contours in m.a.s.l.). (AEP, 1965).

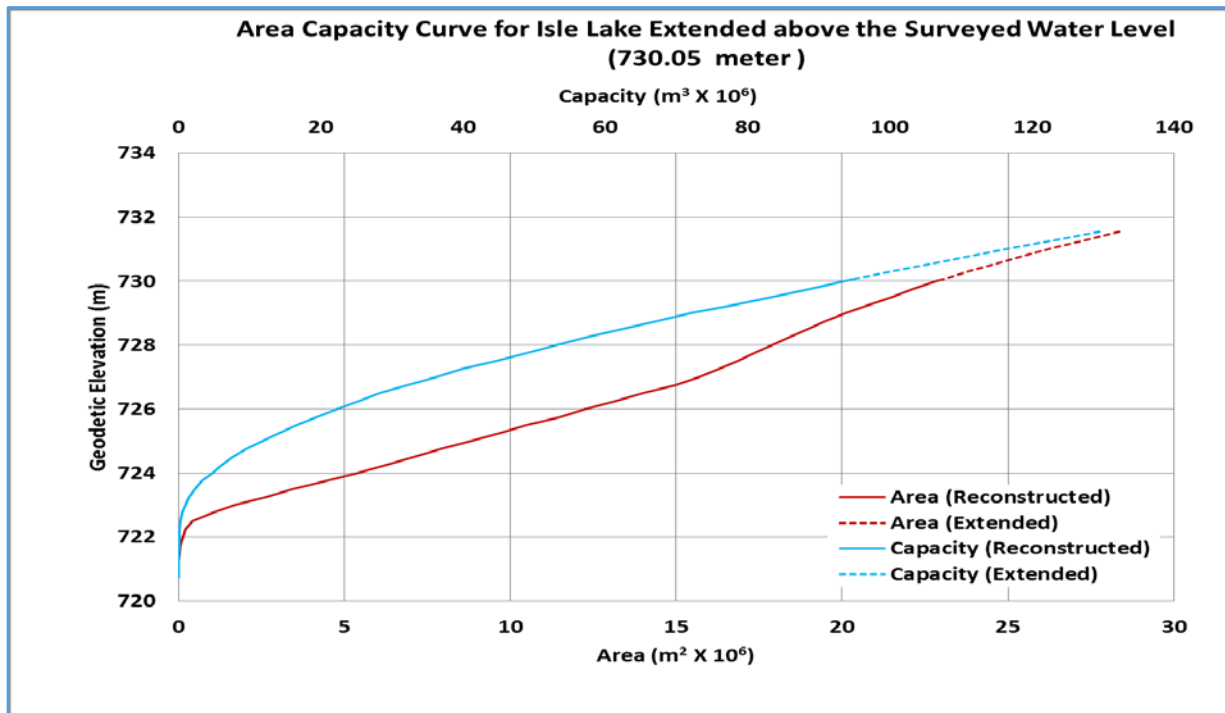


Figure 7: Isle Lake elevation-area-storage curve. Data provided by AEP, 2016. **Note: these data are currently under review by AEP.*

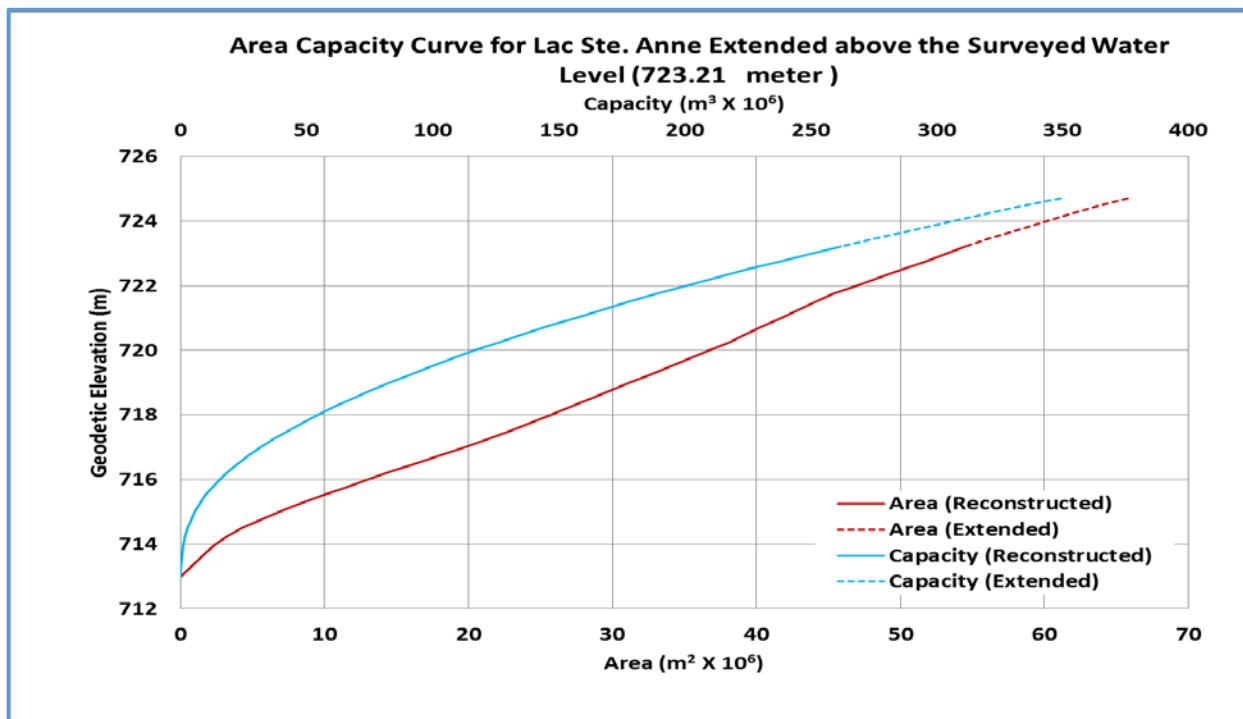


Figure 8: Lac St Anne elevation-area-storage curve. Data provided by AEP, 2016. **Note: these data are currently under review by AEP.*

3.2 Computation of Precipitation (P) and Precipitation Volume ($L_A * P$)

Precipitation provides an important and direct water supply to a lake. Precipitation data were obtained from climate stations operated by Environment Canada, Alberta Agriculture and Forestry, and Alberta Climate Information Service. A list of the climate stations within, or near, to the study area is shown in Table 4 and Figure 9. The daily precipitation time series for Isle Lake and Lac Ste Anne were determined using the Inverse Distance Weighted (IDW) interpolation method. This technique assumes that the contribution of each station to the amount of precipitation at a specific point is inversely related to the distance between them. Climate stations closer to the lakes were given more weight while those further removed were given less weight. Once the time series of daily precipitation for Isle Lake and Lac Ste Anne were obtained, data were aggregated into weekly intervals. The resulting weekly precipitation depth for the period 1955-2012 for Isle Lake and Lac Ste Anne are provided in Appendix A, Table A.3 and A.4.

The weekly precipitation (**P**) time series for each lake were then multiplied by the lake surface area (**L_A**) to obtain the corresponding weekly precipitation volume (**L_A*P**) for each of the lakes. The lake surface area was varied from week-to-week based on elevation using the previously described lake elevation-area relation. The time series of weekly precipitation volumes were then used in the water balance calculations.

Table 2: Climate stations near Isle Lake and Lac Ste Anne.

Station Name	ID	Location		Elevation (m)	Period of Record	Distance (km) to	
		Long	Lat			ISL	LSA
Glenevis, AB	3012817	53.80	-114.53	731.5	1966 - 1987	22.31	12.57
GLENEVIS, AGCM	3012818	53.83	-114.52	670.0	2008 - 2012	22.31	12.57
Sion, AB	3015960	53.88	-114.12	701.0	1933 - 2004	47.88	26.69
Edmonton Stony Plain	301222F	53.55	-114.11	766.3	1966 - 2012	68.17	53.13
Magnolia	3064157	53.58	-114.88	755.0	1965 - 2004	10.52	30.72
Tomahawk, AEDM	05DE801	53.43	-114.71	814.0	2005 - 2012	26.07	42.30
Evansburg, AGCM	3062451	53.57	-115.12	819.0	2008 - 2012	20.27	40.57

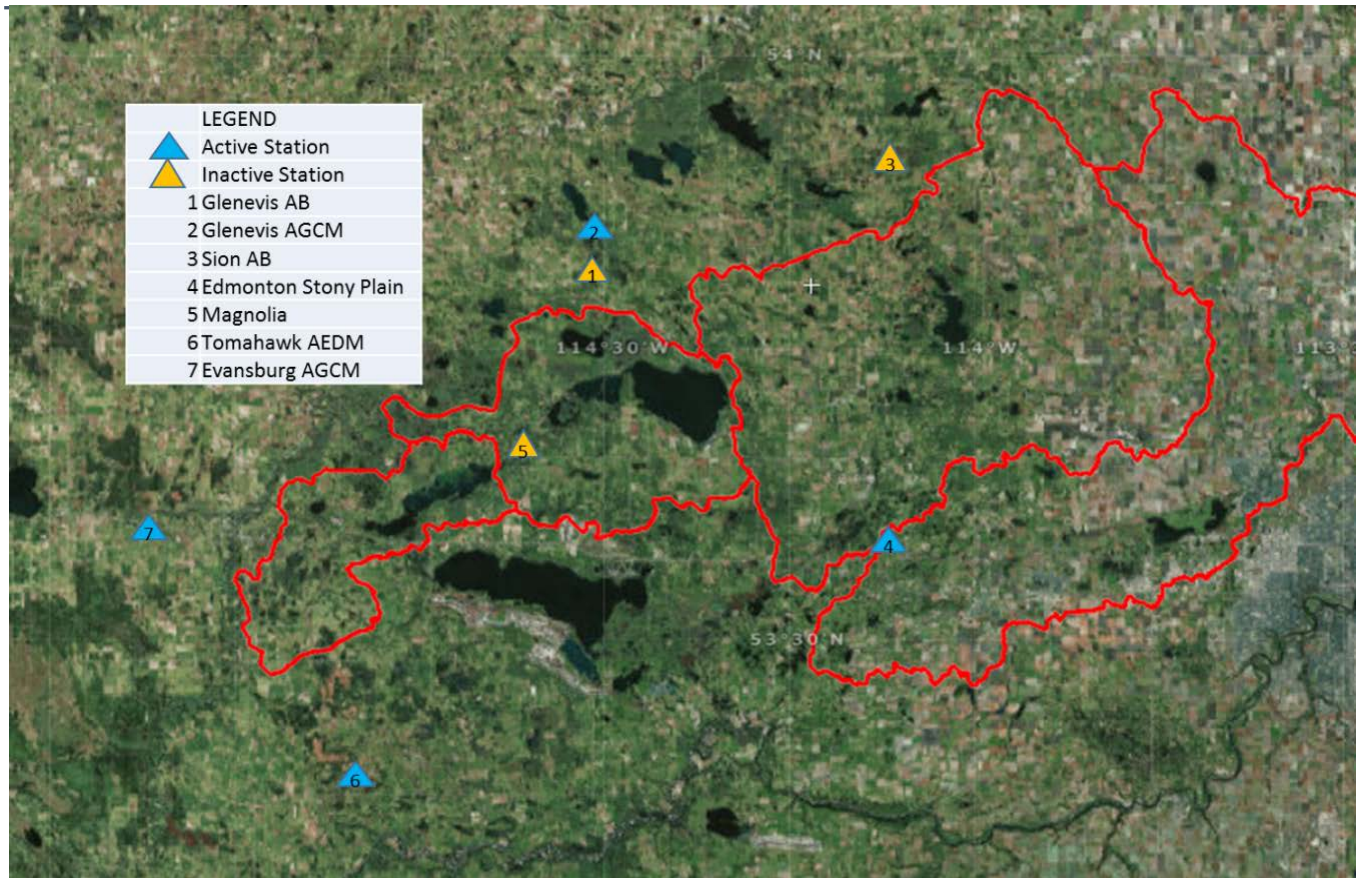


Figure 9: Map of climate stations near Isle Lake and Lac St Anne. (Adapted from Google Maps, 2016).

3.3 Computation of Evaporation (E) and Evaporation Losses ($L_A * E$)

Evaporation is one of the key water outputs from a lake. Evaporation, or gross lake evaporation, is the depth of water that evaporates from a water body due to solar radiation, mild to hot temperatures and wind. The depth of evaporation from a lake cannot be measured directly and must be estimated using energy balance equations that generally include temperature, wind, solar radiation or hours of sunshine and relative humidity. Two evaporation models are commonly used for the estimation of evaporation in Alberta; the Morton CRLE model (Morton, 1983) used by Alberta Environment and Parks, and the Meyer’s Model (1942) that has been used by Environment Canada and Agriculture and Agri-Food Canada.

Alberta Environment and Parks has recently updated its lake evaporation estimates for all major meteorological gauging sites across Alberta and has developed a map of Mean Annual Lake Evaporation for 1980-2009 (Figure 10). As shown in Figure 10, there is no appreciable difference in the average (1980-2009) gross lake evaporation for the project site versus the gross lake

evaporation for Edmonton International Airport; the nearest site to both lakes for which monthly estimates of gross evaporation are available. Therefore, the monthly estimates of lake evaporation for Edmonton International Airport were used directly as representative of gross lake evaporation depth at both Isle Lake and Lac Ste Anne.

Currently, weekly estimates of gross evaporation are not available. The weekly time series of gross evaporation were developed from the monthly values using the Excel forecast function (FORECAST) that disaggregates time series data based on their historical trends and variability. The method generates weekly time sequences that preserve the monthly temporal profiles. While it is recognized that the monthly evaporation is generally not evenly distributed throughout the days in a month, it was felt that any deviations would not have a significant effect on the water balance calculations and that any bias introduced by this assumption would be minor and temporary.

The resulting weekly gross evaporation depths for Isle Lake and Lac Ste Anne for the period 1955-2012 are provided in Appendix A, Table A.5.

The evaporation losses (**$L_A * E$**) from Isle Lake and Lac Ste Anne were computed as the lake surface area (**L_A**) multiplied by the mean weekly evaporation depth (**E**).

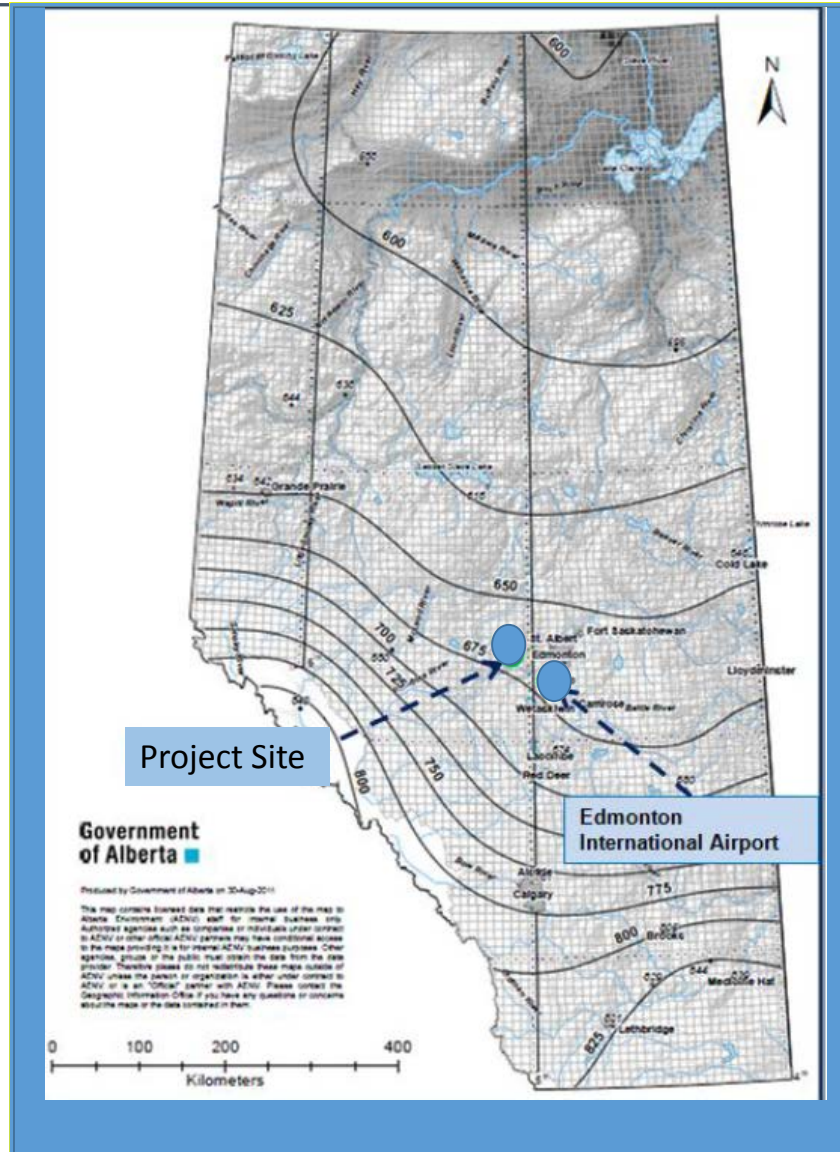


Figure 10: Gross lake evaporation over Alberta (1980 – 2009). (AEP, 2014).

3.4 Computation of Contributing Drainage Area (DA)

The determination of contributing drainage was needed to calculate surface flows into each lake. Two types of drainage areas are identified:

- **Gross drainage area** - the land surface area which contributes runoff to a given body of water under extremely wet conditions. It is defined by the topographic divide (height of land) between the water body under consideration and adjoining watersheds.
- **Effective drainage area** - the portion of the gross drainage area which is expected to contribute surface runoff to a given body of water under average conditions. The effective

drainage area excludes portions of the gross drainage area which drain to peripheral marshes, wetlands and other natural depressions or storage areas which would prevent runoff from reaching the water body in a year of average runoff. The effective drainage area is that portion of a drainage basin which might be expected to contribute runoff to the water body or stream under consideration during a flood with a return period of two years.

The gross drainage and effective areas were estimated using a Geographic Information Software (GIS) analysis of a map from the MPE (2004) study and information from the Water Survey of Canada. In the computation of local area surface inflow contribution, the average effective drainage areas were kept constant for every time-step during the water balance analysis.

Table 3: Gross and effective drainage areas for Isle Lake and Lac Ste Anne.

Location	Gross Drainage Area (km²)	Lake Surface Area (km²)	Non-contributing Area (km²)	Effective Drainage Area (km²)
Isle Lake	261.0	22.3	-	238.7
Local area between the Lake Isle Outlet and Lac Ste Anne Outlet	404.0	51.7	55.0	297.3
Total to outlet from Lac Ste Anne	665.0	74.0	55.0	536.0

A map of the Isle Lake and Lac Ste Anne watersheds is displayed in Figure 11. The watershed boundaries were determined by GIS analysis of 25 m x 25 m resolution digital elevation model (DEM) from data from the Natural Resources Canada website, <http://www.nrcan.gc.ca/earth-sciences/geography/topographic-information/free-data-geogratis/11042> (2016).

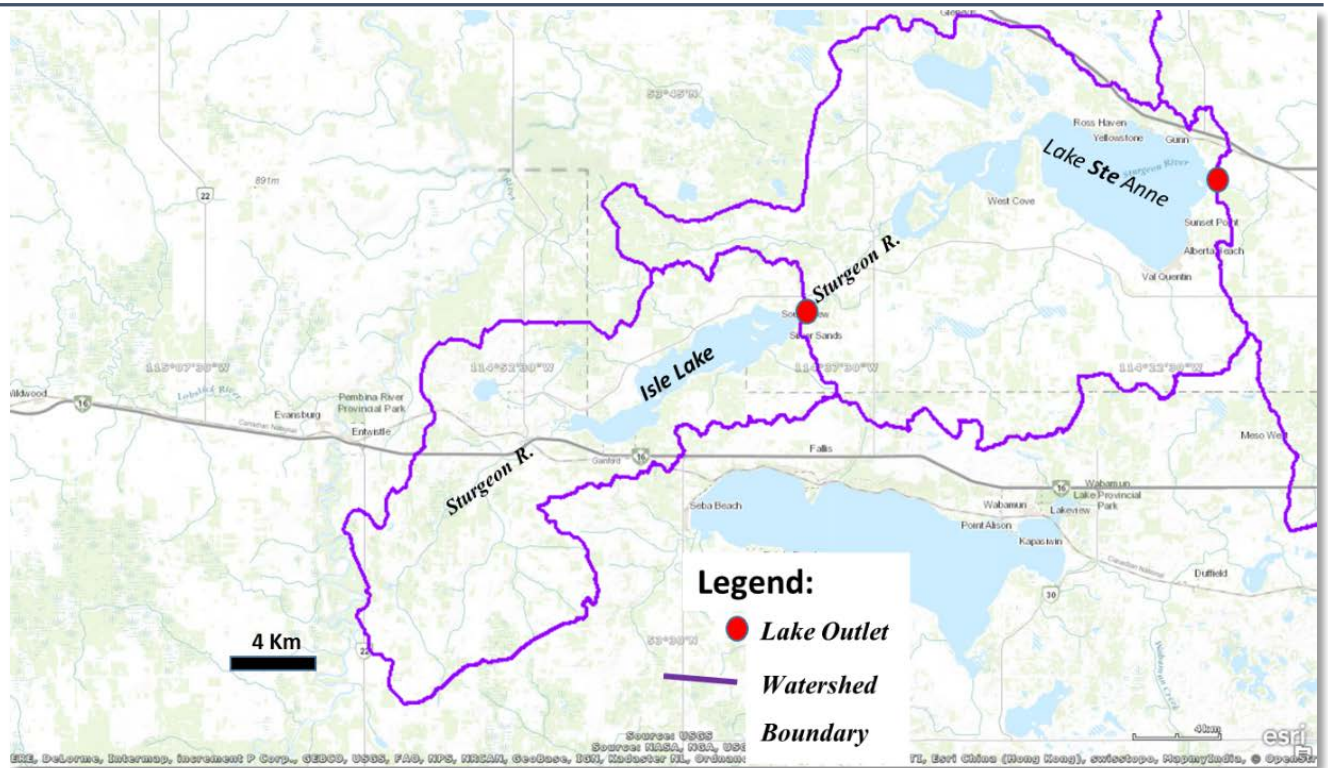


Figure 11: Map of Isle Lake and Lac Ste Anne watersheds. Adapted from Google Maps, 2016.

3.5 Calculation of Surface Outflow (S_o) For Isle Lake and Lac Ste Anne

Surface outflow is an important component of lake output in addition to evaporation losses and groundwater outflows. Surface outflows for Isle Lake and Lac Ste Anne have not been monitored and therefore had to be estimated. For periods when water levels were available, lake outflows were estimated by utilizing a new stage-discharge relation for each of the lakes and applying the observed mean weekly water level to that curve.

The stage-discharge relations for Isle Lake and Lac Ste Anne were developed by extracting pre-1990 discharge measurements from the Alberta Environment (1979) report “Isle Lake/Lac Ste Anne – Study of Regulation by Outlet Control” and combining this data with additional discharge measurement from 1991-1998 field observations. The extraction of pre-1990 stage-discharge measurement from the 1979 report was required because it included several high discharge events from 1974 for which the original field observations are currently missing. Since the post-1990 field measurements were taken some distance from the outlet, they were linked to observed lake levels taken on the day of the discharge measurement. The combined lake levels and discharge measurements were then used to develop both a single and family of stage-discharge curves like those in the 1979 study. The family of curves approach assumed lake outflows vary with seasons and attempts to consider the effects of ice, vegetation and debris on outflows.

Initially, the lake outflow (**So**) was estimated for both the single and family of stage-discharge curves. However, after running a water balance for several scenarios, it was decided that a single elevation - outflow curve for each lake provided the best results. This method was applied to all further assessments in this report.

The final elevation-outflow curves used for Isle Lake and Lac Ste. Anne are illustrated in Figures 12 and 13. The following rating equations, derived using non-linear regression analysis, were subsequently used to compute outflows (**So**) (in m³/s) as a function of elevation **Z**, for periods when lake levels were available:

$$\text{Isle Lake: } S_o = 2.47916 \cdot (Z - 729.2)^{3.83} \quad r^2 = 0.79 \quad (6)$$

$$\text{Lac Ste Anne: } S_o = 1.7123 \cdot (Z - 722)^{4.51} \quad r^2 = 0.83 \quad (7)$$

Equations (6) and (7) are applicable within the ranges of historical observed water levels.

The above procedure was used for the estimation of outflow from Isle Lake and Lac Ste. Anne for periods when lake levels are available. For periods where lake levels are not available, notably the November to April period in most years, and the years 1955 to 1971 for Isle Lake, outflows were estimated based on water balance analysis. The estimation of water levels and outflows for Isle Lake during 1955-1971 is discussed in Section 3.5.1.

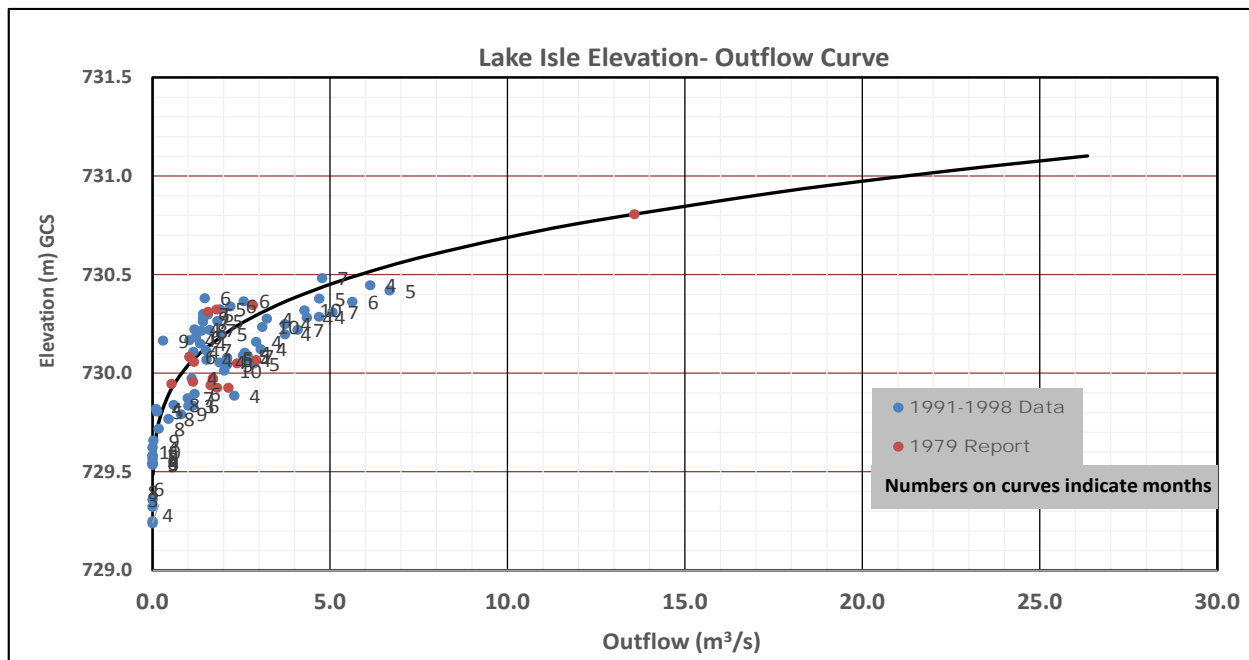


Figure 12: Elevation outflow curve for Isle Lake. Numbers next to the data points indicate the month in which the flow measurement was taken.

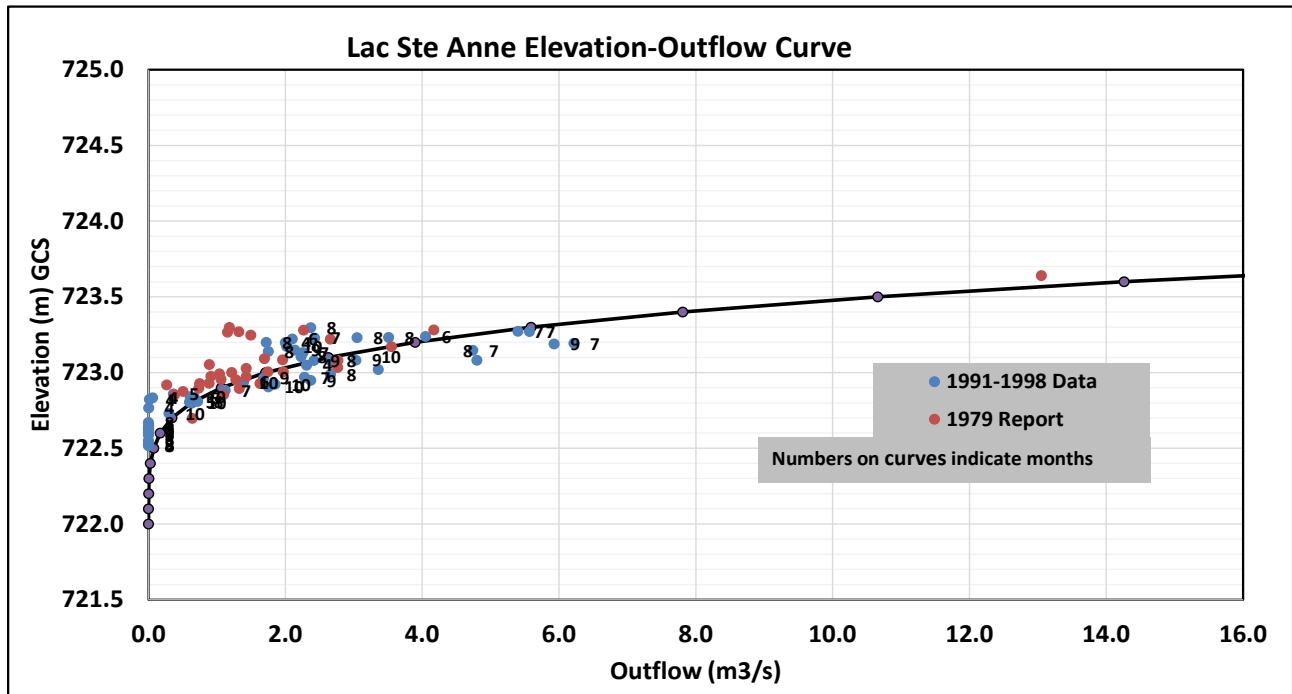


Figure 13: Elevation outflow curve for Lac Ste Anne. Numbers next to the data points indicate the month in which the flow measurement was taken.

3.5.1 Estimation of Missing Outflows (S_o)

Lake level records are not available for Isle Lake prior to 1972. Therefore, it was necessary to estimate these missing lake levels and the corresponding lake outflow to obtain a complete set of water balance parameters to cover the period 1955-2012.

The procedure used to generate water levels and outflows for this period assumed a starting lake level (January 1, 1955) and storage equal to the observed long-term average water level. A water balance model was used, incorporating the stage-discharge and elevation-area-storage relations with the time series of precipitation, evaporation (L_{AP} and L_{AE}) and surface inflows to generate water levels and outflows.

A two-step process was used to compute missing lake levels and to establish the final water balance parameters. In the first step, the missing lake levels were simulated by water balance analysis. This means that a new and complete set of simulated lake levels were generated. These lake levels were then examined, by both visual and statistical analysis, to determine how closely they had replicated the observed data. In the second step, the final water levels were determined by adjusting the inflows and the net groundwater inputs in the water balance equation to obtain a close match between the simulated and observed water levels. These adjustments were only

conducted for years with a large departure between the simulated and observed lake levels. The simulated lake levels were then used in the water balance analysis to obtain lake outflows and establish the final water balance parameters.

For Lac Ste Anne, the missing water levels and the corresponding outflows were estimated in a similar manner. However, unlike Isle Lake, water level records for Lac Ste Anne were available for the open water period (May to October) for the entire 1955-2012 study period, with occasional winter (November-April) observations starting in about 1977.

A comparison of the simulated lake levels to observed lake levels for Isle Lake and Lac Ste Anne is provided in Figures 14 and 15 respectively.

Weekly summaries of the outflows for the period 1955- 2012 for the two lakes are provided in Appendix A, Table A.6 and A.7.

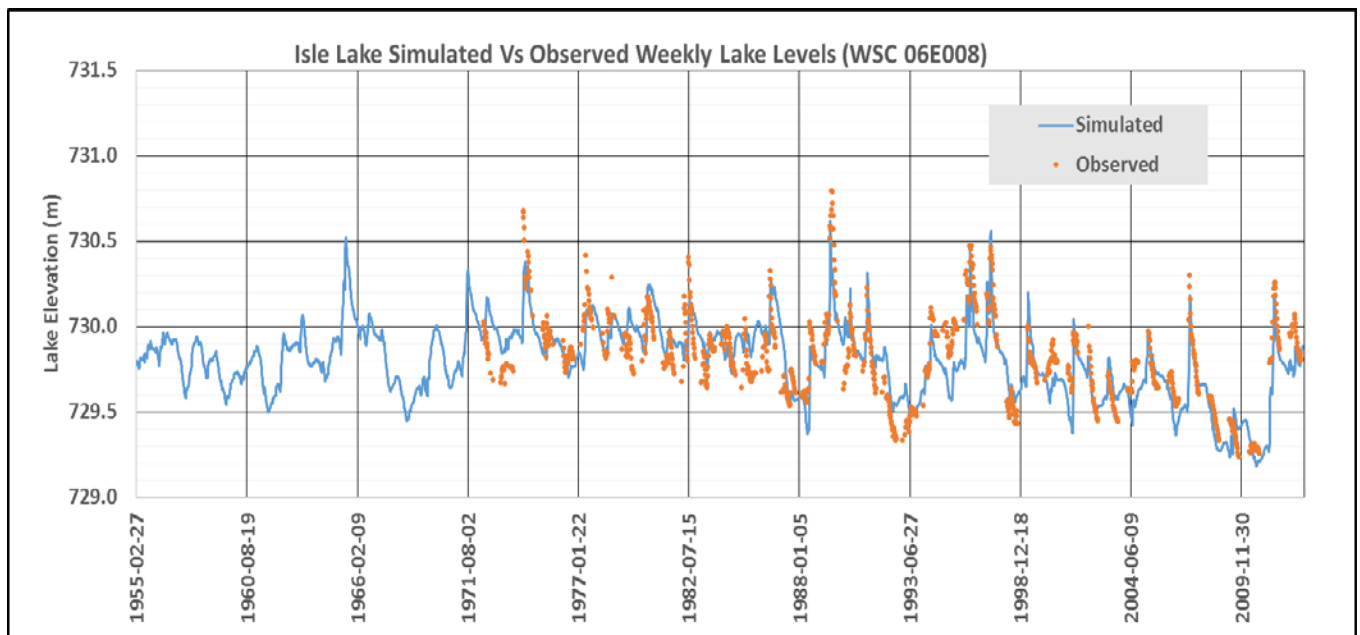


Figure 14: Simulated vs observed water levels for Isle Lake (1955 - 2012).

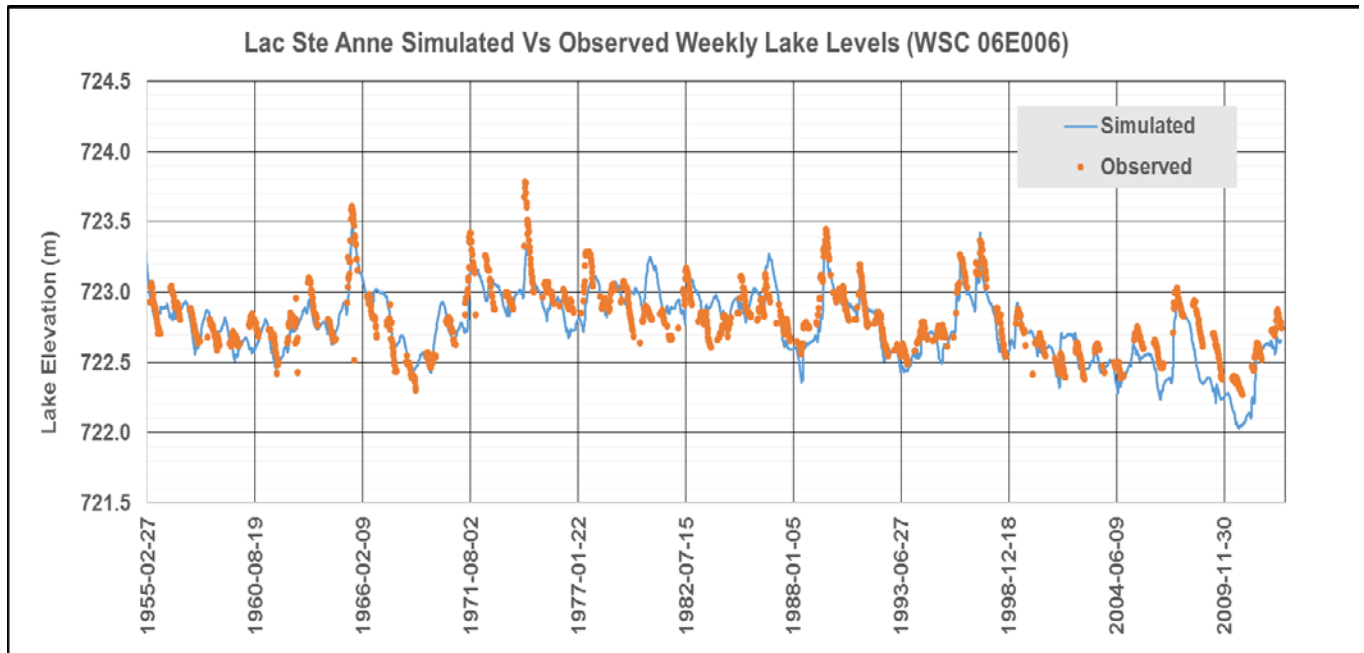


Figure 15: Simulated vs observed water levels for Lac Ste Anne (1955 - 2012).

To evaluate if the estimated hydrologic parameters were reasonable, the simulated lake levels were compared visually to the observed lake levels (the only measured parameter), and were found to be in close agreement in terms of seasonal and annual fluctuations (Figures 14 and 15). The reliability of the simulated lake levels and the water balance model were also evaluated using the following statistical criteria:

- a comparison of the mean, standard deviation of the observed and simulated lake levels
- a comparison of the mean, standard deviation of residuals between the simulated and observed lake levels
- the Nash-Sutcliffe Model Efficiency coefficient (NSE) (Nash and Sutcliffe, 1970).

The NSE is commonly used to assess the predictive capability of hydrological models and is defined as:

$$NSE = 1 - \frac{\sum_{i=1}^N (Z_{oi} - Z_{si})^2}{\sum_{i=1}^N (Z_{oi} - \bar{Z}_o)^2}$$

Where **N** is the number of weeks (1955-2012), \bar{Z}_o is the mean of observed lake levels, and Z_s is modelled lake level. Z_{oi} is the observed water level at time **t**. NSE ranges from $-\infty$ to 1. An efficiency of 1 (NSE = 1) corresponds to a perfect match of modeled water level to the observed data. An efficiency of 0 (E = 0) indicates that the model predictions are as

accurate as the mean of the observed data, whereas an efficiency less than zero ($NSE < 0$) occurs when the observed mean is a better predictor than the model or, in other words, when the residual variance (described by the numerator in the expression above), is larger than the data variance (described by the denominator). Essentially, the closer the model efficiency is to 1, the more accurate the model is.

Table 4. Statistics resulting from the water balance model.

Statistic	Isle Lake	Lac Ste Anne
Observed mean lake level (m) GSC	729.812	722.776
Simulated mean lake level (m) GSC	729.798	722.771
Standard Deviation – Observed lake level (m)	0.260	0.241
Standard Deviation – Simulated lake levels (m)	0.254	0.258
Mean of residuals (m)	0.033	0.022
Standard deviation of residuals (m)	0.054	0.039
NSE	0.511	0.627

The above statistics indicate that the performance of the water balance model was good.

3.6 Calculation of Local Area Surface Inflow ($SR*DA$) and Surface Inflow (ΣSi) to Isle Lake and Lac Ste Anne

The surface inflow into Isle Lake consists of the local area contribution ($SR*DA$) while the surface inflow into Lac Ste Anne includes two components; the surface outflow from Isle Lake and the local (effective) area contribution. The calculation of the surface outflow from Isle Lake was described in Sections 3.5 and 3.5.1. The local area contribution to the surface inflows of Isle Lake and Lac Ste Anne have not been measured directly, so alternate procedures were required to estimate these parameters.

A procedure often used to estimate surface flow at an ungauged location is one in which observed flows at nearby gauged stream courses with similar hydrologic characteristics are used to estimate the surface runoff per unit area (**SR**). The local area contribution for the ungauged area (**SI**) is then estimated by multiplying the specific runoff from the gauged location by the local (effective) drainage area of the ungauged watershed (**SR*DA**). This is a first-order relationship that assumes runoff is a function of effective drainage area only. This procedure was used to estimate the local area contribution (**SR*DA**) component of the surface inflows to Isle Lake and Lac Ste Anne.

A visual inspection was conducted on the annual hydrographs of nearby gauged stream courses to establish if they did represent similar hydrologic basins. Daily specific runoff values were determined for the entire period of record for each river gauge close to the lakes. The list of stations used for this analysis is shown in Table 6. The long-term daily specific runoff ranged between 0.001 and 0.005 m³/s/km² with most locations averaging 0.003 m³/s/km², a value very similar to the gauging site on the Sturgeon River near Magnolia Bridge. Five index stations with unregulated flows and specific runoff of 0.003 m³/s/km² were selected to estimate the local area contribution to the surface inflows of Isle Lake and Lac Ste Anne (Figure 16).

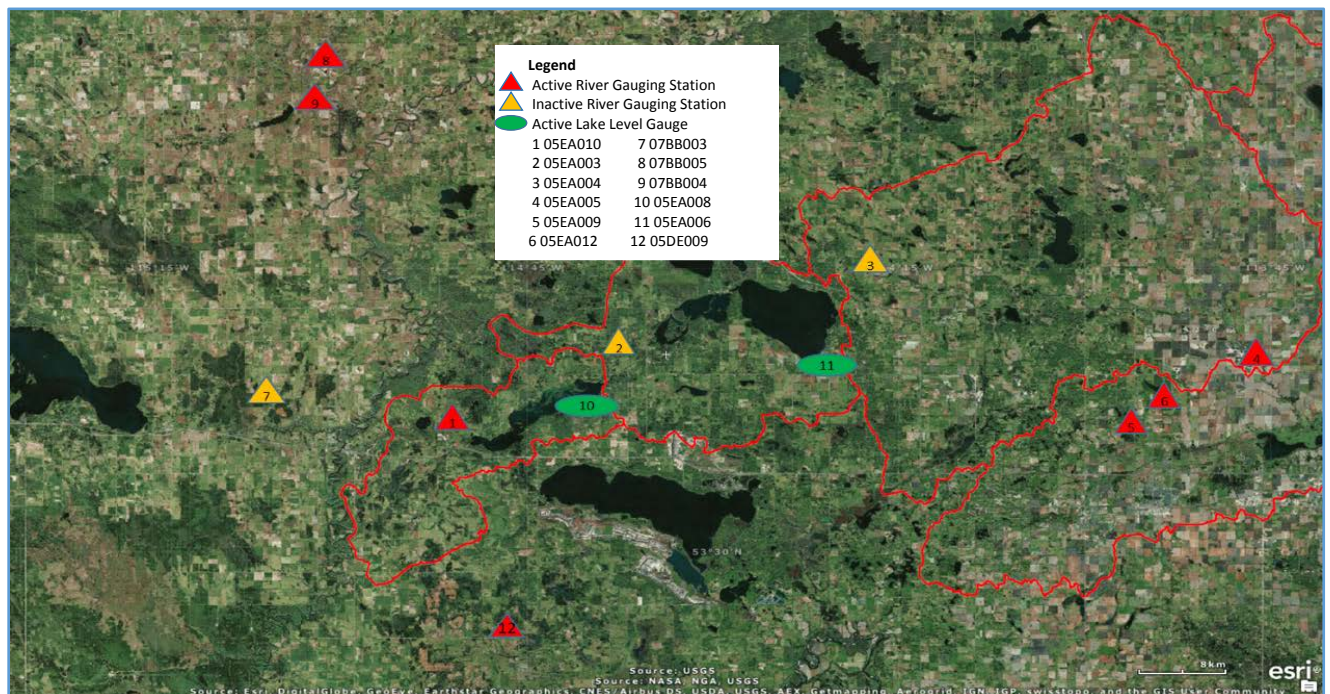


Figure 16: Map of hydrometric stations near Isle Lake and Lac Ste Anne. Adapted from Google Maps (2016).

The five selected stations include:

- Lobstick River near Styal (07BB003)
- Little Paddle River near Mayerthorpe
- Tomahawk Creek near Tomahawk
- Paddle River near Rochfort Bridge
- Sturgeon River near Magnolia Bridge

Other stations near the lakes are not considered in the study due to their short and incomplete period of record.

The daily local area contribution to the surface inflow of the two lakes was calculated using the following order of priority:

1. Multiplying the specific runoff for Sturgeon River near Magnolia by the effective drainage area of Isle Lake and Lac Ste Anne respectively
2. Multiplying the specific runoff of the closest gauging station with data on a given day (generally Lobstick River near Styal), by the effective drainage area of Isle Lake and Lac Ste Anne respectively. *Note: The Lobstick River near Styal had very similar March-October runoff to that of the Sturgeon River near Magnolia (85.4 mm versus 87.7mm) for the 1982-1986 common period of record, therefore no adjustment was applied for potential differences in specific yield.
3. As most of the hydrometric stations generally operate only during the open water period, the local area contribution to surface inflow during winter months (November to February) were calculated using records from Lobstick River near Styal (07BB003), which had continuous flow data starting in January 1955.
4. Where winter flow data were completely missing for all index stations, the long-term daily recession curve (Figure 17) derived from Lobstick River near Styal (07BB003) was used to estimate the specific yield and local area contribution. A typical hydrograph recession representation is expressed as follows:

$$Q_B(t) = Q_0^{K(t)} \quad (8)$$

where:

$Q_B(t)$ = Baseflow on day t

Q_0 = Starting flow at $t = 0$ (typically November 1st or the last day for which streamflow records are available)

K = Recession constant that represents the rate of flow decrease (estimated from recorded data at $K = 0.99$)

The coefficient of determination for this regression analysis was $r^2 = 0.98$ which was considered high enough to explain variability in the recession flow process. Once the starting flow, Q_0 , is known, the subsequent flows are calculated as a function of time as depicted in Equation (8) and assume the recession profile is unchanged.

The daily local area contribution to the surface inflow of Isle Lake and Lac Ste Anne calculated, aggregated to generate weekly local area contributions, and applied to the water balance model. To refine the accuracy of the inflows, water balance model re-runs were conducted based on corrected lake levels determined by the procedures described in Section 3.5.

A summary of the weekly local area contribution to the surface inflow for Isle Lake and Lac Ste Anne for the period 1955- 2012 are provided in the Appendix A, Table A.8, and Table A.10 respectively while the total inflow to Lac Ste Anne is provided in Table A.9.

Table 5: Hydrometric stations used for the Isle Lake and Lac Ste Anne water balance.

Station Name	Water Survey of Canada ID	Latitude	Longitude	Period of Record	Drainage Area (km ²)		Daily Runoff/ Unit Area (m ³ /s/km ²)	Weekly Specific Runoff (m ³ /km ²)
					Gross	Effective		
Sturgeon R. near Magnolia Bridge	05EA010	53.59139 °	-114.8597 °	1981 - 2012	121.2	121.2	0.0031	1,876.83
Lobstick River near Styal	07BB003	53.6125 °	-115.1056 °	1954 - 1986	1570	1560	0.0030	1,797.26
Little Paddle River near Mayerthorpe	07BB005	53.9479 °	-115.0236 °	1963 - 2012	422.78	417.15	0.0030	1,824.78
Tomahawk Creek near Tomahawk	05DE009	53.4058 °	-114.7631 °	1984 - 2012	94.2	94.2	0.0028	1,693.44
Paddle R. near Rochfort Bridge	07BB004	53.8956 °	-115.0419 °	1963 - 2012	616.5	616.5	0.0036	2,151.18

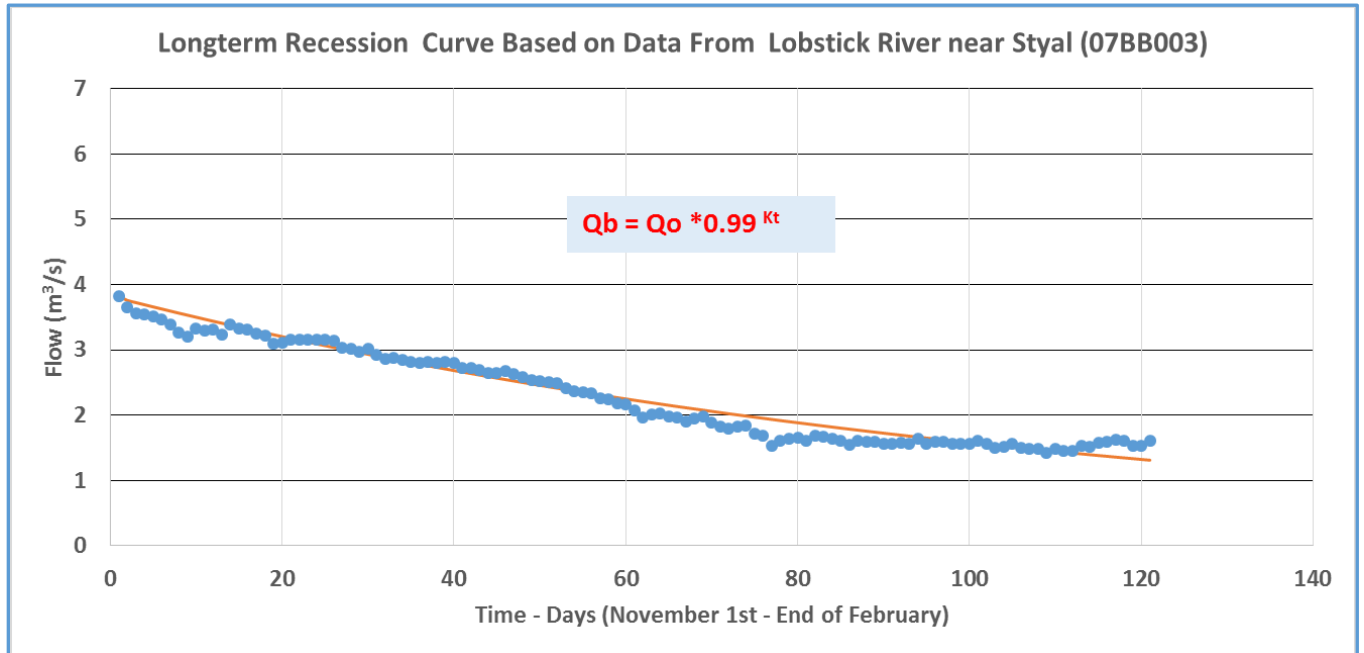


Figure 17: Recession curve for estimating missing November – February inflow data.

3.7 Calculation of Net Groundwater Inflow ($G_i - G_o$)

Since groundwater inflow and outflow were not measured directly, $G_i - G_o$ was calculated as the residual of the water balance equation (Equation 5):

$$G_i - G_o = \Delta S - \Sigma Si - (L_A [P - E]) + S_o \quad (9)$$

If inflows are calculated based on the specific discharge approach (Section 3.4), Equation 4 may be rewritten as:

$$G_i - G_o = \Delta S - (DA \cdot SR) - (L_A [P - E]) + S_o \quad (10)$$

It was initially thought that the net groundwater component required for the 1955-2012 water balance analysis of Isle Lake could be estimated based on the net groundwater inflow computed from a water balance analysis of two years, 1972 and 1982, which had more complete lake level

records. However, after several simulations, it was noted that the water balance for these two years provided a much greater range of seasonal variability than would be expected and did not provide a reliable estimate of the groundwater component. Therefore, **Gi-Go** for the period 1955-1971 was represented as a constant by the average **Gi-Go** determined for 1972–2012 data. This approach yielded a positive long-term **Gi-Go** which seemed to be within the generally accepted range of groundwater contributions for Alberta lakes (about 0–5%). However, because this approach assigns the residual to **Gi-Go**, the results are very sensitive to errors in the estimated value of other parameters and errors in the observed data. The large computational time step (weekly rather than daily) is another possible source of errors.

The representation of **Gi-Go** as a constant value throughout the simulation period is believed to have a minor effect on the calculation of other water balance parameters, as groundwater flow generally does not vary significantly throughout the year and constitutes a small percentage of the water balance equation. For Isle Lake, the **Gi-Go** contribution is approximately 3.6% of the long-term surface inflow, while for Lac Ste Anne this contribution is about 3.7%. However, it is important to note that this is a rough approximation only; a detailed groundwater model with a long-term recorded data would provide a more accurate evaluation of the groundwater component.

4. LONG-TERM WEEKLY AND ANNUAL WATER BALANCE

The long-term weekly water balance was determined based on the average of the weekly water balance analysis. Fifty-two (52) values for every parameter were obtained by averaging the weekly time series over the entire period of the water balance analysis (1955 – 2012). For a given water balance parameter (**X**), the long-term value for a given week (**j**) is calculated as:

$$X_j = \frac{1}{N} \sum_{i=1}^N X_i \quad (11)$$

$$j = 1 \text{ to } 52 \quad \text{and } N = 58 \text{ (1955 to 2012)}$$

The results are shown for both lakes in Figures 18 and 19. The peak inflow and outflow parameters exhibit a clear response to early spring snow melt, late spring rainfall and summer rainfall. There is a clear attenuation of outflows in both lakes due to a storage effect and outlet controls. The results of the weekly and annual water balance are summarized in Table 7. The results show that

the water balance inputs (precipitation, surface inflow and net groundwater inflows) agree with the outputs (evaporation and surface outflow).

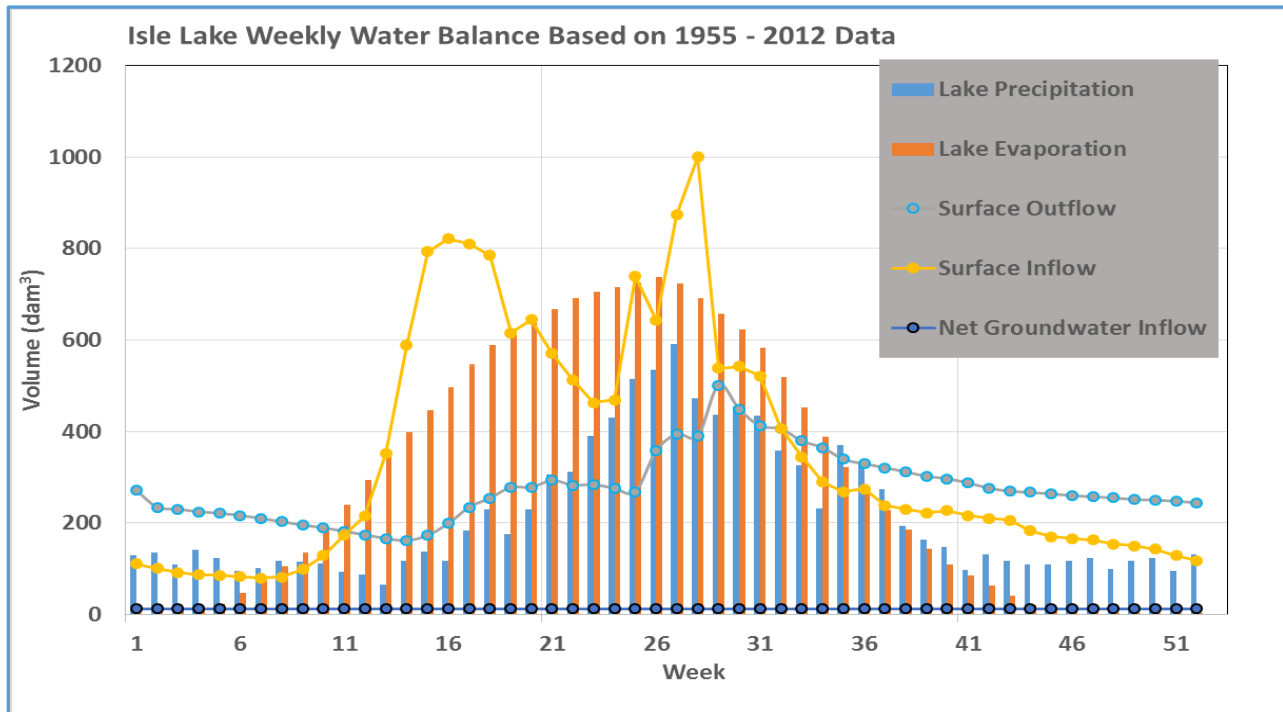


Figure 18: Long-term weekly water balance for Isle Lake.

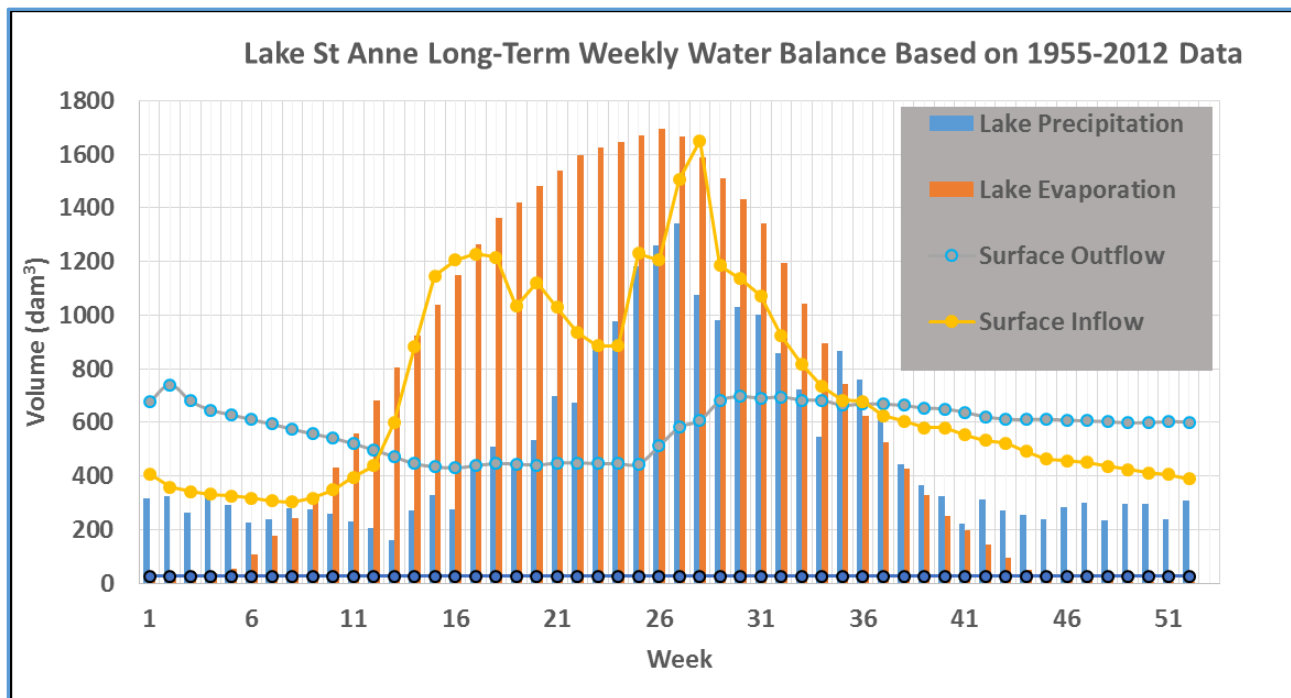


Figure 19: Long-term weekly water balance for Lac Ste Anne.

Table 6: Long-term weekly and annual water balance parameters.

Hydrologic Parameters (1955 – 2012)	Isle Lake		Lac Ste Anne	
	Weekly mean	Annual mean	Weekly mean	Annual mean
Water level (m),	729.812	729.812	722.776	722.776
Total Surface inflow (dam ³)	348.7	18,100	713.7	37,100
Local area contribution to Lac Ste Anne inflow (dam ³)			437.0	22,700
Surface outflow (dam ³)	276.7	14,400	580.1	29,400
Net groundwater inflow (Gi-Go; dam ³)	12.5	649	26.4	1,373
Mean Annual precipitation (mm)		501.6		501.9
Precipitation input (dam ³)	216.5	11,300	501.0	26,000
Mean Annual gross evaporation (mm)		696.6		696.6
Evaporation losses (dam ³)	300.2	15,600	692.8	36,000

5. SUMMARY AND CONCLUSIONS

The water balance analysis for Isle Lake and Lac Ste Anne has been conducted to evaluate the weekly contribution of precipitation, lake evaporation, surface inflow, surface outflow and net groundwater inflow to each of the lakes. The study has established that the stage-discharge relation for the outlet of each lake can be adequately represented by a single elevation-outflow rating curve instead of a family of curves. The findings of the study are expected to provide a better understanding of the hydrology of Isle Lake and Lac Ste Anne.

Uncertainties in this study are due to insufficient data both in terms of spatial and temporal coverage. If more data becomes available, it is recommended that more detailed hydrologic (precipitation-runoff) modelling be conducted to confirm the water balance parameters, especially outflows from the lakes and the net groundwater inflow.

This study also recommends that regular lake level observations be made during the months of November to April to provide a continuous time series. In addition, a hydrometric station is recommended for the outlet of each of the two lakes, or more frequent measurement of lake elevation and outflow, to provide more reliable data or estimates of outflow.

6. REFERENCES

- Alberta Government. 2013. *Evaporation and Transpiration in Alberta*.
- Alberta Environment. 2004. *Sturgeon River Basin, Current Consumptive Water Use Estimates*.
- Alberta Environment. 1994. *Historical Weekly Natural Flows*. Alberta Environmental Protection Services, Central Region Alberta Environment. Stony Plain, Alberta.
- Alberta Environment. 1979. *Isle Lake/ Lac Ste Anne, Study of Regulation by Outlet Control*. Hydrology Branch.
- Mitchell, P.A. and E.E. Prepas. 1990. *Atlas of Alberta Lakes*. University of Alberta Press. Alberta, Canada. 675p.
- Meyer, A. F. 1942. *Evaporation from Lakes and Reservoirs*. Minnesota Resources Commission, St. Paul, MN.
- Morton, F.I. 1983. *Operational estimates of lake evaporation*. Journal of Hydrology, 66: 77-100.
- MPE Engineering. 2004. *Sturgeon River Basin - Current Consumptive Water Use Estimates*. Prepared for Alberta Environment.
- Nash, J. E. and Sutcliffe, J. V. 1970. *River flow forecasting through conceptual models, Part I - A discussion of principles*. J. Hydrol., 10: 282-290.

APPENDIX A

Table A.1: Isle Lake Elevation-Area-Storage (AEP, 2016).

Elevation (m)	Area (m ² X 10 ⁶)	Capacity (m ³ X 10 ⁶)	Comment
731.55	28.36	129.51	Extended
731.30	27.36	123.51	Extended
731.05	26.41	117.59	Extended
730.80	25.50	111.76	Extended
730.55	24.64	106.02	Extended
730.30	23.82	100.36	Extended
730.05	23.04	94.79	Reconstructed
730.00	22.87	93.85	Reconstructed
729.75	22.13	88.81	Reconstructed
729.50	21.49	83.38	Reconstructed
729.25	20.77	77.80	Reconstructed
729.00	20.11	72.09	Reconstructed
728.75	19.49	67.36	Reconstructed
728.50	18.94	62.22	Reconstructed
728.25	18.42	57.59	Reconstructed
728.00	17.88	53.23	Reconstructed
727.75	17.35	48.94	Reconstructed
727.50	16.84	44.54	Reconstructed
727.25	16.28	39.91	Reconstructed
727.00	15.69	36.29	Reconstructed
726.75	14.97	32.20	Reconstructed
726.50	14.02	28.46	Reconstructed
726.25	13.19	25.35	Reconstructed
726.00	12.25	22.30	Reconstructed
725.75	11.48	19.40	Reconstructed
725.50	10.52	16.64	Reconstructed
725.25	9.68	14.14	Reconstructed
725.00	8.78	11.75	Reconstructed
724.75	7.94	9.58	Reconstructed
724.50	7.11	7.65	Reconstructed
724.25	6.24	6.06	Reconstructed
724.00	5.36	4.70	Reconstructed
723.75	4.47	3.34	Reconstructed
723.50	3.45	2.34	Reconstructed
723.25	2.63	1.53	Reconstructed
723.00	1.73	0.95	Reconstructed
722.75	1.02	0.53	Reconstructed
722.50	0.42	0.32	Reconstructed
722.25	0.21	0.19	Reconstructed

Elevation (m)	Area (m² X 10⁶)	Capacity (m³ X 10⁶)	Comment
722.00	0.12	0.14	Reconstructed
721.75	0.07	0.10	Reconstructed
721.50	0.03	0.06	Reconstructed
721.25	0.01	0.04	Reconstructed
721.00	0.01	0.01	Reconstructed
720.75	0.00	0.00	Reconstructed

Table A.2: Lac Ste Anne Elevation-Area-Storage. (AEP, 2016).

Elevation (m)	Area (m ² X 10 ⁶)	Capacity (m ³ X 10 ⁶)	Comment
724.71	65.76	349.22	Extended
724.46	63.72	333.80	Extended
724.21	61.75	318.73	Extended
723.96	59.84	304.01	Extended
723.71	57.99	289.65	Extended
723.46	56.19	275.63	Extended
723.21	54.46	261.96	Reconstructed
723.00	53.22	250.65	Reconstructed
722.75	51.68	237.54	Reconstructed
722.50	50.11	224.82	Reconstructed
722.25	48.53	212.49	Reconstructed
722.00	46.95	200.55	Reconstructed
721.75	45.39	189.01	Reconstructed
721.50	44.08	177.83	Reconstructed
721.25	42.86	166.96	Reconstructed
721.00	41.65	156.40	Reconstructed
720.75	40.46	146.13	Reconstructed
720.50	39.28	136.17	Reconstructed
720.25	38.10	126.49	Reconstructed
720.00	36.79	117.13	Reconstructed
719.75	35.40	108.11	Reconstructed
719.50	34.02	99.43	Reconstructed
719.25	32.64	91.10	Reconstructed
719.00	31.25	83.11	Reconstructed
718.75	29.84	75.47	Reconstructed
718.50	28.47	68.19	Reconstructed
718.25	27.11	61.24	Reconstructed
718.00	25.73	54.63	Reconstructed
717.75	24.30	48.38	Reconstructed
717.50	22.85	42.48	Reconstructed
717.25	21.37	36.96	Reconstructed
717.00	19.74	31.82	Reconstructed
716.75	18.01	27.10	Reconstructed
716.50	16.29	22.81	Reconstructed
716.25	14.62	18.95	Reconstructed
716.00	12.98	15.50	Reconstructed
715.75	11.41	12.45	Reconstructed
715.50	9.83	9.79	Reconstructed
715.25	8.26	7.53	Reconstructed

Elevation (m)	Area (m² X 10⁶)	Capacity (m³ X 10⁶)	Comment
715.00	6.81	5.65	Reconstructed
714.75	5.50	4.11	Reconstructed
714.50	4.32	2.88	Reconstructed
714.25	3.28	1.93	Reconstructed
714.00	2.45	1.22	Reconstructed
713.75	1.83	0.68	Reconstructed
713.50	1.21	0.30	Reconstructed
713.25	0.61	0.08	Reconstructed
713.00	0.00	0.00	Reconstructed

Table A.3: Isle Lake weekly precipitation (mm).

Wk/Yr	1	2	3	4	5	6	7	8	9	10	11	12	13
1955	2.3	0.3	0.9	5.1	2.6	10.5	0.6	6.7	2.5	4.6	9.4	0.8	2.0
1956	14.3	6.4	3.4	8.7	2.8	5.3	13.1	31.1	5.8	4.6	1.8	5.9	7.4
1957	7.6	0.3	3.1	4.4	11.3	0.0	3.3	6.9	1.1	8.9	0.8	0.0	1.0
1958	0.3	2.0	5.4	0.0	11.9	7.3	5.6	1.8	1.8	7.2	0.0	1.6	11.4
1959	0.8	12.5	4.1	24.7	14.8	1.1	0.0	0.5	2.5	1.3	4.8	0.0	0.3
1960	3.3	0.0	2.1	2.5	0.5	12.9	3.6	11.0	0.8	6.8	0.0	0.3	5.4
1961	3.0	0.0	5.1	0.0	6.3	7.1	29.0	2.3	2.3	3.0	0.0	2.3	0.0
1962	3.3	1.8	2.1	16.5	37.5	2.3	3.3	15.6	1.0	2.3	0.5	7.2	0.0
1963	1.3	14.7	20.3	2.4	10.7	0.0	11.5	6.3	17.5	4.1	1.1	3.9	14.2
1964	0.3	5.0	9.2	0.0	14.0	0.8	0.0	1.0	2.6	1.3	1.3	1.8	0.0
1965	3.1	22.4	2.1	14.0	10.5	22.4	4.9	5.7	9.6	0.3	2.0	4.1	0.8
1966	15.2	16.4	6.8	7.1	0.1	0.0	18.1	0.0	0.1	1.3	8.8	1.2	0.2
1967	6.2	8.0	10.9	1.0	6.1	10.4	3.5	3.1	4.5	19.1	14.1	2.3	2.5
1968	8.3	6.7	0.0	7.4	2.9	0.0	3.5	5.9	0.4	1.0	11.0	0.3	1.0
1969	5.9	11.9	0.8	3.4	0.5	4.7	4.9	17.4	0.2	0.0	8.2	0.0	11.6
1970	14.6	10.0	1.2	0.0	7.8	0.0	8.3	0.4	7.0	8.2	3.2	6.7	6.7
1971	11.4	7.2	18.8	28.4	10.2	1.1	2.1	0.0	0.0	1.7	0.7	22.7	16.5
1972	1.6	4.1	15.3	5.3	9.6	4.3	3.6	10.5	19.5	8.8	1.2	14.3	0.2
1973	9.7	0.5	0.0	0.7	2.4	4.5	0.3	8.5	4.4	0.4	0.0	0.5	0.1
1974	14.1	15.8	1.0	37.7	10.9	1.6	3.2	12.0	12.1	0.2	32.1	17.3	0.9
1975	6.6	3.6	2.9	5.4	4.5	7.2	4.5	1.7	4.9	1.6	4.1	5.9	4.1
1976	7.2	1.1	1.4	1.0	0.1	6.2	2.6	2.1	11.7	19.8	0.5	0.4	0.1
1977	2.8	14.4	2.3	10.8	0.9	0.5	2.5	0.0	1.5	0.5	3.7	6.5	2.6
1978	12.2	8.6	4.8	11.9	0.5	5.5	0.0	0.9	0.1	0.0	2.4	0.7	2.3
1979	0.1	1.2	2.7	2.3	9.3	22.2	2.6	1.7	3.8	1.2	0.1	0.6	2.6
1980	16.8	1.2	0.0	8.3	0.1	0.1	15.3	6.0	11.3	3.2	11.5	7.4	0.5
1981	5.4	1.9	0.0	0.5	0.2	7.3	0.1	7.3	10.2	1.8	0.6	4.2	3.3
1982	30.2	11.4	4.1	17.4	7.6	10.1	2.0	9.6	15.7	22.0	1.6	3.1	4.4
1983	0.1	3.2	1.6	5.5	6.2	0.4	2.7	0.8	12.2	9.2	8.1	10.0	3.7
1984	2.0	15.3	2.3	15.0	0.0	0.5	0.3	1.7	3.9	12.1	5.6	5.7	0.8
1985	0.0	4.5	9.2	1.1	6.1	4.2	0.8	14.5	4.3	0.3	0.5	0.0	0.8
1986	2.0	0.0	8.9	9.5	1.0	2.7	5.6	3.7	0.5	19.4	1.4	10.0	1.7
1987	0.0	2.7	2.9	0.0	0.0	1.6	1.3	6.3	5.1	6.9	12.8	7.3	2.9
1988	0.1	3.2	0.0	4.3	1.8	8.8	14.9	0.4	0.2	0.2	0.3	0.7	2.0
1989	0.9	0.2	0.0	0.1	36.7	0.0	0.2	2.0	6.5	4.2	1.1	0.5	0.2
1990	9.4	1.1	2.0	2.6	2.7	8.7	7.3	1.9	0.0	10.3	0.0	7.7	0.6
1991	0.0	0.0	0.0	19.7	5.7	0.1	3.7	12.3	20.6	4.3	0.0	0.5	0.1
1992	13.4	3.1	0.7	14.0	0.0	0.5	14.2	18.5	0.0	1.1	0.1	2.4	0.6
1993	3.9	0.3	0.0	0.0	0.0	4.0	10.9	5.3	0.0	11.2	8.4	0.0	11.0
1994	14.8	35.7	12.6	10.5	0.0	10.0	2.9	7.9	0.0	0.0	4.4	0.0	0.0
1995	0.1	2.0	0.0	0.0	1.2	0.4	2.1	2.7	5.9	0.6	0.2	0.1	0.8
1996	20.5	4.4	4.7	0.1	0.3	4.2	6.9	1.1	3.0	0.0	0.1	2.9	8.3
1997	0.1	0.1	6.2	2.6	0.2	0.0	6.4	0.7	16.2	16.4	1.7	0.1	0.2
1998	8.6	7.3	2.8	3.3	0.0	0.6	0.0	0.0	0.2	4.7	2.0	1.1	0.0
1999	21.3	23.3	13.5	6.3	10.8	0.0	0.0	0.0	6.5	1.7	3.8	0.0	0.0
2000	3.5	9.4	13.4	0.0	0.0	9.8	1.9	0.0	0.0	14.3	7.5	0.2	0.3
2001	0.7	0.0	0.2	0.0	0.0	1.2	1.6	1.3	0.0	0.3	5.5	4.6	0.0
2002	0.0	0.0	8.9	2.5	0.0	3.1	2.3	2.4	9.8	3.3	6.4	3.2	9.0
2003	0.0	3.4	16.4	12.7	2.5	8.8	10.5	7.7	12.1	5.0	13.2	0.4	8.9
2004	1.9	1.9	4.7	16.4	11.1	0.0	0.5	1.6	7.8	0.2	5.1	0.0	5.7
2005	5.0	0.0	17.6	0.0	12.8	0.2	1.0	0.0	0.8	3.8	11.4	18.6	0.0
2006	0.2	1.6	0.6	0.0	0.2	0.4	0.8	8.0	11.7	5.5	9.2	0.0	0.0
2007	0.6	11.0	0.0	0.0	9.9	8.7	3.4	5.7	0.0	0.4	0.0	0.0	4.0
2008	0.2	0.8	2.2	3.7	2.9	4.1	4.5	0.1	2.7	1.7	4.0	0.0	0.9
2009	5.5	11.4	0.3	1.5	1.3	4.2	0.5	10.0	1.4	3.7	0.7	5.8	0.4
2010	0.8	0.0	0.5	2.9	3.4	0.4	0.1	0.1	0.0	0.0	0.7	2.8	1.1
2011	9.0	16.5	17.7	1.1	3.1	1.7	1.8	0.8	9.2	1.8	2.2	10.5	0.1
2012	1.7	2.5	2.8	0.9	1.2	0.2	0.0	10.4	3.0	8.3	1.4	8.0	0.7
Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max	30.2	35.7	20.3	37.7	37.5	22.4	29.0	31.1	20.6	22.0	32.1	22.7	16.5
Mean	5.8	6.1	4.9	6.3	5.5	4.2	4.5	5.2	5.1	4.9	4.2	3.9	2.9

Table A.3 continued: Isle Lake Weekly Precipitation (mm).

Wk/Yr	14	15	16	17	18	19	20	21	22	23	24	25	26
1955	2.3	1.0	20.3	48.3	0.8	3.8	0.0	7.6	3.5	0.8	12.2	15.5	3.3
1956	7.2	0.0	10.1	1.3	0.3	3.0	0.0	1.3	7.6	31.0	31.8	7.6	47.0
1957	4.3	0.3	0.5	16.5	1.5	1.1	0.0	8.9	0.0	12.2	1.5	10.2	8.6
1958	6.6	0.0	0.0	0.3	2.8	4.0	0.0	18.6	10.9	3.6	4.6	5.1	31.6
1959	0.0	0.8	3.1	10.4	19.9	18.1	0.0	9.1	9.4	23.6	41.9	13.9	26.4
1960	0.0	3.6	1.8	0.0	2.3	13.5	24.1	15.1	2.3	5.4	9.9	41.3	34.9
1961	10.7	13.8	0.0	3.6	3.8	0.3	6.1	10.6	0.0	9.7	28.2	9.4	79.0
1962	3.1	13.0	0.0	21.4	26.4	2.8	8.2	0.0	54.3	34.8	15.7	5.8	14.0
1963	8.9	7.1	3.1	4.1	18.8	7.1	0.0	4.6	5.1	6.7	6.4	4.1	1.0
1964	18.8	0.0	0.0	1.5	36.9	20.6	11.6	35.1	0.0	15.2	8.6	9.1	28.3
1965	8.4	4.9	11.2	1.5	5.7	0.0	17.8	21.2	52.0	6.0	12.7	5.4	115.3
1966	0.0	5.4	0.0	26.9	0.0	2.7	4.0	1.9	24.3	23.3	15.2	18.9	10.5
1967	2.1	5.0	1.0	0.0	0.0	0.1	0.7	16.8	3.0	33.6	10.2	0.1	3.0
1968	1.5	9.0	5.3	0.1	30.0	0.9	0.0	0.9	2.5	10.3	24.7	10.7	26.0
1969	0.1	2.0	0.9	30.0	12.0	1.6	7.6	11.3	10.5	9.5	0.0	1.8	22.2
1970	0.0	3.3	0.0	0.2	0.0	7.9	0.3	3.5	0.0	11.2	26.2	1.5	30.8
1971	0.0	8.6	0.2	0.0	0.1	4.0	0.8	16.2	4.0	51.6	53.1	13.0	23.2
1972	5.0	1.6	7.4	1.7	9.5	0.0	33.3	3.0	0.1	4.4	33.5	38.6	46.8
1973	2.1	20.7	1.3	12.1	9.9	0.9	16.8	17.7	8.1	1.7	56.8	60.4	17.6
1974	4.8	19.1	8.7	3.2	15.9	15.9	1.6	5.4	60.0	8.7	0.7	21.5	50.9
1975	16.7	0.1	2.9	6.2	29.6	0.2	3.2	19.3	14.4	11.8	17.7	3.2	96.9
1976	0.0	13.5	9.6	0.2	0.0	4.1	5.0	15.6	4.5	7.4	18.0	60.0	29.1
1977	0.9	0.1	0.6	4.5	49.2	19.4	22.5	33.1	57.2	0.1	27.7	1.0	16.7
1978	0.5	2.7	0.8	8.7	7.1	5.7	16.8	29.5	16.2	9.7	47.5	18.3	13.9
1979	4.5	14.8	20.2	0.0	10.2	7.3	10.1	5.3	3.0	17.8	41.5	21.4	17.8
1980	2.8	1.2	0.0	1.4	0.0	0.0	0.7	63.6	27.3	41.1	1.9	42.0	56.7
1981	1.5	6.2	0.0	9.6	8.0	1.2	2.6	6.4	30.3	3.8	42.2	17.1	3.9
1982	0.7	4.7	0.1	0.5	0.3	7.1	18.4	8.3	0.0	13.5	3.5	4.6	5.9
1983	13.5	3.4	2.0	1.9	9.5	7.6	7.0	0.0	6.3	10.9	2.5	99.0	37.1
1984	0.9	0.1	0.1	0.0	19.4	13.8	22.7	17.9	10.3	68.2	6.3	4.8	19.2
1985	1.4	2.6	42.7	0.4	6.3	12.8	0.3	7.5	21.7	4.8	20.6	81.4	2.4
1986	0.1	17.6	20.4	14.1	0.7	21.8	0.2	8.2	0.0	12.5	16.5	29.2	2.9
1987	13.2	0.6	0.4	0.1	7.2	10.3	26.7	0.4	17.5	11.2	1.6	22.4	11.8
1988	0.4	0.0	5.3	0.0	3.5	0.1	10.1	0.1	17.1	48.5	21.7	26.5	26.8
1989	7.7	2.5	1.1	0.0	2.4	2.3	69.5	13.8	10.5	21.3	5.2	15.5	33.2
1990	13.3	2.8	0.0	36.3	1.4	8.2	11.7	24.6	4.2	11.9	27.3	0.4	14.3
1991	29.5	1.2	0.0	19.5	6.5	96.1	7.6	17.0	5.4	30.4	22.1	45.9	13.3
1992	14.6	2.4	17.6	4.3	0.7	3.1	1.2	9.1	21.0	5.5	0.7	8.2	2.4
1993	6.4	6.8	4.6	4.2	9.5	16.9	1.3	20.7	0.0	5.1	4.3	62.6	38.3
1994	0.0	0.2	1.5	0.1	9.0	0.4	37.5	1.8	24.0	33.3	34.8	11.1	28.4
1995	6.6	3.3	1.2	3.2	0.0	2.8	8.5	2.9	14.7	7.8	18.5	17.0	17.0
1996	3.1	23.3	8.3	23.3	8.3	0.7	8.0	1.0	29.7	37.7	15.7	95.0	8.2
1997	5.4	0.0	30.9	6.8	0.6	1.0	26.8	23.7	22.6	17.8	44.0	78.2	21.4
1998	6.0	1.4	0.2	8.7	2.7	6.3	20.5	18.8	12.9	3.8	6.2	11.6	68.2
1999	5.5	0.7	1.6	23.5	22.9	12.4	13.2	9.1	7.2	13.6	12.4	14.3	16.3
2000	2.1	6.8	0.0	8.3	8.9	21.3	1.5	5.5	11.5	53.9	29.6	11.9	20.6
2001	0.6	0.0	0.3	0.7	0.6	0.0	9.0	10.7	47.1	3.5	27.1	10.2	7.8
2002	7.3	20.9	0.9	1.4	0.1	0.2	6.9	2.1	0.8	2.1	4.2	1.5	11.8
2003	2.6	11.9	3.1	24.0	35.9	0.8	0.3	6.4	26.5	5.6	7.2	46.6	7.0
2004	3.6	16.6	0.2	4.1	2.7	1.1	1.6	3.2	30.4	7.9	26.4	1.8	0.2
2005	0.4	2.6	0.0	3.7	6.3	1.7	25.8	19.0	3.0	1.6	38.5	36.1	25.5
2006	19.6	16.0	1.0	13.7	12.1	21.3	8.9	53.6	4.2	55.8	30.7	0.0	0.0
2007	12.2	5.0	34.4	9.5	73.8	2.4	3.8	6.0	2.3	25.0	29.3	31.7	17.4
2008	2.7	1.1	11.0	3.0	19.3	7.5	1.4	47.2	2.0	19.6	12.6	7.3	3.3
2009	0.1	15.4	1.0	3.1	0.8	13.6	12.9	2.0	0.2	20.8	1.2	12.6	1.4
2010	0.9	0.1	3.3	13.8	9.9	4.1	34.4	17.2	19.2	14.2	2.2	9.9	21.5
2011	0.0	8.8	0.4	11.4	5.8	8.1	0.2	17.2	12.0	11.6	41.8	69.0	32.1
2012	11.7	21.7	0.9	14.2	6.3	0.3	1.6	36.5	5.3	38.7	6.8	6.6	4.0
Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Max	29.5	23.3	42.7	48.3	73.8	96.1	69.5	63.6	60.0	68.2	56.8	99.0	115.3
Mean	5.3	6.2	5.2	8.1	10.2	7.8	10.2	13.7	13.8	17.5	19.2	22.9	23.7

Table A.3 continued: Isle Lake Weekly Precipitation (mm).

Wk/Yr	27	28	29	30	31	32	33	34	35	36	37	38	39
1955	44.3	0.8	0.0	64.8	5.9	4.3	21.0	1.5	5.3	3.3	40.4	47.3	1.0
1956	10.9	5.1	0.0	26.7	74.7	8.1	18.5	7.6	28.1	21.4	3.4	4.6	0.5
1957	18.9	2.8	10.4	7.9	14.7	71.1	6.6	15.6	2.3	30.1	9.4	1.0	0.0
1958	8.1	9.9	17.3	5.3	22.4	5.8	0.0	12.0	19.8	0.0	84.6	6.6	21.1
1959	22.8	0.8	9.4	8.4	6.8	42.1	26.6	26.5	2.0	13.9	0.0	2.5	10.0
1960	6.9	2.5	21.1	11.2	36.0	10.7	36.9	14.5	2.6	25.9	2.8	25.7	2.8
1961	5.3	8.9	2.0	44.7	0.0	2.8	10.4	0.0	4.8	7.9	0.0	15.9	14.3
1962	2.1	13.5	39.9	21.9	14.5	1.3	2.6	15.0	10.3	6.3	22.8	0.0	0.0
1963	23.9	13.8	3.8	22.3	0.3	5.6	11.2	7.4	9.9	0.0	22.6	0.0	4.1
1964	0.0	36.3	28.9	10.7	17.3	37.4	11.2	7.1	45.9	26.1	0.0	13.7	11.5
1965	38.9	47.4	8.1	3.3	0.7	13.3	19.0	20.0	35.6	5.2	5.0	14.7	13.7
1966	31.3	12.9	3.9	28.5	25.3	25.5	26.8	0.0	52.2	8.4	0.0	4.4	2.0
1967	4.3	0.1	20.3	8.1	8.5	4.2	0.0	1.3	19.0	5.2	2.8	1.3	0.3
1968	1.5	3.2	47.0	23.8	21.9	12.5	3.2	28.7	23.2	17.1	11.4	1.9	0.0
1969	44.9	0.0	23.6	19.8	137.6	5.7	9.9	0.1	27.4	68.9	1.2	8.7	12.6
1970	11.0	14.2	23.0	37.9	1.1	18.3	1.6	4.2	17.6	1.8	10.5	3.8	5.3
1971	78.6	54.1	1.0	27.7	14.7	0.4	2.3	0.9	6.2	7.9	1.3	11.6	23.5
1972	2.2	2.2	2.4	30.7	35.6	15.5	4.5	1.7	14.9	9.4	0.7	25.0	4.3
1973	4.0	0.6	11.8	34.2	57.1	25.0	30.4	17.7	18.9	1.0	18.8	7.3	4.2
1974	13.0	93.9	6.2	8.1	6.4	15.8	13.7	8.0	1.6	25.5	2.4	0.0	15.5
1975	7.3	10.5	28.3	9.4	24.1	17.8	21.0	41.6	38.3	3.1	4.9	0.8	8.1
1976	17.6	10.1	12.2	14.8	39.5	19.7	39.0	18.3	37.2	12.8	8.0	0.0	0.4
1977	44.4	35.3	11.0	34.1	10.5	25.4	16.3	13.6	22.3	5.5	15.6	0.4	24.5
1978	6.9	88.1	3.3	43.5	6.1	10.6	32.8	11.0	0.2	64.5	44.3	16.6	12.9
1979	19.6	48.4	18.8	27.0	16.7	13.4	0.1	1.7	2.8	21.3	4.8	5.8	6.5
1980	10.6	24.7	8.2	19.1	49.4	15.6	5.5	31.4	7.0	4.3	25.2	29.3	0.9
1981	20.1	26.7	55.1	42.8	5.9	0.5	4.5	1.1	27.1	15.0	0.3	37.8	1.8
1982	146.9	32.2	25.3	1.0	7.3	32.3	10.5	21.2	27.8	22.1	3.6	0.0	1.2
1983	46.0	36.6	12.2	21.3	7.7	3.1	6.7	0.1	13.2	25.5	8.9	2.4	2.8
1984	25.4	3.7	14.6	0.2	3.2	10.5	11.4	8.8	3.0	81.6	11.7	30.5	0.7
1985	0.4	14.9	14.9	12.5	0.2	46.6	41.3	4.1	19.8	9.3	25.1	20.0	7.6
1986	25.8	80.1	78.6	16.6	30.5	0.2	0.1	1.9	1.3	0.0	49.5	0.4	53.7
1987	17.2	3.0	20.6	30.5	64.6	17.3	16.3	9.5	14.8	1.6	0.5	0.0	0.9
1988	100.4	22.1	2.2	1.1	16.0	32.1	24.3	24.6	0.1	7.9	17.6	12.7	10.5
1989	66.5	20.6	10.3	13.5	32.1	0.3	60.1	7.9	14.0	12.8	11.4	0.4	0.3
1990	61.3	0.7	17.1	8.6	1.7	10.9	22.0	11.5	61.2	5.1	27.5	0.6	0.0
1991	12.1	1.7	9.0	12.0	4.1	36.9	3.2	20.8	6.9	15.8	5.2	2.5	0.0
1992	23.7	22.5	7.9	7.6	0.5	5.1	19.2	18.0	24.3	39.6	8.8	1.8	10.1
1993	7.3	12.3	42.4	15.6	1.4	29.4	0.9	27.0	21.4	1.0	14.9	4.7	12.7
1994	40.9	21.8	9.5	0.8	8.3	36.0	33.3	3.8	3.0	10.5	7.3	0.5	22.0
1995	16.6	11.6	15.5	21.0	34.1	66.9	7.1	6.8	11.7	0.0	1.1	0.1	7.6
1996	13.1	27.0	58.3	3.5	41.8	14.0	7.8	1.7	3.1	29.4	10.6	18.0	20.9
1997	4.1	16.0	12.1	10.5	7.0	4.1	39.2	2.2	20.1	28.7	8.7	5.6	5.4
1998	8.8	14.0	14.5	0.0	23.6	5.2	19.8	2.2	0.0	3.1	0.0	34.4	4.9
1999	29.5	17.5	29.1	8.2	5.3	9.6	4.1	5.4	36.4	5.4	0.1	4.7	4.2
2000	28.1	38.4	20.1	5.8	9.6	12.1	5.3	9.1	35.6	29.6	0.9	4.0	0.5
2001	0.8	16.8	35.9	132.0	6.7	4.8	23.1	0.1	6.0	4.2	2.4	7.4	1.6
2002	5.1	1.0	37.7	17.5	30.8	11.9	14.3	5.2	12.2	1.1	1.8	1.1	6.6
2003	35.5	5.5	4.1	15.4	0.0	24.4	7.8	14.0	30.0	5.7	12.9	2.2	0.0
2004	50.1	45.9	18.9	10.9	26.7	6.1	0.0	20.0	25.5	24.2	3.8	25.4	1.6
2005	5.4	28.2	18.6	12.6	4.5	5.7	30.3	14.3	8.5	17.6	9.8	0.2	18.0
2006	9.7	15.0	7.7	35.6	6.6	4.5	4.0	4.1	22.2	6.0	85.4	4.5	6.1
2007	35.1	8.2	32.2	25.2	12.0	9.3	7.2	6.2	10.4	6.8	1.0	2.9	2.4
2008	35.0	26.9	12.9	20.7	22.5	10.5	9.2	13.1	4.9	3.3	2.0	12.3	2.7
2009	61.7	8.6	8.6	9.3	28.9	6.8	4.8	8.2	0.2	10.6	0.1	2.3	0.2
2010	14.7	44.2	22.0	6.5	7.5	20.3	4.0	17.1	4.3	20.6	20.9	12.3	12.9
2011	64.7	20.5	32.4	12.7	6.0	21.8	10.0	0.8	6.0	0.5	9.0	1.2	0.5
2012	44.5	24.3	68.0	56.4	18.2	2.9	14.6	4.3	23.8	8.3	2.4	0.2	0.6
Min	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max	146.9	93.9	78.6	132.0	137.6	71.1	60.1	41.6	61.2	81.6	85.4	47.3	53.7
Mean	26.5	20.8	19.5	20.4	19.4	16.0	14.4	10.4	16.5	14.6	12.2	8.7	7.3

Table: A.3 continued: Isle Lake Weekly Precipitation (mm).

Wk/Yr	40	41	42	43	44	45	46	47	48	49	50	51	52	Annual
1955	2.8	0.0	0.0	1.8	52.6	1.3	1.0	6.9	1.3	2.1	8.8	4.7	13.2	504.1
1956	3.1	0.0	0.8	6.6	1.0	3.1	1.6	3.8	0.3	7.6	21.4	3.0	0.0	520.7
1957	46.8	2.3	0.8	1.0	0.0	0.8	8.9	36.4	0.8	7.1	0.3	2.2	2.0	414.5
1958	5.6	9.7	6.1	0.0	0.0	0.0	1.5	4.4	9.4	1.4	12.5	11.5	6.6	426.0
1959	9.4	32.3	0.8	6.8	17.3	3.0	1.6	10.2	0.5	1.3	0.0	0.3	16.8	516.1
1960	0.0	16.0	0.0	6.6	1.5	5.8	8.1	16.8	1.0	10.2	1.3	10.4	9.6	490.3
1961	7.9	0.8	31.2	0.0	0.8	0.5	3.3	0.8	18.9	1.8	9.4	4.9	3.0	435.9
1962	2.5	11.2	5.6	0.0	2.0	0.0	9.5	2.3	0.0	6.2	0.5	3.0	17.8	503.7
1963	0.0	0.0	2.5	0.0	0.0	3.8	8.4	2.9	0.0	0.0	9.6	6.6	0.9	344.6
1964	0.0	0.0	4.1	3.3	0.0	0.0	24.4	6.4	25.6	0.8	7.4	4.3	2.6	548.0
1965	0.8	0.0	0.0	0.0	5.2	3.5	3.8	9.0	0.0	0.0	0.1	0.0	13.5	624.8
1966	7.1	1.7	0.4	0.0	0.0	6.0	11.9	1.5	0.4	4.8	0.8	0.0	2.8	467.2
1967	22.9	3.0	1.2	6.2	8.9	10.4	0.4	6.5	0.0	0.8	7.6	8.3	23.2	341.8
1968	14.5	16.0	0.0	1.5	0.0	1.9	3.3	0.5	0.0	7.3	18.4	4.8	11.1	444.7
1969	19.9	5.0	2.6	6.1	0.2	3.6	28.6	2.2	0.0	0.1	0.2	10.2	0.2	618.5
1970	11.0	6.0	1.2	31.0	0.0	8.6	8.7	11.2	18.7	10.4	6.8	3.6	0.0	426.6
1971	0.0	0.0	1.8	1.2	6.3	10.6	3.4	8.4	1.2	16.8	7.8	25.1	0.2	608.7
1972	0.1	3.6	4.1	3.7	7.7	7.8	0.2	0.0	20.5	1.9	5.2	12.4	15.8	515.5
1973	38.6	0.0	2.9	21.8	20.6	9.0	8.7	8.4	6.0	4.7	18.5	0.0	3.9	632.6
1974	5.8	1.6	0.0	0.0	0.8	0.2	2.1	1.6	0.0	0.8	2.1	20.4	0.0	620.7
1975	5.1	0.8	4.5	10.7	3.2	0.0	0.0	7.8	9.3	17.3	1.8	0.0	20.7	575.7
1976	4.8	2.2	0.0	0.0	0.0	0.0	0.2	3.9	3.8	29.1	10.1	0.2	5.3	510.1
1977	1.0	0.1	0.7	0.0	1.9	0.0	2.4	1.7	4.9	9.9	1.9	1.2	4.4	570.8
1978	6.8	2.8	9.0	0.8	8.0	7.5	6.2	1.6	10.2	2.9	4.0	1.9	1.4	631.3
1979	6.6	4.9	4.9	0.6	0.0	0.7	0.0	18.3	7.2	35.1	6.5	0.1	0.0	495.8
1980	0.0	5.9	0.4	9.2	0.0	2.2	1.5	2.1	4.0	12.9	24.7	12.0	12.8	639.5
1981	18.1	12.8	0.6	3.7	0.0	0.3	2.1	0.1	0.6	6.6	3.9	0.9	8.9	472.7
1982	8.9	0.0	13.0	0.1	0.3	4.0	6.6	0.2	0.1	0.1	0.0	3.5	1.6	576.6
1983	4.8	5.4	0.0	17.9	0.7	4.5	4.2	4.2	7.0	11.3	8.6	2.7	6.4	528.8
1984	0.0	3.3	62.6	7.2	14.2	2.1	12.4	5.3	6.7	0.0	12.5	10.4	10.2	601.3
1985	0.9	18.7	5.1	3.9	1.5	14.6	1.4	5.3	3.0	1.3	20.9	1.8	9.2	555.8
1986	20.5	0.8	0.0	4.6	3.4	9.7	14.8	2.7	7.0	0.1	0.0	0.1	3.4	616.3
1987	6.9	0.0	0.1	1.7	0.1	0.3	0.6	0.8	0.0	0.0	0.3	2.4	8.8	392.2
1988	0.0	0.0	2.9	0.1	0.3	1.6	10.4	0.0	0.1	0.7	0.1	0.7	13.1	498.8
1989	0.1	2.8	0.0	31.4	18.6	15.9	4.1	6.0	0.1	3.8	4.3	0.3	1.4	576.5
1990	15.9	3.5	2.4	4.6	0.0	12.0	0.0	29.7	1.8	0.0	0.3	12.6	7.9	529.4
1991	3.5	0.0	71.9	3.7	12.8	0.1	0.2	0.7	12.1	12.4	0.2	0.0	0.0	609.1
1992	0.9	0.1	0.2	0.2	4.2	5.6	1.2	13.2	1.3	0.0	7.9	7.2	7.4	398.0
1993	2.6	0.0	0.0	6.0	13.7	14.7	1.6	4.1	0.0	0.2	9.7	0.3	2.3	482.0
1994	5.4	0.0	2.6	0.0	13.1	0.6	1.8	9.8	5.8	3.3	0.0	0.0	6.0	527.0
1995	2.4	4.3	3.2	2.5	7.1	23.0	0.0	11.8	21.0	3.3	14.9	0.0	2.5	415.6
1996	0.8	1.1	2.1	6.8	17.4	25.8	24.0	7.6	1.2	1.9	0.2	13.1	8.0	678.2
1997	3.0	3.4	12.2	17.7	0.5	0.0	1.9	3.6	0.0	1.7	0.0	0.0	4.3	542.0
1998	10.0	13.0	0.8	0.2	0.7	1.7	17.4	0.0	1.3	0.0	4.2	6.2	13.1	396.8
1999	5.3	0.2	0.1	0.0	1.8	1.7	3.7	1.0	1.6	0.0	6.0	1.2	2.4	424.1
2000	2.6	0.3	1.6	0.1	3.6	5.4	0.0	0.0	4.4	7.3	3.5	4.0	0.0	474.6
2001	0.9	2.9	5.6	8.6	0.7	0.0	0.0	7.2	8.4	0.5	1.0	0.0	0.0	410.3
2002	11.9	4.2	8.3	3.5	0.0	10.1	1.5	0.1	0.3	0.0	0.4	0.0	3.7	301.8
2003	3.3	1.3	5.8	21.0	4.5	0.0	8.8	1.2	0.0	3.0	0.0	0.0	7.8	494.0
2004	0.6	8.8	26.8	0.6	0.0	2.6	0.0	0.2	0.0	6.9	1.9	4.2	10.4	478.9
2005	0.5	2.2	5.1	0.0	1.0	2.6	2.4	0.0	3.6	5.9	0.6	0.0	0.0	432.9
2006	4.6	14.6	11.8	22.3	3.0	11.7	8.5	14.8	4.3	4.1	1.4	0.0	0.0	587.6
2007	1.2	0.0	1.5	2.8	3.8	1.0	0.7	1.8	6.3	3.4	3.8	0.8	1.9	484.6
2008	5.4	0.6	1.2	0.3	0.6	2.5	4.7	1.7	0.2	7.8	4.3	4.7	1.6	377.2
2009	2.4	7.7	5.3	3.9	8.2	0.0	0.0	1.9	3.8	7.9	2.6	9.1	2.5	337.4
2010	0.0	0.3	0.4	6.7	0.2	0.1	8.6	3.2	0.1	4.0	10.7	1.1	0.3	406.2
2011	2.7	0.7	0.1	1.0	0.6	2.6	9.4	0.3	5.3	1.2	0.4	4.3	1.9	510.8
2012	12.5	12.5	0.7	0.9	9.3	12.8	1.2	2.4	4.3	10.9	4.0	5.7	3.7	545.1
Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max	46.8	41.0	71.9	43.0	52.6	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	678.2
Mean	6.6	4.3	5.9	5.2	4.9	4.8	5.2	5.5	4.4	5.2	5.5	4.3	5.8	501.6

Table: A.4: Lac Ste Anne Weekly Precipitation (mm).

Wk/Yr	1	2	3	4	5	6	7	8	9	10	11	12	13
1955	2.3	0.3	0.9	5.1	2.6	10.5	0.6	6.7	2.5	4.6	9.4	0.8	2.0
1956	1.4	8.7	5.9	2.8	2.8	18.4	30.8	0.3	10.4	1.8	5.6	7.7	7.2
1957	3.8	0.3	3.4	9.5	5.9	0.3	3.3	6.6	1.1	8.9	0.8	0.0	1.0
1958	0.3	2.3	5.1	5.6	7.3	10.4	3.3	0.0	4.1	4.9	1.6	1.5	16.0
1959	0.8	14.3	12.7	14.3	15.1	0.8	0.0	0.5	3.8	0.0	4.8	0.0	0.3
1960	2.8	0.0	2.1	2.5	0.5	12.9	3.6	11.0	0.8	6.8	0.0	0.3	5.4
1961	0.0	5.1	0.0	6.3	0.0	36.1	2.3	2.3	3.0	0.0	2.3	0.0	10.7
1962	3.1	2.6	13.2	24.3	16.5	4.6	16.1	1.5	1.3	1.5	7.2	0.0	1.8
1963	2.4	15.4	18.3	9.5	2.8	0.3	14.5	20.0	0.5	5.2	0.0	18.1	0.8
1964	5.3	0.3	8.9	0.0	14.0	0.8	0.0	2.3	1.3	1.3	2.6	0.5	0.0
1965	4.9	20.6	2.6	13.5	30.8	2.1	7.3	6.8	3.6	0.9	2.6	2.9	0.2
1966	18.3	17.8	4.7	5.3	0.4	0.0	15.8	0.0	0.2	1.0	9.2	0.8	0.5
1967	0.9	20.4	3.4	6.7	13.7	3.6	3.3	1.8	23.2	11.1	8.8	3.3	3.9
1968	9.0	0.0	9.3	4.0	0.1	0.6	8.5	0.0	0.6	13.5	0.4	0.3	2.5
1969	14.6	5.9	0.4	3.7	3.4	6.0	0.1	16.7	0.2	0.0	7.1	10.1	1.0
1970	9.2	10.0	2.2	0.0	8.5	3.8	4.9	2.6	5.4	7.7	7.0	5.3	9.0
1971	13.2	9.3	13.7	24.4	3.9	0.9	2.7	0.0	0.0	2.0	10.5	15.3	9.1
1972	2.1	4.1	17.6	7.2	8.8	4.6	4.6	8.8	19.5	8.0	2.1	21.9	0.3
1973	0.7	0.3	1.3	0.8	0.8	4.5	5.3	8.9	0.1	0.4	0.0	1.2	1.8
1974	8.1	16.9	12.8	23.0	9.9	3.9	15.4	10.2	1.6	35.5	5.5	11.5	0.8
1975	8.5	3.0	4.8	5.4	5.2	9.3	3.1	0.0	7.4	0.4	4.4	3.7	9.3
1976	10.1	2.4	1.1	1.6	0.1	5.3	2.9	12.4	2.0	18.3	0.7	0.2	0.0
1977	4.9	11.1	3.3	11.4	1.6	0.9	4.3	0.0	1.9	0.9	6.9	5.5	5.1
1978	7.6	6.2	16.6	0.9	5.7	0.0	1.7	0.2	0.0	4.6	1.3	4.4	0.7
1979	0.6	2.2	3.9	6.3	26.2	7.5	2.9	6.8	0.0	2.3	0.0	4.4	5.1
1980	3.8	0.3	6.4	0.8	0.1	0.9	22.2	1.9	7.8	15.8	1.0	9.4	0.1
1981	9.2	0.1	0.0	1.2	1.9	8.1	0.0	7.5	12.1	0.0	3.7	1.0	3.5
1982	26.6	12.7	7.9	20.6	9.3	7.5	1.3	11.6	20.4	20.1	2.7	2.5	6.5
1983	0.1	3.2	1.6	5.5	6.2	0.4	2.8	0.8	12.3	9.1	8.0	10.1	3.8
1984	11.3	6.7	13.9	1.1	0.4	0.4	0.0	5.7	2.4	15.4	5.6	0.8	0.8
1985	1.1	12.6	0.0	1.1	9.0	1.4	10.1	8.5	1.1	0.5	0.0	0.4	1.7
1986	1.9	3.8	7.2	8.5	0.7	5.4	3.2	3.0	19.1	0.9	0.9	10.5	1.3
1987	0.0	4.8	0.7	0.0	0.0	1.8	1.0	8.7	7.6	8.8	12.8	3.0	0.1
1988	0.1	3.0	1.7	4.1	1.7	13.0	8.1	0.3	0.1	0.2	0.3	0.8	1.7
1989	0.1	0.0	0.1	35.9	0.0	0.2	0.5	7.9	0.2	5.0	0.2	0.3	7.2
1990	0.7	2.1	0.7	4.6	0.1	16.0	2.0	0.1	0.0	10.3	8.1	0.5	0.1
1991	0.0	0.0	2.0	22.7	0.0	2.6	12.2	8.1	17.3	0.1	0.3	0.3	5.5
1992	13.5	3.4	5.9	8.5	0.0	0.4	23.4	8.3	1.0	0.1	2.5	0.5	0.0
1993	4.2	0.2	0.0	0.0	0.0	6.1	13.3	2.1	0.0	11.1	8.9	0.0	11.9
1994	13.5	37.8	13.2	10.9	0.0	10.3	2.7	8.3	0.0	0.0	4.9	0.0	0.0
1995	0.3	1.8	0.0	1.2	0.2	2.0	2.5	1.6	5.3	0.2	0.1	0.2	7.3
1996	1.2	7.5	0.1	0.3	4.2	0.2	8.6	1.3	1.7	0.1	2.5	2.8	9.1
1997	0.0	0.1	8.3	0.5	0.0	4.3	2.2	4.1	12.7	19.0	0.1	0.0	6.0
1998	7.3	7.7	5.7	0.7	0.7	0.0	0.0	0.0	3.1	3.3	0.4	0.7	0.1
1999	27.6	18.1	19.9	1.8	10.6	0.0	0.0	0.0	5.8	1.9	4.1	0.0	0.0
2000	3.9	9.9	14.0	0.0	0.0	10.1	2.1	0.0	0.0	14.5	8.1	0.2	0.3
2001	0.0	0.1	0.0	0.0	0.9	2.0	1.2	0.0	0.2	5.4	4.9	0.0	0.1
2002	0.0	2.8	9.3	0.0	0.0	6.1	2.5	2.9	6.9	9.7	0.1	3.9	14.6
2003	0.0	6.9	17.1	9.8	3.4	10.4	15.1	1.0	11.8	6.8	11.7	0.5	12.1
2004	1.8	0.0	16.2	14.2	1.3	0.4	0.0	3.3	5.8	4.9	0.3	6.0	0.1
2005	5.0	0.0	17.6	0.0	12.8	0.2	1.0	0.0	0.8	3.8	11.4	18.6	0.0
2006	2.5	1.1	0.3	0.3	0.3	1.2	7.5	9.2	3.0	5.6	0.8	0.0	19.9
2007	8.3	0.4	0.0	2.0	12.6	6.7	2.1	2.1	0.1	0.6	0.3	0.0	7.6
2008	0.0	2.7	1.4	6.1	1.4	7.0	0.3	0.0	4.5	2.0	2.0	0.5	1.1
2009	5.6	10.1	1.2	1.8	4.2	0.4	0.4	9.7	2.9	2.4	0.6	6.0	0.2
2010	0.8	0.0	2.3	1.2	3.3	0.3	0.1	0.0	0.0	0.0	1.0	3.3	0.4
2011	9.8	16.6	18.2	0.8	3.2	1.9	1.9	0.7	9.3	1.7	1.9	9.3	0.1
2012	0.7	3.8	0.9	1.9	0.2	0.0	4.1	8.4	8.0	0.2	9.5	0.2	12.2
Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max	27.6	37.8	19.9	35.9	30.8	36.1	30.8	20.0	23.2	35.5	12.8	21.9	19.9
Mean	5.1	6.2	6.2	6.2	4.8	4.8	5.4	4.4	4.8	5.5	3.8	3.7	4.0

Table: A.4 continued: Lac Ste Anne Weekly Precipitation (mm)

Wk/Yr	14	15	16	17	18	19	20	21	22	23	24	25	26
1955	2.3	1.0	20.3	48.3	0.8	3.8	0.0	7.6	3.5	0.8	12.2	15.5	3.3
1956	0.0	10.1	0.8	0.8	3.0	0.0	1.3	3.8	34.8	5.9	27.9	50.1	13.4
1957	4.6	0.0	17.0	0.0	2.3	0.3	7.4	1.5	5.6	8.1	8.2	5.3	11.0
1958	0.5	0.0	0.0	3.1	2.0	2.0	18.6	10.9	0.0	3.6	5.9	5.1	30.3
1959	0.0	2.6	7.1	10.7	31.1	0.8	0.0	10.1	9.2	27.1	38.6	31.7	13.4
1960	0.0	3.9	1.5	0.0	2.3	30.0	10.9	13.3	0.8	5.4	9.9	47.7	31.8
1961	13.8	0.0	3.6	0.0	4.1	6.1	1.5	9.1	9.7	23.6	14.0	73.2	11.1
1962	9.7	4.6	13.0	34.8	2.8	5.4	2.8	38.8	23.9	26.4	21.5	6.1	8.7
1963	8.1	7.9	2.3	22.9	4.1	3.0	2.3	7.4	0.8	9.5	5.1	2.8	0.0
1964	18.8	0.0	0.0	2.8	56.2	8.6	18.8	19.3	15.2	0.0	13.1	4.6	28.3
1965	5.4	4.9	7.1	7.1	0.4	4.6	14.3	22.8	46.9	4.5	13.8	14.0	93.8
1966	0.0	6.0	0.0	18.4	0.0	3.2	4.6	1.6	25.9	16.2	16.7	17.7	10.9
1967	3.3	2.3	0.0	0.0	0.1	1.3	14.0	2.9	28.1	13.5	0.3	4.9	1.3
1968	10.1	5.8	1.8	1.3	25.6	0.0	0.0	2.1	10.9	27.6	9.4	22.8	8.0
1969	0.2	3.6	33.9	1.4	8.8	8.1	0.0	23.7	6.8	2.3	0.8	0.5	55.1
1970	0.1	5.8	0.3	0.0	0.0	8.1	0.5	6.3	1.1	13.0	33.8	11.7	32.7
1971	6.7	2.0	0.4	0.0	0.2	5.2	0.4	17.1	15.8	35.7	57.8	20.3	33.1
1972	7.3	2.7	7.3	3.1	10.2	0.0	32.2	5.2	0.2	7.9	33.5	39.7	42.5
1973	18.8	2.1	10.9	16.3	2.2	0.7	26.4	24.9	1.1	64.0	10.7	63.7	9.2
1974	23.9	0.6	8.6	19.9	22.1	9.6	8.6	16.7	21.7	1.5	1.2	74.4	18.2
1975	9.0	0.1	6.6	12.2	17.8	4.8	11.8	8.4	18.7	13.2	6.8	60.7	50.2
1976	0.2	17.4	5.9	0.2	0.0	8.3	5.2	11.2	4.8	16.8	3.7	53.8	47.2
1977	1.8	0.3	1.0	8.4	46.7	22.9	29.4	25.4	62.3	0.2	18.0	1.9	19.3
1978	5.6	1.7	8.7	3.8	6.9	16.1	30.2	18.3	9.7	39.7	16.3	12.2	4.0
1979	16.8	18.7	0.0	8.9	12.1	9.9	0.2	6.7	18.1	44.5	16.3	6.6	36.3
1980	5.4	0.0	2.6	0.0	0.0	0.0	19.8	53.0	51.9	2.2	36.6	46.5	17.3
1981	1.8	6.0	9.8	0.3	8.0	2.4	2.2	6.0	29.7	15.4	40.0	9.4	3.9
1982	1.1	8.4	0.4	0.8	0.5	4.7	17.6	10.0	1.6	13.3	2.1	3.6	42.5
1983	13.4	3.4	1.9	1.9	10.0	7.8	7.2	0.0	6.6	11.2	2.5	100.2	36.1
1984	0.1	0.0	0.0	19.8	13.1	23.4	16.5	11.5	67.8	5.7	5.1	19.4	25.8
1985	2.1	8.6	34.8	6.5	9.3	3.5	4.2	25.7	1.5	21.4	10.1	75.7	1.7
1986	17.6	9.3	12.2	14.0	2.0	19.5	8.2	0.1	0.4	14.4	34.7	10.9	19.1
1987	13.5	0.3	0.5	0.3	6.8	11.1	25.2	15.2	7.1	6.0	4.1	20.4	11.9
1988	0.1	0.0	5.6	2.8	0.1	10.4	0.1	0.1	17.2	47.9	21.3	24.9	27.1
1989	0.5	1.8	0.9	1.9	2.5	61.2	21.6	12.2	18.9	7.0	14.2	32.8	55.6
1990	13.6	2.3	35.2	1.3	7.9	10.3	26.1	1.8	13.8	14.8	14.3	12.2	53.6
1991	26.0	0.0	20.4	0.1	40.5	66.5	16.2	11.5	27.8	20.9	32.4	28.4	15.9
1992	16.6	12.5	7.7	3.8	1.0	1.5	8.9	3.0	20.3	4.4	7.1	4.2	1.3
1993	13.2	0.4	3.7	4.6	25.1	0.9	6.6	15.6	0.0	7.0	4.3	60.7	41.8
1994	0.0	0.1	1.3	0.1	9.0	0.3	37.0	1.8	24.0	33.3	34.8	11.1	28.4
1995	3.1	0.9	2.8	0.1	0.0	11.3	2.7	13.9	6.9	13.3	17.0	17.8	21.3
1996	25.5	8.5	23.2	3.1	5.8	6.2	2.3	30.7	38.8	3.3	108.1	5.2	15.5
1997	0.0	0.0	36.7	2.1	1.5	9.8	36.5	15.1	29.8	26.5	52.8	64.9	4.3
1998	7.6	0.0	9.1	0.0	3.2	25.3	9.2	10.4	13.1	5.1	6.7	39.2	38.9
1999	5.9	0.5	1.5	31.2	15.8	12.1	19.2	3.6	9.7	11.1	22.3	5.8	16.5
2000	1.8	6.8	0.0	8.3	8.1	19.2	1.4	4.7	12.1	53.3	29.7	11.2	18.4
2001	0.4	0.3	0.5	0.5	0.0	7.0	13.1	32.3	18.1	12.5	20.4	11.5	4.1
2002	1.7	20.6	1.1	0.9	0.0	2.4	6.1	0.5	2.3	0.1	4.2	5.7	10.9
2003	0.0	13.6	10.3	17.1	34.4	0.3	0.0	6.3	27.7	11.0	21.8	29.6	23.5
2004	3.9	16.1	0.3	3.2	3.2	0.4	2.7	16.4	19.3	4.9	24.1	1.0	5.2
2005	0.4	3.3	0.1	2.4	3.9	11.5	21.7	13.9	2.9	0.9	23.6	30.2	26.9
2006	2.0	14.5	7.0	9.2	21.2	4.0	47.5	4.8	37.8	34.6	1.1	0.0	5.6
2007	13.6	30.5	0.1	82.0	5.0	3.5	6.9	1.1	8.5	32.2	32.2	22.0	34.4
2008	2.4	1.3	12.2	20.6	6.0	0.3	44.2	4.2	15.5	10.4	4.1	6.3	6.8
2009	0.4	15.0	1.3	2.3	3.9	10.4	12.6	0.9	15.1	7.2	2.2	8.6	2.9
2010	0.7	0.1	2.8	13.4	9.8	4.3	47.4	7.3	18.6	16.2	2.8	15.6	14.2
2011	0.0	7.3	0.3	11.3	6.3	8.0	0.3	14.7	11.3	12.2	40.6	75.3	28.1
2012	19.6	3.5	14.0	4.4	0.5	1.1	39.0	2.4	24.5	16.5	6.3	4.8	48.0
Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Max	26.0	30.5	36.7	82.0	56.2	66.5	47.5	53.0	67.8	64.0	108.1	100.2	93.8
Mean	6.6	5.2	7.2	8.5	9.1	9.0	13.3	11.5	16.8	15.6	18.6	25.2	22.8

Table: A.4 continued: Lac Ste Anne Weekly Precipitation (mm)

Wk/Yr	27	28	29	30	31	32	33	34	35	36	37	38	39
1955	44.3	0.8	0.0	64.8	5.9	4.3	21.0	1.5	5.3	3.3	40.4	47.3	1.0
1956	5.1	0.0	21.6	33.6	54.3	18.5	7.6	8.3	41.2	3.1	4.9	0.0	3.6
1957	14.2	10.9	5.1	13.0	21.8	56.9	6.1	14.6	28.5	12.5	0.5	1.0	28.5
1958	11.4	7.6	16.3	5.3	28.2	0.0	0.0	19.1	12.7	1.0	89.4	3.3	24.2
1959	17.0	0.8	9.4	8.4	17.5	40.5	17.5	28.5	3.5	10.4	0.0	8.9	4.9
1960	3.6	2.5	21.1	11.2	44.4	2.3	37.2	16.0	0.8	25.9	2.8	26.5	2.0
1961	3.8	7.1	44.7	0.0	2.8	10.4	0.0	4.5	8.2	0.0	15.9	14.3	7.9
1962	14.8	34.8	21.9	16.0	4.9	2.6	15.0	8.3	5.3	25.8	0.0	0.0	0.0
1963	35.4	2.3	13.7	12.4	1.6	15.5	0.0	7.4	9.9	8.4	14.2	4.1	0.0
1964	20.3	43.4	7.6	20.4	15.2	25.2	9.7	10.1	58.1	10.9	13.7	1.3	10.2
1965	31.8	34.6	8.1	6.6	0.4	25.5	3.1	28.8	24.0	4.5	5.5	15.5	4.1
1966	34.6	13.4	6.7	28.5	24.1	19.0	22.6	0.1	55.2	10.5	0.0	3.7	1.4
1967	4.2	17.8	10.4	11.8	8.5	0.4	2.3	7.8	6.4	1.4	0.8	0.5	19.0
1968	4.7	27.2	26.8	31.6	22.3	0.0	33.3	14.0	23.9	8.8	0.0	3.2	0.0
1969	16.8	5.8	22.9	26.7	124.0	14.0	3.9	13.1	97.4	0.0	2.3	10.3	21.0
1970	32.1	18.6	6.1	39.4	12.1	15.1	0.7	15.7	9.7	9.3	0.8	9.6	0.0
1971	95.0	28.1	26.5	2.2	12.7	0.7	4.1	1.7	11.0	5.8	2.4	16.6	16.0
1972	3.6	3.9	4.3	28.7	27.9	16.7	1.8	2.8	16.3	10.2	1.4	21.7	2.8
1973	1.4	5.9	29.9	2.8	69.0	29.6	17.6	23.3	1.7	22.2	2.6	8.5	4.5
1974	106.2	0.6	7.8	14.3	5.2	13.8	12.2	7.3	12.4	17.5	0.4	9.8	7.6
1975	1.6	41.0	5.1	28.4	15.2	12.3	49.4	46.8	11.0	2.1	3.5	10.4	1.2
1976	2.4	7.6	12.8	21.3	36.8	11.8	32.2	53.1	13.0	12.8	7.1	0.1	0.7
1977	45.7	32.0	10.2	40.4	10.9	29.7	8.9	12.4	20.3	6.5	16.1	0.7	23.2
1978	74.8	8.0	39.1	7.5	6.8	23.0	24.1	0.4	64.7	34.8	28.8	13.2	3.6
1979	49.6	9.9	10.5	31.7	15.5	1.3	2.6	4.0	4.1	20.7	4.0	6.1	1.5
1980	14.8	14.3	19.0	9.9	60.0	7.5	4.0	35.7	4.6	16.8	37.0	5.7	0.3
1981	23.0	28.7	53.0	36.7	0.9	2.5	2.4	0.0	34.4	0.1	0.4	41.7	1.8
1982	103.6	31.8	21.9	0.1	5.7	33.6	8.8	25.3	21.8	19.8	2.7	0.0	3.3
1983	45.9	36.9	10.8	22.1	7.7	3.1	6.8	0.1	13.3	25.6	8.9	2.1	2.9
1984	3.5	12.2	3.1	3.2	10.1	9.2	11.0	2.9	82.3	11.8	27.6	3.6	0.0
1985	8.6	19.8	10.8	2.1	25.9	52.8	11.7	18.0	13.7	17.6	11.1	23.7	0.7
1986	27.3	131.6	18.4	14.9	21.5	0.1	0.1	2.0	1.0	50.0	0.7	36.3	33.0
1987	17.8	7.4	17.6	52.9	38.3	17.2	24.2	7.6	9.2	1.6	0.5	0.0	0.9
1988	94.1	20.9	2.3	8.1	23.7	17.2	28.6	17.5	0.1	12.6	21.2	4.0	9.9
1989	25.7	13.1	13.3	31.2	0.3	61.0	6.5	14.1	12.4	9.8	2.4	0.0	0.3
1990	1.4	14.9	10.0	1.3	12.4	21.0	5.9	69.3	5.1	13.5	17.2	0.0	14.9
1991	1.9	10.6	4.7	8.3	7.9	33.3	22.2	5.7	2.1	16.4	5.0	2.5	3.5
1992	35.9	16.8	0.9	8.2	4.7	2.9	35.2	12.2	39.7	16.9	6.0	9.3	0.9
1993	7.1	13.3	40.1	14.6	13.6	17.6	0.1	34.8	15.1	5.3	10.7	18.2	0.9
1994	40.9	21.8	9.5	0.8	9.0	37.8	30.8	3.9	2.9	10.3	7.1	0.4	22.0
1995	10.1	12.1	21.2	34.0	75.6	7.2	6.3	12.3	0.0	0.2	0.7	3.3	5.9
1996	15.3	69.4	5.7	23.6	27.7	8.8	4.3	3.1	19.9	9.9	28.0	14.7	6.5
1997	14.2	12.8	4.8	14.1	2.5	34.9	8.4	5.9	43.1	1.9	12.7	5.3	2.5
1998	15.6	5.7	13.6	21.7	3.1	14.8	9.1	2.0	0.0	3.1	25.2	12.6	8.2
1999	25.5	16.5	38.4	6.5	1.5	12.5	1.5	4.1	34.2	5.7	0.1	4.9	3.7
2000	29.3	37.7	18.2	5.4	10.0	12.3	5.5	9.3	33.6	32.0	1.0	4.0	0.4
2001	7.5	36.8	72.8	72.6	5.3	12.7	8.4	2.9	5.2	3.9	6.9	1.4	1.1
2002	2.0	37.4	20.2	26.8	9.8	17.2	5.0	13.1	5.0	1.0	1.8	3.1	8.1
2003	18.8	4.3	18.0	0.0	5.5	18.7	8.3	41.7	2.9	9.1	8.7	1.9	0.0
2004	59.0	33.3	20.2	10.9	30.2	0.2	3.5	20.9	23.2	23.6	26.8	1.6	0.4
2005	8.9	16.5	26.1	11.9	2.4	4.4	28.6	17.4	6.5	16.9	14.4	0.5	8.7
2006	24.3	4.5	20.0	23.5	6.5	9.1	2.8	18.3	2.4	83.9	12.0	3.2	4.3
2007	25.5	24.6	15.5	21.9	27.9	3.3	8.3	7.8	12.1	1.7	3.1	2.3	1.8
2008	51.6	23.6	10.4	30.3	10.1	3.7	18.3	8.7	1.8	4.3	0.2	15.5	0.7
2009	57.2	5.5	7.2	9.7	33.2	4.4	5.5	7.3	5.2	5.4	1.9	0.1	0.3
2010	20.8	45.8	23.3	7.9	7.0	25.8	3.6	16.2	4.3	19.3	19.6	11.3	13.0
2011	60.2	19.0	34.3	11.2	5.7	24.4	8.2	0.8	7.3	0.6	8.0	1.0	0.5
2012	11.0	51.2	63.8	20.3	10.8	15.9	4.4	3.2	29.1	2.2	0.3	0.4	13.0
Min	1.4	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max	106.2	131.6	72.8	72.6	124.0	61.0	49.4	69.3	97.4	83.9	89.4	47.3	39.0
Mean	27.3	21.0	18.2	18.5	19.0	16.1	11.6	13.7	17.9	12.4	10.1	8.1	6.3

Table: A.4 continued: Lac Ste Anne Weekly Precipitation (mm)

Wk/Yr	40	41	42	43	44	45	46	47	48	49	50	51	52	Annual
1955	2.8	0.0	0.0	1.8	52.6	1.3	1.0	6.9	1.3	2.1	8.8	4.7	13.2	504.1
1956	0.0	0.8	1.5	6.1	3.1	0.3	5.1	0.0	7.4	19.4	5.5	0.0	3.8	510.5
1957	18.3	2.3	1.8	0.0	0.8	8.9	3.1	33.8	3.6	4.1	0.6	1.6	2.0	410.7
1958	5.1	4.6	6.1	0.0	0.0	1.5	0.0	9.5	4.9	13.0	11.0	2.8	4.6	426.0
1959	31.5	8.9	0.8	6.8	17.3	3.8	0.8	10.2	0.5	1.3	0.3	0.8	16.5	516.6
1960	0.0	16.0	4.6	2.0	1.5	6.3	7.6	17.8	0.0	10.2	1.3	10.4	2.5	482.7
1961	0.8	30.4	0.8	0.8	0.0	0.5	4.1	18.4	2.3	8.1	5.7	3.5	1.5	434.4
1962	13.7	1.0	4.6	2.0	0.0	4.4	6.9	0.5	0.8	5.9	3.0	13.7	5.1	503.2
1963	0.0	2.5	0.0	0.0	3.8	0.8	9.2	1.3	0.0	0.5	15.2	1.4	0.0	343.6
1964	0.0	0.0	4.1	3.3	0.0	19.3	5.1	17.8	15.0	5.1	3.6	3.3	2.3	548.0
1965	0.5	0.0	0.0	0.0	6.0	2.6	4.3	11.8	0.0	0.0	0.3	2.6	10.5	569.5
1966	7.3	1.2	0.3	0.0	0.1	4.7	12.7	2.4	1.0	6.1	1.4	0.0	4.9	457.0
1967	3.4	2.2	8.0	5.3	7.9	1.4	9.4	0.0	0.1	5.2	10.9	20.2	15.7	357.2
1968	27.2	0.4	2.6	0.0	1.4	2.9	0.9	0.0	4.9	23.0	5.1	11.3	2.0	451.8
1969	7.3	0.0	7.8	0.0	0.5	4.6	27.7	0.7	0.2	0.0	1.3	11.7	7.3	642.1
1970	16.9	1.7	1.2	31.8	0.0	10.8	4.4	14.9	19.0	14.5	6.7	1.4	0.2	481.6
1971	0.1	0.0	3.3	2.4	9.0	7.2	9.8	6.6	0.3	27.4	8.3	19.3	0.0	616.2
1972	0.1	2.4	3.8	6.9	8.3	8.9	0.3	0.1	16.7	3.5	5.1	14.6	7.1	520.9
1973	32.9	4.5	17.4	12.5	12.7	9.1	5.1	10.0	8.5	17.2	1.2	5.0	7.7	640.2
1974	0.3	2.9	0.0	1.3	0.2	0.0	2.7	0.0	1.3	1.9	1.8	22.7	0.6	632.9
1975	4.3	2.0	1.6	9.7	1.3	0.0	1.4	7.5	25.9	2.9	3.2	0.6	27.4	600.3
1976	8.5	3.7	0.0	0.0	0.0	0.0	0.3	3.8	3.3	41.1	5.5	0.3	7.3	517.3
1977	0.6	0.1	0.4	0.0	1.9	0.0	2.5	2.8	9.1	9.0	2.9	2.3	3.7	587.7
1978	1.7	7.4	1.4	4.9	14.5	6.8	0.2	20.8	5.1	4.9	3.0	2.4	0.9	625.8
1979	6.9	6.3	1.0	0.0	0.1	0.3	0.0	17.8	4.0	37.5	1.2	0.0	17.1	517.1
1980	0.1	10.6	1.8	8.9	2.7	1.6	1.8	0.0	14.0	24.4	14.2	20.3	0.0	635.7
1981	29.0	1.0	2.6	1.5	0.2	0.5	1.5	0.1	0.6	9.5	0.9	5.1	5.2	466.6
1982	5.2	0.2	16.1	0.1	0.5	4.7	9.5	0.0	0.1	0.1	0.4	6.0	0.9	578.4
1983	4.8	5.5	0.0	17.7	0.6	4.4	4.4	4.4	6.7	11.3	8.7	2.7	6.5	530.0
1984	0.4	66.6	4.8	12.3	7.1	12.5	5.4	6.7	0.0	10.7	10.4	11.7	0.0	601.8
1985	1.7	22.5	0.0	4.0	14.9	1.9	4.7	3.9	0.0	6.6	17.5	0.0	9.3	556.1
1986	5.5	0.0	0.0	7.5	9.0	3.5	15.0	0.0	6.9	0.0	0.0	0.1	3.5	616.4
1987	7.0	0.0	0.1	1.8	0.0	0.8	0.1	0.7	0.0	0.2	2.4	0.9	7.6	388.6
1988	0.0	3.0	0.0	0.1	0.2	1.5	10.3	0.1	0.0	0.6	0.1	0.5	13.0	482.2
1989	1.9	0.3	32.7	17.6	18.4	3.1	6.3	0.1	2.4	2.0	3.0	1.2	10.1	577.7
1990	3.3	2.4	5.0	0.0	0.0	12.2	30.6	0.1	1.6	0.0	10.3	4.9	4.5	514.3
1991	0.0	31.2	41.6	10.3	5.9	0.1	0.6	3.8	19.4	2.3	0.0	0.0	0.1	617.0
1992	0.8	0.0	0.2	2.6	7.3	1.2	0.1	14.1	0.0	6.3	5.9	8.2	2.3	398.5
1993	2.8	0.0	0.0	5.6	13.7	15.7	1.4	4.1	0.0	0.2	10.3	0.2	1.9	489.0
1994	5.3	0.0	2.7	0.0	13.3	0.5	2.0	9.9	6.1	3.7	0.0	0.0	5.6	529.1
1995	3.5	4.4	2.7	2.3	28.5	0.0	11.7	22.8	1.4	17.4	0.0	0.3	24.6	442.5
1996	1.1	1.7	0.5	6.8	31.5	30.5	15.3	0.0	1.7	1.9	13.3	0.6	8.1	665.6
1997	3.3	7.9	17.7	4.3	0.0	0.0	6.0	0.0	0.0	1.9	0.0	0.0	5.8	547.0
1998	12.4	1.0	0.0	0.1	0.5	8.3	10.1	0.0	1.1	0.0	9.1	2.9	12.9	390.6
1999	5.5	0.1	0.1	0.0	1.7	2.7	2.4	0.9	1.7	0.1	6.3	1.1	2.5	425.1
2000	2.4	0.3	1.7	0.1	2.9	5.9	0.0	0.0	4.5	7.9	3.3	4.2	0.0	470.0
2001	3.0	0.3	13.4	0.5	0.0	0.0	2.7	12.8	0.1	1.3	0.0	0.0	0.0	407.4
2002	12.9	2.7	5.9	3.8	7.5	4.4	0.0	0.1	0.3	0.0	0.3	0.3	3.1	307.0
2003	3.7	2.6	8.3	19.3	2.8	0.0	9.0	1.0	1.6	1.1	0.0	0.0	9.1	498.5
2004	4.6	19.2	12.6	0.0	0.0	2.6	0.2	0.0	2.4	4.6	1.7	4.8	9.5	471.0
2005	7.8	1.1	7.2	0.1	0.7	2.7	1.9	0.0	2.6	4.4	0.3	0.0	0.0	404.9
2006	5.4	25.0	13.1	7.2	9.5	7.2	7.1	7.8	7.0	1.1	0.0	0.1	0.1	546.4
2007	0.1	0.0	2.9	3.5	4.3	0.3	0.7	4.3	5.2	3.7	0.5	0.9	1.1	498.1
2008	5.3	0.7	0.7	0.2	2.3	2.4	4.2	0.0	1.9	9.5	4.7	0.4	2.9	377.8
2009	4.4	6.0	6.4	8.5	2.1	0.1	0.1	2.2	8.7	4.1	0.9	8.4	2.1	325.3
2010	0.0	0.4	0.5	5.9	0.2	0.1	8.8	2.7	0.2	7.1	8.3	1.0	0.3	419.5
2011	2.8	0.8	0.1	1.2	0.7	2.7	8.9	0.3	4.8	1.0	0.3	4.2	2.1	502.3
2012	10.0	3.2	0.8	9.7	11.9	2.0	2.5	4.1	12.2	4.6	4.9	4.9	0.0	531.4
Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	307.0
Max	40.0	66.6	42.0	43.0	52.6	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	665.6
Mean	6.0	5.6	4.7	4.5	5.9	4.2	5.3	5.6	4.3	7.1	4.3	4.4	5.5	501.9

Table: A.5: Isle Lake and Lac Ste Anne weekly gross lake evaporation (mm).

Wk/Yr	1	2	3	4	5	6	7	8	9	10	11	13
1955	0.0	0.0	0.0	0.0	0.3	0.6	1.0	1.4	2.1	4.3	6.8	11.8
1956	0.0	0.0	0.0	0.0	0.0	0.2	1.0	1.9	2.9	5.4	8.3	14.0
1957	0.0	0.0	0.0	0.0	0.0	0.6	1.7	2.8	4.1	6.7	9.5	15.1
1958	0.0	0.0	0.0	0.0	0.0	0.4	1.0	1.6	2.5	5.1	7.9	13.5
1959	0.0	0.0	0.0	0.1	0.5	2.3	4.4	6.5	8.6	10.8	12.9	17.3
1960	0.0	0.0	0.0	0.0	0.0	0.7	1.8	3.0	4.2	6.9	9.9	16.0
1961	0.0	0.0	0.0	0.0	0.2	1.7	3.4	5.1	6.8	8.9	11.0	15.2
1962	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.1	4.2	7.6	14.6
1963	0.0	0.0	0.0	0.0	0.0	1.3	2.8	4.3	6.0	8.4	10.9	16.0
1964	0.0	0.1	0.8	1.5	2.1	2.6	3.0	3.4	3.9	6.3	9.1	14.7
1965	0.0	0.0	0.0	0.0	0.1	0.9	1.8	2.7	3.8	6.1	8.6	13.6
1966	0.0	0.0	0.0	0.0	0.0	1.3	3.0	4.8	6.5	8.3	10.0	13.5
1967	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	1.0	3.7	6.8	12.9
1968	0.0	0.0	0.2	0.6	1.1	2.5	4.0	5.5	7.0	9.1	11.2	15.6
1969	0.0	0.0	0.0	0.0	0.0	1.2	2.9	4.6	6.4	8.6	10.9	15.6
1970	0.0	0.0	0.6	1.2	1.7	2.2	2.6	3.0	3.7	6.6	9.9	16.3
1971	0.0	0.0	0.0	0.0	0.0	0.7	1.9	3.1	4.5	7.5	10.8	17.3
1972	0.0	0.0	0.0	0.0	0.0	1.2	2.7	4.2	5.7	7.9	10.3	15.0
1973	0.0	0.0	0.0	0.1	0.4	1.9	3.6	5.3	7.0	8.7	10.4	13.7
1974	0.4	0.7	1.1	1.4	1.8	2.1	2.5	2.8	3.5	6.1	9.1	15.1
1975	1.7	1.5	1.2	1.0	0.9	1.9	3.1	4.3	5.5	7.0	8.7	11.9
1976	0.2	0.5	0.9	1.3	1.8	2.7	3.7	4.7	5.8	8.3	11.2	17.0
1977	0.6	1.4	2.2	3.0	3.8	4.6	5.5	6.4	7.5	10.2	13.2	19.2
1978	0.0	0.0	0.0	0.1	0.4	1.9	3.5	5.1	6.8	8.2	9.7	12.7
1979	0.0	0.0	0.0	0.0	0.2	2.0	4.0	5.9	7.8	9.1	10.3	12.8
1980	0.0	0.0	0.0	0.1	0.4	1.8	3.3	4.8	6.4	9.1	12.1	18.1
1981	0.0	0.0	0.6	1.3	2.1	3.6	5.2	6.8	8.4	10.5	12.6	16.8
1982	0.0	0.0	0.0	0.0	0.0	0.3	1.1	1.9	3.0	6.0	9.3	15.9
1983	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.8	1.5	4.8	8.4	15.7
1984	0.7	1.2	1.8	2.3	3.0	3.9	4.9	5.9	7.0	9.3	12.0	17.4
1985	0.0	0.0	0.0	0.1	0.5	2.1	3.9	5.7	7.5	9.6	11.7	15.9
1986	0.2	0.2	0.1	0.1	0.2	1.7	3.5	5.2	7.0	8.8	10.6	14.2
1987	0.0	0.4	0.9	1.3	1.8	2.5	3.2	4.0	5.0	7.9	11.1	17.5
1988	0.2	0.8	1.3	1.9	2.5	3.7	5.0	6.2	7.6	10.2	13.2	19.1
1989	0.0	0.1	0.1	0.2	0.4	1.5	2.7	4.0	5.5	8.6	11.9	18.6
1990	0.1	0.3	0.5	0.8	1.2	3.0	4.9	6.9	8.7	10.2	11.6	14.3
1991	0.4	1.0	1.5	2.0	2.6	3.6	4.6	5.7	7.0	9.3	11.8	16.9
1992	0.3	0.4	0.5	0.6	0.9	2.6	4.4	6.2	8.1	9.6	11.1	14.1
1993	0.0	0.0	0.4	0.8	1.4	2.6	4.0	5.4	6.8	8.4	9.9	13.1
1994	0.0	0.1	0.1	0.2	0.5	2.4	4.5	6.7	8.8	10.9	13.0	17.3
1995	0.0	0.2	0.6	1.1	1.6	3.0	4.5	6.0	7.4	8.6	9.8	12.1
1996	0.2	0.5	0.9	1.3	1.8	2.7	3.7	4.7	5.8	7.6	9.6	13.6
1997	0.0	0.0	0.5	1.0	1.6	3.2	4.9	6.6	8.4	10.5	12.6	16.8
1998	0.0	0.0	0.0	0.0	0.0	1.5	3.5	5.5	7.5	10.2	12.9	18.4
1999	0.0	0.0	0.0	0.3	0.9	2.7	4.7	6.6	8.6	10.7	12.8	17.1
2000	0.3	1.0	1.7	2.4	3.2	4.3	5.5	6.8	8.0	9.5	11.1	14.3
2001	0.9	0.9	1.0	1.0	1.2	2.9	4.8	6.7	8.6	10.8	12.9	17.3
2002	0.0	0.7	1.4	2.2	3.0	3.5	4.0	4.5	5.2	7.1	9.2	13.3
2003	0.3	0.5	0.7	0.8	1.2	2.5	4.0	5.5	7.0	8.7	10.4	13.7
2004	0.0	0.5	1.1	1.6	2.3	3.5	4.8	6.2	7.5	9.6	11.9	16.4
2005	0.0	0.3	1.1	1.8	2.6	3.7	4.9	6.0	7.4	9.9	12.6	18.0
2006	0.0	0.4	1.5	2.6	3.7	4.1	4.4	4.7	5.4	8.4	11.9	18.8
2007	1.0	0.8	0.6	0.4	0.6	2.5	4.8	7.0	9.2	10.7	12.1	15.0
2008	0.0	0.0	0.2	0.8	1.6	3.5	5.5	7.6	9.6	11.7	13.8	17.9
2009	0.1	0.3	0.5	0.8	1.1	2.4	3.9	5.3	6.9	9.0	11.2	15.6
2010	0.0	0.0	0.0	0.0	0.0	0.8	3.7	6.6	9.4	11.4	13.4	17.4
2011	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	8.4	17.4
2012	0.0	0.0	0.0	0.0	0.0	1.7	3.7	5.6	7.6	9.2	10.7	13.7
Min	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	6.8	11.8
Max	1.7	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.6	11.7	13.8	19.2
Mean	0.1	0.3	0.5	0.7	1.0	2.1	3.4	4.7	6.1	8.3	10.7	15.6

Table: A.5 continued: Isle Lake and Lac Ste Anne weekly gross lake evaporation (mm).

Wk/Yr	14	15	16	17	18	19	20	21	22	23	24	25	26
1955	14.6	17.8	21.0	24.2	27.0	29.2	31.5	33.7	35.6	34.8	33.3	31.8	30.2
1956	17.2	20.9	24.6	28.2	31.0	30.6	29.9	29.1	28.5	29.1	30.2	31.4	32.5
1957	17.8	20.3	22.8	25.3	27.2	27.9	28.5	29.2	29.8	30.7	31.7	32.7	33.7
1958	16.7	20.2	23.8	27.3	29.8	30.1	30.3	30.5	30.8	31.7	32.7	33.8	34.8
1959	19.1	20.8	22.5	24.1	25.5	26.2	26.9	27.6	28.4	30.1	32.1	34.0	36.0
1960	18.3	19.5	20.7	22.0	23.2	24.3	25.3	26.4	27.5	29.2	31.1	33.1	35.0
1961	17.3	19.5	21.6	23.8	26.0	28.4	30.8	33.2	35.4	35.5	35.0	34.6	34.1
1962	17.3	19.3	21.3	23.4	25.3	27.0	28.8	30.5	32.0	32.0	31.4	30.8	30.3
1963	17.9	19.5	21.0	22.6	24.2	25.8	27.4	29.0	30.5	31.2	31.6	32.1	32.5
1964	17.0	18.6	20.1	21.7	23.3	25.0	26.7	28.4	30.1	31.2	32.0	32.8	33.6
1965	16.1	18.4	20.8	23.1	25.1	26.2	27.2	28.2	29.3	30.3	31.3	32.4	33.4
1966	16.2	19.8	23.3	26.8	29.4	30.0	30.5	30.9	31.4	31.8	32.1	32.5	32.8
1967	15.7	18.4	21.0	23.6	25.8	27.1	28.4	29.6	30.8	31.5	32.0	32.5	33.0
1968	18.1	21.1	24.2	27.2	29.6	29.6	29.5	29.4	29.2	30.1	31.4	32.7	34.0
1969	18.1	20.8	23.6	26.3	28.6	30.2	31.7	33.3	34.7	34.8	34.6	34.4	34.2
1970	18.8	20.8	22.7	24.6	26.3	27.7	29.1	30.4	31.7	31.7	31.3	31.0	30.6
1971	20.1	22.7	25.2	27.8	29.3	28.4	27.6	26.7	25.9	27.0	28.5	30.1	31.6
1972	17.5	20.4	23.2	26.0	28.4	29.1	29.6	30.1	30.6	30.4	29.8	29.2	28.6
1973	16.4	19.7	23.0	26.3	28.8	29.6	30.3	30.9	31.6	32.3	33.0	33.6	34.3
1974	17.2	18.7	20.2	21.7	23.5	26.0	28.5	31.0	33.3	33.7	33.5	33.3	33.1
1975	14.1	16.8	19.4	22.0	24.2	25.4	26.5	27.6	28.8	30.1	31.4	32.7	34.0
1976	19.4	21.3	23.1	24.9	26.5	27.4	28.3	29.2	30.1	31.0	32.0	33.0	34.0
1977	21.1	22.0	23.0	23.9	25.4	28.0	30.6	33.2	35.5	34.8	33.3	31.8	30.2
1978	14.8	17.4	20.0	22.5	25.1	27.4	29.7	32.1	34.3	34.5	34.3	34.0	33.8
1979	14.9	17.7	20.5	23.3	25.6	26.8	28.0	29.2	30.4	31.1	31.8	32.5	33.1
1980	20.5	22.1	23.7	25.3	26.6	27.0	27.3	27.6	27.9	28.8	30.0	31.1	32.3
1981	18.7	20.3	22.0	23.7	25.4	27.2	29.0	30.8	32.5	32.7	32.4	32.2	31.9
1982	18.8	21.5	24.1	26.8	28.9	30.0	31.1	32.2	33.1	32.9	32.4	31.9	31.4
1983	18.4	20.3	22.2	24.1	25.6	26.0	26.4	26.8	27.3	28.2	29.2	30.2	31.2
1984	19.0	19.1	19.2	19.3	20.0	22.5	25.2	27.8	30.5	32.0	32.9	33.9	34.9
1985	18.5	21.5	24.5	27.5	29.9	31.0	32.1	33.3	34.4	35.3	36.1	37.0	37.8
1986	16.4	19.0	21.6	24.1	26.5	28.3	30.0	31.8	33.4	32.2	30.2	28.3	26.3
1987	20.4	22.9	25.4	28.0	30.1	31.4	32.7	34.0	35.1	34.6	33.5	32.4	31.4
1988	21.6	23.6	25.6	27.6	29.3	29.8	30.3	30.7	31.1	31.6	32.0	32.5	32.9
1989	20.7	21.9	23.1	24.2	25.5	26.9	28.4	29.8	31.2	32.1	32.7	33.4	34.0
1990	16.6	19.4	22.2	25.1	27.3	28.2	29.1	30.0	30.9	31.5	32.1	32.6	33.2
1991	19.2	21.4	23.6	25.8	27.2	26.9	26.6	26.3	26.1	28.2	30.9	33.6	36.3
1992	15.7	17.6	19.5	21.4	23.4	25.8	28.1	30.5	32.9	33.4	33.1	32.8	32.5
1993	15.6	18.9	22.2	25.4	27.8	28.2	28.6	29.0	29.3	29.2	29.0	28.8	28.5
1994	19.2	21.0	22.9	24.7	26.1	26.6	27.0	27.5	28.0	29.0	30.3	31.5	32.7
1995	14.4	17.4	20.5	23.6	25.9	26.9	27.8	28.6	29.4	29.0	28.2	27.5	26.7
1996	14.8	14.9	15.1	15.2	15.8	18.0	20.3	22.7	25.0	26.2	26.9	27.6	28.3
1997	18.6	20.2	21.7	23.3	24.8	26.3	27.8	29.3	30.8	31.8	32.7	33.5	34.4
1998	21.2	24.0	26.8	29.6	31.4	31.1	30.7	30.3	30.0	30.6	31.4	32.2	33.1
1999	18.8	20.2	21.5	22.9	24.4	26.1	27.8	29.5	31.1	31.3	31.1	30.8	30.6
2000	15.9	17.7	19.5	21.3	23.0	24.5	26.0	27.5	29.0	30.1	31.1	32.1	33.1
2001	19.3	21.2	23.1	25.0	26.5	26.7	27.0	27.2	27.5	28.1	28.7	29.3	30.0
2002	15.6	18.0	20.3	22.7	25.1	27.4	29.7	32.1	34.3	34.7	34.6	34.5	34.4
2003	15.9	18.4	21.0	23.5	25.5	26.3	27.1	27.8	28.6	29.9	31.3	32.7	34.2
2004	18.6	20.5	22.4	24.3	26.2	27.8	29.3	30.9	32.4	32.7	32.4	32.1	31.8
2005	20.4	22.6	24.7	26.9	28.3	28.1	27.9	27.6	27.5	28.7	30.2	31.8	33.4
2006	21.5	23.5	25.6	27.7	29.3	30.0	30.7	31.4	32.2	33.8	35.8	37.7	39.6
2007	17.0	19.5	22.0	24.4	26.8	28.9	31.0	33.1	35.1	36.8	38.4	40.0	41.5
2008	19.6	20.8	22.0	23.2	24.5	26.7	29.0	31.2	33.4	34.6	35.3	36.1	36.8
2009	18.0	20.6	23.2	25.7	27.9	29.4	30.8	32.2	33.5	33.8	33.7	33.6	33.5
2010	18.6	19.4	20.1	20.9	22.2	24.8	27.4	30.0	32.5	33.1	33.3	33.4	33.5
2011	20.7	23.0	25.3	27.6	29.1	28.8	28.5	28.1	27.8	28.0	28.4	28.8	29.2
2012	15.7	18.3	21.0	23.7	26.1	27.3	28.5	29.6	30.7	31.3	31.5	31.8	32.0
Min	14.1	14.9	15.1	15.2	15.8	18.0	20.3	22.7	25.0	26.2	26.9	27.5	26.3
Max	21.6	24.0	26.8	29.6	31.4	31.4	32.7	34.0	35.6	36.8	38.4	40.0	41.5
Mean	17.9	20.0	22.2	24.4	26.3	27.5	28.6	29.8	30.9	31.5	32.0	32.4	32.9

Table: A.5 continued: Isle Lake and Lac Ste Anne weekly gross lake evaporation (mm).

Wk/Yr	27	28	29	30	31	32	33	34	35	36	37	38	39
1955	29.6	29.7	29.7	29.8	29.0	25.1	21.0	16.9	12.9	10.6	9.0	7.4	5.9
1956	32.6	31.2	29.7	28.3	26.6	23.5	20.2	16.9	13.6	11.2	9.6	8.0	6.4
1957	32.6	30.0	27.4	24.8	22.4	20.7	19.0	17.3	15.6	13.5	11.2	8.9	6.5
1958	34.3	32.7	31.0	29.4	27.4	24.1	20.8	17.4	14.1	11.9	10.2	8.5	6.8
1959	34.8	31.2	27.6	24.1	20.8	18.8	16.8	14.9	12.9	10.9	9.0	7.0	5.0
1960	34.9	32.1	29.3	26.5	23.8	21.6	19.4	17.3	15.2	13.0	10.9	8.8	6.7
1961	33.3	32.4	31.5	30.6	29.1	25.4	21.6	17.8	14.0	11.4	9.4	7.4	5.4
1962	29.2	27.8	26.4	24.9	23.4	21.3	19.1	17.0	14.8	12.8	10.8	8.8	6.8
1963	32.1	31.0	29.9	28.7	27.3	24.6	21.8	19.0	16.2	13.8	11.7	9.5	7.3
1964	33.1	30.9	28.6	26.4	24.0	20.9	17.6	14.3	11.0	9.1	8.2	7.3	6.5
1965	32.9	31.1	29.3	27.5	25.3	21.7	18.0	14.3	10.7	9.1	8.4	7.7	7.0
1966	31.7	29.4	27.1	24.8	22.6	20.7	18.9	17.1	15.2	13.0	10.6	8.3	5.9
1967	32.9	32.5	32.0	31.6	30.6	27.7	24.7	21.6	18.6	15.6	12.6	9.6	6.7
1968	33.7	31.4	29.0	26.6	24.1	21.3	18.4	15.5	12.7	10.5	9.0	7.4	5.9
1969	33.6	32.8	32.0	31.2	29.6	25.3	20.8	16.3	11.9	9.6	8.4	7.1	5.9
1970	30.3	30.1	29.8	29.6	28.7	25.3	21.8	18.3	14.8	12.3	10.2	8.1	5.9
1971	32.0	31.4	30.8	30.3	29.0	25.1	20.9	16.8	12.7	10.5	9.1	7.8	6.4
1972	28.3	28.4	28.6	28.8	28.3	24.3	19.7	15.2	10.6	8.1	7.3	6.4	5.6
1973	33.4	31.4	29.4	27.4	25.3	22.4	19.4	16.4	13.5	11.3	9.4	7.5	5.6
1974	31.8	29.8	27.7	25.7	23.5	20.8	18.1	15.4	12.7	10.9	9.5	8.1	6.7
1975	33.0	30.3	27.6	24.9	22.4	20.7	19.1	17.5	15.8	13.6	11.1	8.6	6.2
1976	33.8	32.1	30.3	28.6	26.7	23.8	20.6	17.5	14.4	12.0	10.1	8.2	6.3
1977	28.7	27.3	25.8	24.3	22.6	19.9	17.1	14.3	11.6	10.0	9.0	7.9	6.9
1978	32.5	30.5	28.5	26.5	24.3	21.0	17.7	14.3	11.0	9.4	8.5	7.5	6.6
1979	32.6	31.3	29.9	28.5	26.9	24.3	21.7	19.0	16.4	13.9	11.4	8.9	6.4
1980	31.9	29.5	27.0	24.6	22.1	19.6	17.0	14.4	11.8	10.0	8.8	7.5	6.3
1981	31.8	31.7	31.6	31.5	30.6	27.0	23.1	19.2	15.4	12.7	10.6	8.5	6.4
1982	30.2	28.5	26.8	25.2	23.4	21.3	19.1	17.0	14.8	12.8	10.9	8.9	7.0
1983	31.4	31.0	30.6	30.2	29.0	25.1	20.9	16.8	12.7	10.4	8.8	7.3	5.8
1984	34.7	32.9	31.1	29.3	27.3	23.5	19.5	15.5	11.5	9.1	7.9	6.6	5.4
1985	36.5	33.6	30.7	27.8	24.8	21.3	17.8	14.3	10.8	9.0	7.8	6.6	5.4
1986	26.2	27.3	28.4	29.5	29.5	25.2	20.6	16.0	11.4	9.3	8.3	7.3	6.2
1987	29.6	27.2	24.8	22.4	20.3	19.4	18.6	17.8	17.0	15.0	12.4	9.9	7.3
1988	32.5	30.9	29.2	27.6	25.8	23.2	20.5	17.7	14.9	12.8	11.0	9.3	7.6
1989	32.7	29.8	26.8	23.9	21.3	19.7	18.2	16.7	15.1	13.2	11.0	8.8	6.7
1990	32.3	30.5	28.6	26.7	24.8	23.1	21.4	19.7	18.0	15.4	12.5	9.6	6.6
1991	36.3	34.3	32.2	30.2	27.9	24.5	21.1	17.7	14.3	11.8	9.8	7.7	5.7
1992	31.8	30.6	29.4	28.3	26.8	23.4	19.7	16.0	12.3	10.0	8.8	7.5	6.3
1993	28.0	27.2	26.4	25.5	24.4	22.1	19.7	17.3	14.9	12.8	10.8	8.8	6.8
1994	32.0	29.9	27.8	25.7	23.7	21.9	20.1	18.4	16.6	14.3	11.8	9.3	6.8
1995	25.7	24.3	23.0	21.7	20.5	19.6	18.8	18.1	17.2	15.0	12.1	9.2	6.4
1996	28.7	28.6	28.6	28.5	28.0	24.3	20.2	16.1	12.0	9.5	8.2	6.8	5.5
1997	33.7	31.9	30.1	28.2	26.2	23.5	20.8	18.0	15.3	12.7	10.3	7.9	5.5
1998	32.8	31.7	30.5	29.4	27.9	25.0	21.9	18.9	15.8	13.3	10.9	8.6	6.3
1999	29.9	28.9	27.9	26.8	25.6	23.4	21.1	18.8	16.5	14.1	11.7	9.3	6.8
2000	32.7	30.4	28.1	25.8	23.5	21.1	18.7	16.3	13.9	11.8	10.0	8.2	6.5
2001	30.3	30.4	30.5	30.6	30.0	26.9	23.6	20.3	17.1	14.3	11.7	9.2	6.6
2002	32.8	30.2	27.5	24.9	22.3	19.9	17.6	15.3	13.0	11.0	9.0	7.1	5.2
2003	34.2	33.3	32.3	31.3	29.7	26.0	22.1	18.1	14.2	11.8	9.9	8.1	6.2
2004	30.9	29.2	27.5	25.8	24.0	21.4	18.7	16.0	13.3	11.1	9.3	7.6	5.8
2005	32.8	30.6	28.3	26.1	23.8	21.2	18.6	16.0	13.4	11.4	9.6	7.9	6.2
2006	39.2	37.1	35.0	33.0	30.6	27.3	23.9	20.5	17.1	14.3	11.8	9.3	6.8
2007	40.5	37.4	34.4	31.3	28.3	25.4	22.5	19.6	16.7	14.5	12.6	10.7	8.8
2008	36.6	35.1	33.5	32.0	30.3	27.6	24.7	21.8	19.0	16.3	13.9	11.4	9.0
2009	32.7	31.3	30.0	28.7	27.2	25.1	23.0	20.9	18.8	15.9	12.6	9.4	6.1
2010	32.5	30.7	28.8	27.0	24.9	22.0	18.9	15.9	12.9	10.9	9.4	7.9	6.5
2011	29.1	28.8	28.4	28.1	27.3	24.8	22.3	19.7	17.1	14.4	11.8	9.1	6.4
2012	31.7	30.5	29.3	28.1	26.8	24.3	21.7	19.1	16.5	13.9	11.2	8.6	6.0
Min	25.7	24.3	23.0	21.7	20.3	18.8	16.8	14.3	10.6	8.1	7.3	6.4	5.0
Max	40.5	37.4	35.0	33.0	31.0	32.0	33.0	34.0	35.0	36.0	37.0	38.0	39.0
Mean	32.3	30.7	29.2	27.7	25.9	23.1	20.2	17.3	14.4	12.1	10.2	8.3	6.4

Table: A.5 continued: Isle Lake and Lac Ste Anne weekly gross lake evaporation (mm).

Wk/Yr	40	41	42	43	44	45	46	47	48	49	50	51	52	Annual
1955	4.4	3.1	1.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	668.9
1956	5.0	4.2	3.5	2.7	2.0	1.4	1.0	0.5	0.0	0.0	0.0	0.0	0.0	686.0
1957	4.8	3.7	2.7	1.7	0.8	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	674.2
1958	5.5	4.5	3.5	2.6	1.7	1.1	0.7	0.2	0.0	0.0	0.0	0.0	0.0	703.5
1959	3.6	3.0	2.4	1.8	1.2	0.9	0.7	0.5	0.3	0.0	0.0	0.0	0.0	680.1
1960	4.9	4.0	3.0	2.0	1.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	666.0
1961	4.0	3.3	2.6	1.9	1.2	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	723.8
1962	5.2	4.1	3.1	2.0	1.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	647.7
1963	5.6	4.4	3.1	1.9	0.8	0.5	0.3	0.1	0.0	0.0	0.0	0.0	0.0	697.9
1964	5.5	4.2	2.8	1.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	651.8
1965	5.9	4.4	2.8	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	647.8
1966	4.1	3.1	2.0	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	682.2
1967	4.6	3.7	2.9	2.0	1.2	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	696.8
1968	4.5	3.7	2.9	2.1	1.3	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	697.5
1969	4.8	3.9	3.0	2.1	1.2	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	729.3
1970	4.2	2.9	1.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	691.7
1971	5.2	4.1	3.1	2.0	1.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	689.7
1972	4.7	3.7	2.6	1.6	0.7	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	665.7
1973	4.0	2.8	1.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	694.4
1974	5.5	4.5	3.5	2.6	1.7	1.4	1.2	1.0	0.8	0.9	1.1	1.4	1.9	680.2
1975	4.4	3.7	3.0	2.3	1.7	1.2	0.8	0.3	0.0	0.0	0.0	0.0	0.0	660.4
1976	4.8	4.0	3.2	2.5	1.8	1.4	1.1	0.8	0.6	0.4	0.4	0.3	0.3	718.7
1977	5.9	4.9	3.9	2.9	1.9	1.4	1.0	0.6	0.1	0.0	0.0	0.0	0.0	714.4
1978	5.6	4.5	3.4	2.3	1.3	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	676.2
1979	4.6	3.8	3.0	2.2	1.4	0.9	0.4	0.0	0.0	0.0	0.0	0.0	0.0	696.1
1980	5.2	4.4	3.6	2.8	2.0	1.5	1.1	0.6	0.2	0.0	0.0	0.0	0.0	673.4
1981	4.8	4.0	3.2	2.4	1.7	1.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	739.2
1982	5.3	4.0	2.7	1.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	684.5
1983	4.4	3.2	2.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	650.8
1984	4.2	3.0	1.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	684.1
1985	4.3	3.1	2.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	726.1
1986	5.1	3.8	2.5	1.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	670.1
1987	5.5	4.5	3.5	2.6	1.7	1.3	1.0	0.6	0.3	0.2	0.1	0.1	0.0	725.3
1988	6.0	4.7	3.4	2.2	0.9	0.6	0.4	0.2	0.1	0.0	0.0	0.0	0.0	748.1
1989	5.0	4.0	3.1	2.1	1.3	0.9	0.6	0.4	0.1	0.0	0.0	0.0	0.0	694.1
1990	4.6	3.7	2.8	1.8	1.0	0.7	0.5	0.3	0.1	0.0	0.1	0.1	0.2	718.7
1991	4.0	2.9	1.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	716.0
1992	5.1	4.0	3.0	1.9	0.9	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	684.8
1993	5.2	4.3	3.3	2.4	1.5	1.2	1.0	0.7	0.5	0.4	0.3	0.2	0.1	670.6
1994	5.0	4.0	3.0	1.9	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	699.9
1995	4.3	3.4	2.4	1.4	0.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	635.8
1996	4.2	3.1	2.1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	590.0
1997	3.8	3.1	2.3	1.6	1.0	0.8	0.7	0.6	0.5	0.2	0.0	0.0	0.0	714.8
1998	4.5	3.4	2.2	1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	742.0
1999	5.0	4.0	3.1	2.1	1.3	1.1	0.9	0.8	0.7	0.6	0.4	0.3	0.1	706.7
2000	4.9	4.0	3.0	2.0	1.1	0.6	0.1	0.0	0.0	0.0	0.0	0.1	0.8	675.0
2001	4.8	4.0	3.1	2.3	1.4	0.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	722.4
2002	3.9	3.4	2.9	2.4	1.9	1.5	1.2	0.9	0.6	0.4	0.4	0.3	0.3	684.1
2003	4.7	3.7	2.6	1.5	0.6	0.5	0.5	0.5	0.4	0.3	0.2	0.0	0.0	702.2
2004	4.4	3.7	3.1	2.6	2.0	1.5	1.1	0.6	0.2	0.0	0.0	0.0	0.0	700.9
2005	4.8	3.9	3.0	2.1	1.2	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	703.3
2006	4.8	3.4	2.1	0.7	0.0	0.0	0.0	0.4	0.8	0.9	1.0	1.0	1.3	802.5
2007	7.1	5.8	4.5	3.2	1.9	1.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	799.3
2008	6.9	5.7	4.5	3.2	2.1	1.3	0.6	0.0	0.0	0.0	0.0	0.0	0.0	797.0
2009	4.1	3.5	3.0	2.4	1.9	1.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	744.8
2010	5.0	3.7	2.4	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	687.6
2011	4.4	3.4	2.4	1.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	675.5
2012	3.8	2.5	1.3	0.1	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	690.7
Min	3.6	2.5	1.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	590.0
Max	40.0	41.0	42.0	43.0	44.0	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	802.5
Mean	4.8	3.8	2.8	1.8	1.0	0.7	0.4	0.2	0.1	0.1	0.1	0.1	0.1	696.6

Table: A.6: Isle Lake Weekly Outflow (m³/s).

Wk/Yr	1	2	3	4	5	6	7	8	9	10	11	12	13
1955	3.359	0.148	0.164	0.178	0.195	0.204	0.224	0.230	0.245	0.244	0.242	0.243	0.224
1956	0.391	0.402	0.393	0.377	0.375	0.359	0.350	0.358	0.406	0.388	0.362	0.328	0.300
1957	0.522	0.543	0.532	0.538	0.529	0.552	0.517	0.498	0.480	0.442	0.421	0.379	0.336
1958	0.454	0.469	0.478	0.498	0.506	0.556	0.581	0.597	0.595	0.578	0.565	0.515	0.475
1959	0.302	0.295	0.312	0.306	0.342	0.356	0.333	0.306	0.279	0.255	0.228	0.207	0.178
1960	0.134	0.141	0.142	0.143	0.143	0.140	0.151	0.149	0.155	0.147	0.143	0.129	0.138
1961	0.352	0.363	0.363	0.373	0.369	0.377	0.386	0.442	0.431	0.411	0.384	0.350	0.327
1962	0.040	0.041	0.042	0.042	0.050	0.072	0.073	0.074	0.084	0.083	0.080	0.074	0.070
1963	0.474	0.454	0.468	0.505	0.486	0.494	0.472	0.479	0.474	0.482	0.436	0.388	0.361
1964	0.240	0.251	0.258	0.266	0.253	0.267	0.255	0.246	0.241	0.256	0.249	0.244	0.231
1965	0.527	0.508	0.547	0.526	0.542	0.554	0.608	0.600	0.586	0.582	0.545	0.503	0.462
1966	1.029	1.025	1.027	0.978	0.939	0.873	0.812	0.829	0.758	0.691	0.643	0.629	0.565
1967	0.630	0.622	0.629	0.633	0.604	0.592	0.612	0.596	0.575	0.557	0.572	0.563	0.528
1968	0.113	0.119	0.123	0.120	0.124	0.123	0.118	0.115	0.113	0.104	0.096	0.095	0.084
1969	0.053	0.056	0.063	0.063	0.065	0.065	0.067	0.067	0.075	0.070	0.063	0.061	0.053
1970	0.787	0.828	0.829	0.789	0.751	0.749	0.715	0.714	0.680	0.665	0.641	0.593	0.555
1971	0.160	0.171	0.176	0.197	0.234	0.242	0.233	0.225	0.212	0.198	0.184	0.165	0.172
1972	1.088	1.012	0.960	0.967	0.922	0.901	0.851	0.799	0.776	0.788	0.746	0.673	0.651
1973	0.796	0.774	0.719	0.673	0.638	0.614	0.594	0.555	0.540	0.508	0.463	0.420	0.380
1974	0.693	0.697	0.707	0.654	0.743	0.721	0.666	0.627	0.624	0.619	0.564	0.612	0.604
1975	0.652	0.641	0.619	0.598	0.587	0.572	0.563	0.539	0.505	0.479	0.443	0.420	0.392
1976	0.574	0.574	0.551	0.532	0.515	0.492	0.484	0.463	0.438	0.435	0.456	0.433	0.403
1977	0.297	0.303	0.331	0.330	0.343	0.340	0.335	0.328	0.312	0.295	0.271	0.250	0.231
1978	0.943	0.918	0.896	0.850	0.840	0.779	0.740	0.677	0.630	0.574	0.532	0.491	0.469
1979	0.886	0.837	0.804	0.771	0.736	0.732	0.765	0.707	0.649	0.603	0.574	0.601	0.563
1980	0.738	0.763	0.720	0.679	0.677	0.639	0.603	0.614	0.587	0.571	0.522	0.496	0.457
1981	1.320	1.217	1.089	0.971	0.875	0.786	0.732	0.660	0.630	0.604	0.547	0.497	0.458
1982	0.434	0.496	0.498	0.482	0.505	0.498	0.499	0.475	0.473	0.480	0.491	0.434	0.382
1983	0.665	0.647	0.642	0.626	0.620	0.617	0.587	0.569	0.545	0.555	0.542	0.511	0.479
1984	0.678	0.661	0.689	0.659	0.677	0.643	0.614	0.572	0.539	0.510	0.497	0.454	0.437
1985	0.662	0.641	0.639	0.649	0.632	0.618	0.589	0.554	0.562	0.528	0.472	0.425	0.387
1986	0.970	0.919	0.871	0.855	0.852	0.797	0.748	0.701	0.654	0.683	0.698	0.635	0.697
1987	1.109	1.013	0.944	0.883	0.816	0.755	0.706	0.659	0.632	0.587	0.535	0.499	0.443
1988	0.039	0.039	0.040	0.040	0.041	0.041	0.044	0.049	0.046	0.042	0.038	0.033	0.028
1989	0.197	0.191	0.185	0.179	0.173	0.220	0.209	0.198	0.188	0.183	0.171	0.153	0.132
1990	0.692	0.680	0.637	0.601	0.571	0.542	0.528	0.506	0.464	0.459	0.476	0.521	0.606
1991	0.326	0.309	0.291	0.275	0.296	0.288	0.268	0.254	0.255	0.273	0.256	0.227	0.202
1992	0.260	0.273	0.267	0.256	0.270	0.258	0.244	0.251	0.263	0.289	0.341	0.415	0.412
1993	0.037	0.038	0.038	0.038	0.038	0.037	0.037	0.040	0.040	0.037	0.042	0.042	0.058
1994	0.026	0.031	0.047	0.053	0.058	0.058	0.062	0.060	0.061	0.055	0.049	0.047	0.046
1995	0.229	0.221	0.215	0.207	0.198	0.190	0.181	0.172	0.163	0.157	0.144	0.155	0.184
1996	0.228	0.255	0.251	0.248	0.236	0.225	0.220	0.217	0.204	0.193	0.177	0.196	0.286
1997	0.460	0.430	0.404	0.394	0.375	0.351	0.326	0.313	0.286	0.288	0.287	0.254	0.238
1998	0.335	0.339	0.341	0.332	0.325	0.311	0.296	0.278	0.257	0.234	0.215	0.249	0.271
1999	0.069	0.083	0.101	0.112	0.115	0.123	0.117	0.111	0.103	0.099	0.090	0.082	0.073
2000	0.129	0.129	0.136	0.145	0.139	0.132	0.135	0.128	0.118	0.108	0.110	0.105	0.097
2001	0.108	0.105	0.103	0.100	0.097	0.095	0.092	0.088	0.082	0.075	0.067	0.062	0.055
2002	0.229	0.220	0.211	0.215	0.207	0.195	0.188	0.179	0.171	0.172	0.162	0.154	0.140
2003	0.022	0.022	0.022	0.027	0.031	0.032	0.034	0.037	0.037	0.039	0.038	0.039	0.034
2004	0.063	0.064	0.065	0.068	0.078	0.084	0.081	0.078	0.074	0.074	0.067	0.062	0.053
2005	0.084	0.089	0.088	0.102	0.100	0.109	0.105	0.101	0.095	0.089	0.182	0.274	0.275
2006	0.123	0.121	0.119	0.116	0.111	0.105	0.100	0.095	0.096	0.100	0.096	0.092	0.078
2007	0.016	0.016	0.018	0.018	0.018	0.020	0.022	0.022	0.021	0.019	0.017	0.014	0.012
2008	0.084	0.082	0.082	0.082	0.083	0.083	0.082	0.080	0.073	0.068	0.061	0.054	0.046
2009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2010	0.005	0.005	0.005	0.005	0.005	0.006	0.006	0.005	0.005	0.004	0.003	0.003	0.002
2011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2012	0.221	0.215	0.211	0.207	0.201	0.196	0.187	0.176	0.177	0.165	0.160	0.147	0.143
Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Max	3.359	1.217	1.089	0.978	0.939	0.901	0.851	0.829	0.776	0.788	0.746	0.673	0.697
Mean	0.449	0.388	0.381	0.371	0.366	0.358	0.347	0.336	0.324	0.314	0.301	0.288	0.275

Table: A.6 continued: Isle Lake Weekly Outflow (m³/s).

Wk/Yr	14	15	16	17	18	19	20	21	22	23	24	25	26
1955	0.211	0.192	0.176	0.186	0.247	0.273	0.282	0.271	0.268	0.276	0.270	0.272	0.278
1956	0.272	0.242	0.202	0.273	0.347	0.389	0.421	0.420	0.416	0.416	0.480	0.547	0.582
1957	0.317	0.302	0.277	0.265	0.274	0.247	0.223	0.197	0.183	0.153	0.135	0.108	0.091
1958	0.460	0.456	0.506	0.508	0.486	0.462	0.442	0.402	0.397	0.358	0.302	0.252	0.207
1959	0.153	0.129	0.112	0.099	0.094	0.095	0.097	0.079	0.070	0.061	0.059	0.066	0.055
1960	0.136	0.121	0.115	0.106	0.096	0.088	0.086	0.106	0.123	0.121	0.112	0.101	0.116
1961	0.307	0.296	0.285	0.247	0.215	0.184	0.151	0.128	0.109	0.081	0.064	0.060	0.047
1962	0.060	0.056	0.063	0.090	0.127	0.204	0.270	0.342	0.392	0.571	0.668	0.670	0.631
1963	0.359	0.359	0.427	0.590	0.751	0.977	1.103	1.141	1.120	1.057	0.969	0.861	0.732
1964	0.204	0.218	0.196	0.172	0.150	0.174	0.215	0.211	0.236	0.195	0.176	0.150	0.128
1965	0.410	0.375	0.344	0.323	0.570	0.883	1.077	1.336	1.600	2.508	2.675	2.488	2.161
1966	0.558	0.694	0.763	0.739	0.814	0.818	0.821	0.828	0.787	0.748	0.701	0.619	0.552
1967	0.527	0.562	0.662	0.722	0.736	0.657	0.586	0.523	0.509	0.455	0.478	0.442	0.371
1968	0.073	0.062	0.055	0.047	0.038	0.042	0.038	0.031	0.025	0.020	0.016	0.016	0.013
1969	0.050	0.042	0.049	0.058	0.089	0.109	0.112	0.116	0.116	0.111	0.098	0.076	0.058
1970	0.515	0.473	0.467	0.444	0.416	0.379	0.355	0.323	0.289	0.240	0.209	0.203	0.164
1971	0.166	0.138	0.125	0.162	0.255	0.291	0.315	0.321	0.346	0.330	0.426	0.589	0.657
1972	0.579	0.532	0.565	0.594	0.578	0.582	0.553	0.642	0.716	0.712	0.687	0.829	1.036
1973	0.345	0.330	0.345	0.334	0.343	0.361	0.361	0.379	0.398	0.394	0.355	0.450	0.556
1974	0.537	0.489	0.512	1.237	2.016	2.587	3.186	3.629	3.528	3.938	3.349	2.717	2.395
1975	0.357	0.352	0.322	0.333	0.324	0.375	0.374	0.356	0.372	0.360	0.338	0.320	0.268
1976	0.363	0.380	0.414	0.407	0.368	0.322	0.286	0.251	0.232	0.195	0.165	0.151	0.190
1977	0.204	0.234	0.211	0.188	0.171	0.227	0.291	0.385	0.487	1.117	1.187	1.302	1.180
1978	0.466	0.444	0.426	0.398	0.387	0.371	0.348	0.350	0.377	0.376	0.342	0.423	0.428
1979	0.518	0.480	0.466	0.481	0.557	0.586	0.612	0.650	0.656	0.629	0.641	0.781	0.841
1980	0.399	0.355	0.382	0.409	0.400	0.380	0.350	0.319	0.440	0.538	1.011	1.163	1.494
1981	0.423	0.399	0.381	0.347	0.340	0.321	0.298	0.270	0.250	0.351	0.397	0.512	0.555
1982	0.335	0.290	0.261	0.253	0.451	0.492	0.495	0.538	0.541	0.487	0.472	0.419	0.363
1983	0.427	0.496	0.474	0.434	0.391	0.363	0.332	0.302	0.257	0.224	0.199	0.163	0.280
1984	0.415	0.378	0.333	0.295	0.264	0.275	0.283	0.314	0.338	0.336	0.475	0.461	0.412
1985	0.344	0.376	0.460	0.643	0.694	0.728	0.747	0.680	0.623	0.610	0.524	0.489	0.647
1986	0.721	0.678	0.690	0.769	0.827	0.781	0.796	0.723	0.700	0.623	0.574	0.534	0.546
1987	0.377	0.355	0.289	0.232	0.181	0.147	0.120	0.112	0.082	0.069	0.054	0.039	0.040
1988	0.025	0.020	0.015	0.012	0.008	0.005	0.003	0.002	0.001	0.001	0.001	0.002	0.001
1989	0.121	0.284	0.648	0.739	0.639	0.533	0.447	0.693	1.053	0.914	0.862	0.826	0.713
1990	0.881	1.078	0.958	0.855	0.992	0.842	0.733	0.638	0.668	0.583	0.588	0.876	0.698
1991	0.212	0.481	0.612	0.579	0.765	0.718	1.196	3.152	2.405	1.790	1.541	1.261	1.176
1992	0.390	0.377	0.334	0.344	0.310	0.266	0.222	0.176	0.149	0.139	0.113	0.084	0.066
1993	0.071	0.084	0.079	0.068	0.055	0.046	0.041	0.030	0.027	0.019	0.014	0.010	0.017
1994	0.134	0.203	0.201	0.178	0.149	0.130	0.106	0.132	0.124	0.138	0.147	0.188	0.172
1995	0.172	0.162	0.144	0.123	0.102	0.084	0.069	0.058	0.045	0.038	0.037	0.035	0.036
1996	0.268	0.475	1.739	1.904	1.893	1.573	1.254	1.058	0.841	0.847	0.926	0.813	4.779
1997	0.371	0.512	0.648	2.580	2.583	1.973	1.480	1.294	1.285	1.315	1.193	1.224	6.335
1998	0.245	0.217	0.182	0.146	0.121	0.093	0.074	0.068	0.061	0.051	0.038	0.029	0.023
1999	0.072	0.111	0.534	0.832	1.040	2.023	1.805	1.531	1.282	0.998	0.857	0.719	0.605
2000	0.099	0.088	0.079	0.066	0.058	0.050	0.050	0.038	0.030	0.025	0.035	0.065	0.061
2001	0.046	0.038	0.031	0.024	0.018	0.013	0.009	0.007	0.005	0.008	0.005	0.005	0.003
2002	0.132	0.120	0.164	0.254	0.301	0.282	0.235	0.204	0.171	0.136	0.101	0.077	0.055
2003	0.040	0.062	0.204	0.241	0.262	0.291	0.283	0.234	0.194	0.185	0.149	0.120	0.137
2004	0.058	0.061	0.061	0.050	0.042	0.032	0.023	0.016	0.011	0.011	0.008	0.008	0.005
2005	0.311	0.632	0.685	0.618	0.515	0.422	0.400	0.414	0.396	0.325	0.257	0.267	0.282
2006	0.065	0.072	0.079	0.063	0.055	0.046	0.042	0.033	0.044	0.032	0.041	0.039	0.025
2007	0.018	0.020	0.058	0.154	0.174	1.717	1.902	1.435	1.085	0.799	0.672	0.590	0.525
2008	0.038	0.032	0.026	0.024	0.020	0.022	0.018	0.012	0.016	0.010	0.008	0.006	0.003
2009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2010	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2011	0.000	0.000	0.000	0.000	0.035	0.066	0.067	0.054	0.054	0.050	0.045	0.060	0.344
2012	0.143	0.185	0.238	0.245	0.254	0.247	0.213	0.172	0.198	0.169	0.195	0.193	0.160
Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Max	0.881	1.078	1.739	2.580	2.583	2.587	3.186	3.629	3.528	3.938	3.349	2.717	6.335
Mean	0.267	0.286	0.329	0.388	0.420	0.459	0.460	0.485	0.468	0.470	0.456	0.444	0.591

Table: A.6 continued: Isle Lake Weekly Outflow (m³/s).

Wk/Yr	27	28	29	30	31	32	33	34	35	36	37	38	39
1955	0.256	0.311	0.275	0.239	0.337	0.325	0.302	0.316	0.295	0.288	0.279	0.348	0.449
1956	0.687	0.623	0.546	0.462	0.464	0.631	0.619	0.620	0.591	0.643	0.675	0.643	0.627
1957	0.075	0.067	0.052	0.044	0.037	0.035	0.063	0.059	0.061	0.057	0.071	0.073	0.072
1958	0.220	0.206	0.184	0.173	0.149	0.149	0.133	0.116	0.116	0.127	0.117	0.214	0.210
1959	0.052	0.049	0.037	0.030	0.026	0.022	0.030	0.034	0.040	0.037	0.040	0.037	0.036
1960	0.145	0.160	0.152	0.161	0.155	0.179	0.172	0.202	0.202	0.187	0.210	0.199	0.228
1961	0.074	0.058	0.046	0.034	0.040	0.030	0.023	0.020	0.016	0.014	0.014	0.012	0.014
1962	0.582	0.496	0.451	0.494	0.483	0.458	0.426	0.388	0.389	0.380	0.366	0.402	0.385
1963	0.600	0.560	0.501	0.424	0.404	0.336	0.294	0.271	0.248	0.236	0.213	0.231	0.215
1964	0.129	0.100	0.107	0.120	0.112	0.112	0.135	0.135	0.135	0.187	0.225	0.223	0.246
1965	5.178	5.090	6.152	5.733	4.966	4.242	3.904	3.710	3.519	3.624	3.209	2.887	2.716
1966	0.471	0.480	0.460	0.440	0.517	0.603	0.712	0.857	0.834	1.137	1.183	1.143	1.116
1967	0.309	0.255	0.203	0.187	0.157	0.133	0.109	0.088	0.074	0.074	0.067	0.061	0.057
1968	0.012	0.008	0.005	0.007	0.007	0.008	0.007	0.006	0.008	0.010	0.012	0.014	0.014
1969	0.053	0.062	0.046	0.044	0.040	0.116	0.114	0.115	0.107	0.129	0.259	0.276	0.294
1970	0.165	0.142	0.124	0.120	0.132	0.107	0.101	0.084	0.074	0.077	0.070	0.071	0.068
1971	0.718	1.339	2.812	3.090	3.360	3.211	2.864	2.610	2.395	2.256	2.142	1.973	1.888
1972	1.663	1.799	1.774	1.654	1.697	1.737	1.619	1.445	1.294	1.259	1.190	1.085	1.124
1973	0.553	0.485	0.414	0.380	0.408	0.498	0.522	0.565	0.579	0.613	0.572	0.596	0.580
1974	2.450	2.050	3.606	3.147	2.636	2.229	2.011	1.821	1.632	1.443	1.447	1.311	1.188
1975	0.537	0.557	0.533	0.567	0.529	0.539	0.528	0.524	0.621	0.717	0.666	0.627	0.585
1976	0.191	0.173	0.148	0.130	0.118	0.133	0.131	0.155	0.159	0.196	0.202	0.203	0.195
1977	1.125	1.216	1.353	1.337	1.385	1.308	1.326	1.283	1.248	1.307	1.279	1.316	1.283
1978	0.411	0.370	0.671	0.602	0.669	0.614	0.575	0.628	0.618	0.574	0.797	1.054	1.167
1979	0.850	0.998	1.283	1.336	1.367	1.318	1.244	1.102	0.995	0.915	0.938	0.886	0.851
1980	2.263	2.326	2.385	2.201	2.145	2.393	2.401	2.220	2.283	2.115	1.945	1.986	2.156
1981	0.525	0.523	0.532	0.642	0.756	0.759	0.653	0.572	0.496	0.517	0.509	0.460	0.532
1982	0.309	1.072	1.435	1.725	1.636	1.553	1.617	1.504	1.477	1.527	1.552	1.436	1.315
1983	0.328	0.434	0.605	0.677	0.697	0.650	0.591	0.554	0.507	0.514	0.568	0.566	0.550
1984	0.389	0.375	0.310	0.278	0.225	0.188	0.170	0.159	0.151	0.141	0.242	0.249	0.299
1985	0.601	0.485	0.426	0.385	0.345	0.287	0.337	0.389	0.358	0.373	0.371	0.449	0.533
1986	0.471	0.468	0.659	1.978	2.363	2.663	2.551	2.414	2.264	2.102	1.933	2.218	1.973
1987	0.039	0.040	0.032	0.030	0.033	0.054	0.053	0.052	0.048	0.047	0.041	0.036	0.032
1988	0.002	0.195	0.427	0.366	0.298	0.271	0.299	0.315	0.342	0.294	0.271	0.271	0.267
1989	1.194	2.089	8.280	4.305	2.819	3.486	2.894	3.411	3.022	2.424	2.299	1.931	1.588
1990	0.586	2.219	1.620	1.279	1.002	0.778	0.653	0.596	0.522	0.621	0.535	0.539	0.471
1991	0.952	0.804	0.627	0.502	0.423	0.344	0.359	0.302	0.293	0.265	0.260	0.241	0.222
1992	0.048	0.044	0.040	0.032	0.025	0.018	0.014	0.014	0.014	0.017	0.025	0.025	0.023
1993	0.022	0.018	0.015	0.020	0.020	0.015	0.016	0.012	0.014	0.016	0.014	0.015	0.014
1994	0.168	0.511	0.857	0.767	0.605	0.506	0.514	0.518	0.443	0.380	0.366	0.337	0.302
1995	0.037	0.036	0.032	0.030	0.033	0.042	0.128	0.184	0.184	0.238	0.216	0.194	0.176
1996	3.308	2.300	1.813	1.750	1.303	1.276	1.196	0.983	0.818	0.699	0.707	0.651	0.637
1997	6.987	3.601	2.599	1.904	1.428	1.100	0.865	0.864	0.707	0.663	0.670	0.606	0.554
1998	0.054	0.078	0.076	0.068	0.053	0.058	0.051	0.050	0.042	0.035	0.031	0.027	0.037
1999	0.518	0.491	0.461	0.470	0.407	0.339	0.296	0.251	0.219	0.243	0.219	0.194	0.181
2000	0.054	0.062	0.107	0.113	0.099	0.089	0.088	0.082	0.078	0.099	0.141	0.130	0.123
2001	0.002	0.001	0.001	0.002	0.221	1.001	0.927	0.865	0.693	0.591	0.512	0.450	0.417
2002	0.043	0.031	0.022	0.025	0.023	0.026	0.023	0.022	0.020	0.020	0.017	0.016	0.015
2003	0.111	0.114	0.090	0.069	0.058	0.042	0.041	0.035	0.034	0.040	0.038	0.039	0.036
2004	0.003	0.004	0.029	0.032	0.028	0.029	0.024	0.019	0.020	0.024	0.031	0.032	0.042
2005	0.322	0.270	0.258	0.235	0.207	0.176	0.151	0.162	0.160	0.150	0.154	0.150	0.137
2006	0.015	0.010	0.007	0.004	0.004	0.003	0.002	0.001	0.001	0.001	0.001	0.004	0.003
2007	0.436	0.399	0.313	0.293	0.268	0.228	0.195	0.168	0.147	0.137	0.126	0.112	0.103
2008	0.002	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2009	0.000	0.005	0.017	0.013	0.009	0.010	0.007	0.005	0.004	0.003	0.003	0.002	0.002
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2011	0.449	0.565	1.918	1.697	1.367	1.064	0.942	0.798	0.650	0.557	0.472	0.432	0.385
2012	0.127	0.144	0.135	0.181	0.428	0.433	0.369	0.338	0.289	0.290	0.275	0.247	0.223
Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Max	6.987	5.090	8.280	5.733	4.966	4.242	3.904	3.710	3.519	3.624	3.209	2.887	2.716
Mean	0.653	0.644	0.829	0.742	0.681	0.672	0.627	0.604	0.561	0.545	0.531	0.516	0.499

Table: A.6 continued: Isle Lake Weekly Outflow (m³/s).

Wk/Yr	40	41	42	43	44	45	46	47	48	49	50	51	52	Mean	Dam³
1955	0.426	0.414	0.397	0.385	0.381	0.510	0.484	0.460	0.447	0.421	0.399	0.396	0.383	0.358	11265
1956	0.593	0.574	0.547	0.525	0.523	0.501	0.488	0.476	0.472	0.461	0.473	0.528	0.527	0.468	14706
1957	0.071	0.116	0.128	0.140	0.151	0.164	0.176	0.202	0.302	0.325	0.381	0.409	0.433	0.247	7756
1958	0.236	0.241	0.256	0.263	0.255	0.250	0.245	0.244	0.248	0.262	0.260	0.280	0.298	0.338	10619
1959	0.040	0.044	0.062	0.064	0.070	0.085	0.089	0.091	0.100	0.103	0.107	0.110	0.113	0.123	3880
1960	0.225	0.220	0.243	0.238	0.247	0.249	0.257	0.267	0.294	0.289	0.303	0.299	0.323	0.175	5497
1961	0.016	0.017	0.017	0.024	0.024	0.024	0.025	0.026	0.026	0.033	0.033	0.037	0.039	0.151	4738
1962	0.375	0.375	0.399	0.411	0.410	0.416	0.416	0.442	0.448	0.443	0.457	0.450	0.442	0.311	9767
1963	0.211	0.203	0.197	0.197	0.195	0.196	0.204	0.221	0.228	0.229	0.227	0.239	0.242	0.457	14357
1964	0.278	0.295	0.308	0.332	0.356	0.375	0.395	0.472	0.493	0.576	0.560	0.560	0.547	0.254	7981
1965	2.526	2.235	1.999	1.781	1.610	1.510	1.408	1.331	1.300	1.220	1.152	1.090	1.026	1.903	59849
1966	1.071	1.062	1.030	0.987	0.932	0.874	0.823	0.804	0.745	0.696	0.672	0.649	0.634	0.792	24900
1967	0.053	0.064	0.064	0.064	0.067	0.072	0.079	0.079	0.084	0.083	0.084	0.089	0.094	0.340	10701
1968	0.014	0.017	0.021	0.022	0.023	0.024	0.026	0.028	0.030	0.031	0.035	0.044	0.047	0.046	1453
1969	0.331	0.419	0.466	0.501	0.545	0.570	0.596	0.716	0.737	0.743	0.748	0.752	0.794	0.221	6942
1970	0.068	0.073	0.076	0.076	0.101	0.101	0.109	0.117	0.128	0.147	0.157	0.162	0.163	0.319	10031
1971	1.915	1.743	1.607	1.501	1.396	1.340	1.330	1.281	1.276	1.216	1.217	1.153	1.194	1.068	33575
1972	1.048	0.971	0.926	0.887	0.856	0.852	0.844	0.802	0.766	0.819	0.787	0.771	0.780	0.965	30352
1973	0.562	0.669	0.640	0.624	0.688	0.736	0.738	0.741	0.734	0.716	0.698	0.737	0.710	0.546	17166
1974	1.178	1.110	1.032	0.957	0.894	0.845	0.793	0.757	0.725	0.692	0.665	0.644	0.689	1.473	46329
1975	0.578	0.567	0.541	0.533	0.539	0.519	0.494	0.475	0.489	0.506	0.549	0.535	0.521	0.497	15627
1976	0.190	0.195	0.195	0.195	0.194	0.195	0.195	0.195	0.202	0.209	0.260	0.281	0.284	0.288	9071
1977	1.466	1.474	1.460	1.435	1.404	1.386	1.328	1.224	1.164	1.156	1.166	1.095	1.007	0.859	27023
1978	1.179	1.152	1.108	1.108	1.079	1.095	1.087	1.062	1.019	1.006	0.980	0.967	0.931	0.712	22377
1979	0.834	0.826	0.812	0.800	0.775	0.751	0.734	0.701	0.737	0.728	0.840	0.825	0.782	0.795	25007
1980	1.991	1.840	1.756	1.645	1.611	1.527	1.464	1.416	1.339	1.293	1.292	1.373	1.358	1.239	38967
1981	0.498	0.521	0.532	0.507	0.493	0.473	0.457	0.444	0.426	0.419	0.427	0.429	0.424	0.553	17391
1982	1.233	1.217	1.150	1.174	1.122	1.078	1.026	0.985	0.914	0.844	0.776	0.723	0.694	0.820	25789
1983	0.537	0.539	0.547	0.539	0.596	0.599	0.611	0.628	0.646	0.667	0.699	0.715	0.689	0.523	16449
1984	0.305	0.305	0.314	0.478	0.496	0.542	0.551	0.591	0.608	0.624	0.618	0.644	0.654	0.425	13375
1985	0.578	0.595	0.679	0.723	0.763	0.776	0.812	0.847	0.872	0.875	0.867	0.955	0.961	0.588	18485
1986	2.299	2.325	2.138	1.959	1.851	1.754	1.694	1.714	1.606	1.520	1.394	1.282	1.183	1.266	39804
1987	0.030	0.031	0.030	0.030	0.030	0.030	0.031	0.031	0.032	0.032	0.033	0.033	0.035	0.243	7635
1988	0.267	0.250	0.237	0.237	0.226	0.218	0.212	0.219	0.211	0.203	0.197	0.190	0.185	0.136	4283
1989	1.346	1.171	1.071	0.988	1.206	1.197	1.157	1.059	0.988	0.900	0.843	0.796	0.738	1.232	38739
1990	0.421	0.423	0.395	0.373	0.358	0.336	0.343	0.323	0.372	0.354	0.335	0.317	0.327	0.649	20423
1991	0.205	0.197	0.186	0.297	0.291	0.304	0.292	0.280	0.270	0.282	0.295	0.283	0.271	0.547	17208
1992	0.024	0.023	0.022	0.021	0.021	0.022	0.024	0.024	0.028	0.029	0.029	0.031	0.034	0.143	4500
1993	0.015	0.015	0.014	0.013	0.014	0.017	0.021	0.021	0.022	0.022	0.022	0.025	0.025	0.030	933
1994	0.318	0.303	0.281	0.267	0.253	0.264	0.253	0.246	0.253	0.252	0.248	0.238	0.228	0.237	7458
1995	0.173	0.166	0.163	0.160	0.162	0.167	0.194	0.189	0.200	0.227	0.224	0.241	0.233	0.145	4566
1996	0.638	0.589	0.538	0.502	0.487	0.506	0.550	0.586	0.565	0.527	0.495	0.462	0.468	0.878	27614
1997	0.512	0.473	0.445	0.449	0.480	0.456	0.431	0.414	0.403	0.383	0.370	0.354	0.339	1.063	33418
1998	0.037	0.039	0.044	0.045	0.045	0.046	0.046	0.055	0.055	0.056	0.055	0.057	0.061	0.124	3890
1999	0.171	0.166	0.157	0.150	0.143	0.140	0.138	0.138	0.134	0.132	0.129	0.132	0.130	0.381	11995
2000	0.116	0.113	0.108	0.105	0.102	0.102	0.105	0.103	0.101	0.103	0.108	0.109	0.111	0.096	3026
2001	0.378	0.348	0.327	0.315	0.312	0.295	0.279	0.266	0.267	0.270	0.259	0.250	0.239	0.208	6548
2002	0.015	0.017	0.017	0.018	0.019	0.018	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.101	3161
2003	0.034	0.033	0.032	0.034	0.044	0.047	0.048	0.053	0.054	0.055	0.057	0.057	0.058	0.080	2521
2004	0.042	0.041	0.045	0.060	0.060	0.061	0.063	0.063	0.064	0.065	0.071	0.073	0.076	0.046	1451
2005	0.147	0.143	0.139	0.141	0.136	0.132	0.131	0.130	0.127	0.128	0.131	0.129	0.126	0.221	6949
2006	0.003	0.003	0.004	0.005	0.008	0.008	0.010	0.011	0.014	0.015	0.016	0.016	0.016	0.042	1313
2007	0.096	0.090	0.084	0.080	0.079	0.079	0.078	0.077	0.077	0.081	0.082	0.084	0.083	0.257	8091
2008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.023	726
2009	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.004	0.004	0.002	70
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	38
2011	0.348	0.326	0.303	0.284	0.270	0.258	0.252	0.257	0.247	0.246	0.237	0.228	0.226	0.299	9406
2012	0.206	0.212	0.220	0.211	0.205	0.211	0.257	0.291	0.330	0.373	0.435	0.357	0.331	0.233	7340
Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	38
Max	2.526	2.325	2.138	1.959	1.851	1.754	1.694	1.714	1.606	1.520	1.394	1.373	1.358	1.903	59849
Mean	0.491	0.476	0.457	0.446	0.441	0.436	0.430	0.426	0.421	0.416	0.413	0.409	0.402	0.458	14389

Table: A.7: Lac St Anne Weekly Outflow (m³/s).

Wk/Yr	1	2	3	4	5	6	7	8	9	10	11	12	13
1955	8.520	14.940	9.514	7.032	5.657	4.689	4.126	3.573	3.225	2.871	2.583	2.369	2.088
1956	1.016	1.054	1.051	1.033	1.041	1.019	1.010	1.034	1.149	1.121	1.075	1.004	0.945
1957	1.152	1.194	1.186	1.201	1.205	1.257	1.220	1.203	1.190	1.137	1.112	1.036	0.951
1958	0.599	0.625	0.651	0.691	0.715	0.789	0.841	0.885	0.907	0.917	0.932	0.895	0.858
1959	0.534	0.535	0.571	0.577	0.650	0.690	0.673	0.646	0.614	0.583	0.544	0.511	0.462
1960	0.246	0.255	0.258	0.262	0.265	0.265	0.285	0.286	0.299	0.291	0.289	0.270	0.268
1961	0.449	0.470	0.481	0.505	0.514	0.539	0.564	0.652	0.654	0.646	0.628	0.595	0.569
1962	0.105	0.107	0.109	0.110	0.124	0.162	0.164	0.168	0.185	0.185	0.181	0.172	0.166
1963	0.763	0.765	0.816	0.898	0.900	0.940	0.928	0.961	0.967	1.007	0.960	0.894	0.848
1964	0.525	0.536	0.551	0.572	0.559	0.590	0.577	0.564	0.557	0.568	0.555	0.541	0.516
1965	0.866	0.874	0.967	0.969	1.026	1.073	1.184	1.197	1.200	1.208	1.169	1.116	1.057
1966	2.970	3.001	3.021	2.882	2.766	2.610	2.455	2.454	2.281	2.113	1.969	1.901	1.737
1967	1.655	1.651	1.666	1.720	1.668	1.671	1.712	1.678	1.636	1.606	1.665	1.655	1.562
1968	0.292	0.310	0.316	0.313	0.326	0.329	0.320	0.314	0.312	0.297	0.282	0.280	0.257
1969	0.099	0.106	0.116	0.117	0.120	0.121	0.124	0.126	0.137	0.131	0.123	0.119	0.108
1970	0.883	0.994	1.068	1.096	1.108	1.162	1.164	1.208	1.199	1.223	1.217	1.176	1.148
1971	0.432	0.458	0.477	0.499	0.565	0.576	0.566	0.559	0.541	0.518	0.494	0.461	0.465
1972	3.097	2.935	2.810	2.844	2.755	2.687	2.567	2.442	2.356	2.366	2.248	2.069	2.061
1973	2.107	2.072	1.983	1.897	1.829	1.767	1.717	1.630	1.599	1.524	1.417	1.307	1.205
1974	1.685	1.738	1.794	1.718	1.876	1.890	1.805	1.733	1.764	1.754	1.640	1.788	1.730
1975	1.923	1.881	1.831	1.786	1.746	1.717	1.686	1.626	1.553	1.488	1.405	1.329	1.250
1976	1.403	1.446	1.418	1.393	1.365	1.322	1.303	1.262	1.212	1.217	1.243	1.177	1.098
1977	0.603	0.621	0.658	0.665	0.694	0.693	0.687	0.686	0.663	0.642	0.607	0.583	0.548
1978	2.505	2.523	2.475	2.391	2.423	2.296	2.210	2.064	1.944	1.802	1.676	1.577	1.484
1979	2.274	2.192	2.124	2.087	2.017	2.024	2.131	2.032	1.915	1.828	1.730	1.688	1.583
1980	1.817	1.911	1.859	1.794	1.789	1.723	1.654	1.672	1.645	1.602	1.519	1.454	1.379
1981	3.559	3.389	3.176	2.931	2.718	2.508	2.400	2.202	2.095	2.003	1.835	1.673	1.542
1982	1.017	1.094	1.173	1.182	1.234	1.266	1.286	1.252	1.261	1.328	1.361	1.264	1.156
1983	1.917	1.857	1.827	1.782	1.762	1.750	1.685	1.642	1.585	1.604	1.576	1.510	1.439
1984	1.459	1.452	1.528	1.502	1.560	1.513	1.468	1.405	1.350	1.303	1.287	1.213	1.158
1985	1.353	1.344	1.363	1.405	1.396	1.402	1.379	1.331	1.359	1.309	1.217	1.128	1.043
1986	1.918	1.904	1.873	1.902	1.939	1.884	1.829	1.774	1.701	1.689	1.729	1.616	1.657
1987	3.168	2.962	2.802	2.655	2.487	2.332	2.200	2.071	1.990	1.881	1.760	1.669	1.529
1988	0.169	0.169	0.171	0.169	0.171	0.170	0.174	0.185	0.177	0.167	0.155	0.141	0.126
1989	0.264	0.264	0.264	0.263	0.262	0.326	0.321	0.315	0.310	0.309	0.300	0.278	0.252
1990	2.216	2.180	2.062	1.963	1.873	1.788	1.741	1.677	1.563	1.489	1.476	1.462	1.519
1991	1.044	1.004	0.964	0.924	0.972	0.952	0.903	0.868	0.865	0.903	0.858	0.785	0.715
1992	0.855	0.886	0.870	0.844	0.878	0.847	0.813	0.826	0.852	0.855	0.885	0.930	0.906
1993	0.141	0.145	0.144	0.143	0.142	0.140	0.141	0.148	0.148	0.140	0.147	0.147	0.157
1994	0.065	0.073	0.099	0.110	0.119	0.118	0.126	0.124	0.125	0.117	0.108	0.104	0.097
1995	0.383	0.381	0.382	0.378	0.372	0.368	0.359	0.351	0.340	0.335	0.317	0.319	0.333
1996	0.326	0.373	0.378	0.386	0.381	0.376	0.377	0.384	0.373	0.364	0.345	0.353	0.410
1997	1.568	1.489	1.415	1.382	1.327	1.258	1.185	1.143	1.065	1.062	1.056	0.963	0.889
1998	1.188	1.192	1.190	1.160	1.135	1.093	1.049	0.995	0.935	0.870	0.817	0.823	0.809
1999	0.162	0.188	0.221	0.241	0.250	0.266	0.259	0.250	0.238	0.232	0.218	0.205	0.187
2000	0.369	0.372	0.387	0.410	0.398	0.385	0.393	0.380	0.359	0.338	0.344	0.333	0.311
2001	0.192	0.191	0.189	0.188	0.186	0.184	0.181	0.177	0.170	0.159	0.147	0.139	0.129
2002	0.336	0.335	0.332	0.347	0.346	0.337	0.335	0.330	0.323	0.329	0.319	0.312	0.295
2003	0.050	0.050	0.051	0.059	0.065	0.066	0.070	0.074	0.076	0.079	0.077	0.079	0.072
2004	0.066	0.068	0.069	0.072	0.082	0.089	0.087	0.085	0.082	0.083	0.077	0.073	0.065
2005	0.047	0.050	0.050	0.059	0.059	0.066	0.065	0.064	0.062	0.059	0.087	0.113	0.120
2006	0.125	0.126	0.128	0.128	0.126	0.124	0.121	0.118	0.121	0.125	0.121	0.115	0.103
2007	0.020	0.020	0.022	0.022	0.022	0.023	0.025	0.025	0.024	0.023	0.020	0.018	0.016
2008	0.693	0.670	0.651	0.640	0.630	0.615	0.597	0.577	0.538	0.505	0.464	0.428	0.382
2009	0.020	0.022	0.025	0.025	0.025	0.025	0.026	0.025	0.026	0.025	0.023	0.021	0.019
2010	0.005	0.005	0.005	0.005	0.005	0.006	0.006	0.006	0.005	0.005	0.004	0.003	0.003
2011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2012	0.204	0.208	0.212	0.217	0.218	0.221	0.219	0.214	0.221	0.214	0.212	0.201	0.199
Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Max	8.520	14.940	9.514	7.032	5.657	4.689	4.126	3.573	3.225	2.871	2.583	2.369	2.088
Mean	1.094	1.201	1.100	1.044	1.015	0.984	0.957	0.925	0.897	0.872	0.838	0.800	0.758

Table: A.7 continued: Lac Ste Anne Weekly Outflow (m³/s).

Wk/Yr	14	15	16	17	18	19	20	21	22	23	24	25	26
1955	1.863	1.648	1.454	1.400	1.539	1.429	1.310	1.162	1.058	0.968	0.870	0.817	0.783
1956	0.883	0.813	0.711	0.759	0.777	0.758	0.740	0.696	0.658	0.636	0.695	0.760	0.761
1957	0.889	0.837	0.764	0.705	0.695	0.623	0.556	0.489	0.449	0.385	0.348	0.291	0.255
1958	0.852	0.839	0.847	0.816	0.765	0.714	0.670	0.607	0.597	0.552	0.484	0.419	0.360
1959	0.414	0.366	0.327	0.294	0.275	0.271	0.266	0.226	0.204	0.182	0.175	0.188	0.165
1960	0.259	0.234	0.220	0.201	0.181	0.163	0.157	0.171	0.178	0.164	0.149	0.133	0.147
1961	0.539	0.527	0.515	0.462	0.415	0.367	0.314	0.274	0.241	0.192	0.161	0.154	0.129
1962	0.149	0.139	0.143	0.154	0.178	0.225	0.244	0.267	0.274	0.375	0.439	0.454	0.441
1963	0.841	0.822	0.859	0.957	1.050	1.221	1.313	1.339	1.343	1.314	1.263	1.185	1.073
1964	0.471	0.487	0.444	0.399	0.357	0.394	0.425	0.407	0.437	0.373	0.344	0.303	0.265
1965	0.975	0.905	0.841	0.786	0.952	1.144	1.249	1.460	1.720	2.444	2.768	2.974	2.936
1966	1.646	1.707	1.718	1.614	1.625	1.547	1.488	1.443	1.352	1.340	1.258	1.175	1.090
1967	1.507	1.487	1.528	1.518	1.463	1.330	1.202	1.086	1.034	0.932	0.951	0.880	0.761
1968	0.233	0.209	0.192	0.172	0.146	0.145	0.127	0.107	0.089	0.075	0.066	0.064	0.055
1969	0.104	0.091	0.091	0.090	0.114	0.117	0.110	0.102	0.098	0.090	0.077	0.060	0.047
1970	1.109	1.028	0.997	0.930	0.858	0.778	0.726	0.653	0.594	0.509	0.464	0.472	0.402
1971	0.453	0.398	0.366	0.377	0.423	0.420	0.417	0.399	0.413	0.385	0.472	0.627	0.665
1972	1.856	1.720	1.659	1.605	1.497	1.431	1.308	1.393	1.397	1.320	1.267	1.412	1.643
1973	1.106	1.032	1.027	0.956	0.953	0.919	0.857	0.890	0.871	0.826	0.743	0.919	1.060
1974	1.577	1.453	1.459	2.064	2.611	3.222	4.107	4.755	5.199	5.584	5.718	5.256	4.996
1975	1.172	1.126	1.029	0.998	0.960	0.974	0.911	0.851	0.848	0.802	0.731	0.695	0.606
1976	1.003	0.968	0.981	0.942	0.851	0.755	0.681	0.603	0.562	0.490	0.434	0.390	0.436
1977	0.506	0.508	0.461	0.416	0.388	0.459	0.512	0.596	0.649	1.090	1.127	1.214	1.187
1978	1.429	1.336	1.267	1.167	1.102	1.014	0.934	0.898	0.918	0.884	0.800	0.869	0.838
1979	1.482	1.385	1.356	1.337	1.332	1.317	1.302	1.290	1.233	1.166	1.149	1.325	1.369
1980	1.233	1.123	1.080	1.040	0.975	0.893	0.808	0.731	0.915	0.950	1.343	1.432	1.804
1981	1.416	1.302	1.215	1.094	1.034	0.957	0.863	0.771	0.698	0.791	0.778	0.905	0.921
1982	1.064	0.950	0.879	0.807	0.949	0.927	0.880	0.896	0.873	0.785	0.759	0.678	0.600
1983	1.316	1.357	1.268	1.156	1.043	0.970	0.890	0.813	0.709	0.634	0.575	0.493	0.726
1984	1.082	0.992	0.895	0.808	0.732	0.739	0.727	0.751	0.754	0.716	0.906	0.847	0.761
1985	0.952	0.939	0.971	1.178	1.166	1.157	1.154	1.059	0.984	0.972	0.865	0.822	1.057
1986	1.630	1.533	1.541	1.614	1.642	1.532	1.539	1.401	1.329	1.189	1.111	1.051	1.073
1987	1.356	1.270	1.091	0.927	0.776	0.666	0.577	0.542	0.438	0.387	0.330	0.267	0.258
1988	0.113	0.098	0.082	0.070	0.055	0.044	0.034	0.028	0.020	0.018	0.022	0.021	0.020
1989	0.231	0.326	0.483	0.522	0.489	0.444	0.400	0.582	0.749	0.731	0.743	0.732	0.695
1990	1.722	1.897	1.783	1.648	1.820	1.634	1.490	1.367	1.379	1.233	1.192	1.429	1.235
1991	0.688	0.974	1.043	0.982	1.128	1.081	1.673	2.809	2.881	2.674	2.658	2.467	2.497
1992	0.858	0.843	0.774	0.785	0.721	0.639	0.558	0.473	0.415	0.389	0.331	0.269	0.229
1993	0.171	0.177	0.167	0.148	0.127	0.111	0.102	0.082	0.077	0.060	0.049	0.039	0.055
1994	0.146	0.170	0.163	0.146	0.126	0.113	0.095	0.111	0.100	0.106	0.113	0.134	0.122
1995	0.315	0.302	0.278	0.246	0.215	0.184	0.157	0.138	0.114	0.102	0.092	0.087	0.085
1996	0.399	0.516	1.114	1.344	1.581	1.609	1.522	1.457	1.307	1.369	1.520	1.429	4.143
1997	0.995	1.097	1.167	2.411	2.730	2.603	2.340	2.289	2.346	2.380	2.281	2.407	6.076
1998	0.735	0.671	0.586	0.498	0.436	0.361	0.308	0.287	0.265	0.235	0.194	0.163	0.141
1999	0.176	0.202	0.405	0.520	0.647	1.054	1.152	1.193	1.175	1.071	1.017	0.934	0.862
2000	0.299	0.273	0.253	0.222	0.202	0.182	0.177	0.148	0.125	0.111	0.134	0.166	0.150
2001	0.114	0.099	0.085	0.071	0.058	0.047	0.037	0.031	0.027	0.033	0.026	0.026	0.021
2002	0.286	0.269	0.309	0.356	0.368	0.340	0.295	0.262	0.225	0.185	0.148	0.119	0.093
2003	0.076	0.087	0.150	0.159	0.173	0.196	0.185	0.159	0.139	0.139	0.118	0.099	0.114
2004	0.066	0.064	0.063	0.054	0.046	0.037	0.028	0.021	0.016	0.016	0.012	0.011	0.008
2005	0.128	0.198	0.217	0.210	0.190	0.167	0.170	0.178	0.173	0.151	0.126	0.124	0.130
2006	0.089	0.093	0.090	0.080	0.069	0.059	0.054	0.043	0.051	0.040	0.044	0.041	0.029
2007	0.018	0.017	0.030	0.053	0.055	0.336	0.432	0.590	0.680	0.673	0.747	0.876	1.147
2008	0.338	0.301	0.263	0.246	0.216	0.216	0.188	0.155	0.171	0.136	0.120	0.098	0.077
2009	0.016	0.014	0.014	0.010	0.008	0.007	0.007	0.008	0.010	0.007	0.006	0.004	0.003
2010	0.002	0.002	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2011	0.000	0.000	0.000	0.000	0.002	0.004	0.003	0.002	0.002	0.002	0.001	0.002	0.017
2012	0.193	0.217	0.253	0.247	0.250	0.235	0.206	0.175	0.198	0.169	0.186	0.173	0.149
Min	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Max	1.863	1.897	1.783	2.411	2.730	3.222	4.107	4.755	5.199	5.584	5.718	5.256	6.076
Mean	0.716	0.697	0.689	0.703	0.716	0.712	0.707	0.719	0.720	0.716	0.716	0.714	0.824

Table: A.7 continued: Lac Ste Anne Weekly Outflow (m³/s).

Wk/Yr	27	28	29	30	31	32	33	34	35	36	37	38	39
1955	0.704	0.783	0.691	0.603	0.755	0.704	0.650	0.664	0.623	0.607	0.590	0.703	0.868
1956	0.881	0.831	0.758	0.671	0.685	0.906	0.893	0.916	0.901	0.993	1.066	1.054	1.057
1957	0.219	0.201	0.167	0.148	0.132	0.125	0.182	0.170	0.172	0.159	0.183	0.184	0.178
1958	0.370	0.336	0.303	0.286	0.252	0.250	0.227	0.202	0.200	0.213	0.200	0.326	0.326
1959	0.156	0.146	0.118	0.104	0.092	0.083	0.100	0.109	0.120	0.112	0.116	0.109	0.107
1960	0.165	0.160	0.144	0.147	0.140	0.160	0.154	0.181	0.183	0.174	0.196	0.190	0.219
1961	0.177	0.148	0.125	0.100	0.112	0.090	0.076	0.069	0.060	0.055	0.054	0.050	0.054
1962	0.432	0.392	0.377	0.428	0.440	0.437	0.416	0.394	0.406	0.409	0.407	0.453	0.447
1963	0.940	0.915	0.853	0.756	0.738	0.644	0.584	0.552	0.519	0.501	0.464	0.495	0.470
1964	0.263	0.215	0.225	0.237	0.220	0.216	0.247	0.243	0.240	0.307	0.353	0.348	0.374
1965	5.559	6.691	8.697	9.624	9.769	9.128	8.696	8.484	8.178	8.469	7.921	7.289	6.906
1966	0.977	1.005	0.957	0.906	0.986	1.067	1.147	1.278	1.259	1.652	1.760	1.771	1.801
1967	0.667	0.575	0.482	0.445	0.396	0.357	0.315	0.269	0.237	0.220	0.207	0.191	0.180
1968	0.053	0.041	0.031	0.036	0.035	0.037	0.036	0.032	0.038	0.044	0.045	0.047	0.046
1969	0.042	0.052	0.039	0.039	0.036	0.089	0.083	0.084	0.077	0.094	0.182	0.192	0.203
1970	0.430	0.387	0.366	0.349	0.371	0.317	0.315	0.279	0.253	0.259	0.244	0.241	0.238
1971	0.723	1.250	2.089	2.541	3.207	3.636	3.809	3.944	3.988	4.126	4.130	4.045	4.037
1972	2.177	2.329	2.396	2.385	2.554	2.684	2.707	2.570	2.465	2.518	2.503	2.397	2.493
1973	1.022	0.925	0.813	0.737	0.761	0.843	0.892	0.960	1.004	1.069	1.033	1.109	1.113
1974	5.466	4.948	7.190	6.691	6.043	5.518	5.136	4.723	4.328	3.934	3.930	3.645	3.344
1975	0.986	0.942	0.897	0.975	0.926	0.970	0.974	0.985	1.121	1.321	1.265	1.221	1.179
1976	0.440	0.404	0.356	0.322	0.298	0.331	0.307	0.334	0.370	0.420	0.428	0.426	0.410
1977	1.231	1.426	1.612	1.663	1.894	1.910	2.079	2.066	2.106	2.252	2.290	2.419	2.417
1978	0.782	0.697	0.994	0.934	1.028	0.975	0.946	1.026	1.043	1.004	1.340	1.714	1.880
1979	1.418	1.482	1.846	1.874	2.003	1.974	1.968	1.853	1.768	1.710	1.774	1.727	1.694
1980	2.398	2.654	2.902	2.998	3.239	3.876	4.127	4.081	4.415	4.385	4.292	4.401	4.763
1981	0.856	0.860	0.881	0.998	1.091	1.079	0.982	0.898	0.829	0.883	0.863	0.819	0.955
1982	0.543	1.226	1.525	1.798	1.840	1.882	2.104	2.157	2.262	2.470	2.624	2.584	2.510
1983	0.778	0.904	1.066	1.087	1.111	1.052	0.980	0.940	0.885	0.905	0.995	1.010	0.999
1984	0.723	0.703	0.608	0.560	0.478	0.417	0.386	0.367	0.353	0.335	0.513	0.524	0.603
1985	0.964	0.822	0.751	0.699	0.649	0.568	0.654	0.741	0.704	0.740	0.743	0.846	0.950
1986	0.962	0.962	1.270	2.403	2.823	3.351	3.502	3.605	3.672	3.689	3.639	4.302	4.137
1987	0.238	0.230	0.196	0.189	0.199	0.260	0.255	0.250	0.235	0.230	0.209	0.192	0.178
1988	0.020	0.147	0.224	0.200	0.173	0.166	0.187	0.202	0.221	0.204	0.200	0.211	0.217
1989	0.959	1.542	4.070	4.766	4.565	5.503	5.315	6.447	6.258	5.748	5.527	5.052	4.447
1990	1.112	2.216	2.020	1.887	1.700	1.482	1.364	1.315	1.225	1.459	1.336	1.392	1.280
1991	2.190	1.938	1.623	1.396	1.239	1.070	1.100	0.969	0.943	0.881	0.871	0.824	0.778
1992	0.186	0.175	0.164	0.140	0.120	0.098	0.084	0.084	0.085	0.094	0.118	0.118	0.112
1993	0.063	0.054	0.047	0.056	0.054	0.044	0.047	0.039	0.043	0.047	0.042	0.044	0.043
1994	0.122	0.240	0.345	0.343	0.306	0.287	0.324	0.353	0.330	0.307	0.310	0.304	0.290
1995	0.083	0.080	0.072	0.069	0.070	0.083	0.162	0.188	0.184	0.211	0.197	0.184	0.174
1996	4.276	3.955	3.697	3.894	3.276	3.260	3.068	2.707	2.387	2.147	2.179	2.060	2.032
1997	8.462	7.444	6.364	5.281	4.349	3.615	3.014	2.985	2.554	2.396	2.401	2.200	2.038
1998	0.205	0.215	0.203	0.183	0.152	0.156	0.138	0.136	0.120	0.106	0.098	0.089	0.108
1999	0.794	0.791	0.759	0.795	0.725	0.643	0.588	0.529	0.484	0.527	0.495	0.457	0.439
2000	0.136	0.142	0.182	0.180	0.160	0.148	0.144	0.134	0.129	0.153	0.193	0.183	0.178
2001	0.017	0.012	0.010	0.013	0.137	0.328	0.338	0.361	0.333	0.321	0.308	0.297	0.298
2002	0.077	0.062	0.048	0.053	0.050	0.054	0.050	0.050	0.045	0.046	0.042	0.039	0.037
2003	0.095	0.099	0.081	0.064	0.056	0.043	0.043	0.038	0.036	0.043	0.041	0.042	0.040
2004	0.005	0.007	0.018	0.019	0.016	0.017	0.014	0.011	0.012	0.014	0.017	0.017	0.022
2005	0.145	0.129	0.119	0.120	0.111	0.096	0.085	0.094	0.097	0.093	0.098	0.103	0.098
2006	0.019	0.013	0.011	0.008	0.007	0.006	0.005	0.004	0.003	0.003	0.002	0.008	0.007
2007	1.511	1.628	1.662	1.637	1.654	1.626	1.610	1.489	1.430	1.393	1.356	1.280	1.224
2008	0.057	0.058	0.056	0.047	0.041	0.039	0.033	0.029	0.026	0.023	0.020	0.018	0.018
2009	0.002	0.010	0.014	0.011	0.009	0.009	0.008	0.006	0.005	0.004	0.004	0.003	0.003
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2011	0.024	0.037	0.129	0.169	0.179	0.173	0.191	0.188	0.176	0.172	0.162	0.162	0.158
2012	0.124	0.143	0.140	0.173	0.288	0.299	0.275	0.269	0.247	0.260	0.258	0.245	0.233
Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Max	8.462	7.444	8.697	9.624	9.769	9.128	8.696	8.484	8.178	8.469	7.921	7.289	6.906
Mean	0.938	0.979	1.100	1.125	1.116	1.124	1.105	1.104	1.076	1.085	1.083	1.075	1.059

Table: A.7 continued: Lac Ste Anne Weekly Outflow (m³/s).

Wk/Yr	40	41	42	43	44	45	46	47	48	49	50	51	52	Mean	Dam ³
1955	0.846	0.838	0.823	0.812	0.813	1.045	1.031	1.014	1.020	0.997	0.978	0.991	0.983	2.089	65697
1956	1.038	1.035	1.018	1.006	1.024	1.011	1.011	1.006	1.015	1.008	1.039	1.145	1.155	0.929	29225
1957	0.174	0.241	0.250	0.259	0.269	0.279	0.291	0.320	0.428	0.452	0.505	0.535	0.567	0.560	17611
1958	0.361	0.370	0.390	0.403	0.400	0.400	0.400	0.405	0.417	0.442	0.447	0.483	0.516	0.534	16783
1959	0.112	0.119	0.150	0.151	0.159	0.181	0.186	0.189	0.203	0.205	0.210	0.213	0.217	0.283	8895
1960	0.220	0.219	0.244	0.246	0.259	0.267	0.282	0.301	0.338	0.344	0.370	0.377	0.411	0.231	7252
1961	0.058	0.060	0.059	0.076	0.075	0.075	0.075	0.077	0.078	0.091	0.092	0.099	0.103	0.264	8315
1962	0.446	0.455	0.490	0.514	0.525	0.544	0.558	0.602	0.625	0.637	0.671	0.682	0.695	0.352	11070
1963	0.463	0.450	0.440	0.440	0.436	0.437	0.448	0.474	0.485	0.487	0.487	0.511	0.525	0.783	24638
1964	0.407	0.418	0.429	0.454	0.481	0.503	0.528	0.625	0.666	0.784	0.799	0.836	0.856	0.454	14267
1965	6.454	5.879	5.376	4.916	4.529	4.292	4.032	3.829	3.760	3.533	3.335	3.158	2.986	3.780	118875
1966	1.809	1.868	1.879	1.874	1.854	1.823	1.800	1.837	1.788	1.734	1.721	1.687	1.651	1.751	55069
1967	0.172	0.190	0.192	0.191	0.196	0.202	0.212	0.212	0.225	0.225	0.226	0.239	0.248	0.856	26912
1968	0.045	0.049	0.056	0.056	0.058	0.058	0.060	0.062	0.064	0.065	0.070	0.084	0.090	0.134	4213
1969	0.226	0.271	0.308	0.340	0.377	0.408	0.448	0.561	0.611	0.655	0.700	0.746	0.839	0.201	6314
1970	0.234	0.245	0.251	0.249	0.303	0.302	0.315	0.327	0.355	0.392	0.421	0.431	0.437	0.625	19643
1971	4.194	4.000	3.816	3.681	3.528	3.480	3.417	3.313	3.335	3.221	3.369	3.252	3.305	1.920	60398
1972	2.400	2.296	2.226	2.175	2.161	2.170	2.177	2.105	2.036	2.115	2.074	2.047	2.098	2.173	68346
1973	1.123	1.285	1.268	1.282	1.378	1.474	1.512	1.559	1.601	1.625	1.628	1.720	1.689	1.262	39701
1974	3.261	3.081	2.911	2.730	2.573	2.451	2.324	2.225	2.130	2.038	1.965	1.898	2.019	3.220	101255
1975	1.203	1.195	1.172	1.164	1.185	1.165	1.139	1.116	1.148	1.195	1.290	1.286	1.267	1.196	37625
1976	0.401	0.415	0.419	0.415	0.413	0.413	0.412	0.413	0.421	0.433	0.524	0.569	0.574	0.704	22153
1977	2.699	2.748	2.780	2.799	2.808	2.834	2.806	2.735	2.695	2.746	2.780	2.706	2.600	1.511	47516
1978	1.985	2.010	2.008	2.063	2.079	2.141	2.245	2.275	2.264	2.374	2.370	2.364	2.331	1.610	50620
1979	1.701	1.707	1.704	1.705	1.686	1.664	1.646	1.614	1.666	1.668	1.896	1.922	1.872	1.696	53349
1980	4.575	4.357	4.308	4.105	4.058	3.878	3.763	3.625	3.477	3.356	3.503	3.605	3.716	2.596	81649
1981	0.937	0.995	1.037	1.018	1.016	0.999	0.986	0.980	0.965	0.959	0.981	0.991	0.988	1.339	42110
1982	2.469	2.479	2.427	2.549	2.503	2.464	2.422	2.433	2.336	2.230	2.120	2.022	1.990	1.594	50135
1983	0.996	1.010	1.034	1.034	1.135	1.151	1.186	1.225	1.266	1.315	1.389	1.444	1.441	1.197	37631
1984	0.604	0.602	0.613	0.864	0.904	0.986	1.012	1.088	1.131	1.176	1.186	1.255	1.306	0.927	29153
1985	1.004	1.027	1.150	1.217	1.284	1.329	1.429	1.489	1.559	1.603	1.631	1.809	1.848	1.125	35390
1986	4.861	5.070	4.881	4.655	4.518	4.371	4.300	4.343	4.152	4.012	3.771	3.542	3.329	2.610	82084
1987	0.170	0.171	0.165	0.162	0.161	0.160	0.159	0.158	0.158	0.158	0.158	0.158	0.160	0.834	26217
1988	0.225	0.220	0.217	0.222	0.221	0.222	0.225	0.240	0.240	0.241	0.242	0.242	0.243	0.157	4924
1989	3.955	3.559	3.283	3.040	3.381	3.395	3.342	3.132	2.974	2.769	2.620	2.494	2.344	2.141	67339
1990	1.192	1.206	1.154	1.111	1.087	1.042	1.063	1.022	1.141	1.105	1.064	1.025	1.047	1.479	46501
1991	0.732	0.709	0.679	0.945	0.930	0.963	0.933	0.905	0.881	0.911	0.940	0.911	0.883	1.201	37772
1992	0.115	0.111	0.107	0.105	0.103	0.105	0.109	0.110	0.121	0.121	0.121	0.128	0.135	0.415	13064
1993	0.046	0.045	0.043	0.042	0.044	0.049	0.056	0.056	0.058	0.058	0.058	0.064	0.064	0.088	2754
1994	0.320	0.322	0.315	0.315	0.311	0.336	0.335	0.339	0.359	0.371	0.377	0.375	0.373	0.218	6855
1995	0.176	0.175	0.177	0.179	0.184	0.193	0.227	0.228	0.248	0.286	0.292	0.322	0.322	0.225	7077
1996	2.040	1.906	1.779	1.683	1.638	1.683	1.794	1.890	1.842	1.748	1.667	1.580	1.592	1.652	51962
1997	1.909	1.777	1.676	1.648	1.702	1.617	1.534	1.473	1.429	1.364	1.317	1.263	1.213	2.307	72546
1998	0.107	0.111	0.119	0.119	0.119	0.119	0.121	0.137	0.137	0.138	0.137	0.141	0.148	0.417	13123
1999	0.425	0.420	0.406	0.394	0.384	0.380	0.376	0.377	0.372	0.370	0.364	0.372	0.369	0.507	15940
2000	0.172	0.170	0.166	0.165	0.163	0.165	0.171	0.170	0.170	0.175	0.185	0.189	0.193	0.222	6980
2001	0.292	0.288	0.289	0.294	0.308	0.307	0.307	0.306	0.320	0.337	0.337	0.339	0.338	0.187	5893
2002	0.038	0.041	0.042	0.044	0.045	0.044	0.048	0.048	0.048	0.048	0.048	0.048	0.048	0.169	5306
2003	0.038	0.038	0.037	0.038	0.048	0.050	0.051	0.056	0.057	0.058	0.060	0.060	0.061	0.078	2438
2004	0.022	0.022	0.023	0.031	0.031	0.031	0.033	0.033	0.034	0.035	0.038	0.039	0.041	0.039	1235
2005	0.101	0.106	0.105	0.111	0.110	0.110	0.113	0.115	0.116	0.119	0.123	0.124	0.125	0.114	3584
2006	0.007	0.007	0.008	0.010	0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.020	0.020	0.051	1597
2007	1.149	1.081	0.998	0.934	0.890	0.871	0.833	0.800	0.775	0.767	0.753	0.736	0.713	0.706	22216
2008	0.017	0.017	0.016	0.016	0.015	0.015	0.015	0.016	0.016	0.017	0.018	0.019	0.020	0.204	6409
2009	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.005	0.011	331
2010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	43
2011	0.155	0.156	0.156	0.156	0.158	0.161	0.166	0.178	0.180	0.188	0.191	0.193	0.200	0.081	2537
2012	0.225	0.239	0.257	0.256	0.257	0.644	0.595	0.629	0.558	0.558	0.451	0.629	0.558	0.273	8600
Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	43
Max	6.454	5.879	5.376	4.916	4.529	4.371	4.300	4.343	4.152	4.012	3.771	3.605	3.716	3.780	118875
Mean	1.054	1.033	1.006	0.991	0.988	0.991	0.984	0.980	0.974	0.967	0.968	0.968	0.963	0.936	29433

Table: A.8: Isle Lake Weekly Inflow (m³/s).

Wk/Yr	1	2	3	4	5	6	7	8	9	10	11	12	13
1955	0.650	0.611	0.502	0.403	0.311	0.303	0.353	0.344	0.197	0.161	0.143	0.118	0.257
1956	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1957	0.466	0.379	0.465	0.242	0.361	0.125	0.206	0.080	0.058	0.039	0.108	0.120	0.504
1958	0.625	0.492	0.511	0.577	0.645	0.560	0.569	0.547	0.416	0.323	0.243	0.319	0.334
1959	0.120	0.109	0.045	0.004	0.004	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.060
1960	0.217	0.163	0.067	0.035	0.018	0.014	0.009	0.013	0.016	0.008	0.004	0.884	0.422
1961	0.391	0.340	0.313	0.294	0.242	0.297	0.219	0.370	0.298	0.205	0.224	0.343	0.527
1962	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1963	0.134	0.068	0.165	0.149	0.165	0.243	0.216	0.312	0.136	0.001	0.067	0.302	0.383
1964	0.444	0.207	0.084	0.029	0.080	0.056	0.159	0.215	0.580	0.268	0.416	0.314	0.107
1965	0.149	0.125	0.185	0.170	0.278	0.332	0.383	0.312	0.298	0.347	0.264	0.211	0.194
1966	0.396	0.392	0.375	0.375	0.375	0.375	0.361	0.355	0.336	0.447	0.514	0.294	0.968
1967	0.294	0.374	0.240	0.254	0.220	0.405	0.290	0.234	0.221	0.122	0.173	0.415	0.890
1968	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.028	0.036	0.043	0.051
1969	0.035	0.027	0.022	0.020	0.018	0.014	0.008	0.000	0.000	0.001	0.003	0.006	0.010
1970	0.576	0.441	0.423	0.460	0.485	0.483	0.470	0.451	0.382	0.342	0.349	0.381	0.411
1971	0.037	0.030	0.021	0.013	0.009	0.013	0.017	0.020	0.019	0.015	0.013	0.014	0.020
1972	0.447	0.434	0.410	0.385	0.362	0.350	0.339	0.329	0.335	0.344	0.352	0.367	0.402
1973	0.211	0.210	0.242	0.271	0.280	0.270	0.254	0.239	0.227	0.218	0.223	0.242	0.306
1974	0.193	0.199	0.150	0.146	0.163	0.169	0.206	0.233	0.218	0.207	0.221	0.304	0.345
1975	0.322	0.309	0.300	0.289	0.267	0.241	0.215	0.189	0.178	0.172	0.264	0.161	0.113
1976	0.286	0.264	0.295	0.309	0.274	0.231	0.220	0.205	0.157	0.272	0.514	0.493	0.401
1977	0.309	0.296	0.290	0.228	0.378	0.400	0.309	0.257	0.205	0.174	0.160	0.183	0.201
1978	0.253	0.392	0.301	0.294	0.273	0.262	0.236	0.329	0.240	0.362	0.276	0.586	0.793
1979	0.450	0.475	0.382	0.332	0.330	0.255	0.244	0.262	0.293	0.546	1.247	0.566	0.396
1980	0.310	0.283	0.298	0.325	0.274	0.299	0.247	0.250	0.201	0.185	0.196	0.262	0.268
1981	0.432	0.247	0.209	0.210	0.146	0.126	0.183	0.306	0.255	0.259	0.362	0.364	0.458
1982	0.113	0.073	0.106	0.109	0.112	0.115	0.129	0.150	0.064	0.000	0.000	0.000	0.025
1983	0.448	0.453	0.392	0.329	0.334	0.262	0.286	0.266	0.237	0.220	0.152	0.154	0.206
1984	0.434	0.396	0.343	0.342	0.411	0.440	0.295	0.324	0.276	0.217	0.157	0.533	0.722
1985	0.424	0.432	0.372	0.411	0.250	0.198	0.280	0.294	0.251	0.148	0.224	0.359	0.245
1986	0.475	0.505	0.382	0.446	0.320	0.286	0.197	0.259	1.180	0.410	0.383	1.339	1.386
1987	0.389	0.370	0.351	0.333	0.316	0.300	0.285	0.271	0.112	0.000	0.000	0.006	0.005
1988	0.047	0.044	0.041	0.039	0.037	0.034	0.032	0.030	0.017	0.003	0.017	0.087	0.245
1989	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.004	0.413
1990	0.198	0.186	0.175	0.165	0.155	0.145	0.137	0.128	0.707	0.663	1.455	1.690	3.734
1991	0.006	0.005	0.005	0.005	0.004	0.004	0.004	0.003	0.097	0.084	0.056	0.114	1.061
1992	0.028	0.026	0.025	0.023	0.022	0.021	0.019	0.018	1.062	1.504	1.898	0.736	0.555
1993	0.006	0.005	0.005	0.005	0.004	0.004	0.007	0.010	0.010	0.363	0.077	1.505	0.910
1994	0.018	0.017	0.016	0.015	0.014	0.013	0.012	0.012	0.016	0.019	0.197	0.469	4.861
1995	0.008	0.007	0.007	0.006	0.006	0.006	0.008	0.016	0.010	0.037	0.819	1.356	0.254
1996	0.024	0.023	0.021	0.020	0.019	0.018	0.017	0.016	0.013	0.015	1.016	2.466	0.120
1997	0.028	0.027	0.025	0.024	0.022	0.021	0.020	0.018	0.015	0.019	0.019	0.432	3.293
1998	0.076	0.071	0.067	0.063	0.059	0.055	0.052	0.042	0.000	0.000	1.355	1.221	0.386
1999	0.014	0.013	0.013	0.012	0.011	0.010	0.010	0.009	0.006	0.008	0.022	0.163	0.643
2000	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.007	0.007	0.004	0.213	0.663
2001	0.006	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.002	0.007	0.018	0.011	0.031
2002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.002	0.002	0.002	0.002	0.003
2003	0.006	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.001	0.000	0.000	0.025	0.698
2004	0.059	0.056	0.052	0.049	0.046	0.043	0.041	0.038	0.022	0.010	0.010	0.014	0.748
2005	0.075	0.070	0.066	0.062	0.058	0.055	0.052	0.049	0.037	3.502	2.304	0.145	1.606
2006	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
2007	0.007	0.006	0.006	0.006	0.005	0.005	0.005	0.004	0.008	0.016	0.025	0.050	1.410
2008	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.000	0.000	0.017	0.028
2009	0.006	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.002	0.000	0.000	0.000	0.003
2010	0.007	0.006	0.006	0.006	0.005	0.005	0.005	0.004	0.005	0.006	0.039	0.088	0.051
2011	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.003
2012	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.003	0.032	0.089	0.155	0.602
Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Max	0.650	0.611	0.511	0.577	0.645	0.560	0.569	0.547	1.180	3.502	2.304	2.466	4.861
Mean	0.184	0.167	0.152	0.143	0.141	0.136	0.132	0.135	0.163	0.213	0.288	0.356	0.582

Table: A.8 continued: Isle Lake Weekly Inflow (m³/s).

Wk/Yr	14	15	16	17	18	19	20	21	22	23	24	25	26
1955	0.184	0.354	0.453	0.725	1.728	1.371	1.225	1.147	1.592	1.416	1.071	0.970	0.821
1956	0.000	0.069	2.280	2.598	2.130	1.881	1.505	1.387	1.180	1.197	1.238	1.825	1.141
1957	0.536	0.545	0.850	0.740	0.667	0.684	0.621	0.564	0.391	0.260	0.223	0.204	0.224
1958	0.773	1.846	1.402	1.224	1.161	1.152	0.979	0.760	0.505	0.431	0.326	0.287	0.622
1959	0.063	0.241	0.261	0.344	0.323	0.479	0.242	0.262	0.225	0.135	0.109	0.119	0.192
1960	0.268	0.463	0.459	0.466	0.461	0.396	0.935	1.165	0.947	0.644	0.404	0.382	1.097
1961	0.325	0.278	0.302	0.239	0.237	0.271	0.297	0.235	0.153	0.095	0.069	0.048	0.054
1962	0.302	0.722	2.187	1.601	2.298	2.536	2.321	2.263	1.892	1.492	1.264	1.192	0.682
1963	0.668	1.830	3.133	2.918	2.858	2.603	2.401	1.910	1.626	1.319	1.039	0.740	0.554
1964	0.454	0.363	0.276	0.239	0.346	1.350	0.658	0.514	0.351	0.276	0.264	0.281	0.328
1965	0.150	0.356	0.313	4.576	4.330	3.362	3.133	3.098	4.794	4.075	2.685	2.196	8.048
1966	2.612	1.888	1.401	1.403	1.950	1.864	1.873	1.550	0.672	0.599	0.477	0.353	0.360
1967	1.436	2.139	2.004	1.726	0.911	0.894	0.871	0.814	0.831	0.665	0.779	0.589	0.427
1968	0.056	0.063	0.120	0.301	0.307	0.717	0.517	0.314	0.302	0.229	0.231	0.208	0.154
1969	0.059	1.191	1.452	1.562	1.503	1.260	1.114	0.920	0.791	0.465	0.305	0.226	0.186
1970	0.666	1.024	0.992	0.942	0.830	0.719	0.859	0.677	0.462	0.266	0.233	0.222	0.168
1971	0.036	0.173	2.223	3.424	2.043	1.602	1.409	1.110	0.877	0.885	1.544	1.948	1.569
1972	0.486	1.614	1.465	1.317	1.310	1.332	1.378	2.401	1.814	1.431	1.849	2.112	4.179
1973	0.594	0.523	0.956	0.990	1.324	1.403	1.137	1.150	1.193	0.906	0.860	0.766	1.125
1974	0.384	0.744	7.259	6.118	4.648	5.050	5.601	4.333	3.620	3.193	2.516	1.934	1.888
1975	0.145	0.442	1.120	0.737	0.957	1.267	0.949	0.892	0.708	0.658	0.512	0.414	2.030
1976	1.346	1.159	0.792	0.711	0.568	0.517	0.433	0.322	0.272	0.242	0.240	0.239	0.358
1977	1.618	0.484	0.463	0.405	0.689	1.845	2.175	1.807	5.492	2.909	2.125	1.679	1.302
1978	0.690	0.720	0.713	0.721	0.800	0.784	0.846	0.864	1.007	0.740	1.074	1.066	0.906
1979	0.404	0.376	0.656	2.274	1.457	1.592	1.675	1.596	1.382	1.245	1.623	1.719	1.479
1980	0.347	1.545	1.660	1.144	1.070	0.885	0.798	0.844	1.720	4.488	3.153	2.771	4.230
1981	0.699	0.631	0.636	0.733	0.644	0.846	0.731	0.741	2.179	2.134	1.591	1.578	1.226
1982	0.171	0.317	0.964	4.521	2.054	1.380	1.485	1.448	1.102	1.000	0.806	0.572	0.372
1983	1.523	0.824	0.657	0.615	0.547	0.507	0.507	0.407	0.290	0.235	0.181	0.373	0.928
1984	0.513	0.335	0.348	0.380	0.493	0.722	0.939	1.078	1.038	1.030	1.262	0.855	0.634
1985	1.469	2.285	1.930	2.170	1.896	1.581	1.283	1.038	0.939	0.749	0.641	0.635	1.470
1986	0.886	0.835	1.468	1.651	1.377	1.142	1.230	1.374	1.154	0.799	0.608	0.627	0.462
1987	0.263	0.010	0.024	0.004	0.004	0.010	0.010	0.008	0.025	0.007	0.063	0.452	0.632
1988	0.184	0.105	0.062	0.045	0.054	0.106	0.026	0.020	0.088	0.266	0.500	0.050	0.428
1989	4.751	6.028	2.362	0.644	0.300	0.332	1.740	4.332	0.760	0.879	1.580	0.438	4.564
1990	2.502	0.798	0.948	1.507	0.750	0.591	0.424	1.129	0.752	1.355	3.527	0.464	0.210
1991	4.430	2.787	1.110	2.699	1.087	1.877	10.689	0.823	0.484	0.382	0.205	0.206	0.410
1992	0.213	0.231	0.556	0.375	0.284	0.130	0.063	0.149	0.233	0.228	0.071	0.011	0.010
1993	1.029	0.264	0.114	0.038	0.074	0.043	0.002	0.025	0.033	0.013	0.002	0.206	0.356
1994	2.794	0.904	0.366	0.218	0.138	0.186	0.645	0.771	0.740	0.237	1.156	0.467	0.191
1995	0.133	0.133	0.117	0.054	0.219	0.194	0.105	0.038	0.028	0.651	0.192	0.518	0.449
1996	3.997	9.815	2.785	1.515	0.541	0.345	0.372	0.144	0.695	1.045	0.376	14.438	1.562
1997	2.819	2.802	11.568	3.220	0.986	0.434	0.382	1.435	1.769	1.049	0.945	15.928	8.068
1998	0.169	0.164	0.086	0.057	0.023	0.049	0.142	0.048	0.004	0.025	0.073	0.007	1.523
1999	2.279	9.107	4.296	2.459	6.660	1.516	0.925	0.834	0.218	0.518	0.301	0.143	0.114
2000	0.110	0.049	0.044	0.030	0.021	0.153	0.045	0.008	0.132	0.184	2.189	0.496	0.054
2001	0.094	0.096	0.091	0.055	0.074	0.125	0.047	0.032	0.045	0.010	0.002	0.009	0.019
2002	0.002	1.419	3.054	1.937	0.845	0.298	0.335	0.446	0.312	0.015	0.063	0.010	0.010
2003	2.057	5.408	1.686	0.642	0.428	1.072	0.231	0.051	0.040	0.030	0.017	0.199	0.185
2004	0.748	0.153	0.155	0.168	0.017	0.007	0.007	0.009	0.084	0.070	0.189	0.161	0.108
2005	5.399	1.911	0.901	0.285	0.083	1.062	0.664	0.449	0.146	0.031	0.137	0.374	1.294
2006	0.498	0.685	0.097	0.050	0.049	0.059	0.035	0.107	0.017	0.003	0.023	0.021	0.026
2007	0.465	3.907	3.576	1.272	13.506	3.639	0.502	0.214	0.038	0.013	0.124	0.120	0.251
2008	0.043	0.107	0.180	0.155	0.457	0.119	0.056	0.097	0.029	0.010	0.005	0.010	0.010
2009	0.058	0.334	0.032	0.009	0.840	1.361	1.741	3.481	0.180	0.200	0.140	0.100	0.000
2010	0.027	0.049	0.016	0.023	0.059	0.016	0.064	0.100	0.136	0.176	0.191	0.109	0.030
2011	0.083	1.105	2.276	10.007	3.035	0.857	0.302	0.432	0.309	0.269	0.539	6.680	1.800
2012	1.470	1.328	1.102	0.766	0.817	0.451	0.144	0.578	0.343	0.585	1.036	0.182	0.107
Min	0.000	0.010	0.016	0.004	0.004	0.007	0.002	0.008	0.004	0.003	0.002	0.007	0.000
Max	5.399	9.815	11.568	10.007	13.506	5.050	10.689	4.333	5.492	4.488	3.527	15.928	8.068
Mean	0.974	1.312	1.359	1.341	1.298	1.018	1.066	0.944	0.847	0.767	0.775	1.223	1.063

Table: A.8 continued: Isle Lake Weekly Inflow (m³/s).

Wk/Yr	27	28	29	30	31	32	33	34	35	36	37	38	39
1955	0.738	0.695	0.600	0.804	0.982	0.669	0.535	0.490	0.425	0.364	0.328	0.359	0.286
1956	0.826	0.714	0.579	0.528	0.630	1.067	0.680	0.624	0.587	0.573	0.557	0.575	0.462
1957	0.135	0.073	0.087	0.090	0.111	0.171	0.255	0.259	0.230	0.258	0.259	0.262	0.266
1958	0.813	0.472	0.365	0.328	0.325	0.288	0.274	0.278	0.284	0.190	0.213	0.183	0.254
1959	0.205	0.170	0.084	0.084	0.049	0.054	0.087	0.139	0.142	0.115	0.105	0.119	0.159
1960	1.605	0.992	0.696	0.539	0.364	0.364	0.294	0.292	0.260	0.265	0.225	0.253	0.275
1961	0.191	0.073	0.051	0.094	0.082	0.051	0.031	0.030	0.029	0.033	0.025	0.018	0.025
1962	0.561	0.412	0.487	0.445	0.472	0.733	0.475	0.445	0.404	0.382	0.450	0.460	0.462
1963	0.432	0.479	0.415	0.353	0.324	0.262	0.229	0.205	0.189	0.200	0.207	0.207	0.204
1964	0.227	0.177	0.570	0.363	0.329	0.317	0.341	0.388	0.350	0.481	0.458	0.486	0.697
1965	4.712	6.667	6.145	5.010	4.162	3.649	3.296	2.900	2.814	2.487	2.245	1.979	1.721
1966	0.578	0.816	1.030	1.293	1.404	1.534	1.708	1.289	1.745	1.603	1.302	1.080	0.923
1967	0.304	0.256	0.204	0.194	0.176	0.129	0.100	0.087	0.063	0.066	0.062	0.058	0.052
1968	0.105	0.079	0.074	0.079	0.173	0.140	0.123	0.197	0.180	0.199	0.182	0.191	0.174
1969	0.179	0.190	0.152	0.137	0.152	0.746	0.530	0.363	0.322	1.347	0.843	0.553	0.680
1970	0.147	0.107	0.198	0.213	0.200	0.109	0.094	0.077	0.073	0.077	0.076	0.068	0.079
1971	3.648	7.157	4.923	4.035	3.440	3.013	2.665	2.385	2.063	1.850	1.672	1.404	1.326
1972	3.349	2.678	2.163	1.779	1.597	1.445	1.230	1.036	0.882	0.737	0.700	0.623	0.608
1973	0.799	0.655	0.535	0.527	0.430	0.680	0.598	0.658	0.725	0.526	0.472	0.393	0.408
1974	1.497	5.093	3.025	2.050	1.683	1.455	1.273	1.129	0.997	0.882	0.887	0.804	0.763
1975	1.714	0.997	0.890	0.682	0.566	0.495	0.395	0.704	0.733	0.589	0.465	0.439	0.422
1976	0.289	0.239	0.201	0.183	0.165	0.181	0.211	0.216	0.318	0.310	0.290	0.268	0.257
1977	1.123	1.751	1.805	1.228	1.362	1.184	1.065	1.068	1.188	1.284	1.236	1.376	1.690
1978	0.719	1.984	0.876	0.647	0.758	0.549	0.565	0.628	0.521	0.725	1.491	1.479	0.982
1979	2.518	2.296	2.019	1.559	1.444	1.253	1.097	0.956	0.863	0.793	0.747	0.690	0.683
1980	3.340	2.734	2.347	2.154	2.083	2.560	2.090	1.792	1.743	1.548	1.472	1.869	1.613
1981	0.925	0.797	0.869	1.318	1.703	0.699	0.454	0.320	0.296	0.310	0.243	0.258	0.269
1982	4.166	3.256	3.045	2.183	1.794	1.455	1.310	1.166	1.235	1.285	1.159	1.032	0.997
1983	1.409	2.325	2.041	1.186	1.012	0.815	0.686	0.597	0.543	0.576	0.523	0.543	0.489
1984	0.497	0.364	0.286	0.234	0.182	0.157	0.138	0.130	0.127	0.120	0.221	0.333	0.563
1985	0.565	0.353	0.391	0.305	0.204	0.216	0.276	0.264	0.252	0.299	0.854	1.010	0.950
1986	0.426	0.691	7.417	4.119	3.453	3.211	2.807	2.338	1.952	1.681	1.560	1.390	1.513
1987	0.586	0.131	0.011	0.014	0.050	0.052	0.048	0.050	0.040	0.034	0.037	0.037	0.035
1988	11.185	4.798	0.497	0.182	0.107	0.459	0.430	0.512	0.022	0.011	0.009	0.043	0.121
1989	4.666	17.693	1.012	0.246	4.545	2.327	2.896	2.494	0.873	1.911	0.650	0.518	0.426
1990	9.998	0.538	0.073	0.040	0.009	0.000	0.002	0.011	0.020	0.005	0.000	0.001	0.000
1991	0.618	0.298	0.027	0.104	0.082	0.110	0.012	0.001	0.000	0.000	0.000	0.000	0.000
1992	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
1993	0.182	0.027	0.242	0.262	0.044	0.009	0.003	0.013	0.015	0.013	0.020	0.018	0.006
1994	5.997	4.322	0.743	0.060	0.005	0.055	0.047	0.066	0.004	0.282	0.028	0.033	0.003
1995	0.267	0.098	0.085	0.261	0.306	2.672	2.229	0.560	1.685	0.261	0.068	0.035	0.025
1996	0.303	0.162	0.322	0.202	0.579	1.139	0.130	0.157	0.027	0.005	0.026	0.051	0.047
1997	0.501	0.897	0.375	0.084	0.041	0.014	0.136	0.017	0.057	0.112	0.028	0.079	0.028
1998	2.272	0.580	0.216	0.213	0.501	0.279	0.067	0.018	0.003	0.001	0.000	0.034	0.037
1999	0.169	0.502	0.521	0.258	0.074	0.069	0.020	0.002	0.011	0.008	0.002	0.002	0.000
2000	0.726	1.898	0.624	0.252	0.158	0.328	0.279	0.109	0.247	0.954	0.088	0.037	0.069
2001	0.039	0.078	0.809	10.536	10.550	1.249	0.418	0.037	0.018	0.024	0.030	0.022	0.002
2002	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
2003	0.159	0.132	0.009	0.005	0.006	0.003	0.030	0.027	0.016	0.007	0.002	0.013	0.015
2004	0.024	3.931	0.599	0.146	0.027	0.021	0.023	0.023	0.076	0.252	0.266	0.282	0.175
2005	0.358	0.075	0.112	0.071	0.082	0.009	0.037	0.125	0.035	0.002	0.010	0.011	0.009
2006	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.006	0.007	0.006
2007	0.082	0.056	0.007	0.007	0.013	0.015	0.012	0.013	0.023	0.033	0.020	0.016	0.013
2008	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
2009	6.145	3.573	0.005	0.003	0.016	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
2010	0.000	0.000	0.019	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.006
2011	0.550	10.290	0.661	0.437	0.169	0.234	0.179	0.060	0.021	0.012	0.008	0.007	0.005
2012	0.216	0.045	0.072	3.825	0.797	0.268	0.096	0.005	0.002	0.196	0.011	0.000	0.000
Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Max	11.185	17.693	7.417	10.536	10.550	3.649	3.296	2.900	2.814	2.487	2.245	1.979	1.721
Mean	1.445	1.653	0.890	0.896	0.862	0.673	0.570	0.479	0.444	0.454	0.395	0.380	0.368

Table: A.8 continued: Isle Lake Weekly Inflow (m³/s).

Wk/Yr	40	41	42	43	44	45	46	47	48	49	50	51	52	Mean	Dam ³
1955	0.290	0.268	0.262	0.250	0.185	0.113	0.103	0.010	0.004	0.003	0.000	0.000	0.000	0.503	15829
1956	0.427	0.396	0.369	0.330	0.261	0.258	0.278	0.287	0.295	0.308	0.347	0.388	0.442	0.600	18879
1957	0.504	0.572	0.572	0.520	0.520	0.487	0.504	0.957	0.660	0.963	0.769	0.658	0.630	0.393	12358
1958	0.322	0.334	0.290	0.174	0.193	0.175	0.169	0.148	0.167	0.157	0.179	0.163	0.116	0.471	14807
1959	0.168	0.141	0.211	0.223	0.215	0.159	0.132	0.106	0.177	0.200	0.205	0.192	0.241	0.139	4367
1960	0.264	0.265	0.237	0.241	0.253	0.210	0.137	0.147	0.145	0.140	0.158	0.324	0.447	0.372	11702
1961	0.018	0.030	0.035	0.041	0.046	0.041	0.026	0.023	0.020	0.008	0.000	0.000	0.000	0.148	4651
1962	0.454	0.454	0.460	0.453	0.436	0.429	0.417	0.421	0.354	0.383	0.315	0.209	0.190	0.614	19302
1963	0.208	0.200	0.198	0.197	0.238	0.250	0.276	0.268	0.228	0.161	0.117	0.048	0.136	0.619	19457
1964	0.786	0.665	0.656	0.657	0.645	0.665	0.550	0.479	0.519	0.335	0.263	0.228	0.188	0.394	12387
1965	1.540	1.352	1.057	0.930	0.837	0.771	0.771	0.771	0.763	0.748	0.692	0.607	0.507	1.990	62596
1966	0.867	0.857	0.747	0.577	0.438	0.188	0.181	0.182	0.233	0.254	0.391	0.461	0.469	0.860	27043
1967	0.045	0.059	0.078	0.066	0.063	0.058	0.057	0.054	0.051	0.040	0.036	0.006	0.004	0.396	12450
1968	0.171	0.176	0.173	0.193	0.164	0.154	0.154	0.150	0.135	0.118	0.096	0.082	0.059	0.143	4485
1969	1.135	1.019	0.910	0.874	0.847	0.741	0.753	0.806	0.773	0.766	0.758	0.731	0.698	0.542	17059
1970	0.071	0.069	0.069	0.089	0.082	0.081	0.083	0.085	0.045	0.045	0.048	0.043	0.034	0.309	9723
1971	1.258	1.180	1.051	0.903	0.836	0.875	0.884	0.904	0.822	0.555	0.467	0.440	0.440	1.332	41901
1972	0.620	0.596	0.533	0.527	0.548	0.473	0.455	0.448	0.443	0.439	0.423	0.365	0.298	1.010	31775
1973	0.398	0.458	0.408	0.455	0.355	0.400	0.414	0.335	0.306	0.341	0.355	0.461	0.377	0.550	17292
1974	0.672	0.638	0.578	0.525	0.497	0.415	0.411	0.407	0.404	0.398	0.388	0.372	0.363	1.493	46962
1975	0.406	0.354	0.363	0.270	0.217	0.232	0.247	0.358	0.338	0.357	0.296	0.341	0.349	0.521	16372
1976	0.296	0.258	0.282	0.250	0.254	0.231	0.217	0.220	0.235	0.270	0.306	0.322	0.317	0.341	10710
1977	1.678	1.559	1.419	1.348	1.275	1.070	0.590	0.762	0.904	0.824	0.581	0.384	0.324	1.086	34148
1978	0.934	0.890	0.870	0.940	0.914	0.761	0.660	0.667	0.509	0.677	0.698	0.593	0.483	0.712	22406
1979	0.663	0.637	0.614	0.610	0.592	0.577	0.413	0.327	0.357	0.395	0.441	0.418	0.358	0.896	28171
1980	1.466	1.345	1.290	1.189	1.211	1.126	1.145	0.875	0.889	0.764	0.822	0.794	0.612	1.326	41687
1981	0.255	0.307	0.303	0.268	0.269	0.263	0.208	0.165	0.283	0.271	0.288	0.310	0.210	0.573	18015
1982	0.970	0.905	0.890	0.846	0.780	0.525	0.440	0.400	0.306	0.209	0.256	0.283	0.322	0.931	29276
1983	0.522	0.528	0.506	0.539	0.576	0.548	0.616	0.639	0.573	0.542	0.510	0.343	0.330	0.593	18658
1984	0.452	0.431	0.521	0.449	0.505	0.550	0.529	0.558	0.506	0.534	0.403	0.337	0.326	0.461	14499
1985	0.884	0.873	0.972	0.969	0.807	0.525	1.039	0.840	0.760	0.742	0.759	0.915	0.668	0.744	23386
1986	1.777	1.642	1.416	1.296	1.229	1.050	1.200	1.024	0.847	0.771	0.687	0.610	0.523	1.304	41012
1987	0.035	0.081	0.097	0.089	0.085	0.078	0.073	0.069	0.065	0.061	0.057	0.054	0.050	0.121	3790
1988	0.116	0.138	0.219	0.045	0.062	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.415	13050
1989	0.397	0.496	0.551	1.400	0.459	0.328	0.308	0.290	0.272	0.256	0.241	0.226	0.212	1.439	45262
1990	0.000	0.008	0.040	0.011	0.010	0.009	0.009	0.008	0.008	0.007	0.007	0.006	0.006	0.679	21364
1991	0.000	0.000	0.028	0.041	0.043	0.048	0.044	0.041	0.039	0.036	0.034	0.032	0.030	0.583	18330
1992	0.010	0.010	0.010	0.010	0.010	0.009	0.009	0.008	0.008	0.007	0.007	0.006	0.006	0.168	5283
1993	0.011	0.007	0.010	0.015	0.032	0.030	0.028	0.026	0.025	0.023	0.022	0.020	0.019	0.120	3769
1994	0.025	0.004	0.005	0.013	0.014	0.013	0.012	0.011	0.011	0.010	0.009	0.009	0.008	0.505	15893
1995	0.016	0.022	0.037	0.157	0.047	0.040	0.038	0.036	0.033	0.031	0.030	0.028	0.026	0.278	8749
1996	0.211	0.055	0.065	0.072	0.056	0.048	0.045	0.042	0.040	0.037	0.035	0.033	0.031	0.872	27419
1997	0.013	0.069	0.103	0.240	0.162	0.127	0.118	0.111	0.104	0.098	0.092	0.086	0.081	1.137	35767
1998	0.026	0.042	0.198	0.061	0.027	0.024	0.022	0.021	0.020	0.018	0.017	0.016	0.015	0.203	6378
1999	0.000	0.024	0.013	0.010	0.010	0.009	0.009	0.008	0.008	0.007	0.007	0.006	0.006	0.617	19390
2000	0.050	0.036	0.023	0.017	0.010	0.009	0.009	0.008	0.008	0.007	0.007	0.007	0.006	0.200	6299
2001	0.025	0.013	0.005	0.004	0.003	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.002	0.475	14934
2002	0.010	0.010	0.010	0.010	0.009	0.009	0.009	0.008	0.008	0.007	0.007	0.006	0.006	0.173	5450
2003	0.008	0.013	0.030	0.216	0.089	0.098	0.092	0.086	0.081	0.076	0.072	0.067	0.063	0.273	8601
2004	0.112	0.134	0.166	0.129	0.130	0.125	0.118	0.111	0.104	0.098	0.092	0.086	0.080	0.200	6285
2005	0.153	0.063	0.102	0.019	0.005	0.006	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.426	13387
2006	0.005	0.008	0.011	0.015	0.011	0.011	0.011	0.010	0.009	0.009	0.008	0.008	0.007	0.035	1115
2007	0.007	0.006	0.007	0.004	0.003	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.002	0.568	17866
2008	0.010	0.010	0.010	0.010	0.010	0.009	0.009	0.008	0.008	0.007	0.007	0.007	0.006	0.030	956
2009	0.012	0.012	0.012	0.012	0.010	0.011	0.011	0.010	0.009	0.009	0.008	0.008	0.007	0.356	11181
2010	0.008	0.006	0.006	0.004	0.003	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.002	0.025	795
2011	0.007	0.007	0.005	0.006	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.002	0.777	24434
2012	0.000	0.011	0.016	0.002	0.004	0.870	0.870	0.870	0.870	0.870	0.870	0.870	0.870	0.429	13504
Min	0.000	0.000	0.005	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.0	795
Max	1.777	1.642	1.419	1.400	1.275	1.126	1.200	1.024	0.904	0.963	0.870	0.915	0.870	1.990	62596
Mean	0.376	0.358	0.347	0.342	0.303	0.282	0.274	0.269	0.255	0.248	0.236	0.225	0.207	0.6	18148

Table: A.9: Lac St Anne Total Weekly Inflow (m³/s).

Wk/Yr	1	2	3	4	5	6	7	8	9	10	11	12	13
1955	4.157	0.897	0.780	0.672	0.576	0.575	0.657	0.651	0.487	0.442	0.417	0.387	0.539
1956	0.391	0.402	0.393	0.377	0.375	0.359	0.350	0.358	0.406	0.388	0.362	0.328	0.300
1957	1.094	1.007	1.102	0.835	0.972	0.705	0.769	0.596	0.551	0.489	0.553	0.527	0.954
1958	1.221	1.073	1.105	1.206	1.297	1.242	1.278	1.268	1.105	0.975	0.863	0.906	0.884
1959	0.450	0.429	0.366	0.312	0.348	0.361	0.333	0.306	0.279	0.255	0.228	0.207	0.252
1960	0.400	0.340	0.224	0.186	0.164	0.158	0.163	0.165	0.174	0.156	0.148	1.213	0.656
1961	0.832	0.780	0.747	0.733	0.666	0.741	0.654	0.895	0.796	0.662	0.659	0.770	0.973
1962	0.040	0.041	0.042	0.042	0.050	0.072	0.073	0.074	0.084	0.083	0.080	0.074	0.070
1963	0.639	0.537	0.670	0.687	0.688	0.792	0.737	0.862	0.641	0.484	0.519	0.758	0.830
1964	0.784	0.504	0.362	0.302	0.352	0.336	0.450	0.509	0.952	0.585	0.759	0.630	0.362
1965	0.710	0.661	0.774	0.734	0.883	0.962	1.078	0.983	0.952	1.007	0.869	0.762	0.700
1966	1.515	1.506	1.486	1.438	1.398	1.333	1.254	1.264	1.170	1.239	1.273	0.990	1.752
1967	0.990	1.081	0.924	0.945	0.874	1.088	0.968	0.883	0.846	0.707	0.784	1.071	1.619
1968	0.113	0.119	0.123	0.120	0.124	0.123	0.118	0.115	0.130	0.139	0.140	0.148	0.146
1969	0.095	0.089	0.090	0.088	0.088	0.082	0.076	0.068	0.075	0.071	0.067	0.068	0.065
1970	1.493	1.368	1.348	1.353	1.345	1.341	1.291	1.267	1.149	1.084	1.070	1.060	1.060
1971	0.205	0.207	0.202	0.213	0.246	0.258	0.254	0.250	0.236	0.217	0.200	0.182	0.196
1972	1.636	1.544	1.463	1.439	1.365	1.330	1.267	1.203	1.187	1.210	1.177	1.122	1.145
1973	1.055	1.032	1.016	1.005	0.982	0.945	0.905	0.848	0.818	0.776	0.737	0.716	0.756
1974	0.929	0.942	0.891	0.833	0.944	0.928	0.919	0.913	0.892	0.873	0.834	0.985	1.027
1975	1.048	1.020	0.986	0.952	0.915	0.868	0.826	0.771	0.723	0.691	0.767	0.617	0.532
1976	0.924	0.898	0.912	0.911	0.851	0.776	0.754	0.713	0.631	0.768	1.086	1.038	0.894
1977	0.676	0.666	0.686	0.610	0.805	0.831	0.714	0.643	0.563	0.509	0.468	0.474	0.478
1978	1.254	1.398	1.265	1.211	1.175	1.100	1.029	1.081	0.925	1.019	0.870	1.209	1.441
1979	1.438	1.420	1.273	1.179	1.140	1.044	1.064	1.028	1.008	1.273	2.102	1.295	1.048
1980	1.119	1.110	1.084	1.077	1.013	1.005	0.906	0.920	0.833	0.798	0.762	0.817	0.787
1981	1.850	1.520	1.345	1.228	1.055	0.941	0.957	1.035	0.942	0.921	0.991	0.942	1.020
1982	0.573	0.586	0.628	0.615	0.643	0.639	0.657	0.658	0.552	0.480	0.491	0.434	0.413
1983	1.214	1.202	1.123	1.030	1.029	0.937	0.937	0.896	0.835	0.825	0.729	0.700	0.731
1984	1.211	1.146	1.110	1.079	1.182	1.182	0.976	0.969	0.878	0.776	0.690	1.108	1.322
1985	1.182	1.171	1.095	1.153	0.939	0.861	0.933	0.915	0.870	0.710	0.747	0.865	0.688
1986	1.553	1.538	1.339	1.402	1.244	1.147	0.989	1.019	2.100	1.186	1.168	2.278	2.396
1987	1.587	1.466	1.374	1.292	1.203	1.124	1.056	0.991	0.769	0.587	0.535	0.506	0.449
1988	0.096	0.093	0.091	0.088	0.086	0.083	0.083	0.086	0.067	0.046	0.059	0.139	0.328
1989	0.199	0.193	0.187	0.180	0.174	0.221	0.210	0.199	0.190	0.187	0.176	0.158	0.639
1990	0.935	0.908	0.852	0.803	0.760	0.720	0.696	0.663	1.331	1.272	2.261	2.593	5.185
1991	0.333	0.315	0.297	0.281	0.302	0.293	0.273	0.258	0.374	0.376	0.325	0.367	1.503
1992	0.294	0.306	0.297	0.285	0.297	0.283	0.268	0.274	1.565	2.134	2.669	1.318	1.093
1993	0.044	0.045	0.044	0.044	0.043	0.042	0.045	0.052	0.052	0.482	0.137	1.888	1.173
1994	0.048	0.052	0.066	0.071	0.076	0.074	0.077	0.075	0.081	0.078	0.291	0.622	6.006
1995	0.239	0.230	0.224	0.214	0.205	0.197	0.190	0.191	0.175	0.202	1.149	1.817	0.496
1996	0.258	0.283	0.278	0.273	0.260	0.247	0.240	0.236	0.219	0.211	1.422	3.220	0.433
1997	0.495	0.463	0.435	0.423	0.403	0.377	0.350	0.335	0.304	0.312	0.310	0.783	4.276
1998	0.427	0.427	0.423	0.409	0.397	0.379	0.360	0.330	0.257	0.234	1.877	1.746	0.744
1999	0.086	0.099	0.116	0.126	0.129	0.136	0.129	0.122	0.110	0.108	0.117	0.282	0.862
2000	0.136	0.136	0.141	0.151	0.144	0.137	0.139	0.132	0.126	0.116	0.115	0.365	0.910
2001	0.115	0.112	0.109	0.106	0.103	0.100	0.097	0.092	0.084	0.084	0.089	0.075	0.093
2002	0.232	0.223	0.213	0.217	0.209	0.197	0.190	0.181	0.173	0.174	0.164	0.156	0.144
2003	0.029	0.028	0.029	0.033	0.037	0.037	0.039	0.041	0.039	0.039	0.038	0.069	0.890
2004	0.135	0.132	0.129	0.128	0.135	0.138	0.131	0.125	0.101	0.086	0.079	0.079	0.970
2005	0.176	0.175	0.170	0.179	0.172	0.176	0.168	0.160	0.141	4.383	3.008	0.452	2.245
2006	0.127	0.124	0.123	0.119	0.114	0.108	0.103	0.098	0.099	0.102	0.098	0.094	0.080
2007	0.024	0.023	0.025	0.025	0.024	0.026	0.028	0.027	0.031	0.039	0.047	0.076	1.741
2008	0.086	0.085	0.084	0.084	0.085	0.085	0.084	0.082	0.074	0.068	0.061	0.075	0.081
2009	0.007	0.007	0.006	0.006	0.006	0.005	0.005	0.005	0.002	0.000	0.000	0.000	0.004
2010	0.013	0.013	0.012	0.012	0.012	0.012	0.011	0.011	0.011	0.011	0.011	0.111	0.065
2011	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.004
2012	0.223	0.217	0.213	0.209	0.203	0.198	0.189	0.178	0.180	0.205	0.269	0.338	0.881
Min	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.004
Max	4.157	1.544	1.486	1.439	1.398	1.341	1.291	1.268	2.100	4.383	3.008	3.220	6.006
Mean	0.675	0.593	0.567	0.547	0.540	0.525	0.509	0.501	0.523	0.575	0.654	0.724	0.988

Table: A.9 continued: Lac Ste Anne Total Weekly Inflow (m³/s).

Wk/Yr	14	15	16	17	18	19	20	21	22	23	24	25	26
1955	0.437	0.626	0.732	1.075	2.366	1.954	1.784	1.677	2.220	2.012	1.584	1.462	1.285
1956	0.272	0.327	2.998	3.459	2.959	2.695	2.266	2.120	1.863	1.883	1.998	2.785	1.981
1957	0.975	0.970	1.319	1.173	1.091	1.086	0.984	0.889	0.663	0.472	0.408	0.358	0.365
1958	1.408	2.720	2.226	2.009	1.910	1.875	1.643	1.334	1.016	0.886	0.702	0.604	0.970
1959	0.231	0.425	0.432	0.520	0.489	0.683	0.393	0.400	0.346	0.226	0.192	0.213	0.290
1960	0.465	0.688	0.677	0.678	0.662	0.573	1.233	1.534	1.284	0.911	0.607	0.569	1.461
1961	0.706	0.637	0.655	0.541	0.505	0.516	0.516	0.416	0.297	0.198	0.148	0.119	0.113
1962	0.430	0.942	2.746	2.053	2.946	3.314	3.116	3.116	2.712	2.401	2.218	2.131	1.467
1963	1.179	2.603	4.269	4.168	4.255	4.168	4.047	3.483	3.113	2.674	2.243	1.769	1.411
1964	0.760	0.662	0.535	0.465	0.573	1.830	1.021	0.841	0.666	0.534	0.499	0.495	0.531
1965	0.594	0.812	0.728	5.934	5.880	5.006	4.920	5.135	7.479	7.505	5.968	5.181	12.029
1966	3.761	3.008	2.482	2.460	3.205	3.104	3.117	2.729	1.612	1.482	1.286	1.052	0.993
1967	2.288	3.185	3.120	2.839	1.853	1.752	1.653	1.521	1.528	1.271	1.433	1.163	0.894
1968	0.142	0.140	0.203	0.416	0.415	0.921	0.672	0.416	0.395	0.300	0.300	0.271	0.202
1969	0.122	1.502	1.830	1.973	1.932	1.653	1.478	1.244	1.087	0.681	0.472	0.353	0.286
1970	1.331	1.729	1.683	1.599	1.434	1.261	1.409	1.153	0.855	0.566	0.495	0.475	0.370
1971	0.210	0.350	2.851	4.361	2.760	2.256	2.042	1.683	1.422	1.416	2.319	2.977	2.580
1972	1.175	2.512	2.362	2.209	2.185	2.216	2.243	3.586	2.941	2.467	2.955	3.419	6.161
1973	1.074	0.972	1.517	1.548	1.967	2.081	1.755	1.789	1.861	1.506	1.410	1.389	1.935
1974	1.007	1.401	9.414	8.739	7.716	8.780	10.053	8.942	7.967	7.854	6.434	5.089	4.709
1975	0.535	0.894	1.695	1.237	1.498	1.929	1.538	1.451	1.239	1.167	0.967	0.828	2.758
1976	2.014	1.801	1.385	1.278	1.065	0.956	0.817	0.646	0.566	0.491	0.460	0.444	0.630
1977	2.188	0.827	0.778	0.686	1.015	2.490	2.958	2.601	7.222	4.685	3.793	3.361	2.777
1978	1.311	1.327	1.300	1.282	1.368	1.333	1.386	1.409	1.612	1.284	1.659	1.730	1.539
1979	1.014	0.942	1.270	3.269	2.344	2.538	2.666	2.608	2.351	2.155	2.632	2.888	2.655
1980	0.824	2.250	2.417	1.812	1.712	1.465	1.328	1.354	2.549	6.042	4.878	4.562	6.682
1981	1.280	1.173	1.161	1.246	1.130	1.359	1.194	1.179	2.923	2.967	2.347	2.447	2.059
1982	0.545	0.678	1.442	5.797	2.970	2.184	2.317	2.314	1.892	1.713	1.461	1.121	0.819
1983	2.294	1.507	1.280	1.188	1.062	0.985	0.953	0.801	0.613	0.512	0.421	0.620	1.418
1984	1.044	0.789	0.760	0.761	0.869	1.161	1.434	1.637	1.611	1.599	2.023	1.509	1.189
1985	2.145	3.178	2.826	3.303	3.020	2.667	2.320	1.953	1.775	1.528	1.310	1.267	2.449
1986	1.807	1.701	2.490	2.793	2.515	2.181	2.304	2.408	2.115	1.603	1.319	1.303	1.113
1987	0.700	0.367	0.319	0.238	0.187	0.159	0.132	0.122	0.112	0.077	0.131	0.593	0.814
1988	0.250	0.149	0.091	0.066	0.074	0.135	0.035	0.027	0.109	0.327	0.615	0.063	0.527
1989	5.947	7.676	3.544	1.528	1.007	0.941	2.581	6.005	1.984	1.991	2.800	1.364	6.309
1990	3.950	2.056	2.121	2.704	1.912	1.567	1.253	2.023	1.590	2.244	4.913	1.444	0.955
1991	5.645	3.898	1.974	3.888	2.098	3.019	14.303	4.161	2.999	2.258	1.792	1.514	1.678
1992	0.651	0.660	1.016	0.804	0.659	0.425	0.299	0.359	0.435	0.418	0.201	0.098	0.078
1993	1.333	0.407	0.219	0.114	0.146	0.099	0.044	0.060	0.068	0.034	0.016	0.262	0.454
1994	3.560	1.312	0.649	0.445	0.318	0.358	0.897	1.077	1.031	0.428	1.564	0.761	0.406
1995	0.336	0.325	0.288	0.189	0.371	0.322	0.198	0.105	0.079	0.836	0.272	0.671	0.587
1996	5.169	12.511	5.155	3.762	2.556	1.995	1.710	1.235	1.693	2.128	1.387	18.518	6.694
1997	3.827	3.948	14.833	6.528	3.792	2.505	1.949	3.054	3.454	2.601	2.351	20.756	16.229
1998	0.452	0.418	0.288	0.216	0.150	0.154	0.248	0.127	0.066	0.081	0.128	0.038	1.890
1999	2.867	11.278	5.802	3.847	9.207	3.882	2.939	2.554	1.549	1.634	1.225	0.895	0.745
2000	0.234	0.149	0.134	0.103	0.083	0.237	0.105	0.049	0.192	0.251	2.720	0.674	0.127
2001	0.162	0.156	0.143	0.092	0.108	0.166	0.067	0.046	0.061	0.020	0.007	0.016	0.027
2002	0.134	1.861	3.909	2.630	1.337	0.647	0.645	0.751	0.554	0.154	0.179	0.089	0.067
2003	2.562	6.694	2.271	1.028	0.786	1.605	0.567	0.296	0.243	0.222	0.170	0.364	0.364
2004	0.976	0.249	0.250	0.256	0.063	0.041	0.032	0.027	0.114	0.097	0.240	0.205	0.137
2005	6.932	2.975	1.789	0.967	0.617	1.725	1.214	0.964	0.574	0.363	0.426	0.726	1.868
2006	0.676	0.912	0.198	0.124	0.114	0.118	0.085	0.164	0.065	0.036	0.069	0.064	0.056
2007	0.588	4.811	4.443	1.713	16.736	6.178	7.552	5.091	3.397	4.074	4.118	5.896	6.661
2008	0.091	0.163	0.246	0.215	0.580	0.167	0.087	0.131	0.051	0.023	0.015	0.018	0.016
2009	0.071	0.410	0.039	0.012	1.030	1.668	2.135	4.269	0.221	0.246	0.172	0.123	0.000
2010	0.035	0.062	0.021	0.028	0.073	0.020	0.078	0.122	0.167	0.216	0.234	0.134	0.037
2011	0.102	1.355	2.790	12.271	3.757	1.116	0.437	0.584	0.433	0.380	0.705	8.251	2.552
2012	1.946	1.813	1.590	1.184	1.256	0.800	0.389	0.881	0.618	0.887	1.466	0.417	0.291
Min	0.035	0.062	0.021	0.012	0.063	0.020	0.032	0.027	0.051	0.020	0.007	0.016	0.000
Max	6.932	12.511	14.833	12.271	16.736	8.780	14.303	8.942	7.967	7.854	6.434	20.756	16.229
Mean	1.461	1.895	1.995	2.031	2.012	1.707	1.854	1.701	1.546	1.466	1.463	2.033	1.995

Table: A.9 continued: Lac Ste Anne Total Weekly Inflow (m³/s).

Wk/Yr	27	28	29	30	31	32	33	34	35	36	37	38	39
1955	1.161	1.163	1.011	1.225	1.541	1.146	0.959	0.917	0.816	0.734	0.682	0.789	0.800
1956	1.700	1.500	1.256	1.109	1.236	1.939	1.452	1.386	1.311	1.345	1.358	1.348	1.193
1957	0.241	0.157	0.159	0.155	0.173	0.245	0.375	0.376	0.343	0.373	0.388	0.394	0.398
1958	1.217	0.784	0.632	0.575	0.547	0.502	0.469	0.457	0.464	0.360	0.378	0.439	0.523
1959	0.303	0.257	0.140	0.133	0.086	0.088	0.136	0.204	0.214	0.178	0.169	0.183	0.231
1960	2.113	1.376	1.005	0.822	0.602	0.626	0.533	0.560	0.521	0.512	0.486	0.510	0.566
1961	0.307	0.148	0.109	0.149	0.141	0.092	0.061	0.056	0.052	0.055	0.045	0.034	0.045
1962	1.270	1.002	1.048	1.039	1.061	1.357	1.008	0.934	0.884	0.848	0.918	0.966	0.952
1963	1.130	1.148	1.010	0.856	0.801	0.657	0.574	0.522	0.480	0.481	0.466	0.484	0.466
1964	0.407	0.317	0.807	0.566	0.515	0.501	0.553	0.611	0.565	0.776	0.787	0.819	1.101
1965	10.956	13.265	13.687	11.876	10.069	8.716	7.945	7.266	6.969	6.674	5.962	5.313	4.826
1966	1.179	1.480	1.723	2.025	2.238	2.484	2.807	2.438	2.974	3.103	2.779	2.468	2.248
1967	0.682	0.569	0.453	0.425	0.373	0.291	0.233	0.195	0.151	0.155	0.143	0.133	0.120
1968	0.141	0.104	0.095	0.104	0.220	0.179	0.158	0.248	0.229	0.254	0.236	0.249	0.227
1969	0.273	0.295	0.233	0.212	0.227	1.031	0.764	0.560	0.502	1.781	1.293	0.954	1.128
1970	0.346	0.272	0.367	0.382	0.377	0.240	0.216	0.179	0.164	0.171	0.164	0.154	0.165
1971	5.192	10.116	8.849	8.038	7.578	6.906	6.132	5.535	4.924	4.524	4.192	3.694	3.513
1972	5.769	5.083	4.426	3.835	3.655	3.509	3.127	2.716	2.376	2.162	2.047	1.849	1.870
1973	1.533	1.288	1.071	1.026	0.935	1.332	1.255	1.372	1.468	1.257	1.151	1.078	1.080
1974	4.285	8.295	7.315	5.660	4.700	4.013	3.571	3.205	2.855	2.524	2.535	2.298	2.124
1975	2.640	1.779	1.624	1.403	1.224	1.146	1.013	1.387	1.520	1.439	1.237	1.165	1.102
1976	0.545	0.466	0.395	0.355	0.321	0.356	0.389	0.420	0.548	0.576	0.558	0.532	0.510
1977	2.502	3.363	3.567	2.843	3.055	2.760	2.632	2.593	2.705	2.881	2.794	3.003	3.355
1978	1.293	2.802	1.745	1.396	1.599	1.287	1.268	1.398	1.256	1.463	2.625	2.868	2.372
1979	3.938	3.813	3.759	3.248	3.137	2.855	2.590	2.274	2.053	1.887	1.854	1.732	1.689
1980	6.359	5.678	5.264	4.843	4.699	5.533	4.963	4.418	4.420	4.014	3.750	4.278	4.134
1981	1.659	1.500	1.598	2.259	2.844	1.616	1.209	0.964	0.860	0.897	0.807	0.777	0.862
1982	5.418	5.065	5.169	4.402	3.836	3.336	3.224	2.934	2.992	3.103	2.973	2.702	2.538
1983	2.056	3.285	3.108	2.132	1.937	1.649	1.432	1.286	1.173	1.220	1.210	1.233	1.150
1984	0.998	0.821	0.661	0.564	0.449	0.381	0.339	0.319	0.306	0.288	0.513	0.657	0.989
1985	1.294	0.918	0.905	0.758	0.595	0.552	0.675	0.713	0.667	0.741	1.418	1.688	1.699
1986	0.993	1.316	9.754	7.029	6.598	6.600	5.993	5.281	4.657	4.164	3.847	3.922	3.828
1987	0.757	0.201	0.044	0.047	0.095	0.117	0.112	0.113	0.097	0.089	0.087	0.082	0.075
1988	13.717	6.079	1.036	0.588	0.429	0.834	0.827	0.943	0.369	0.308	0.283	0.324	0.415
1989	6.916	23.785	9.521	4.606	8.393	6.339	6.445	6.469	4.092	4.768	3.096	2.565	2.110
1990	12.846	2.879	1.710	1.329	1.013	0.778	0.655	0.610	0.547	0.627	0.535	0.541	0.471
1991	1.710	1.169	0.660	0.629	0.523	0.480	0.374	0.303	0.293	0.265	0.260	0.241	0.222
1992	0.061	0.056	0.053	0.044	0.037	0.030	0.026	0.026	0.026	0.029	0.037	0.037	0.035
1993	0.245	0.052	0.312	0.341	0.073	0.025	0.019	0.028	0.033	0.032	0.038	0.036	0.021
1994	7.521	5.811	1.768	0.841	0.611	0.573	0.571	0.599	0.448	0.726	0.400	0.377	0.305
1995	0.364	0.156	0.137	0.350	0.408	3.318	2.862	0.871	2.250	0.558	0.299	0.238	0.207
1996	3.679	2.498	2.207	1.998	2.013	2.672	1.356	1.176	0.851	0.705	0.739	0.714	0.695
1997	7.601	4.701	3.058	2.007	1.479	1.116	1.032	0.885	0.777	0.801	0.704	0.702	0.589
1998	2.840	0.789	0.341	0.329	0.668	0.400	0.132	0.073	0.045	0.036	0.031	0.068	0.082
1999	0.725	1.107	1.100	0.786	0.497	0.424	0.320	0.254	0.233	0.253	0.222	0.196	0.181
2000	0.944	2.390	0.873	0.423	0.293	0.491	0.430	0.216	0.380	1.270	0.249	0.175	0.207
2001	0.050	0.097	0.992	12.922	13.158	2.533	1.439	0.911	0.714	0.620	0.549	0.477	0.419
2002	0.055	0.044	0.034	0.037	0.035	0.038	0.036	0.035	0.032	0.032	0.029	0.028	0.027
2003	0.306	0.276	0.101	0.075	0.066	0.046	0.078	0.068	0.053	0.049	0.040	0.054	0.054
2004	0.033	4.825	0.763	0.211	0.060	0.055	0.052	0.047	0.114	0.334	0.357	0.377	0.256
2005	0.761	0.363	0.395	0.322	0.308	0.187	0.196	0.316	0.202	0.153	0.166	0.163	0.148
2006	0.015	0.010	0.007	0.004	0.006	0.003	0.002	0.001	0.001	0.001	0.008	0.012	0.011
2007	4.290	3.746	2.569	2.411	2.264	1.978	1.681	1.473	1.403	1.418	1.204	1.053	0.597
2008	0.014	0.014	0.014	0.013	0.013	0.013	0.012	0.012	0.012	0.012	0.012	0.012	0.012
2009	7.536	4.386	0.023	0.016	0.029	0.025	0.022	0.020	0.019	0.018	0.017	0.017	0.017
2010	0.000	0.000	0.023	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.007
2011	1.123	13.182	2.728	2.234	1.573	1.350	1.161	0.872	0.675	0.572	0.482	0.440	0.391
2012	0.391	0.200	0.223	4.872	1.405	0.761	0.488	0.343	0.292	0.531	0.289	0.247	0.223
Min	0.000	0.000	0.007	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.007
Max	13.717	23.785	13.687	12.922	13.158	8.716	7.945	7.266	6.969	6.674	5.962	5.313	4.826
Mean	2.490	2.728	1.959	1.877	1.773	1.526	1.351	1.214	1.127	1.123	1.033	0.998	0.958

Table: A.9 continued: Lac Ste Anne Total Weekly Inflow (m³/s).

Wk/Yr	40	41	42	43	44	45	46	47	48	49	50	51	52	Mean	Dam ³
1955	0.782	0.743	0.718	0.692	0.608	0.648	0.610	0.472	0.453	0.424	0.399	0.396	0.383	0.975	30676
1956	1.116	1.059	0.999	0.930	0.843	0.817	0.829	0.827	0.834	0.839	0.898	1.004	1.069	1.204	37856
1957	0.690	0.818	0.829	0.777	0.789	0.760	0.794	1.375	1.111	1.506	1.324	1.216	1.206	0.728	22910
1958	0.631	0.651	0.611	0.476	0.492	0.464	0.452	0.426	0.453	0.454	0.480	0.480	0.439	0.915	28776
1959	0.246	0.217	0.321	0.337	0.335	0.280	0.251	0.221	0.317	0.348	0.359	0.345	0.408	0.294	9235
1960	0.549	0.544	0.533	0.534	0.558	0.506	0.425	0.447	0.472	0.461	0.496	0.696	0.870	0.631	19847
1961	0.038	0.054	0.060	0.074	0.080	0.075	0.056	0.054	0.051	0.043	0.033	0.037	0.039	0.332	10442
1962	0.932	0.932	0.963	0.966	0.944	0.941	0.928	0.959	0.882	0.912	0.844	0.706	0.675	1.063	33437
1963	0.466	0.448	0.440	0.439	0.487	0.503	0.542	0.550	0.507	0.427	0.370	0.298	0.409	1.215	38216
1964	1.242	1.111	1.112	1.137	1.148	1.190	1.069	1.059	1.129	0.987	0.882	0.840	0.778	0.737	23170
1965	4.415	3.893	3.295	2.922	2.636	2.455	2.354	2.276	2.236	2.136	2.000	1.834	1.648	4.344	136608
1966	2.134	2.113	1.945	1.694	1.469	1.105	1.045	1.028	1.031	1.007	1.151	1.215	1.209	1.846	58062
1967	0.109	0.136	0.160	0.144	0.144	0.143	0.149	0.145	0.146	0.132	0.128	0.096	0.100	0.826	25967
1968	0.223	0.233	0.234	0.259	0.224	0.213	0.215	0.212	0.195	0.175	0.152	0.144	0.119	0.221	6953
1969	1.722	1.669	1.583	1.573	1.584	1.479	1.520	1.705	1.685	1.682	1.677	1.648	1.650	0.886	27861
1970	0.156	0.158	0.161	0.185	0.202	0.201	0.211	0.221	0.184	0.202	0.216	0.215	0.205	0.698	21954
1971	3.458	3.190	2.896	2.608	2.421	2.413	2.414	2.390	2.284	1.897	1.789	1.693	1.733	2.701	84957
1972	1.808	1.701	1.579	1.533	1.528	1.432	1.401	1.352	1.309	1.356	1.305	1.219	1.146	2.204	69317
1973	1.050	1.230	1.140	1.183	1.123	1.226	1.246	1.152	1.110	1.134	1.133	1.303	1.173	1.220	38370
1974	2.003	1.892	1.740	1.601	1.504	1.354	1.298	1.257	1.221	1.180	1.141	1.100	1.135	3.304	103916
1975	1.076	1.001	0.987	0.864	0.805	0.804	0.797	0.913	0.903	0.944	0.912	0.953	0.948	1.135	35704
1976	0.553	0.511	0.542	0.502	0.505	0.477	0.460	0.465	0.490	0.540	0.635	0.677	0.673	0.706	22204
1977	3.524	3.386	3.199	3.087	2.968	2.698	2.052	2.158	2.273	2.166	1.878	1.567	1.404	2.191	68898
1978	2.324	2.244	2.174	2.260	2.200	2.029	1.897	1.879	1.644	1.836	1.837	1.693	1.523	1.585	49852
1979	1.648	1.607	1.565	1.548	1.501	1.458	1.241	1.103	1.174	1.212	1.381	1.337	1.220	1.894	59553
1980	3.788	3.489	3.337	3.104	3.096	2.907	2.869	2.489	2.428	2.230	2.299	2.347	2.108	2.864	90086
1981	0.811	0.897	0.904	0.836	0.824	0.795	0.711	0.646	0.773	0.751	0.780	0.809	0.682	1.255	39482
1982	2.422	2.326	2.242	2.212	2.079	1.721	1.566	1.475	1.290	1.101	1.090	1.070	1.089	1.962	61689
1983	1.177	1.187	1.167	1.199	1.302	1.270	1.367	1.411	1.349	1.331	1.324	1.136	1.094	1.251	39329
1984	0.858	0.834	0.953	1.028	1.115	1.216	1.200	1.276	1.228	1.278	1.112	1.057	1.054	0.991	31154
1985	1.661	1.666	1.871	1.911	1.752	1.420	2.086	1.877	1.804	1.785	1.798	2.076	1.780	1.500	47162
1986	4.478	4.338	3.874	3.548	3.358	3.042	3.165	2.970	2.644	2.466	2.236	2.030	1.824	2.865	90096
1987	0.074	0.131	0.150	0.139	0.134	0.126	0.120	0.115	0.111	0.107	0.103	0.099	0.096	0.391	12282
1988	0.409	0.419	0.506	0.291	0.301	0.221	0.214	0.222	0.213	0.205	0.199	0.192	0.186	0.645	20286
1989	1.832	1.779	1.747	2.704	1.769	1.600	1.535	1.414	1.322	1.214	1.139	1.073	0.998	2.997	94242
1990	0.421	0.432	0.444	0.386	0.370	0.347	0.353	0.333	0.381	0.363	0.343	0.325	0.335	1.482	46621
1991	0.205	0.197	0.220	0.347	0.343	0.363	0.345	0.331	0.318	0.327	0.337	0.322	0.308	1.262	39685
1992	0.037	0.035	0.034	0.034	0.033	0.034	0.034	0.034	0.038	0.037	0.037	0.039	0.041	0.349	10977
1993	0.029	0.024	0.026	0.032	0.053	0.053	0.055	0.053	0.052	0.051	0.049	0.050	0.049	0.177	5554
1994	0.348	0.308	0.288	0.284	0.269	0.279	0.268	0.260	0.266	0.265	0.259	0.249	0.238	0.857	26947
1995	0.193	0.193	0.208	0.353	0.219	0.216	0.240	0.232	0.241	0.265	0.261	0.275	0.264	0.486	15294
1996	0.897	0.656	0.618	0.590	0.556	0.564	0.605	0.638	0.614	0.572	0.538	0.502	0.506	1.947	61237
1997	0.528	0.557	0.572	0.743	0.679	0.611	0.576	0.550	0.530	0.503	0.483	0.460	0.438	2.457	77278
1998	0.069	0.090	0.286	0.120	0.078	0.074	0.074	0.081	0.079	0.078	0.077	0.077	0.079	0.372	11711
1999	0.171	0.196	0.174	0.162	0.155	0.152	0.148	0.147	0.144	0.141	0.137	0.139	0.137	1.137	35772
2000	0.178	0.157	0.137	0.126	0.114	0.114	0.116	0.113	0.111	0.112	0.116	0.117	0.118	0.342	10750
2001	0.409	0.364	0.333	0.320	0.316	0.300	0.283	0.270	0.271	0.274	0.262	0.253	0.242	0.791	24861
2002	0.027	0.029	0.029	0.031	0.029	0.030	0.031	0.031	0.030	0.030	0.029	0.029	0.028	0.313	9844
2003	0.044	0.049	0.069	0.298	0.153	0.167	0.161	0.159	0.154	0.148	0.145	0.140	0.135	0.416	13068
2004	0.179	0.205	0.249	0.218	0.219	0.214	0.207	0.199	0.192	0.185	0.183	0.179	0.175	0.291	9159
2005	0.336	0.221	0.264	0.165	0.142	0.139	0.138	0.136	0.133	0.134	0.137	0.134	0.130	0.743	23366
2006	0.009	0.013	0.017	0.023	0.021	0.022	0.023	0.024	0.026	0.026	0.026	0.026	0.025	0.085	2681
2007	0.520	0.097	0.092	0.086	0.083	0.084	0.082	0.081	0.081	0.085	0.086	0.087	0.086	1.943	61106
2008	0.012	0.012	0.012	0.012	0.012	0.012	0.011	0.010	0.010	0.009	0.009	0.008	0.007	0.060	1898
2009	0.016	0.016	0.017	0.017	0.015	0.016	0.015	0.015	0.014	0.014	0.014	0.013	0.013	0.438	13781
2010	0.010	0.007	0.007	0.005	0.004	0.005	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.032	1012
2011	0.357	0.334	0.309	0.292	0.275	0.263	0.256	0.262	0.251	0.249	0.241	0.232	0.229	1.252	39369
2012	0.206	0.225	0.239	0.214	0.209	0.448	0.722	0.685	0.659	0.341	0.296	0.328	0.328	0.619	19478
Min	0.009	0.007	0.007	0.005	0.004	0.005	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.0	1012.2
Max	4.478	4.338	3.874	3.548	3.358	3.042	3.165	2.970	2.644	2.466	2.299	2.347	2.108	4.344	136608
Mean	0.959	0.914	0.882	0.865	0.813	0.767	0.756	0.745	0.722	0.701	0.682	0.665	0.638	1.2	37103

Table: A.10: Lac St Anne Weekly Local Area Inflow (m³/s).

Wk/Yr	1	2	3	4	5	6	7	8	9	10	11	12	13
1955	0.798	0.749	0.616	0.494	0.382	0.371	0.433	0.422	0.242	0.197	0.175	0.144	0.315
1956	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1957	0.572	0.465	0.570	0.297	0.443	0.153	0.253	0.098	0.071	0.048	0.133	0.147	0.618
1958	0.767	0.604	0.627	0.707	0.791	0.686	0.698	0.671	0.510	0.396	0.298	0.391	0.410
1959	0.147	0.133	0.055	0.005	0.005	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.074
1960	0.266	0.200	0.082	0.043	0.022	0.018	0.012	0.016	0.019	0.009	0.005	1.084	0.518
1961	0.480	0.417	0.384	0.360	0.297	0.364	0.268	0.453	0.366	0.251	0.275	0.420	0.647
1962	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1963	0.165	0.083	0.202	0.183	0.203	0.298	0.265	0.383	0.167	0.001	0.082	0.370	0.469
1964	0.544	0.253	0.104	0.036	0.099	0.068	0.195	0.264	0.711	0.329	0.510	0.386	0.131
1965	0.183	0.153	0.227	0.209	0.341	0.407	0.470	0.383	0.365	0.425	0.324	0.259	0.238
1966	0.486	0.481	0.459	0.459	0.459	0.460	0.442	0.435	0.412	0.548	0.630	0.361	1.188
1967	0.360	0.459	0.294	0.312	0.270	0.496	0.355	0.287	0.271	0.150	0.212	0.509	1.091
1968	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.018	0.035	0.044	0.053	0.062
1969	0.042	0.033	0.027	0.025	0.023	0.017	0.010	0.001	0.000	0.001	0.004	0.007	0.012
1970	0.707	0.541	0.518	0.564	0.594	0.592	0.576	0.553	0.469	0.420	0.428	0.467	0.505
1971	0.045	0.037	0.026	0.016	0.012	0.016	0.020	0.025	0.023	0.018	0.016	0.017	0.024
1972	0.548	0.532	0.503	0.472	0.443	0.429	0.416	0.404	0.411	0.422	0.431	0.450	0.493
1973	0.259	0.258	0.297	0.332	0.343	0.331	0.311	0.293	0.278	0.267	0.273	0.297	0.376
1974	0.236	0.244	0.184	0.180	0.200	0.207	0.253	0.286	0.268	0.254	0.270	0.373	0.423
1975	0.395	0.379	0.367	0.354	0.328	0.295	0.263	0.231	0.218	0.211	0.324	0.197	0.139
1976	0.350	0.324	0.362	0.379	0.336	0.283	0.270	0.251	0.193	0.333	0.630	0.605	0.491
1977	0.379	0.364	0.355	0.279	0.463	0.491	0.379	0.315	0.251	0.214	0.197	0.225	0.247
1978	0.310	0.480	0.369	0.361	0.335	0.321	0.289	0.403	0.295	0.444	0.339	0.718	0.972
1979	0.552	0.583	0.469	0.408	0.404	0.313	0.300	0.321	0.359	0.670	1.529	0.694	0.485
1980	0.381	0.347	0.365	0.398	0.336	0.367	0.303	0.306	0.246	0.226	0.240	0.322	0.329
1981	0.530	0.303	0.256	0.258	0.179	0.155	0.225	0.375	0.312	0.317	0.444	0.446	0.562
1982	0.139	0.089	0.130	0.134	0.138	0.141	0.158	0.183	0.078	0.000	0.000	0.000	0.031
1983	0.549	0.556	0.481	0.404	0.410	0.321	0.351	0.327	0.290	0.270	0.187	0.189	0.252
1984	0.532	0.485	0.421	0.419	0.505	0.539	0.362	0.398	0.339	0.266	0.193	0.654	0.885
1985	0.520	0.529	0.456	0.505	0.307	0.243	0.343	0.361	0.308	0.182	0.274	0.440	0.300
1986	0.583	0.620	0.468	0.547	0.392	0.350	0.241	0.318	1.447	0.503	0.470	1.642	1.699
1987	0.477	0.453	0.430	0.409	0.388	0.368	0.350	0.332	0.137	0.000	0.000	0.007	0.006
1988	0.058	0.054	0.051	0.048	0.045	0.042	0.040	0.037	0.021	0.004	0.021	0.107	0.300
1989	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.004	0.005	0.005	0.507
1990	0.243	0.228	0.215	0.202	0.190	0.178	0.168	0.157	0.867	0.813	1.785	2.072	4.579
1991	0.007	0.006	0.006	0.006	0.005	0.005	0.005	0.004	0.120	0.103	0.069	0.140	1.301
1992	0.035	0.032	0.030	0.029	0.027	0.025	0.024	0.022	1.302	1.845	2.328	0.902	0.681
1993	0.007	0.006	0.006	0.006	0.005	0.005	0.008	0.012	0.013	0.445	0.095	1.846	1.116
1994	0.022	0.021	0.019	0.018	0.017	0.016	0.015	0.014	0.020	0.023	0.241	0.575	5.961
1995	0.009	0.009	0.008	0.008	0.007	0.007	0.009	0.019	0.012	0.046	1.005	1.662	0.312
1996	0.030	0.028	0.026	0.025	0.023	0.022	0.021	0.019	0.015	0.018	1.246	3.024	0.147
1997	0.035	0.033	0.031	0.029	0.027	0.026	0.024	0.023	0.018	0.023	0.023	0.529	4.037
1998	0.093	0.087	0.082	0.077	0.072	0.068	0.064	0.052	0.000	0.000	1.661	1.497	0.473
1999	0.017	0.016	0.015	0.015	0.014	0.013	0.012	0.011	0.007	0.009	0.027	0.200	0.789
2000	0.007	0.006	0.006	0.006	0.005	0.005	0.005	0.004	0.008	0.009	0.005	0.261	0.813
2001	0.007	0.007	0.006	0.006	0.005	0.005	0.005	0.005	0.002	0.009	0.022	0.013	0.038
2002	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.004
2003	0.007	0.007	0.006	0.006	0.005	0.005	0.005	0.005	0.001	0.000	0.000	0.030	0.856
2004	0.072	0.068	0.064	0.060	0.057	0.053	0.050	0.047	0.027	0.012	0.012	0.017	0.917
2005	0.092	0.086	0.081	0.076	0.072	0.067	0.063	0.060	0.046	4.294	2.826	0.178	1.970
2006	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002
2007	0.008	0.008	0.007	0.007	0.007	0.006	0.006	0.005	0.010	0.020	0.030	0.062	1.729
2008	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.000	0.000	0.021	0.035
2009	0.007	0.007	0.006	0.006	0.005	0.005	0.005	0.005	0.002	0.000	0.000	0.000	0.004
2010	0.008	0.008	0.007	0.007	0.007	0.006	0.006	0.005	0.006	0.007	0.047	0.108	0.063
2011	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.004
2012	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.040	0.109	0.190	0.738
Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Max	0.798	0.749	0.627	0.707	0.791	0.686	0.698	0.671	1.447	4.294	2.826	3.024	5.961
Mean	0.226	0.205	0.186	0.176	0.173	0.167	0.161	0.166	0.200	0.261	0.354	0.437	0.713

Table A.10 continued: Lac Ste Anne Weekly Local Area Inflow (m³/s).

Wk/Yr	14	15	16	17	18	19	20	21	22	23	24	25	26
1955	0.226	0.434	0.556	0.889	2.119	1.681	1.503	1.406	1.952	1.737	1.314	1.190	1.006
1956	0.000	0.085	2.796	3.186	2.611	2.307	1.845	1.700	1.447	1.467	1.518	2.238	1.399
1957	0.658	0.668	1.042	0.908	0.817	0.838	0.761	0.692	0.480	0.319	0.273	0.250	0.274
1958	0.948	2.263	1.720	1.501	1.424	1.413	1.201	0.932	0.619	0.528	0.400	0.352	0.763
1959	0.078	0.296	0.320	0.421	0.396	0.588	0.296	0.321	0.275	0.165	0.134	0.146	0.235
1960	0.329	0.568	0.562	0.572	0.566	0.486	1.147	1.429	1.161	0.790	0.495	0.468	1.345
1961	0.399	0.341	0.370	0.294	0.291	0.333	0.365	0.288	0.187	0.117	0.084	0.059	0.067
1962	0.370	0.886	2.682	1.963	2.818	3.110	2.846	2.775	2.320	1.830	1.550	1.461	0.836
1963	0.819	2.244	3.842	3.578	3.505	3.192	2.944	2.342	1.993	1.618	1.274	0.908	0.679
1964	0.557	0.445	0.338	0.293	0.424	1.656	0.807	0.630	0.430	0.339	0.323	0.345	0.402
1965	0.184	0.436	0.384	5.611	5.310	4.123	3.842	3.799	5.879	4.997	3.292	2.693	9.869
1966	3.202	2.315	1.719	1.721	2.391	2.286	2.296	1.901	0.825	0.734	0.585	0.433	0.441
1967	1.761	2.622	2.458	2.117	1.118	1.096	1.067	0.998	1.018	0.816	0.955	0.722	0.523
1968	0.069	0.078	0.147	0.369	0.377	0.880	0.634	0.385	0.370	0.280	0.283	0.255	0.189
1969	0.072	1.460	1.781	1.916	1.842	1.545	1.366	1.128	0.970	0.570	0.374	0.277	0.228
1970	0.816	1.256	1.216	1.155	1.018	0.881	1.054	0.830	0.566	0.326	0.286	0.272	0.206
1971	0.044	0.212	2.726	4.199	2.505	1.964	1.727	1.362	1.076	1.085	1.894	2.388	1.924
1972	0.596	1.980	1.796	1.615	1.606	1.634	1.689	2.944	2.225	1.755	2.268	2.590	5.125
1973	0.728	0.642	1.173	1.214	1.624	1.720	1.395	1.410	1.463	1.111	1.055	0.939	1.379
1974	0.471	0.913	8.902	7.502	5.700	6.192	6.868	5.313	4.439	3.916	3.085	2.372	2.315
1975	0.178	0.542	1.373	0.904	1.174	1.553	1.164	1.094	0.868	0.807	0.628	0.508	2.490
1976	1.651	1.421	0.971	0.871	0.697	0.634	0.531	0.395	0.333	0.296	0.295	0.293	0.440
1977	1.984	0.593	0.568	0.497	0.845	2.263	2.667	2.216	6.734	3.567	2.606	2.059	1.597
1978	0.846	0.882	0.874	0.884	0.981	0.961	1.038	1.059	1.234	0.908	1.317	1.307	1.111
1979	0.496	0.461	0.804	2.789	1.787	1.952	2.054	1.957	1.694	1.527	1.991	2.108	1.814
1980	0.425	1.895	2.036	1.403	1.313	1.085	0.979	1.035	2.109	5.503	3.867	3.398	5.188
1981	0.858	0.774	0.780	0.899	0.790	1.038	0.896	0.909	2.672	2.617	1.951	1.935	1.503
1982	0.210	0.389	1.182	5.544	2.519	1.692	1.822	1.775	1.351	1.226	0.989	0.702	0.456
1983	1.867	1.011	0.806	0.754	0.671	0.621	0.621	0.499	0.356	0.288	0.222	0.457	1.138
1984	0.630	0.411	0.427	0.466	0.605	0.886	1.151	1.322	1.272	1.263	1.548	1.048	0.777
1985	1.801	2.802	2.366	2.661	2.326	1.939	1.573	1.273	1.152	0.918	0.786	0.778	1.802
1986	1.086	1.024	1.800	2.024	1.688	1.400	1.509	1.685	1.415	0.980	0.746	0.769	0.567
1987	0.322	0.012	0.029	0.005	0.005	0.012	0.012	0.010	0.030	0.009	0.077	0.554	0.775
1988	0.225	0.129	0.076	0.055	0.066	0.130	0.032	0.025	0.108	0.327	0.613	0.061	0.525
1989	5.825	7.392	2.896	0.789	0.367	0.407	2.134	5.312	0.932	1.077	1.937	0.537	5.597
1990	3.069	0.979	1.163	1.849	0.920	0.725	0.520	1.385	0.923	1.661	4.325	0.569	0.257
1991	5.433	3.417	1.362	3.309	1.333	2.301	13.107	1.009	0.594	0.468	0.252	0.252	0.502
1992	0.261	0.284	0.682	0.460	0.348	0.159	0.077	0.183	0.286	0.279	0.088	0.014	0.012
1993	1.261	0.323	0.140	0.046	0.091	0.053	0.003	0.030	0.041	0.015	0.002	0.253	0.437
1994	3.427	1.109	0.448	0.267	0.170	0.228	0.791	0.945	0.907	0.290	1.418	0.573	0.234
1995	0.163	0.164	0.143	0.066	0.269	0.238	0.129	0.047	0.034	0.798	0.235	0.636	0.551
1996	4.901	12.036	3.415	1.858	0.664	0.423	0.456	0.177	0.852	1.281	0.461	17.705	1.915
1997	3.456	3.436	14.185	3.949	1.209	0.532	0.469	1.760	2.169	1.286	1.158	19.532	9.894
1998	0.207	0.201	0.106	0.070	0.028	0.061	0.175	0.059	0.005	0.030	0.089	0.009	1.868
1999	2.794	11.167	5.268	3.015	8.167	1.859	1.134	1.023	0.267	0.636	0.369	0.176	0.140
2000	0.135	0.061	0.054	0.037	0.026	0.187	0.055	0.010	0.162	0.225	2.685	0.608	0.066
2001	0.116	0.118	0.112	0.068	0.090	0.154	0.058	0.039	0.056	0.012	0.002	0.011	0.023
2002	0.002	1.741	3.744	2.376	1.036	0.365	0.410	0.547	0.383	0.018	0.078	0.012	0.012
2003	2.522	6.632	2.067	0.787	0.524	1.315	0.284	0.062	0.049	0.037	0.021	0.244	0.226
2004	0.918	0.188	0.190	0.206	0.021	0.009	0.008	0.011	0.103	0.086	0.232	0.197	0.132
2005	6.621	2.343	1.104	0.350	0.102	1.303	0.815	0.550	0.179	0.038	0.169	0.458	1.586
2006	0.611	0.841	0.119	0.061	0.060	0.072	0.043	0.131	0.021	0.004	0.028	0.025	0.032
2007	0.570	4.791	4.385	1.560	16.562	4.462	5.650	3.656	2.312	3.275	3.446	5.306	6.136
2008	0.053	0.131	0.220	0.191	0.560	0.146	0.069	0.118	0.035	0.013	0.007	0.012	0.012
2009	0.071	0.410	0.039	0.012	1.030	1.668	2.135	4.269	0.221	0.245	0.172	0.123	0.000
2010	0.034	0.061	0.020	0.028	0.073	0.020	0.078	0.122	0.166	0.216	0.234	0.134	0.037
2011	0.102	1.355	2.790	12.271	3.722	1.050	0.370	0.530	0.379	0.330	0.660	8.192	2.208
2012	1.802	1.628	1.352	0.939	1.002	0.553	0.176	0.708	0.420	0.718	1.271	0.224	0.131
Min	0.000	0.012	0.020	0.005	0.005	0.009	0.003	0.010	0.005	0.004	0.002	0.009	0.000
Max	6.621	12.036	14.185	12.271	16.562	6.192	13.107	5.313	6.734	5.503	4.325	19.532	9.894
Mean	1.194	1.609	1.666	1.644	1.591	1.248	1.394	1.216	1.078	0.996	1.007	1.589	1.403

Table A.10 continued: Lac Ste Anne Weekly Local Area Inflow (m³/s).

Wk/Yr	27	28	29	30	31	32	33	34	35	36	37	38	39
1955	0.905	0.852	0.736	0.986	1.204	0.820	0.657	0.600	0.521	0.446	0.402	0.440	0.350
1956	1.012	0.876	0.710	0.647	0.772	1.309	0.833	0.766	0.720	0.702	0.683	0.705	0.566
1957	0.166	0.089	0.107	0.111	0.136	0.210	0.312	0.317	0.282	0.316	0.318	0.321	0.326
1958	0.997	0.578	0.448	0.403	0.398	0.353	0.335	0.341	0.348	0.233	0.261	0.225	0.312
1959	0.251	0.209	0.103	0.103	0.060	0.066	0.106	0.170	0.174	0.141	0.129	0.146	0.195
1960	1.968	1.216	0.853	0.661	0.447	0.447	0.361	0.358	0.319	0.325	0.276	0.310	0.337
1961	0.234	0.090	0.063	0.115	0.100	0.062	0.038	0.037	0.036	0.041	0.031	0.022	0.031
1962	0.688	0.506	0.597	0.546	0.579	0.899	0.582	0.546	0.496	0.468	0.552	0.564	0.567
1963	0.530	0.588	0.509	0.433	0.397	0.321	0.280	0.251	0.232	0.246	0.254	0.254	0.251
1964	0.278	0.217	0.700	0.446	0.403	0.389	0.418	0.476	0.430	0.590	0.562	0.596	0.855
1965	5.779	8.175	7.535	6.143	5.103	4.474	4.041	3.556	3.450	3.050	2.753	2.426	2.110
1966	0.708	1.000	1.263	1.585	1.721	1.881	2.094	1.581	2.140	1.966	1.597	1.325	1.132
1967	0.373	0.314	0.250	0.238	0.216	0.158	0.123	0.106	0.078	0.081	0.075	0.071	0.063
1968	0.128	0.096	0.090	0.097	0.212	0.172	0.151	0.242	0.221	0.244	0.224	0.235	0.213
1969	0.220	0.233	0.187	0.168	0.186	0.915	0.650	0.445	0.395	1.652	1.034	0.678	0.834
1970	0.181	0.131	0.243	0.262	0.245	0.133	0.115	0.094	0.090	0.094	0.094	0.083	0.097
1971	4.474	8.777	6.037	4.948	4.218	3.695	3.268	2.925	2.530	2.268	2.051	1.722	1.625
1972	4.107	3.284	2.652	2.181	1.958	1.772	1.508	1.271	1.082	0.904	0.858	0.764	0.746
1973	0.980	0.804	0.656	0.646	0.527	0.834	0.733	0.807	0.889	0.645	0.579	0.482	0.500
1974	1.835	6.245	3.709	2.513	2.064	1.785	1.561	1.384	1.223	1.081	1.088	0.986	0.936
1975	2.102	1.222	1.092	0.837	0.695	0.607	0.485	0.863	0.899	0.722	0.570	0.539	0.517
1976	0.355	0.293	0.246	0.225	0.203	0.222	0.258	0.265	0.390	0.380	0.356	0.329	0.315
1977	1.377	2.147	2.213	1.506	1.670	1.452	1.306	1.310	1.457	1.574	1.515	1.687	2.072
1978	0.882	2.433	1.074	0.794	0.930	0.673	0.693	0.770	0.638	0.889	1.828	1.814	1.204
1979	3.088	2.816	2.475	1.912	1.771	1.537	1.345	1.172	1.058	0.972	0.917	0.846	0.838
1980	4.096	3.352	2.878	2.641	2.554	3.140	2.562	2.198	2.138	1.898	1.805	2.292	1.978
1981	1.134	0.977	1.066	1.617	2.088	0.857	0.556	0.392	0.364	0.380	0.298	0.317	0.330
1982	5.109	3.992	3.733	2.677	2.200	1.784	1.607	1.430	1.515	1.576	1.421	1.266	1.223
1983	1.728	2.851	2.503	1.454	1.241	0.999	0.841	0.733	0.666	0.706	0.642	0.666	0.600
1984	0.609	0.447	0.351	0.286	0.224	0.193	0.169	0.160	0.155	0.147	0.271	0.408	0.691
1985	0.693	0.433	0.480	0.374	0.250	0.265	0.338	0.324	0.309	0.367	1.048	1.239	1.166
1986	0.523	0.848	9.095	5.051	4.234	3.938	3.442	2.867	2.394	2.061	1.914	1.704	1.855
1987	0.718	0.161	0.013	0.017	0.061	0.063	0.059	0.061	0.049	0.042	0.046	0.046	0.043
1988	13.716	5.883	0.610	0.223	0.131	0.563	0.528	0.628	0.027	0.013	0.012	0.053	0.148
1989	5.722	21.696	1.241	0.301	5.574	2.853	3.551	3.058	1.070	2.343	0.797	0.635	0.523
1990	12.261	0.660	0.090	0.049	0.011	0.000	0.002	0.014	0.025	0.006	0.000	0.002	0.000
1991	0.758	0.365	0.033	0.128	0.101	0.135	0.014	0.001	0.000	0.000	0.000	0.000	0.000
1992	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
1993	0.223	0.034	0.297	0.321	0.054	0.011	0.003	0.015	0.018	0.016	0.025	0.022	0.007
1994	7.354	5.300	0.911	0.074	0.006	0.067	0.057	0.081	0.005	0.346	0.034	0.040	0.004
1995	0.327	0.120	0.105	0.320	0.375	3.277	2.734	0.687	2.066	0.320	0.083	0.043	0.030
1996	0.371	0.198	0.394	0.248	0.710	1.396	0.159	0.193	0.033	0.006	0.032	0.063	0.058
1997	0.614	1.100	0.460	0.103	0.050	0.017	0.166	0.020	0.070	0.137	0.034	0.096	0.035
1998	2.785	0.711	0.265	0.261	0.615	0.342	0.082	0.022	0.004	0.001	0.000	0.041	0.045
1999	0.207	0.616	0.639	0.316	0.090	0.085	0.024	0.002	0.014	0.010	0.003	0.002	0.000
2000	0.891	2.328	0.766	0.309	0.194	0.402	0.342	0.134	0.302	1.170	0.108	0.045	0.084
2001	0.047	0.096	0.992	12.920	12.937	1.532	0.512	0.046	0.022	0.029	0.036	0.027	0.002
2002	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
2003	0.195	0.162	0.011	0.006	0.008	0.004	0.037	0.033	0.020	0.009	0.002	0.015	0.018
2004	0.030	4.820	0.734	0.179	0.033	0.026	0.028	0.028	0.093	0.309	0.326	0.345	0.215
2005	0.440	0.093	0.137	0.087	0.101	0.012	0.045	0.154	0.043	0.002	0.012	0.013	0.011
2006	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.000	0.007	0.008	0.008
2007	3.854	3.347	2.256	2.118	1.996	1.750	1.486	1.305	1.256	1.281	1.077	0.941	0.494
2008	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.012
2009	7.536	4.381	0.006	0.003	0.020	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
2010	0.000	0.000	0.023	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.007
2011	0.674	12.618	0.810	0.536	0.207	0.286	0.219	0.074	0.026	0.015	0.010	0.008	0.007
2012	0.265	0.055	0.088	4.691	0.977	0.328	0.118	0.006	0.002	0.241	0.014	0.000	0.000
Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Max	13.716	21.696	9.095	12.920	12.937	4.474	4.041	3.556	3.450	3.050	2.753	2.426	2.110
Mean	1.837	2.084	1.131	1.136	1.091	0.855	0.724	0.610	0.566	0.578	0.502	0.482	0.459

Table A.10 continued: Lac Ste Anne Weekly Local Area Inflow (m³/s).

Wk/Yr	40	41	42	43	44	45	46	47	48	49	50	51	52	Mean	Dam ^s
1955	0.356	0.329	0.321	0.306	0.227	0.138	0.126	0.012	0.005	0.003	0.000	0.000	0.000	0.617	19410
1956	0.523	0.485	0.452	0.404	0.320	0.316	0.341	0.352	0.361	0.377	0.425	0.476	0.542	0.736	23150
1957	0.618	0.701	0.701	0.637	0.638	0.597	0.618	1.173	0.809	1.181	0.943	0.807	0.773	0.482	15154
1958	0.395	0.410	0.356	0.213	0.237	0.214	0.207	0.182	0.205	0.192	0.220	0.200	0.142	0.577	18157
1959	0.206	0.172	0.259	0.273	0.264	0.194	0.162	0.130	0.217	0.245	0.252	0.236	0.295	0.170	5355
1960	0.324	0.325	0.291	0.295	0.311	0.257	0.168	0.180	0.177	0.172	0.193	0.397	0.548	0.456	14349
1961	0.022	0.037	0.043	0.050	0.056	0.050	0.032	0.029	0.025	0.010	0.000	0.000	0.000	0.181	5703
1962	0.557	0.557	0.564	0.555	0.535	0.526	0.511	0.517	0.434	0.469	0.386	0.256	0.233	0.753	23669
1963	0.255	0.245	0.243	0.242	0.291	0.306	0.338	0.329	0.279	0.198	0.143	0.059	0.167	0.759	23859
1964	0.964	0.816	0.804	0.806	0.791	0.815	0.674	0.587	0.637	0.411	0.322	0.280	0.231	0.483	15190
1965	1.889	1.657	1.296	1.141	1.026	0.945	0.945	0.945	0.936	0.917	0.848	0.745	0.621	2.441	76759
1966	1.063	1.051	0.916	0.708	0.537	0.231	0.222	0.223	0.286	0.311	0.479	0.566	0.575	1.054	33161
1967	0.056	0.072	0.096	0.081	0.078	0.071	0.070	0.066	0.062	0.049	0.044	0.007	0.005	0.485	15266
1968	0.209	0.216	0.213	0.237	0.201	0.189	0.189	0.184	0.166	0.144	0.117	0.100	0.073	0.175	5499
1969	1.392	1.250	1.116	1.072	1.039	0.909	0.923	0.989	0.948	0.940	0.929	0.896	0.856	0.665	20919
1970	0.087	0.085	0.085	0.109	0.101	0.100	0.102	0.104	0.055	0.055	0.059	0.052	0.041	0.379	11923
1971	1.543	1.447	1.288	1.107	1.025	1.073	1.084	1.108	1.008	0.680	0.572	0.539	0.539	1.634	51382
1972	0.760	0.731	0.654	0.646	0.672	0.580	0.557	0.549	0.544	0.538	0.518	0.448	0.365	1.239	38964
1973	0.488	0.562	0.500	0.559	0.436	0.490	0.508	0.411	0.376	0.418	0.435	0.566	0.462	0.674	21205
1974	0.825	0.782	0.708	0.644	0.610	0.508	0.505	0.499	0.496	0.489	0.476	0.456	0.446	1.831	57587
1975	0.498	0.434	0.446	0.331	0.266	0.285	0.303	0.439	0.414	0.438	0.362	0.418	0.427	0.638	20076
1976	0.363	0.316	0.346	0.307	0.311	0.283	0.266	0.270	0.288	0.332	0.375	0.395	0.389	0.418	13133
1977	2.058	1.912	1.740	1.653	1.564	1.312	0.723	0.935	1.109	1.011	0.712	0.471	0.397	1.331	41874
1978	1.145	1.092	1.066	1.152	1.121	0.934	0.810	0.818	0.625	0.830	0.856	0.727	0.592	0.874	27476
1979	0.813	0.782	0.753	0.748	0.726	0.707	0.507	0.401	0.438	0.485	0.541	0.512	0.439	1.098	34545
1980	1.798	1.649	1.582	1.459	1.485	1.380	1.405	1.073	1.090	0.937	1.008	0.974	0.750	1.625	51119
1981	0.313	0.376	0.372	0.329	0.330	0.322	0.255	0.202	0.347	0.332	0.353	0.380	0.257	0.702	22091
1982	1.189	1.109	1.092	1.038	0.957	0.643	0.540	0.490	0.375	0.256	0.315	0.347	0.395	1.142	35900
1983	0.640	0.648	0.620	0.660	0.706	0.672	0.756	0.783	0.703	0.664	0.625	0.421	0.405	0.727	22879
1984	0.554	0.529	0.639	0.550	0.619	0.674	0.649	0.685	0.620	0.654	0.494	0.413	0.400	0.565	17779
1985	1.084	1.070	1.192	1.188	0.989	0.643	1.274	1.030	0.932	0.910	0.931	1.122	0.819	0.912	28677
1986	2.179	2.013	1.736	1.589	1.507	1.288	1.471	1.256	1.039	0.946	0.842	0.748	0.642	1.599	50291
1987	0.043	0.100	0.120	0.109	0.104	0.095	0.090	0.084	0.079	0.074	0.070	0.066	0.061	0.148	4648
1988	0.142	0.169	0.268	0.055	0.076	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.509	16003
1989	0.487	0.608	0.676	1.716	0.563	0.402	0.378	0.355	0.334	0.314	0.295	0.277	0.260	1.765	55503
1990	0.000	0.009	0.049	0.013	0.012	0.011	0.011	0.010	0.009	0.009	0.008	0.008	0.007	0.833	26198
1991	0.000	0.000	0.034	0.050	0.053	0.059	0.054	0.050	0.047	0.045	0.042	0.039	0.037	0.715	22477
1992	0.012	0.012	0.012	0.012	0.012	0.012	0.011	0.010	0.009	0.009	0.008	0.008	0.007	0.206	6478
1993	0.014	0.009	0.012	0.019	0.039	0.036	0.034	0.032	0.030	0.028	0.027	0.025	0.023	0.147	4622
1994	0.030	0.005	0.007	0.016	0.017	0.016	0.015	0.014	0.013	0.012	0.012	0.011	0.010	0.620	19489
1995	0.020	0.027	0.045	0.193	0.057	0.049	0.046	0.044	0.041	0.039	0.036	0.034	0.032	0.341	10728
1996	0.259	0.067	0.080	0.089	0.069	0.058	0.055	0.052	0.048	0.046	0.043	0.040	0.038	1.069	33623
1997	0.015	0.084	0.127	0.294	0.199	0.155	0.144	0.136	0.128	0.120	0.113	0.106	0.099	1.395	43859
1998	0.032	0.052	0.243	0.074	0.033	0.029	0.027	0.026	0.024	0.023	0.021	0.020	0.019	0.249	7821
1999	0.000	0.029	0.016	0.012	0.012	0.011	0.010	0.010	0.009	0.009	0.008	0.008	0.007	0.756	23777
2000	0.062	0.045	0.029	0.021	0.013	0.012	0.011	0.010	0.010	0.009	0.009	0.008	0.007	0.246	7724
2001	0.031	0.016	0.006	0.005	0.004	0.005	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.582	18313
2002	0.012	0.012	0.012	0.012	0.010	0.012	0.011	0.010	0.010	0.009	0.008	0.008	0.007	0.212	6683
2003	0.010	0.016	0.036	0.264	0.109	0.120	0.113	0.106	0.100	0.094	0.088	0.083	0.077	0.335	10547
2004	0.137	0.164	0.204	0.158	0.159	0.154	0.144	0.136	0.128	0.120	0.113	0.106	0.099	0.245	7707
2005	0.188	0.078	0.125	0.024	0.006	0.007	0.007	0.006	0.006	0.005	0.005	0.005	0.004	0.522	16416
2006	0.006	0.009	0.013	0.018	0.013	0.014	0.013	0.012	0.011	0.011	0.010	0.010	0.009	0.043	1368
2007	0.424	0.008	0.008	0.005	0.004	0.005	0.004	0.004	0.004	0.004	0.003	0.003	0.003	1.686	53015
2008	0.012	0.012	0.012	0.012	0.012	0.012	0.011	0.010	0.010	0.009	0.009	0.008	0.007	0.037	1172
2009	0.015	0.015	0.015	0.015	0.013	0.014	0.013	0.012	0.011	0.011	0.010	0.010	0.009	0.436	13711
2010	0.010	0.007	0.007	0.005	0.004	0.005	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.031	974
2011	0.008	0.008	0.006	0.008	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.953	29963
2012	0.000	0.013	0.020	0.003	0.004	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	0.527	16559
Min	0.000	0.000	0.006	0.003	0.004	0.003	0.003	0.002	0.002	0.002	0.000	0.000	0.000	0.0	974
Max	2.179	2.013	1.740	1.716	1.564	1.380	1.471	1.256	1.109	1.181	1.066	1.122	1.066	2.441	76759
Mean	0.468	0.439	0.425	0.419	0.372	0.345	0.337	0.330	0.313	0.305	0.290	0.275	0.254	0.7	22791

Table A.11: Isle Lake Observed Weekly Water Levels (m).

Wk/Yr	1	2	3	4	5	6	7	8	9	10	11	12	13
1972													
1973													729.669
1974													
1975													
1976													
1977											729.890		
1978													
1979												729.866	
1980												729.795	
1981													
1982										729.674			
1983									729.672			729.677	
1984									729.894				729.960
1985									729.642				
1986										729.735		729.821	
1987								729.616				729.622	729.632
1988								729.587				729.614	
1989								729.791				729.794	
1990											729.632		729.662
1991									729.736		729.770		
1992									729.615		729.698		729.702
1993									729.329				729.367
1994										729.538			
1995							729.976						730.009
1996										730.039			
1997													
1998													
1999													
2000										729.686			
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008													
2009													
2010													
2011													
2012													
Min							729.976	729.329	729.642	729.538	729.632	729.614	729.367
Max							729.976	729.791	729.894	730.039	729.890	729.866	730.009
Mean							729.976	729.588	729.736	729.734	729.748	729.741	729.714

Table: A.11 continued: Isle Lake Observed Weekly Water Levels (m).

Wk/Yr	14	15	16	17	18	19	20	21	22	23	24	26
1972								730.028	730.001	729.972	729.927	729.961
1973	729.700	729.710	729.735	729.749	729.764	729.757	729.741				729.664	
1974					730.676	730.668	730.636	730.577	730.503		730.289	730.225
1975				729.979	729.990	730.018	729.988	729.947	729.930	729.899	729.868	729.904
1976					729.912	729.869	729.828	729.794	729.759	729.733	729.732	729.786
1977				729.974	729.992	730.030	730.057	730.070	730.125	730.414		
1978			729.960		729.905		729.857	729.837	729.832	729.814	729.834	729.829
1979							729.955	729.961	729.935	729.885	729.825	729.862
1980				730.093	730.007	729.942	729.877	729.841	729.916	730.041	730.095	730.108
1981		729.786			729.752	729.769	729.771	729.765	729.788	729.823	729.831	729.822
1982			729.764	730.102	730.177	730.126	730.075	730.021	729.957	729.907	729.862	729.800
1983	729.774	729.854	729.843	729.821	729.781	729.748	729.712	729.678	729.658	729.653	729.640	729.710
1984	729.970	729.946			729.866	729.900	729.931	729.972	729.967	729.961	729.999	729.975
1985	729.744	729.952			730.043	729.986	729.924	729.860	729.827	729.780	729.739	729.763
1986	729.873		729.881	729.934	729.951	729.925	729.913	729.893	729.852	729.791	729.756	729.740
1987	729.706	729.704		729.656	729.654	729.641	729.617	729.615	729.610	729.586	729.579	729.567
1988		729.619			729.604	729.585	729.576	729.558	729.555	729.560	729.626	729.639
1989	729.892		730.018		729.956	729.944	729.918	730.068	730.047	729.978	729.983	729.997
1990		729.742			729.732	729.764	729.767	729.761	729.769	729.768	729.820	729.849
1991	729.794	729.951		729.929	729.919	729.926	730.227	730.182	730.093	730.018	730.036	729.998
1992		729.668				729.579	729.578	729.598	729.567	729.571	729.580	729.529
1993			729.408		729.442	729.446	729.438	729.445	729.442	729.401	729.378	729.443
1994		729.736	729.750		729.724	729.752	729.750	729.705	729.731	729.742	729.765	729.781
1995			730.021		729.962	729.936	729.936	729.883	729.870	729.835	729.820	729.846
1996		730.303	730.323		730.276	730.255	730.244	730.166	730.143	730.158	730.168	730.470
1997			730.185			730.164	730.184	730.097	730.014	730.030	730.012	730.398
1998				729.557	729.551	729.533	729.569	729.509	729.527	729.483	729.467	729.531
1999					729.991	729.998	729.980	729.923	729.906	729.846	729.820	729.789
2000				729.714		729.730	729.752	729.773	729.726	729.736	729.790	729.800
2001					729.726	729.747	729.771	729.756	729.718	729.685	729.688	729.687
2002							730.000		729.883	729.853	729.817	729.726
2003					729.707	729.732	729.710	729.678	729.646	729.616	729.617	729.623
2004					729.636	729.630	729.621					729.621
2005					729.968	729.957	729.932	729.912	729.868	729.823	729.786	729.778
2006					729.676	729.706	729.710	729.709	729.726	729.717	729.732	729.706
2007					730.034	730.297	730.233	730.159	730.074	729.996	729.952	729.922
2008					729.590	729.583	729.570	729.590	729.587	729.572	729.586	729.563
2009					729.455	729.454	729.454	729.450	729.432	729.428	729.423	729.389
2010					729.263	729.264	729.256	729.295	729.300	729.302	729.305	729.299
2011					729.785	729.803	729.801	729.806	729.803	729.810	729.814	730.018
2012					729.957	729.951	729.938	729.948	729.958	729.966	730.007	729.996
Min	729.700	729.619	729.408	729.557	729.263	729.264	729.256	729.295	729.300	729.302	729.305	729.299
Max	729.970	730.303	730.323	730.102	730.676	730.668	730.636	730.577	730.503	730.414	730.289	730.470
Mean	729.807	729.831	729.899	729.864	729.841	729.841	729.845	729.838	729.822	729.793	729.785	729.806

Table: A.11 continued: Isle Lake Observed Weekly Water Levels (m).

Wk/Yr	27	28	29	30	31	32	33	34	35	36	37	38	39
1972	729.963	729.929	729.897	729.875	729.850	729.808	729.839	729.835				729.725	
1973		729.783					729.765	729.765	729.765	729.763	729.762	729.762	729.761
1974				730.438	730.409	730.375	730.325	730.317	730.289			730.207	
1975	730.058	730.016	729.988	729.954	729.905	729.887	729.922	729.946	729.977	729.972	729.938		729.933
1976	729.825	729.817	729.792	729.784	729.792	729.804	729.832	729.852	729.857	729.878	729.875	729.873	729.867
1977			730.225	730.216	730.212	730.186	730.149	730.113	730.093	730.075	730.050	730.041	730.034
1978	729.841	729.970	730.098	730.080	730.071	730.042	730.018	730.044	730.034			730.286	
1979	729.852	729.831	729.861	729.900	729.943	729.935	729.919	729.896	729.867		729.814	729.765	729.762
1980	730.172	730.171	730.158	730.132	730.127	730.142	730.116	730.088	730.082	730.056	730.039	730.059	730.051
1981	729.800	729.785	729.805	729.892	729.961	729.963	729.941	729.926	729.903	729.874	729.839	729.824	729.809
1982	730.083	730.376	730.401	730.361	730.270	730.199	730.167	730.124	730.107	730.098	730.069	730.035	730.000
1983	729.760	729.828	729.892	729.922	729.949	729.947	729.924	729.909	729.899	729.892	729.884	729.875	729.873
1984	729.964	729.957	729.939	729.931	729.900	729.869	729.842	729.818	729.783	729.764	729.793	729.782	729.787
1985	729.751	729.733	729.736	729.717	729.690	729.673	729.686	729.698	729.684	729.673	729.699	729.714	729.725
1986	729.738	729.742	730.177	730.326	730.278	730.238	730.165	730.096	730.050	730.006	729.985	729.966	729.969
1987	729.554	729.548	729.538	729.542	729.609	729.738	729.747	729.737	729.728	729.716	729.702	729.686	729.676
1988	729.694	730.003	730.024	729.993	729.964	729.965	729.964	729.980	729.949	729.918	729.879	729.873	729.851
1989	730.061	730.517	730.584	730.562	730.570	730.645	730.681	730.790	730.786	730.722	730.649	730.567	730.474
1990	730.025	730.126	730.121	730.078	730.051	729.989	729.975	729.959	729.989	729.925	729.885	729.866	729.831
1991	729.993	729.976	729.924	729.906	729.873	729.844	729.793	729.762	729.770	729.731	729.739	729.695	729.686
1992	729.501	729.480	729.463	729.480	729.442	729.430	729.415	729.394	729.409	729.354	729.384	729.404	729.402
1993	729.474	729.476	729.480	729.517	729.517	729.510	729.499	729.481	729.499	729.488	729.494	729.489	729.512
1994	729.895	730.050	730.108	730.079	730.058	730.068	730.044	730.056	730.039				729.965
1995	729.832	729.853	729.845	729.877	729.893	729.909	729.954	729.984	730.020	730.034	730.036	730.030	730.023
1996	730.468	730.455	730.470	730.408	730.338	730.370	730.357	730.288	730.236	730.236	730.170	730.146	730.194
1997	730.462	730.440	730.412	730.393	730.363	730.333	730.243	730.162	730.136	730.128	730.100	730.063	730.097
1998	729.579	729.638	729.613	729.579	729.559	729.548	729.523	729.513	729.489	729.481	729.441	729.432	729.445
1999	729.786	729.811	729.822	729.806	729.793	729.790	729.776	729.768	729.773	729.773	729.759	729.758	729.753
2000	729.812	729.859	729.896	729.890	729.887	729.922	729.892	729.836	729.816	729.832	729.794	729.799	729.806
2001	729.639	729.614	729.655	729.692	729.962	729.945	729.917	729.895	729.893	729.961	729.945	729.926	729.900
2002	729.683	729.655	729.638	729.625	729.665	729.575	729.558	729.539	729.536	729.526	729.508	729.497	729.492
2003	729.610	729.600	729.576	729.566	729.535	729.514	729.526	729.512	729.503	729.491	729.474	729.472	729.463
2004	729.612	729.676	729.793	729.781	729.757	729.759	729.744	729.760	729.765	729.796	729.798	729.793	729.792
2005	729.779	729.747	729.740	729.721	729.703	729.677	729.662	729.672	729.667	729.662	729.664	729.659	729.638
2006	729.680	729.662	729.635	729.617	729.608	729.587	729.578	729.568	729.547	729.531	729.532	729.567	729.566
2007	729.929	729.911	729.890	729.860	729.839	729.835	729.814	729.789	729.773	729.770	729.738	729.705	729.677
2008	729.550	729.537	729.519	729.506	729.501	729.486	729.461	729.457	729.444	729.429	729.419	729.407	729.396
2009	729.386	729.436	729.426	729.405	729.388	729.384	729.367	729.352	729.340	729.325	729.312	729.303	729.284
2010	729.271	729.277	729.307	729.316	729.305	729.294	729.294	729.290	729.275	729.272	729.287	729.287	729.292
2011	730.024	730.173	730.221	730.249	730.255	730.250	730.227	730.180	730.130	730.081	730.041	730.004	729.971
2012	730.004	730.004	729.997	730.056	730.068	730.040	730.014	729.970	729.929	729.939	729.905	729.876	729.862
Min	729.271	729.277	729.307	729.316	729.305	729.294	729.294	729.290	729.275	729.272	729.287	729.287	729.284
Max	730.468	730.517	730.584	730.562	730.570	730.645	730.681	730.790	730.786	730.722	730.649	730.567	730.474
Mean	729.819	729.858	729.889	729.901	729.897	729.887	729.869	729.857	729.846	729.810	729.795	729.801	729.779

Table A.11 continued: Isle Lake Observed Weekly Water Levels (m).

Wk/Yr	40	41	42	43	44	45	46	47	48	49	50	51	52	Mean
1972					729.686									729.887
1973	729.762	729.757	729.756			729.738								729.744
1974					730.058									730.390
1975					729.890									729.945
1976	729.856	729.840	729.832	729.823	729.806									729.821
1977				729.991										730.107
1978						730.061								729.963
1979	729.749	729.744	729.735	729.725	729.720									729.845
1980	730.023	729.993	729.968	729.942	729.924									730.035
1981	729.776	729.769	729.749	729.728	729.720									729.822
1982	729.965	729.926	729.896	729.868	729.839	729.814								730.029
1983	729.861	729.856	729.856	729.857	729.873									729.810
1984	729.764	729.740	729.738	729.737	729.723	729.715								729.871
1985	729.719	729.714	729.725	729.724	729.723	729.727								729.758
1986	729.984	729.964	729.940	729.929	729.885	729.877								729.943
1987	729.663	729.639	729.623	729.619	729.615			729.606						729.637
1988	729.845	729.830	729.822	729.798	729.782									729.776
1989	730.387	730.329	730.253	730.205	730.179				730.033					730.260
1990	729.833	729.861	729.835	729.838	729.827									729.872
1991	729.720	729.652	729.635	729.606	729.636									729.859
1992	729.377	729.372	729.356	729.329	729.343									729.486
1993	729.482	729.494	729.484	729.501	729.476									729.462
1994	729.969	729.947	729.941	729.944	729.951			729.943						729.885
1995	730.022	730.005	729.997	729.981	729.979									729.941
1996	730.129	730.101	730.113	730.086	730.008									730.250
1997	730.056	729.937	729.913	729.949	729.883									730.158
1998	729.431	729.501	729.475	729.506	729.432									729.514
1999	729.728	729.698	729.671	729.669										729.807
2000	729.786	729.787	729.792	729.796										729.804
2001	729.886	729.945	729.908	729.842	729.845									729.809
2002	729.464	729.462	729.453	729.451	729.448									729.617
2003	729.458	729.453	729.449	729.444	729.446									729.557
2004	729.798	729.794	729.786	729.794	729.790									729.736
2005	729.646	729.645	729.645	729.643	729.641									729.741
2006	729.556	729.547	729.560	729.563	729.574									729.626
2007	729.654	729.632	729.617	729.607	729.602									729.861
2008	729.390	729.373	729.359	729.344	729.331									729.486
2009	729.261	729.240	729.240	729.236	729.236									729.364
2010	729.290	729.280	729.264	729.256	729.252									729.285
2011	729.938	729.916	729.892	729.871	729.864									729.995
2012	729.853	729.841	729.832	729.809	729.800	729.852	729.841	729.829	729.806	729.801				729.927
Min	729.261	729.240	729.240	729.236	729.236	729.715	729.841	729.606	729.806					729.285
Max	730.387	730.329	730.253	730.205	730.179	730.061	729.841	729.943	730.033					730.390
Mean	729.752	729.738	729.725	729.722	729.716	729.826	729.841	729.793	729.920					729.822

Table A.12: Isle Lake Simulated Weekly Water Levels (m).

Wk/Yr	1	2	3	4	5	6	7	8	9	10	11	12	13
1955	730.332	729.729	729.743	729.753	729.765	729.771	729.784	729.788	729.797	729.796	729.795	729.795	729.784
1956	729.868	729.872	729.868	729.862	729.861	729.854	729.850	729.854	729.874	729.866	729.856	729.840	729.826
1957	729.916	729.923	729.919	729.921	729.918	729.926	729.914	729.908	729.901	729.888	729.880	729.863	729.844
1958	729.892	729.898	729.901	729.908	729.911	729.927	729.935	729.940	729.939	729.934	729.930	729.914	729.900
1959	729.828	729.824	729.832	729.830	729.847	729.853	729.842	729.829	729.816	729.803	729.787	729.773	729.753
1960	729.717	729.723	729.724	729.725	729.725	729.723	729.732	729.731	729.735	729.729	729.725	729.712	729.721
1961	729.851	729.856	729.856	729.860	729.858	729.862	729.866	729.888	729.883	729.876	729.865	729.850	729.839
1962	729.591	729.593	729.594	729.596	729.611	729.647	729.648	729.650	729.664	729.662	729.658	729.650	729.644
1963	729.900	729.892	729.897	729.910	729.904	729.906	729.899	729.901	729.899	729.903	729.886	729.866	729.855
1964	729.794	729.800	729.804	729.809	729.801	729.809	729.802	729.797	729.795	729.803	729.799	729.796	729.789
1965	729.918	729.911	729.924	729.917	729.922	729.927	729.943	729.941	729.937	729.935	729.923	729.910	729.895
1966	730.045	730.044	730.045	730.035	730.026	730.012	729.997	730.001	729.984	729.967	729.953	729.949	729.930
1967	729.950	729.947	729.949	729.951	729.942	729.938	729.944	729.940	729.933	729.928	729.932	729.929	729.918
1968	729.697	729.703	729.707	729.704	729.708	729.707	729.702	729.699	729.697	729.688	729.678	729.677	729.663
1969	729.617	729.622	729.634	729.634	729.637	729.637	729.639	729.640	729.651	729.644	729.634	729.630	729.616
1970	729.991	730.001	730.002	729.992	729.982	729.982	729.973	729.973	729.964	729.959	729.953	729.939	729.927
1971	729.739	729.748	729.751	729.767	729.790	729.795	729.790	729.785	729.777	729.767	729.757	729.743	729.748
1972	730.057	730.042	730.031	730.032	730.023	730.018	730.007	729.994	729.989	729.991	729.981	729.962	729.956
1973	729.993	729.988	729.974	729.962	729.952	729.945	729.939	729.927	729.922	729.911	729.896	729.879	729.863
1974	729.967	729.968	729.971	729.956	729.980	729.975	729.960	729.949	729.948	729.946	729.930	729.944	729.942
1975	729.956	729.953	729.946	729.940	729.937	729.932	729.929	729.922	729.910	729.901	729.888	729.879	729.868
1976	729.933	729.933	729.925	729.919	729.914	729.906	729.903	729.895	729.886	729.885	729.893	729.884	729.872
1977	729.825	729.828	729.841	729.841	729.847	729.845	729.843	729.840	729.832	729.824	729.812	729.799	729.788
1978	730.027	730.022	730.017	730.006	730.004	729.989	729.980	729.963	729.950	729.933	729.919	729.905	729.898
1979	730.015	730.003	729.995	729.987	729.978	729.977	729.986	729.971	729.955	729.942	729.933	729.941	729.929
1980	729.979	729.985	729.974	729.963	729.963	729.952	729.942	729.945	729.937	729.932	729.916	729.907	729.893
1981	730.098	730.081	730.057	730.033	730.012	729.991	729.978	729.958	729.950	729.942	729.924	729.907	729.894
1982	729.885	729.907	729.908	729.902	729.910	729.908	729.908	729.900	729.899	729.902	729.905	729.885	729.864
1983	729.959	729.954	729.953	729.948	729.946	729.946	729.937	729.931	729.924	729.927	729.923	729.912	729.901
1984	729.963	729.958	729.966	729.958	729.963	729.953	729.945	729.932	729.922	729.912	729.908	729.892	729.886
1985	729.959	729.953	729.952	729.955	729.950	729.946	729.937	729.927	729.929	729.918	729.899	729.881	729.866
1986	730.033	730.022	730.011	730.008	730.007	729.994	729.981	729.969	729.956	729.964	729.968	729.951	729.968
1987	730.061	730.042	730.027	730.014	729.998	729.983	729.971	729.958	729.950	729.937	729.920	729.908	729.888
1988	729.588	729.588	729.591	729.591	729.594	729.593	729.599	729.609	729.603	729.596	729.585	729.573	729.560
1989	729.767	729.763	729.758	729.754	729.749	729.781	729.775	729.767	729.760	729.757	729.748	729.733	729.715
1990	729.967	729.964	729.952	729.941	729.932	729.922	729.918	729.911	729.896	729.894	729.900	729.916	729.942
1991	729.839	729.831	729.822	729.813	729.825	729.820	729.810	729.802	729.802	729.812	729.803	729.786	729.770
1992	729.805	729.813	729.809	729.803	729.811	729.804	729.796	729.800	729.807	729.821	729.846	729.878	729.876
1993	729.584	729.587	729.587	729.586	729.585	729.584	729.584	729.591	729.590	729.584	729.596	729.596	729.625
1994	729.556	729.570	729.605	729.617	729.626	729.625	729.632	729.630	729.630	729.621	729.610	729.606	729.603
1995	729.787	729.782	729.779	729.773	729.767	729.762	729.755	729.748	729.742	729.737	729.726	729.735	729.758
1996	729.787	729.802	729.800	729.799	729.792	729.785	729.781	729.780	729.771	729.764	729.752	729.766	729.819
1997	729.894	729.883	729.873	729.869	729.861	729.851	729.839	729.833	729.819	729.820	729.820	729.802	729.793
1998	729.843	729.845	729.846	729.842	729.839	729.832	729.825	729.815	729.804	729.790	729.779	729.799	729.811
1999	729.642	729.662	729.684	729.695	729.699	729.707	729.701	729.694	729.686	729.682	729.671	729.661	729.649
2000	729.713	729.713	729.719	729.727	729.721	729.715	729.718	729.711	729.702	729.691	729.694	729.688	729.679
2001	729.691	729.689	729.686	729.683	729.680	729.677	729.673	729.668	729.661	729.651	729.640	729.632	729.620
2002	729.787	729.782	729.776	729.778	729.773	729.765	729.760	729.754	729.748	729.748	729.741	729.734	729.723
2003	729.540	729.540	729.543	729.558	729.570	729.571	729.577	729.583	729.585	729.589	729.585	729.588	729.576
2004	729.634	729.636	729.638	729.641	729.656	729.664	729.660	729.655	729.650	729.650	729.639	729.632	729.617
2005	729.664	729.669	729.669	729.685	729.683	729.693	729.688	729.684	729.677	729.669	729.756	729.813	729.813
2006	729.707	729.704	729.703	729.700	729.694	729.689	729.683	729.677	729.679	729.683	729.678	729.673	729.656
2007	729.517	729.517	729.527	729.526	729.526	729.535	729.541	729.540	729.539	729.530	729.521	729.510	729.499
2008	729.663	729.662	729.661	729.661	729.662	729.662	729.661	729.658	729.649	729.641	729.630	729.619	729.603
2009	729.301	729.306	729.317	729.318	729.319	729.320	729.322	729.320	729.325	729.320	729.316	729.307	729.300
2010	729.445	729.446	729.447	729.448	729.451	729.455	729.455	729.452	729.447	729.438	729.428	729.417	729.408
2011	729.244	729.253	729.269	729.286	729.287	729.291	729.293	729.295	729.297	729.306	729.304	729.299	729.298
2012	729.782	729.778	729.776	729.773	729.769	729.766	729.760	729.751	729.752	729.743	729.739	729.729	729.725
Min	729.244	729.253	729.269	729.286	729.287	729.291	729.293	729.295	729.297	729.306	729.304	729.299	729.298
Max	730.332	730.081	730.057	730.035	730.026	730.018	730.007	730.001	729.989	729.991	729.981	729.962	729.968
Mean	729.812	729.802	729.802	729.801	729.801	729.800	729.797	729.793	729.788	729.784	729.778	729.772	729.765

Table: A.12 continued: Isle Lake Simulated Weekly Water Levels (m).

Wk/Yr	14	15	16	17	18	19	20	21	22	23	24	25	26
1955	729.776	729.763	729.751	729.759	729.798	729.812	729.817	729.812	729.810	729.814	729.811	729.812	729.815
1956	729.812	729.795	729.770	729.812	729.849	729.867	729.880	729.879	729.878	729.878	729.902	729.924	729.935
1957	729.835	729.828	729.815	729.808	729.813	729.798	729.784	729.766	729.757	729.733	729.718	729.691	729.672
1958	729.894	729.893	729.911	729.911	729.904	729.895	729.888	729.872	729.870	729.854	729.828	729.801	729.773
1959	729.733	729.712	729.696	729.682	729.675	729.677	729.680	729.657	729.645	729.631	729.627	729.638	729.621
1960	729.719	729.705	729.699	729.690	729.678	729.668	729.667	729.689	729.707	729.705	729.696	729.684	729.700
1961	729.830	729.824	729.819	729.798	729.778	729.757	729.732	729.712	729.693	729.660	729.635	729.629	729.605
1962	729.629	729.622	729.634	729.671	729.711	729.771	729.811	729.846	729.868	729.932	729.960	729.961	729.950
1963	729.854	729.854	729.882	729.938	729.982	730.034	730.060	730.067	730.063	730.051	730.033	730.009	729.977
1964	729.771	729.780	729.766	729.749	729.731	729.750	729.778	729.776	729.791	729.765	729.752	729.731	729.712
1965	729.875	729.861	729.848	729.838	729.931	730.014	730.055	730.101	730.142	730.253	730.270	730.251	730.215
1966	729.928	729.967	729.985	729.979	729.998	729.999	730.000	730.001	729.991	729.982	729.969	729.946	729.926
1967	729.918	729.929	729.959	729.975	729.978	729.957	729.936	729.916	729.912	729.893	729.901	729.888	729.859
1968	729.649	729.632	729.621	729.605	729.586	729.594	729.585	729.570	729.551	729.533	729.520	729.520	729.504
1969	729.612	729.595	729.609	729.625	729.670	729.692	729.696	729.700	729.700	729.695	729.680	729.652	729.625
1970	729.914	729.899	729.897	729.889	729.878	729.863	729.853	729.838	729.821	729.794	729.775	729.771	729.742
1971	729.744	729.721	729.709	729.741	729.802	729.822	729.834	729.837	729.848	729.841	729.881	729.937	729.957
1972	729.934	729.919	729.930	729.939	729.934	729.935	729.926	729.933	729.973	729.972	729.966	730.001	730.046
1973	729.848	729.841	729.848	729.843	729.847	729.855	729.855	729.863	729.871	729.869	729.852	729.891	729.927
1974	729.921	729.905	729.913	730.084	730.197	730.261	730.318	730.355	730.346	730.378	730.332	730.274	730.241
1975	729.853	729.851	729.837	729.843	729.838	729.861	729.860	729.853	729.860	729.855	729.845	729.836	729.810
1976	729.856	729.863	729.877	729.874	729.858	729.837	729.819	729.800	729.789	729.765	729.744	729.732	729.762
1977	729.772	729.790	729.776	729.761	729.748	729.786	729.822	729.865	729.904	730.062	730.075	730.095	730.074
1978	729.897	729.889	729.882	729.871	729.866	729.859	729.849	729.850	729.862	729.861	729.847	729.880	729.882
1979	729.915	729.902	729.896	729.902	729.927	729.937	729.944	729.955	729.957	729.949	729.953	729.990	730.004
1980	729.871	729.852	729.864	729.875	729.871	729.863	729.850	729.836	729.887	729.921	730.041	730.071	730.126
1981	729.880	729.871	729.864	729.849	729.846	729.837	729.825	729.811	729.800	729.850	729.870	729.913	729.927
1982	729.843	729.821	729.806	729.801	729.891	729.906	729.907	729.921	729.922	729.904	729.899	729.879	729.856
1983	729.882	729.907	729.900	729.885	729.868	729.856	729.842	729.828	729.804	729.784	729.768	729.741	729.816
1984	729.877	729.862	729.842	729.824	729.807	729.814	729.818	729.834	729.845	729.844	729.900	729.895	729.876
1985	729.847	729.861	729.894	729.953	729.967	729.976	729.981	729.964	729.947	729.944	729.917	729.905	729.954
1986	729.975	729.963	729.966	729.987	730.001	729.990	729.993	729.975	729.969	729.948	729.933	729.920	729.924
1987	729.862	729.852	729.821	729.789	729.756	729.729	729.704	729.696	729.661	729.642	729.618	729.588	729.590
1988	729.550	729.534	729.514	729.497	729.472	729.449	729.424	729.406	729.378	729.367	729.391	729.395	729.392
1989	729.705	729.818	729.955	729.979	729.952	729.920	729.890	729.967	730.050	730.021	730.009	730.001	729.972
1990	730.014	730.055	730.030	730.008	730.037	730.005	729.978	729.952	729.960	729.936	729.937	730.012	729.968
1991	729.777	729.902	729.944	729.934	729.986	729.974	730.077	730.315	730.242	730.169	730.133	730.088	730.073
1992	729.867	729.862	729.843	729.848	729.832	729.809	729.783	729.752	729.730	729.721	729.697	729.664	729.639
1993	729.646	729.664	729.657	729.642	729.620	729.604	729.593	729.566	729.558	729.531	729.508	729.484	729.523
1994	729.717	729.771	729.769	729.753	729.730	729.713	729.690	729.715	729.707	729.721	729.728	729.761	729.748
1995	729.749	729.741	729.726	729.707	729.685	729.664	729.643	729.626	729.601	729.587	729.583	729.578	729.582
1996	729.810	729.900	730.162	730.183	730.182	730.138	730.087	730.051	730.004	730.006	730.024	729.998	730.437
1997	729.859	729.913	729.955	730.260	730.261	730.192	730.124	730.094	730.092	730.098	730.076	730.082	730.527
1998	729.797	729.780	729.756	729.728	729.705	729.675	729.650	729.642	729.631	729.613	729.587	729.564	729.544
1999	729.648	729.695	729.920	730.002	730.047	730.198	730.171	730.132	730.092	730.039	730.008	729.974	729.942
2000	729.681	729.669	729.657	729.638	729.625	729.611	729.611	729.587	729.566	729.552	729.580	729.637	729.630
2001	729.603	729.587	729.569	729.549	729.526	729.504	729.481	729.466	729.451	729.472	729.449	729.448	729.430
2002	729.715	729.704	729.743	729.802	729.827	729.817	729.791	729.771	729.748	729.719	729.684	729.654	729.620
2003	729.590	729.632	729.771	729.794	729.806	729.822	729.818	729.790	729.764	729.759	729.731	729.704	729.720
2004	729.626	729.631	729.630	729.611	729.595	729.572	729.546	729.520	729.493	729.494	729.472	729.472	729.448
2005	729.832	729.950	729.965	729.946	729.914	729.880	729.871	729.877	729.870	729.839	729.804	729.809	729.817
2006	729.636	729.647	729.657	729.633	729.620	729.603	729.596	729.575	729.599	729.572	729.593	729.588	729.551
2007	729.526	729.534	729.626	729.734	729.750	730.159	730.183	730.117	730.056	729.994	729.961	729.938	729.917
2008	729.587	729.571	729.554	729.549	729.533	729.540	729.525	729.500	729.518	729.489	729.475	729.454	729.427
2009	729.287	729.272	729.277	729.258	729.238	729.236	729.259	729.290	729.357	729.331	729.325	729.299	729.282
2010	729.395	729.379	729.363	729.348	729.343	729.333	729.315	729.324	729.315	729.307	729.295	729.271	729.253
2011	729.282	729.266	729.283	729.322	729.579	729.638	729.639	729.619	729.619	729.611	729.601	729.628	729.847
2012	729.726	729.758	729.793	729.797	729.802	729.798	729.777	729.749	729.767	729.746	729.765	729.764	729.739
Min	729.282	729.266	729.277	729.258	729.238	729.236	729.259	729.290	729.315	729.307	729.295	729.271	729.253
Max	730.014	730.055	730.162	730.260	730.261	730.261	730.318	730.355	730.346	730.378	730.332	730.274	730.527
Mean	729.761	729.768	729.783	729.794	729.804	729.813	729.808	729.807	729.804	729.797	729.792	729.788	729.801

Table: A.12 continued: Isle Lake Simulated Weekly Water Levels (m).

Wk/Yr	27	28	29	30	31	32	33	34	35	36	37	38	39
1955	729.803	729.832	729.814	729.793	729.844	729.839	729.828	729.834	729.824	729.821	729.816	729.849	729.890
1956	729.966	729.948	729.924	729.895	729.896	729.950	729.946	729.947	729.938	729.953	729.962	729.953	729.949
1957	729.652	729.640	729.614	729.599	729.585	729.580	729.633	729.627	729.631	729.623	729.645	729.649	729.647
1958	729.782	729.772	729.757	729.749	729.730	729.730	729.716	729.700	729.700	729.710	729.701	729.778	729.776
1959	729.616	729.609	729.583	729.567	729.554	729.541	729.565	729.577	729.592	729.584	729.590	729.583	729.582
1960	729.727	729.739	729.733	729.740	729.736	729.754	729.749	729.770	729.770	729.760	729.775	729.768	729.787
1961	729.650	729.626	729.604	729.576	729.592	729.565	729.544	729.534	729.518	729.510	729.508	729.499	729.508
1962	729.935	729.907	729.891	729.906	729.903	729.894	729.881	729.867	729.867	729.863	729.857	729.872	729.865
1963	729.941	729.928	729.909	729.881	729.873	729.844	729.823	729.811	729.799	729.791	729.777	729.788	729.779
1964	729.713	729.683	729.691	729.704	729.696	729.696	729.718	729.718	729.718	729.759	729.785	729.783	729.797
1965	730.462	730.456	730.518	730.494	730.449	730.400	730.376	730.361	730.346	730.354	730.320	730.291	730.274
1966	729.898	729.902	729.894	729.887	729.914	729.942	729.972	730.008	730.003	730.066	730.074	730.067	730.062
1967	729.831	729.802	729.771	729.760	729.737	729.716	729.693	729.669	729.649	729.650	729.640	729.631	729.623
1968	729.501	729.473	729.449	729.468	729.468	729.471	729.467	729.456	729.474	729.489	729.501	729.509	729.509
1969	729.617	729.632	729.604	729.599	729.591	729.700	729.698	729.699	729.691	729.712	729.805	729.814	729.823
1970	729.743	729.724	729.708	729.704	729.715	729.690	729.684	729.664	729.651	729.654	729.644	729.645	729.642
1971	729.974	730.102	730.283	730.309	730.333	730.320	730.288	730.264	730.241	730.226	730.213	730.192	730.181
1972	730.151	730.170	730.166	730.150	730.156	730.161	730.145	730.119	730.094	730.088	730.076	730.056	730.063
1973	729.926	729.903	729.877	729.863	729.874	729.908	729.916	729.930	729.934	729.944	729.932	729.940	729.934
1974	730.247	730.202	730.353	730.314	730.266	730.223	730.197	730.173	730.147	730.118	730.119	730.097	730.075
1975	729.921	729.927	729.920	729.931	729.918	729.922	729.918	729.917	729.947	729.974	729.960	729.949	729.936
1976	729.762	729.749	729.730	729.714	729.702	729.716	729.714	729.735	729.738	729.766	729.770	729.771	729.765
1977	730.064	730.081	730.104	730.101	730.109	730.096	730.099	730.092	730.086	730.096	730.091	730.098	730.092
1978	729.876	729.859	729.961	729.941	729.961	729.945	729.933	729.949	729.946	729.933	729.994	730.050	730.072
1979	730.006	730.039	730.092	730.101	730.106	730.098	730.085	730.059	730.038	730.021	730.026	730.015	730.007
1980	730.227	730.234	730.240	730.219	730.213	730.241	730.242	730.222	730.229	730.209	730.189	730.194	730.214
1981	729.917	729.916	729.919	729.953	729.983	729.984	729.956	729.932	729.907	729.914	729.912	729.894	729.919
1982	729.831	730.054	730.117	730.160	730.147	730.135	730.145	730.128	730.124	730.131	730.135	730.117	730.098
1983	729.840	729.885	729.942	729.963	729.968	729.955	729.938	729.926	729.911	729.913	729.931	729.930	729.925
1984	729.867	729.861	729.832	729.815	729.785	729.760	729.747	729.739	729.732	729.723	729.795	729.799	729.826
1985	729.941	729.904	729.881	729.865	729.848	729.820	729.844	729.867	729.854	729.860	729.859	729.890	729.920
1986	729.898	729.897	729.958	730.193	730.238	730.269	730.257	730.243	730.227	730.208	730.187	730.221	730.192
1987	729.587	729.591	729.570	729.566	729.574	729.618	729.617	729.615	729.607	729.605	729.593	729.581	729.572
1988	729.398	729.765	729.882	729.857	729.826	729.811	729.826	729.834	729.847	729.824	729.811	729.812	729.809
1989	730.076	730.206	730.620	730.405	730.284	730.343	730.291	730.337	730.303	730.244	730.230	730.187	730.140
1990	729.936	730.221	730.145	730.091	730.040	729.989	729.956	729.940	729.916	729.947	729.920	729.922	729.899
1991	730.029	729.995	729.949	729.909	729.880	729.848	729.854	729.827	729.823	729.808	729.805	729.794	729.783
1992	729.608	729.600	729.591	729.570	729.550	729.525	729.508	729.508	729.510	729.522	729.551	729.551	729.546
1993	729.542	729.527	729.513	729.535	729.533	729.512	729.519	729.501	729.511	729.518	729.507	729.512	729.509
1994	729.745	729.912	730.008	729.986	729.942	729.911	729.913	729.915	729.888	729.863	729.857	729.844	729.827
1995	729.584	729.582	729.572	729.567	729.573	729.594	729.712	729.758	729.757	729.793	729.779	729.765	729.752
1996	730.328	730.231	730.172	730.163	730.095	730.091	730.077	730.036	729.999	729.969	729.971	729.956	729.951
1997	730.560	730.352	730.262	730.183	730.116	730.059	730.010	730.010	729.971	729.959	729.961	729.942	729.926
1998	729.619	729.656	729.653	729.641	729.617	729.625	729.613	729.612	729.595	729.579	729.569	729.558	729.584
1999	729.915	729.905	729.895	729.898	729.874	729.845	729.824	729.800	729.781	729.796	729.781	729.764	729.755
2000	729.618	729.632	729.691	729.697	729.682	729.670	729.669	729.661	729.655	729.682	729.723	729.713	729.707
2001	729.410	729.383	729.373	729.401	729.782	730.039	730.024	730.010	729.967	729.938	729.913	729.891	729.878
2002	729.597	729.570	729.542	729.552	729.545	729.553	729.546	729.543	729.533	729.533	729.524	729.517	729.512
2003	729.695	729.698	729.672	729.642	729.625	729.596	729.593	729.580	729.576	729.592	729.585	729.588	729.582
2004	729.421	729.440	729.563	729.571	729.560	729.563	729.549	729.531	729.535	729.549	729.569	729.570	729.595
2005	729.837	729.811	729.804	729.791	729.773	729.751	729.732	729.741	729.739	729.731	729.734	729.731	729.720
2006	729.514	729.485	729.464	729.439	729.442	729.419	729.398	729.380	729.365	729.370	729.363	729.433	729.429
2007	729.886	729.871	729.833	729.823	729.809	729.787	729.765	729.746	729.729	729.720	729.710	729.696	729.686
2008	729.396	729.395	729.388	729.370	729.360	729.353	729.338	729.324	729.317	729.305	729.293	729.283	729.285
2009	729.253	729.447	729.523	729.502	729.484	729.486	729.469	729.452	729.441	729.424	729.420	729.409	729.403
2010	729.243	729.228	729.241	729.235	729.217	729.202	729.201	729.187	729.189	729.182	729.191	729.202	729.207
2011	729.890	729.930	730.185	730.156	730.106	730.052	730.027	729.994	729.955	729.927	729.899	729.884	729.865
2012	729.710	729.726	729.718	729.755	729.882	729.884	729.859	729.845	729.821	729.821	729.814	729.798	729.784
Min	729.243	729.228	729.241	729.235	729.217	729.202	729.201	729.187	729.189	729.182	729.191	729.202	729.207
Max	730.560	730.456	730.620	730.494	730.449	730.400	730.376	730.361	730.346	730.354	730.320	730.291	730.274
Mean	729.805	729.821	729.839	729.831	729.829	729.827	729.821	729.814	729.804	729.804	729.805	729.803	729.801

Table: A.12 continued: Isle Lake Simulated Weekly Water Levels (m).

Wk/Yr	40	41	42	43	44	45	46	47	48	49	50	51	52	Mean
1955	729.882	729.877	729.870	729.865	729.863	729.912	729.903	729.894	729.890	729.880	729.871	729.870	729.864	729.831
1956	729.939	729.933	729.924	729.917	729.916	729.909	729.905	729.900	729.899	729.895	729.899	729.918	729.918	729.893
1957	729.647	729.700	729.712	729.722	729.732	729.742	729.752	729.770	729.827	729.838	729.863	729.875	729.884	729.768
1958	729.792	729.795	729.803	729.807	729.802	729.800	729.797	729.796	729.799	729.806	729.805	729.816	729.825	729.832
1959	729.591	729.600	729.632	729.635	729.645	729.665	729.670	729.672	729.683	729.686	729.690	729.693	729.696	729.681
1960	729.785	729.782	729.795	729.793	729.798	729.799	729.804	729.809	729.824	729.821	729.828	729.826	729.837	729.745
1961	729.518	729.522	729.521	729.549	729.548	729.549	729.550	729.553	729.555	729.573	729.575	729.584	729.588	729.675
1962	729.861	729.861	729.871	729.876	729.875	729.878	729.878	729.888	729.890	729.888	729.893	729.891	729.888	729.798
1963	729.776	729.771	729.767	729.767	729.765	729.766	729.771	729.782	729.787	729.787	729.786	729.793	729.795	729.875
1964	729.815	729.824	729.830	729.842	729.853	729.861	729.869	729.899	729.906	729.933	729.928	729.928	729.924	729.791
1965	730.255	730.223	730.195	730.167	730.144	730.129	730.113	730.100	730.095	730.081	730.069	730.057	730.045	730.124
1966	730.053	730.052	730.045	730.036	730.025	730.012	730.000	729.996	729.981	729.968	729.961	729.955	729.951	729.988
1967	729.618	729.636	729.635	729.635	729.639	729.647	729.657	729.657	729.663	729.663	729.663	729.670	729.676	729.805
1968	729.508	729.523	729.539	729.541	729.546	729.549	729.554	729.561	729.565	729.569	729.579	729.599	729.605	729.576
1969	729.841	729.879	729.897	729.909	729.924	729.931	729.940	729.973	729.979	729.980	729.981	729.983	729.993	729.730
1970	729.642	729.649	729.653	729.653	729.684	729.684	729.692	729.701	729.712	729.728	729.737	729.741	729.742	729.797
1971	730.185	730.162	730.143	730.127	730.111	730.102	730.100	730.092	730.091	730.081	730.081	730.069	730.076	729.980
1972	730.049	730.033	730.023	730.015	730.008	730.007	730.005	729.995	729.986	729.999	729.991	729.987	729.990	730.023
1973	729.929	729.960	729.952	729.948	729.966	729.978	729.979	729.980	729.978	729.973	729.968	729.979	729.972	729.919
1974	730.074	730.061	730.046	730.030	730.016	730.005	729.993	729.984	729.976	729.967	729.959	729.953	729.966	730.087
1975	729.934	729.931	729.922	729.920	729.922	729.915	729.907	729.900	729.905	729.911	729.925	729.920	729.916	729.904
1976	729.761	729.765	729.765	729.765	729.765	729.765	729.765	729.765	729.765	729.770	729.774	729.805	729.817	729.809
1977	730.122	730.123	730.121	730.117	730.112	730.109	730.100	730.082	730.071	730.069	730.071	730.058	730.041	729.975
1978	730.074	730.069	730.060	730.060	730.055	730.058	730.057	730.052	730.043	730.040	730.035	730.032	730.025	729.961
1979	730.003	730.001	729.997	729.995	729.988	729.982	729.978	729.969	729.979	729.976	730.004	730.000	729.990	729.988
1980	730.194	730.175	730.164	730.149	730.144	730.131	730.122	730.114	730.102	730.094	730.094	730.107	730.105	730.054
1981	729.908	729.916	729.919	729.911	729.906	729.899	729.893	729.889	729.882	729.879	729.882	729.883	729.881	729.918
1982	730.083	730.081	730.069	730.073	730.063	730.055	730.044	730.036	730.021	730.005	729.989	729.975	729.967	729.977
1983	729.921	729.922	729.924	729.922	729.940	729.940	729.944	729.949	729.954	729.960	729.969	729.973	729.966	729.911
1984	729.829	729.829	729.833	729.901	729.907	729.923	729.925	729.938	729.943	729.948	729.946	729.954	729.956	729.871
1985	729.934	729.939	729.963	729.975	729.985	729.989	729.997	730.006	730.012	730.012	730.010	730.030	730.031	729.931
1986	730.231	730.233	730.212	730.190	730.177	730.164	730.155	730.158	730.143	730.130	730.111	730.092	730.074	730.066
1987	729.567	729.569	729.566	729.566	729.567	729.567	729.567	729.568	729.569	729.571	729.572	729.573	729.575	729.713
1988	729.809	729.799	729.792	729.792	729.785	729.781	729.776	729.781	729.776	729.771	729.766	729.762	729.758	729.652
1989	730.103	730.072	730.053	730.037	730.079	730.077	730.070	730.051	730.037	730.018	730.005	729.994	729.979	730.006
1990	729.880	729.880	729.869	729.860	729.854	729.844	729.847	729.838	729.860	729.852	729.843	729.835	729.840	729.942
1991	729.772	729.766	729.759	729.825	729.822	729.828	729.822	729.816	729.811	729.817	729.824	729.817	729.811	729.884
1992	729.549	729.546	729.542	729.539	729.538	729.542	729.542	729.548	729.561	729.562	729.562	729.562	729.570	729.674
1993	729.515	729.513	729.509	729.506	729.510	729.523	729.537	729.538	729.542	729.542	729.543	729.552	729.553	729.556
1994	729.835	729.828	729.817	729.809	729.801	729.807	729.801	729.797	729.801	729.801	729.798	729.792	729.787	729.760
1995	729.749	729.744	729.741	729.739	729.741	729.745	729.764	729.761	729.769	729.786	729.784	729.795	729.789	729.712
1996	729.952	729.937	729.921	729.909	729.904	729.911	729.925	729.936	729.930	729.918	729.907	729.895	729.897	729.965
1997	729.913	729.899	729.889	729.890	729.902	729.893	729.884	729.877	729.873	729.864	729.859	729.852	729.845	729.985
1998	729.583	729.588	729.599	729.602	729.602	729.603	729.604	729.621	729.621	729.621	729.621	729.625	729.630	729.676
1999	729.748	729.744	729.737	729.731	729.726	729.723	729.721	729.720	729.718	729.716	729.716	729.712	729.715	729.807
2000	729.700	729.697	729.692	729.688	729.685	729.685	729.688	729.686	729.684	729.686	729.691	729.693	729.694	729.673
2001	729.862	729.849	729.840	729.834	729.832	729.824	729.816	729.808	729.809	729.811	729.805	729.799	729.793	729.690
2002	729.513	729.522	729.523	729.528	729.530	729.528	729.537	729.537	729.537	729.537	729.537	729.537	729.537	729.643
2003	729.576	729.574	729.572	729.576	729.600	729.606	729.607	729.617	729.619	729.620	729.624	729.625	729.625	729.634
2004	729.595	729.594	729.602	729.629	729.629	729.630	729.633	729.634	729.636	729.637	729.645	729.648	729.653	729.590
2005	729.729	729.725	729.722	729.724	729.719	729.716	729.715	729.714	729.711	729.712	729.715	729.713	729.710	729.765
2006	729.429	729.429	729.441	729.451	729.472	729.475	729.487	729.496	729.510	729.514	729.517	729.518	729.518	729.549
2007	729.678	729.671	729.663	729.659	729.657	729.657	729.656	729.655	729.655	729.660	729.661	729.664	729.663	729.711
2008	729.280	729.279	729.275	729.273	729.271	729.271	729.273	729.277	729.279	729.280	729.288	729.293	729.298	729.446
2009	729.398	729.397	729.402	729.405	729.407	729.417	729.414	729.414	729.417	729.421	729.421	729.429	729.432	729.364
2010	729.214	729.210	729.207	729.206	729.212	729.213	729.214	729.214	729.222	729.226	729.226	729.231	729.241	729.299
2011	729.849	729.839	729.828	729.818	729.811	729.804	729.801	729.804	729.798	729.797	729.792	729.787	729.786	729.655
2012	729.773	729.776	729.782	729.776	729.772	729.776	729.804	729.822	729.841	729.860	729.885	729.853	729.841	729.785
Min	729.214	729.210	729.207	729.206	729.212	729.213	729.214	729.222	729.226	729.226	729.231	729.241	729.243	729.299
Max	730.255	730.233	730.212	730.190	730.177	730.164	730.155	730.158	730.143	730.130	730.111	730.107	730.105	730.124
Mean	729.799	729.798	729.796	729.796	729.797	729.798	729.799	729.800	729.802	729.802	729.803	729.804	729.803	729.800

Table A.13: Lac Ste Anne Observed Weekly Water Levels (m).

Wk/Yr	1	2	3	4	5	6	7	8	9	10	11	12	13
1955													
1956													
1957													
1958											722.678		
1959													
1960													
1961													
1962													
1963													
1964													
1965													
1966													
1967													
1968													
1969													
1970													
1971													
1972													
1973													
1974													
1975													
1976								722.906					
1977											722.855		
1978									722.973				
1979												722.933	
1980											722.639		
1981													722.846
1982									722.747				
1983									722.794				
1984									722.659				722.679
1985										722.855			722.849
1986										722.800	722.812		722.867
1987									722.781				
1988									722.644			722.644	
1989									722.789			722.775	
1990			723.000					722.959			722.931	722.935	722.946
1991								722.807				722.805	
1992								722.778			722.797		
1993								722.587			722.591		
1994									722.584				
1995								722.653					722.668
1996										722.681			
1997													
1998													
1999													
2000										722.413			
2001													
2002													
2003													
2004													
2005													
2006													
2007													
2008													
2009													
2010													
2011													
2012													
Min							722.653	722.587	722.584	722.413	722.591	722.644	722.668
Max							722.906	722.959	722.973	722.855	722.931	722.935	722.946
Mean							722.780	722.783	722.746	722.687	722.758	722.818	722.809

Table: A.13 continued: Lac Ste Anne Observed Weekly Water Levels (m).

Wk/Yr	14	15	16	17	18	19	20	21	22	23	24	25	26
1955			722.931		723.032	723.065	723.056	723.059	723.028	723.028	722.983	722.949	722.922
1956					723.022	723.037	723.047	723.022	723.013	723.001	723.001	722.985	722.986
1957					722.870	722.882	722.879	722.867	722.867	722.842	722.842	722.806	722.791
1958				722.800	722.805	722.809		722.763		722.781	722.754	722.763	722.730
1959					722.634	722.641	722.644	722.644	722.640	722.617	722.623	722.666	722.696
1960					722.766	722.757	722.787	722.809	722.827	722.787	722.794	722.794	722.815
1961					722.730	722.733	722.733	722.736	722.733	722.723	722.687	722.671	722.672
1962		722.641	722.656	722.672	722.775	722.759	722.781		722.791	722.827	722.851	722.839	722.839
1963					723.071	723.089	723.101	723.092	723.089	723.080	723.071	723.062	723.019
1964						722.806	722.791	722.799	722.791	722.791	722.760	722.760	722.727
1965					722.928	723.248	723.034	723.095	723.111	723.131	723.217	723.217	723.370
1966					722.970	722.973	722.961	722.943	722.952	722.919	722.919	722.985	722.955
1967					722.763	722.791	722.791		722.768		722.809	722.812	722.811
1968					722.501		722.547	722.490	722.486	722.498	722.486	722.486	722.498
1969					722.562	722.550	722.553	722.553		722.565	722.562	722.522	722.486
1970						722.794	722.803	722.797	722.794	722.778	722.772		722.797
1971			722.836	722.922	722.958	722.958	722.964	722.964	722.995	723.018	723.086	723.104	
1972				723.263	723.254			723.253	723.226	723.190	723.162	723.168	
1973							722.976		722.995	722.976		722.998	
1974			723.327	723.678	723.748	723.787	723.777	723.708	723.638	723.607	723.515	723.487	
1975		722.964				723.055	723.062	723.068	723.052	723.035	723.004	723.004	723.065
1976				723.016	723.016	723.012	722.952	722.983	722.964	722.937	722.939	722.928	722.940
1977					722.937	723.004	723.043	723.078	723.188	723.263	723.277	723.279	723.260
1978		722.882	722.905	722.909	722.928	722.928	722.934	722.942	722.958	722.950	722.948	722.946	722.924
1979			722.945		723.030	723.060	723.074	723.080	723.060	723.046	723.043	723.043	723.033
1980					722.796	722.792	722.793	722.796	722.835	722.888	722.883	722.872	722.884
1981					722.871	722.864	722.843	722.827	722.814	722.794	722.780		
1982									723.015	723.000	722.986	722.945	722.908
1983	722.797	722.831	722.839	722.853		722.856	722.853	722.838	722.821	722.803	722.771	722.813	722.816
1984	722.689	722.709			722.705	722.722	722.739	722.749	722.759	722.749	722.823	722.822	722.829
1985		722.961			723.110	723.113	723.113	723.096	723.084		723.033	722.983	723.033
1986		722.888			722.943	722.942	722.950	722.950	722.947	722.918	722.886	722.859	722.853
1987	722.911				722.865	722.864	722.835	722.830	722.824	722.806	722.786	722.771	722.766
1988		722.634			722.620	722.603	722.597	722.572	722.564	722.577	722.624	722.617	722.624
1989		722.837	722.887		722.949	722.960	722.960	723.101	723.109	723.121	723.116	723.108	723.094
1990		722.991		723.002	723.019	723.013	723.013	723.019	723.023	723.022	722.997	722.970	722.948
1991	722.889				722.981	722.999	723.149	723.196	723.198	723.171	723.140	723.119	723.111
1992		722.837			722.859	722.857	722.842	722.837	722.837	722.830	722.832	722.810	722.776
1993		722.630			722.600	722.598	722.598	722.605	722.597	722.605	722.574	722.545	722.573
1994		722.641			722.647	722.655	722.647	722.657	722.662	722.674	722.692	722.717	722.717
1995	722.676		722.690		722.719	722.736	722.754	722.759	722.740	722.739	722.722	722.741	722.743
1996			722.854		723.000	723.022	723.052	723.042	723.042	723.042			723.268
1997			723.140	723.212		723.131	723.137	723.193	723.136	723.146	723.129	723.127	723.282
1998			722.888		722.884	722.873	722.887	722.836	722.823	722.790	722.807	722.818	722.811
1999					722.777	722.818	722.823	722.842	722.864	722.878	722.870	722.856	722.862
2000				722.642	722.647	722.647	722.655	722.648	722.642	722.625	722.666	722.671	722.654
2001					722.530	722.514	722.499	722.485	722.487	722.472	722.465	722.464	722.458
2002						722.573	722.603	722.623	722.639	722.643	722.643	722.639	722.620
2003					722.576	722.598	722.610	722.619	722.604	722.610	722.627	722.632	722.628
2004					722.499	722.490	722.483	722.461	722.482	722.494	722.494	722.496	722.479
2005					722.660	722.675	722.688	722.703	722.707	722.708	722.692	722.701	722.736
2006					722.642	722.643	722.657	722.645	722.647	722.641	722.626	722.608	722.625
2007					722.717	722.882	722.927	722.997	723.000	723.006	723.003	723.006	723.013
2008					722.910	722.915	722.918	722.941	722.940	722.932	722.930		
2009					722.697	722.705	722.709	722.707	722.687	722.680	722.674	722.661	722.627
2010					722.389	722.380	722.374	722.405	722.398	722.395	722.397	722.378	722.373
2011					722.475	722.471	722.453	722.457	722.447	722.445	722.456	722.533	722.557
2012					722.727	722.728	722.717	722.730	722.735	722.726	722.736	722.709	722.697
Min	722.676	722.630	722.656	722.642	722.389	722.380	722.374	722.405	722.398	722.395	722.397	722.378	722.373
Max	722.911	722.991	723.140	723.327	723.678	723.748	723.787	723.777	723.708	723.638	723.607	723.515	723.487
Mean	722.792	722.804	722.874	722.927	722.820	722.847	722.839	722.851	722.859	722.845	722.839	722.838	722.839

Table: A.13 continued: Lac Ste Anne Observed Weekly Water Levels (m).

Wk/Yr	27	28	29	30	31	32	33	34	35	36	37	38	39
1955	722.908	722.903	722.882	722.864	722.885	722.845	722.821	722.803	722.778	722.757	722.708	722.747	722.747
1956	722.970	722.934	722.897	722.891	722.894	722.931	722.903	722.922	722.922	722.917	722.909	722.911	722.876
1957	722.772	722.751	722.757	722.731	722.723	722.702	722.727	722.705	722.687	722.684	722.684	722.666	722.641
1958	722.757	722.727	722.717	722.711	722.687	722.693	722.687	722.653	722.637	722.623	722.589	722.687	722.687
1959	722.720	722.720	722.693	722.705	722.687	722.656	722.659	722.696	722.681	722.675	722.672	722.643	722.632
1960	722.845	722.815	722.812	722.809	722.788	722.809	722.794		722.781	722.781	722.745	722.720	722.742
1961	722.696	722.672	722.684	722.675	722.699	722.678	722.650	722.647	722.620	722.589	722.568	722.559	722.534
1962	722.809	722.800	722.809	722.824	722.817	722.809	722.778		722.757	722.641	722.961	722.809	722.792
1963	722.989	723.004	722.980	722.958	722.928	722.897	722.867	722.851	722.851	722.848	722.848	722.841	722.821
1964	722.727	722.699	722.720	722.720	722.692	722.669	722.669	722.669	722.656	722.669	722.669	722.669	722.669
1965	723.522	723.583	723.583	723.613	723.583	723.553	723.553	723.521	723.492	723.476	722.516	723.400	723.385
1966	722.912	722.900	722.865	722.842	722.836	722.821	722.821	722.817	722.821	722.821	722.821	722.821	722.806
1967	722.730	722.912	722.669	722.669	722.784	722.663	722.638	722.608	722.577	722.547	722.516	722.486	722.479
1968	722.470	722.455	722.417	722.419		722.407	722.388		722.402	722.406			722.394
1969	722.504	722.492	722.470	722.461		722.547	722.522	722.492	722.504	722.553	722.553	722.534	
1970	722.818	722.766	722.797	722.766	722.797	722.754	722.747	722.723	722.723	722.723	722.723	722.663	722.663
1971	723.178	723.361	723.397		723.421		723.421	723.361	723.300		723.269	723.211	723.208
1972	723.159	723.159		723.089	723.083		723.077	723.047		722.992	722.970		
1973		722.976		722.946	722.925			722.920	722.946		722.912	722.900	722.882
1974	723.411	723.467	723.487	723.431	723.368	723.324	723.289	723.232	723.196	723.156	723.127	723.108	723.080
1975	723.070	723.068	723.056	723.056	723.019	723.004			723.007		723.001	722.984	722.975
1976	722.920	722.905	722.901	722.891	722.876	722.897	722.909	722.897	722.940	722.943	722.936	722.934	722.929
1977	723.269	723.283	723.279	723.266	723.278	723.289	723.282	723.275	723.270	723.266	723.249	723.230	723.210
1978	722.910	722.929	722.925	722.910	722.904	722.885	722.867	722.882	722.882	722.876	722.937	722.982	723.001
1979	723.033	723.033	723.023	723.013	722.997	722.970	722.947	722.917	722.890	722.867	722.849	722.834	722.818
1980	722.898	722.895	722.891	722.891	722.878	722.874	722.875	722.862	722.850	722.841	722.839	722.833	722.829
1981						722.760				722.685	722.667	722.667	722.677
1982	723.097	723.147	723.165	723.170	723.171	723.147	723.145	723.127	723.111	723.100	723.077	723.037	723.010
1983	722.829	722.849	722.855	722.858	722.841	722.802	722.775	722.739	722.711	722.681	722.667	722.652	722.646
1984	722.829	722.834		722.795	722.786	722.786	722.769	722.744	722.737	722.688	722.748	722.738	722.778
1985	723.010	722.980	722.960	722.935	722.902	722.873	722.884	722.886	722.869	722.857	722.846	722.849	722.849
1986	722.830	722.835	723.016	723.101	723.121	723.127	723.098	723.059	723.034	722.987	722.977	722.964	722.961
1987	722.756	722.730	722.704	722.698	722.738	722.802	722.808	722.808	722.807	722.801	722.791	722.770	722.751
1988	722.635	722.749	722.766	722.763	722.756	722.770	722.777	722.784	722.786	722.772	722.750	722.754	722.757
1989	723.080	723.258	723.297	723.310	723.295	723.316	723.335	723.368	723.415	723.446	723.434	723.418	723.387
1990	723.035	723.036	723.040	723.023	722.997	722.954	722.930	722.906	722.882	722.889	722.884	722.872	722.856
1991	723.078	723.047	723.017	722.986	722.956	722.928	722.915	722.894	722.871	722.840	722.835	722.804	722.784
1992	722.721	722.732	722.738	722.715	722.687	722.664	722.647	722.625	722.612	722.608	722.618	722.602	722.594
1993	722.599	722.609	722.600	722.634	722.620	722.610	722.606	722.601	722.585	722.581	722.564	722.547	722.535
1994	722.734	722.777	722.784	722.785	722.789	722.788	722.778	722.788	722.754	722.755	722.741	722.708	722.682
1995	722.741	722.716	722.688	722.693	722.749	722.766	722.739	722.727	722.726	722.711	722.696	722.704	722.683
1996	723.260	723.243	723.249	723.232	723.233	723.238	723.229	723.202	723.173	723.140	723.149	723.131	723.133
1997	723.367	723.352	723.352	723.347	723.319	723.304	723.250	723.216	723.202	723.210	723.219	723.208	723.210
1998	722.816	722.836	722.836	722.781	722.730	722.704	722.686	722.666	722.636	722.625	722.631	722.618	722.589
1999	722.855	722.838	722.840	722.829	722.775	722.765	722.768		722.747	722.736		722.723	722.711
2000	722.654	722.690	722.707	722.699	722.681	722.660	722.650			722.645	722.635	722.610	722.597
2001	722.443	722.420	722.441	722.460	722.558	722.560	722.554	722.548	722.534	722.519	722.483	722.469	722.459
2002	722.601	722.571	722.552	722.563	722.550	722.542	722.535	722.513	722.504	722.487	722.461	722.431	722.402
2003	722.623	722.615	722.598	722.597	722.596						722.473		
2004	722.465	722.489	722.502	722.479	722.452	722.443	722.428	722.406	722.393			722.410	
2005	722.752	722.740	722.735	722.711	722.703	722.690	722.666	722.681	722.679		722.644	722.635	722.629
2006	722.606	722.596	722.570	722.545	722.525	722.502	722.492	722.488	722.478	722.460	722.465	722.485	722.474
2007	723.024	723.027	723.014	722.998	722.964	722.952	722.918	722.909	722.897	722.907	722.903	722.884	722.868
2008	722.873	722.852	722.840			722.807	722.788	722.773	722.753	722.732	722.720	722.705	722.690
2009	722.611	722.629	722.613	722.594	722.587	722.577	722.557	722.535	722.520	722.503	722.477	722.465	722.439
2010	722.357	722.370	722.379	722.391	722.373	722.361	722.368	722.353	722.332	722.311	722.317	722.310	722.314
2011	722.538	722.577	722.597	722.626	722.626	722.639	722.631	722.625	722.626	722.608	722.604	722.592	722.579
2012	722.732	722.727	722.744	722.797	722.843	722.866	722.871	722.869	722.847	722.848	722.829	722.812	722.801
Min	722.357	722.370	722.379	722.391	722.373	722.361	722.368	722.353	722.332	722.311	722.317	722.310	722.314
Max	723.522	723.583	723.583	723.613	723.583	723.553	723.553	723.521	723.492	723.476	723.434	723.418	723.387
Mean	722.849	722.861	722.850	722.841	722.861	722.822	722.824	722.827	722.803	722.784	722.780	722.777	722.771

Table: A.13 continued: Lac Ste Anne Observed Weekly Water Levels (m).

Wk/Yr	40	41	42	43	44	45	46	47	48	49	50	51	52	Mean
1955	722.723	722.725	722.708	722.705	722.708									722.867
1956	722.858	722.842	722.827	722.812	722.809									722.931
1957	722.644	722.653	722.653	722.644	722.653									722.745
1958	722.669	722.659	722.647	722.623	722.629									722.702
1959	722.623	722.623	722.626	722.623	722.641									722.658
1960	722.727	722.714	722.690	722.723	722.705									722.774
1961	722.422	722.483	722.483	722.495	722.501									722.632
1962	722.659	722.650	722.672	722.428										722.757
1963	722.818	722.818	722.775	722.766										722.944
1964														722.720
1965	723.339	723.339	723.236	723.236	723.153									723.312
1966	722.821	722.760	722.754	722.699	722.681									722.859
1967	722.437	722.437		722.437	722.440									722.649
1968	722.391	722.364	722.321	722.303										722.435
1969	722.542	722.547	722.547	722.550	722.538									722.530
1970	722.632	722.632	722.632	722.632	722.629									722.734
1971	723.178		723.147	723.135	722.842									723.135
1972	722.922	722.894	722.879	722.879	722.879									723.077
1973	722.876													722.941
1974	723.058	723.010	723.004	723.004	723.002									723.358
1975	722.973	722.942	722.937	722.915										723.014
1976		722.882	722.877	722.867	722.857									722.927
1977	723.182	723.143	723.093	723.055	723.045									723.184
1978	723.016	723.033	723.050	723.056	723.047					723.019				722.945
1979	722.805	722.783	722.760	722.742	722.724			722.687						722.935
1980	722.820	722.816	722.809	722.809	722.810									722.839
1981	722.673	722.681	722.687	722.676	722.667									722.749
1982	722.980	722.957	722.940	722.924	722.910									723.034
1983	722.632	722.624	722.619	722.609	722.609									722.764
1984	722.778	722.778	722.778	722.818	722.816									722.761
1985	722.849	722.838	722.839	722.839	722.839	722.823								722.932
1986	722.984	722.968	722.956	722.941	722.933									722.952
1987	722.736	722.708	722.686	722.677	722.677	722.657								722.771
1988	722.750	722.754	722.750	722.749	722.753									722.697
1989	723.351	723.312	723.271	723.248	723.233				723.120					723.178
1990	722.830	722.830	722.817	722.803	722.800									722.946
1991	722.764	722.758				722.776								722.958
1992	722.593	722.591	722.574	722.561	722.561	722.549								722.706
1993	722.543	722.516	722.493	722.486	722.506									722.578
1994				722.678	722.669									722.712
1995					722.611									722.714
1996	723.105	723.080			723.037									723.114
1997	723.189	723.159	723.139	723.094	723.040									723.207
1998	722.572	722.570	722.560	722.550	722.540									722.727
1999	722.725	722.718		722.618										722.793
2000	722.588	722.564	722.559	722.550	722.547									722.628
2001	722.450	722.431	722.409	722.394	722.395									722.478
2002	722.405	722.411	722.392	722.381	722.383									722.526
2003					722.430									722.590
2004			722.400	722.407										722.460
2005	722.643	722.601	722.598	722.601	722.603									722.676
2006	722.464	722.462	722.462	722.468	722.490									722.547
2007	722.854	722.840	722.840	722.838	722.832									722.927
2008	722.681	722.665	722.646	722.636	722.612									722.794
2009	722.409	722.393	722.386	722.395	722.390									722.564
2010	722.310	722.300	722.284	722.274	722.273									722.351
2011	722.562	722.551	722.537	722.528	722.523									722.550
2012	722.794	722.785	722.785	722.760	722.747	722.802	722.795	722.787	722.783	722.768	722.745			722.777
Min	722.310	722.300	722.284	722.274	722.273	722.549		722.687	722.783		722.745			722.351
Max	723.351	723.339	723.271	723.248	723.233	722.823		722.787	723.120		723.019			723.358
Mean	722.757	722.737	722.725	722.705	722.709	722.721		722.737	722.952		722.882			722.806

Table A.14: Lac Ste Anne Simulated Weekly Water Levels (m).

Wk/Yr	1	2	3	4	5	6	7	8	9	10	11	12	13
1955	723.427	723.617	723.463	723.368	723.303	723.250	723.215	723.177	723.151	723.121	723.095	723.075	723.045
1956	722.891	722.898	722.897	722.894	722.896	722.891	722.890	722.894	722.915	722.910	722.902	722.888	722.876
1957	722.916	722.923	722.922	722.924	722.925	722.934	722.928	722.925	722.923	722.913	722.909	722.895	722.878
1958	722.792	722.800	722.807	722.818	722.824	722.842	722.854	722.864	722.869	722.871	722.874	722.866	722.858
1959	722.772	722.773	722.784	722.786	722.807	722.817	722.813	722.806	722.797	722.788	722.776	722.765	722.748
1960	722.651	722.656	722.657	722.659	722.661	722.661	722.672	722.673	722.679	722.675	722.674	722.664	722.663
1961	722.743	722.751	722.755	722.763	722.766	722.774	722.782	722.807	722.808	722.806	722.801	722.791	722.783
1962	722.538	722.541	722.543	722.544	722.559	722.593	722.595	722.597	722.611	722.610	722.608	722.601	722.596
1963	722.836	722.836	722.848	722.867	722.867	722.875	722.873	722.880	722.881	722.889	722.880	722.866	722.856
1964	722.769	722.773	722.778	722.784	722.780	722.790	722.786	722.782	722.779	722.783	722.779	722.774	722.766
1965	722.860	722.861	722.881	722.881	722.893	722.902	722.921	722.924	722.924	722.926	722.919	722.910	722.899
1966	723.130	723.132	723.134	723.122	723.112	723.098	723.083	723.083	723.066	723.048	723.031	723.023	723.003
1967	722.992	722.992	722.994	723.001	722.994	722.995	722.995	723.000	722.995	722.990	722.986	722.994	722.982
1968	722.676	722.685	722.688	722.686	722.692	722.693	722.689	722.686	722.686	722.678	722.670	722.670	722.657
1969	722.532	722.540	722.550	722.551	722.555	722.556	722.559	722.560	722.571	722.565	722.557	722.554	722.541
1970	722.864	722.886	722.901	722.906	722.908	722.918	722.918	722.925	722.924	722.928	722.927	722.920	722.915
1971	722.737	722.747	722.753	722.761	722.782	722.785	722.782	722.780	722.774	722.767	722.759	722.747	722.749
1972	723.140	723.127	723.116	723.119	723.111	723.105	723.094	723.082	723.073	723.074	723.062	723.043	723.042
1973	723.047	723.043	723.033	723.023	723.015	723.007	723.001	722.989	722.985	722.975	722.959	722.942	722.925
1974	722.996	723.003	723.010	723.001	723.020	723.022	723.012	723.003	723.007	723.005	722.990	723.010	723.002
1975	723.026	723.021	723.015	723.009	723.004	723.001	722.997	722.989	722.979	722.969	722.957	722.945	722.933
1976	722.957	722.963	722.959	722.955	722.951	722.944	722.941	722.935	722.926	722.927	722.931	722.920	722.906
1977	722.793	722.799	722.809	722.811	722.819	722.818	722.817	722.816	722.810	722.805	722.795	722.788	722.777
1978	723.088	723.090	723.085	723.077	723.080	723.067	723.058	723.042	723.029	723.011	722.995	722.982	722.969
1979	723.065	723.056	723.049	723.045	723.037	723.038	723.050	723.039	723.025	723.015	723.002	722.997	722.983
1980	723.013	723.025	723.018	723.010	723.010	723.001	722.992	722.995	722.991	722.985	722.974	722.964	722.953
1981	723.176	723.163	723.147	723.127	723.108	723.088	723.078	723.057	723.046	723.035	723.015	722.995	722.977
1982	722.891	722.905	722.920	722.921	722.930	722.935	722.938	722.933	722.934	722.945	722.950	722.935	722.917
1983	723.025	723.018	723.015	723.009	723.006	723.005	722.996	722.991	722.983	722.986	722.982	722.972	722.962
1984	722.965	722.964	722.975	722.971	722.979	722.973	722.966	722.957	722.949	722.941	722.939	722.926	722.917
1985	722.949	722.948	722.951	722.957	722.956	722.957	722.953	722.946	722.950	722.942	722.927	722.912	722.896
1986	723.025	723.024	723.020	723.024	723.028	723.021	723.015	723.008	722.998	722.997	723.002	722.987	722.993
1987	723.146	723.129	723.115	723.102	723.086	723.071	723.057	723.043	723.034	723.021	723.006	722.994	722.975
1988	722.599	722.598	722.600	722.598	722.600	722.599	722.602	722.611	722.605	722.597	722.587	722.575	722.561
1989	722.660	722.661	722.661	722.660	722.660	722.692	722.690	722.687	722.684	722.684	722.680	722.668	722.654
1990	723.059	723.055	723.042	723.031	723.020	723.010	723.004	722.995	722.980	722.969	722.968	722.966	722.974
1991	722.896	722.888	722.880	722.872	722.882	722.878	722.868	722.860	722.859	722.868	722.858	722.841	722.824
1992	722.857	722.864	722.861	722.855	722.862	722.856	722.848	722.851	722.857	722.857	722.864	722.873	722.868
1993	722.575	722.578	722.578	722.577	722.576	722.574	722.575	722.581	722.581	722.574	722.581	722.580	722.589
1994	722.485	722.497	722.532	722.544	722.554	722.553	722.560	722.559	722.560	722.552	722.542	722.537	722.529
1995	722.717	722.716	722.717	722.715	722.713	722.711	722.707	722.703	722.699	722.697	722.688	722.689	722.696
1996	722.692	722.713	722.715	722.719	722.717	722.715	722.715	722.718	722.713	722.709	722.701	722.704	722.728
1997	722.981	722.969	722.959	722.954	722.945	722.934	722.922	722.914	722.900	722.900	722.898	722.880	722.865
1998	722.922	722.923	722.922	722.917	722.913	722.905	722.897	722.887	722.875	722.860	722.849	722.850	722.847
1999	722.593	722.612	722.635	722.647	722.653	722.662	722.658	722.653	722.646	722.642	722.633	722.624	722.612
2000	722.712	722.713	722.719	722.728	722.724	722.718	722.722	722.716	722.707	722.698	722.701	722.696	722.685
2001	722.616	722.615	722.614	722.613	722.611	722.610	722.608	722.604	722.599	722.590	722.580	722.573	722.564
2002	722.697	722.696	722.695	722.702	722.701	722.697	722.696	722.694	722.691	722.694	722.689	722.686	722.677
2003	722.456	722.456	722.459	722.473	722.484	722.486	722.492	722.498	722.501	722.506	722.503	722.505	722.495
2004	722.486	722.489	722.491	722.495	722.510	722.519	722.516	722.513	722.510	722.511	722.503	722.497	722.485
2005	722.450	722.456	722.458	722.474	722.475	722.486	722.484	722.482	722.478	722.474	722.516	722.548	722.555
2006	722.560	722.561	722.563	722.563	722.561	722.558	722.555	722.553	722.556	722.559	722.555	722.549	722.536
2007	722.372	722.373	722.379	722.379	722.379	722.386	722.393	722.393	722.390	722.383	722.374	722.365	722.354
2008	722.818	722.812	722.807	722.804	722.801	722.797	722.792	722.786	722.774	722.763	722.749	722.735	722.717
2009	722.375	722.380	722.390	722.390	722.391	722.392	722.394	722.391	722.395	722.390	722.386	722.377	722.370
2010	722.274	722.275	722.276	722.277	722.280	722.283	722.284	722.281	722.276	722.268	722.259	722.248	722.239
2011	722.083	722.092	722.107	722.123	722.124	722.127	722.130	722.132	722.133	722.141	722.140	722.135	722.132
2012	722.624	722.626	722.629	722.632	722.633	722.635	722.634	722.631	722.635	722.631	722.629	722.622	722.620
Min	722.083	722.092	722.107	722.123	722.124	722.127	722.130	722.132	722.133	722.141	722.140	722.135	722.132
Max	723.427	723.617	723.463	723.368	723.303	723.250	723.215	723.177	723.151	723.121	723.095	723.075	723.045
Mean	722.793	722.798	722.798	722.797	722.797	722.797	722.797	722.794	722.791	722.787	722.783	722.777	722.761

Table: A.14 continued: Lac Ste Anne Simulated Weekly Water Levels (m).

Wk/Yr	14	15	16	17	18	19	20	21	22	23	24	25	26
1955	723.019	722.992	722.964	722.956	722.977	722.961	722.942	722.918	722.899	722.881	722.861	722.849	722.841
1956	722.863	722.848	722.823	722.835	722.839	722.835	722.830	722.819	722.809	722.803	722.819	722.835	722.835
1957	722.865	722.853	722.836	722.821	722.819	722.799	722.779	722.758	722.743	722.718	722.702	722.675	722.655
1958	722.857	722.854	722.855	722.848	722.836	722.824	722.812	722.795	722.792	722.778	722.756	722.732	722.708
1959	722.730	722.710	722.693	722.676	722.667	722.664	722.662	722.639	722.624	722.608	722.603	722.613	722.595
1960	722.658	722.643	722.634	722.622	722.608	722.594	722.589	722.600	722.605	722.595	722.582	722.568	722.580
1961	722.774	722.770	722.766	722.748	722.730	722.711	722.687	722.666	722.647	722.616	722.592	722.586	722.563
1962	722.582	722.573	722.576	722.586	722.605	722.637	722.649	722.663	722.666	722.714	722.740	722.745	722.740
1963	722.854	722.850	722.858	722.879	722.897	722.928	722.943	722.947	722.947	722.943	722.935	722.922	722.902
1964	722.751	722.757	722.742	722.724	722.706	722.722	722.734	722.727	722.739	722.713	722.701	722.681	722.661
1965	722.883	722.868	722.854	722.841	722.878	722.915	722.932	722.965	723.001	723.082	723.112	723.130	723.127
1966	722.991	722.999	723.001	722.987	722.988	722.978	722.969	722.963	722.949	722.947	722.934	722.920	722.905
1967	722.972	722.969	722.975	722.974	722.966	722.946	722.925	722.904	722.894	722.874	722.878	722.863	722.835
1968	722.643	722.627	722.616	722.601	722.579	722.579	722.562	722.541	722.520	722.500	722.486	722.483	722.466
1969	722.537	722.522	722.522	722.521	722.548	722.552	722.544	722.536	722.530	722.520	722.503	722.476	722.450
1970	722.908	722.893	722.887	722.873	722.858	722.840	722.827	722.808	722.791	722.764	722.749	722.752	722.725
1971	722.745	722.724	722.710	722.715	722.733	722.732	722.731	722.724	722.730	722.718	722.751	722.800	722.811
1972	723.018	723.001	722.993	722.986	722.971	722.961	722.942	722.955	722.956	722.944	722.935	722.958	722.991
1973	722.908	722.894	722.893	722.879	722.878	722.871	722.858	722.865	722.861	722.851	722.831	722.871	722.899
1974	722.982	722.964	722.965	723.042	723.098	723.150	723.214	723.254	723.279	723.300	723.307	723.282	723.268
1975	722.919	722.911	722.893	722.887	722.880	722.882	722.869	722.856	722.856	722.845	722.828	722.819	722.794
1976	722.888	722.881	722.884	722.876	722.856	722.834	722.815	722.794	722.781	722.758	722.737	722.720	722.738
1977	722.763	722.764	722.747	722.731	722.720	722.747	722.765	722.791	722.806	722.905	722.911	722.927	722.922
1978	722.961	722.947	722.935	722.919	722.907	722.890	722.874	722.867	722.871	722.864	722.845	722.860	722.854
1979	722.969	722.954	722.950	722.947	722.946	722.943	722.941	722.939	722.930	722.918	722.915	722.945	722.952
1980	722.930	722.911	722.903	722.895	722.883	722.866	722.847	722.828	722.870	722.878	722.948	722.961	723.012
1981	722.959	722.941	722.927	722.905	722.894	722.879	722.859	722.838	722.820	722.843	722.840	722.868	722.871
1982	722.900	722.878	722.863	722.846	722.877	722.873	722.863	722.866	722.861	722.841	722.835	722.814	722.793
1983	722.943	722.950	722.936	722.917	722.896	722.882	722.865	722.848	722.822	722.802	722.785	722.759	722.827
1984	722.903	722.886	722.866	722.847	722.828	722.830	722.827	722.833	722.834	722.824	722.868	722.856	722.835
1985	722.878	722.875	722.882	722.920	722.918	722.917	722.916	722.899	722.884	722.882	722.859	722.850	722.899
1986	722.989	722.976	722.977	722.987	722.991	722.976	722.977	722.957	722.945	722.922	722.909	722.897	722.902
1987	722.950	722.936	722.905	722.873	722.839	722.811	722.786	722.775	722.739	722.719	722.694	722.662	722.657
1988	722.548	722.530	722.509	722.492	722.467	722.444	722.418	722.401	722.374	722.363	722.381	722.379	722.373
1989	722.641	722.692	722.755	722.769	722.757	722.741	722.724	722.787	722.832	722.828	722.831	722.828	722.819
1990	723.001	723.023	723.009	722.992	723.014	722.990	722.970	722.951	722.953	722.930	722.923	722.961	722.930
1991	722.817	722.882	722.896	722.884	722.912	722.903	722.995	723.116	723.122	723.104	723.102	723.084	723.087
1992	722.858	722.855	722.839	722.841	722.826	722.804	722.780	722.752	722.730	722.720	722.695	722.663	722.640
1993	722.600	722.605	722.597	722.581	722.562	722.545	722.535	722.510	722.503	722.477	722.455	722.433	722.466
1994	722.579	722.599	722.593	722.579	722.560	722.547	722.526	722.545	722.532	722.540	722.548	722.568	722.557
1995	722.687	722.681	722.668	722.651	722.631	722.610	722.589	722.572	722.549	722.535	722.523	722.517	722.514
1996	722.724	722.766	722.909	722.948	722.982	722.986	722.974	722.965	722.942	722.952	722.974	722.961	723.216
1997	722.887	722.906	722.919	723.079	723.109	723.097	723.072	723.066	723.072	723.076	723.066	723.078	723.324
1998	722.829	722.812	722.788	722.760	722.738	722.708	722.683	722.673	722.661	722.644	722.617	722.594	722.575
1999	722.604	722.622	722.727	722.768	722.806	722.898	722.916	722.923	722.920	722.901	722.891	722.874	722.859
2000	722.679	722.666	722.655	722.636	722.623	722.608	722.604	722.581	722.560	722.545	722.569	722.596	722.583
2001	722.548	722.532	722.513	722.494	722.472	722.450	722.427	722.412	722.398	722.418	722.395	722.395	722.378
2002	722.672	722.663	722.684	722.706	722.711	722.699	722.677	722.659	722.638	722.611	722.581	722.554	722.524
2003	722.501	722.517	722.583	722.590	722.601	722.618	722.611	722.591	722.573	722.574	722.552	722.532	722.548
2004	722.486	722.483	722.481	722.464	722.447	722.427	722.403	722.379	722.354	722.353	722.331	722.329	722.304
2005	722.562	722.620	722.633	722.628	722.614	722.596	722.599	722.605	722.602	722.584	722.561	722.559	722.564
2006	722.519	722.525	722.520	722.507	722.491	722.474	722.464	722.443	722.459	722.434	722.443	722.437	722.404
2007	722.363	722.361	722.406	722.463	722.466	722.697	722.737	722.790	722.815	722.813	722.832	722.862	722.915
2008	722.698	722.680	722.660	722.650	722.632	722.632	722.613	722.587	722.600	722.570	722.554	722.531	722.502
2009	722.357	722.342	722.342	722.323	722.303	722.291	722.295	722.302	722.323	722.296	722.288	722.263	722.243
2010	722.226	722.211	722.195	722.181	722.175	722.166	722.149	722.158	722.147	722.140	722.128	722.104	722.083
2011	722.118	722.102	722.103	722.113	722.235	722.257	722.251	722.232	722.227	722.217	722.208	722.227	722.359
2012	722.616	722.632	722.654	722.651	722.653	722.644	722.626	722.603	722.620	722.599	722.611	722.602	722.582
Min	722.118	722.102	722.103	722.113	722.175	722.166	722.149	722.158	722.147	722.140	722.128	722.104	722.083
Max	723.019	723.023	723.009	723.079	723.109	723.150	723.214	723.254	723.279	723.300	723.307	723.282	723.324
Mean	722.752	722.749	722.750	722.748	722.748	722.748	722.741	722.737	722.733	722.726	722.721	722.717	722.724

Table: A.14 continued: Lac Ste Anne Simulated Weekly Water Levels (m).

Wk/Yr	27	28	29	30	31	32	33	34	35	36	37	38	39
1955	722.821	722.841	722.818	722.794	722.834	722.821	722.807	722.811	722.799	722.795	722.790	722.821	722.860
1956	722.863	722.852	722.835	722.812	722.816	722.868	722.866	722.871	722.867	722.886	722.900	722.898	722.899
1957	722.634	722.622	722.597	722.581	722.566	722.560	722.608	722.599	722.601	722.591	722.609	722.610	722.605
1958	722.712	722.697	722.681	722.673	722.654	722.653	722.639	722.623	722.621	722.630	722.621	722.692	722.692
1959	722.588	722.579	722.553	722.537	722.523	722.511	722.533	722.543	722.555	722.546	722.550	722.543	722.540
1960	722.595	722.591	722.578	722.580	722.574	722.591	722.587	722.607	722.609	722.602	722.618	722.614	722.634
1961	722.605	722.581	722.560	722.533	722.547	722.521	722.501	722.491	722.475	722.467	722.464	722.456	722.464
1962	722.737	722.721	722.715	722.735	722.740	722.739	722.731	722.722	722.727	722.728	722.727	722.745	722.743
1963	722.876	722.870	722.857	722.834	722.830	722.805	722.788	722.778	722.767	722.761	722.749	722.759	722.751
1964	722.660	722.631	722.638	722.645	722.634	722.632	722.651	722.649	722.647	722.683	722.705	722.702	722.714
1965	723.298	723.353	723.434	723.466	723.471	723.449	723.434	723.426	723.414	723.425	723.404	723.379	723.362
1966	722.883	722.889	722.879	722.868	722.885	722.900	722.915	722.937	722.934	722.992	723.006	723.007	723.011
1967	722.811	722.785	722.755	722.742	722.723	722.707	722.687	722.663	722.645	722.635	722.626	722.615	722.607
1968	722.463	722.436	722.412	722.425	722.423	722.428	722.424	722.413	722.429	722.444	722.447	722.450	722.449
1969	722.439	722.460	722.433	722.431	722.426	722.519	722.512	722.512	722.503	722.526	722.608	722.615	722.624
1970	722.736	722.719	722.710	722.703	722.712	722.688	722.687	722.669	722.654	722.658	722.649	722.647	722.646
1971	722.826	722.933	723.045	723.091	723.149	723.182	723.194	723.203	723.206	723.215	723.216	723.210	723.209
1972	723.055	723.071	723.077	723.076	723.093	723.105	723.107	723.094	723.084	723.089	723.088	723.077	723.087
1973	722.892	722.872	722.848	722.830	722.835	722.855	722.865	722.880	722.888	722.901	722.894	722.908	722.909
1974	723.294	723.265	723.375	723.353	723.323	723.296	723.276	723.252	723.228	723.203	723.202	723.182	723.160
1975	722.885	722.876	722.866	722.883	722.873	722.882	722.882	722.885	722.910	722.944	722.935	722.928	722.921
1976	722.740	722.726	722.706	722.691	722.679	722.695	722.683	722.696	722.712	722.732	722.735	722.734	722.728
1977	722.929	722.960	722.987	722.994	723.023	723.025	723.044	723.043	723.047	723.063	723.067	723.080	723.079
1978	722.841	722.819	722.886	722.874	722.893	722.883	722.877	722.893	722.896	722.888	722.947	723.000	723.021
1979	722.959	722.969	723.017	723.020	723.035	723.032	723.031	723.018	723.007	723.000	723.008	723.002	722.998
1980	723.078	723.102	723.124	723.132	723.152	723.199	723.215	723.212	723.234	723.232	723.226	723.233	723.255
1981	722.858	722.858	722.863	722.887	722.905	722.903	722.884	722.867	722.852	722.863	722.859	722.849	722.879
1982	722.775	722.929	722.975	723.011	723.016	723.021	723.047	723.053	723.064	723.085	723.099	723.096	723.089
1983	722.839	722.868	722.900	722.904	722.908	722.898	722.884	722.876	722.864	722.868	722.887	722.889	722.887
1984	722.826	722.821	722.795	722.781	722.754	722.731	722.719	722.711	722.705	722.697	722.765	722.769	722.793
1985	722.880	722.850	722.833	722.820	722.806	722.783	722.808	722.831	722.821	722.830	722.831	722.855	722.878
1986	722.880	722.880	722.936	723.078	723.117	723.161	723.172	723.180	723.184	723.186	723.182	723.227	723.216
1987	722.646	722.641	722.618	722.613	722.620	722.658	722.655	722.653	722.644	722.641	722.627	722.615	722.605
1988	722.374	722.580	722.637	722.621	722.601	722.596	722.612	722.622	722.635	722.624	722.621	722.628	722.632
1989	722.879	722.977	723.212	723.255	723.243	723.295	723.285	723.342	723.333	723.308	723.297	723.271	723.236
1990	722.909	723.059	723.037	723.022	722.998	722.969	722.951	722.943	722.928	722.965	722.946	722.955	722.938
1991	723.056	723.028	722.988	722.956	722.931	722.901	722.906	722.881	722.876	722.863	722.861	722.850	722.839
1992	722.611	722.603	722.594	722.574	722.555	722.530	722.513	722.513	722.514	722.526	722.552	722.552	722.546
1993	722.480	722.464	722.451	722.469	722.464	722.444	722.450	722.433	722.443	722.450	722.440	722.444	722.441
1994	722.557	722.647	722.701	722.700	722.683	722.673	722.691	722.704	722.694	722.683	722.684	722.681	722.674
1995	722.512	722.507	722.495	722.490	722.492	722.511	722.593	722.613	722.610	722.628	722.619	722.610	722.603
1996	723.225	723.204	723.186	723.200	723.155	723.153	723.138	723.107	723.076	723.051	723.055	723.042	723.039
1997	723.425	723.385	723.338	723.284	723.230	723.180	723.134	723.131	723.093	723.077	723.078	723.057	723.039
1998	722.625	722.631	722.623	722.609	722.584	722.588	722.572	722.570	722.554	722.540	722.530	722.520	722.542
1999	722.843	722.843	722.835	722.843	722.826	722.805	722.789	722.771	722.756	722.770	722.759	722.746	722.740
2000	722.570	722.576	722.608	722.607	722.592	722.581	722.577	722.569	722.564	722.585	722.616	722.609	722.606
2001	722.359	722.334	722.322	722.338	722.571	722.693	722.698	722.708	722.696	722.690	722.684	722.678	722.678
2002	722.503	722.478	722.452	722.463	722.457	722.465	722.458	722.456	722.447	722.448	722.439	722.433	722.428
2003	722.527	722.531	722.508	722.483	722.468	722.442	722.441	722.429	722.424	722.442	722.436	722.439	722.434
2004	722.278	722.297	722.365	722.368	722.356	722.357	722.345	722.330	722.334	722.346	722.361	722.361	722.381
2005	722.578	722.563	722.554	722.555	722.545	722.528	722.514	722.525	722.529	722.525	722.531	722.536	722.531
2006	722.369	722.341	722.329	722.303	722.300	722.285	722.271	722.255	722.240	722.241	722.232	722.300	722.298
2007	722.973	722.989	722.993	722.990	722.992	722.989	722.986	722.969	722.961	722.955	722.950	722.938	722.928
2008	722.471	722.472	722.468	722.451	722.438	722.431	722.417	722.405	722.396	722.384	722.373	722.364	722.365
2009	722.215	722.318	722.347	722.328	722.310	722.314	722.300	722.284	722.274	722.258	722.254	722.243	722.237
2010	722.076	722.062	722.077	722.073	722.056	722.043	722.048	722.035	722.037	722.030	722.037	722.047	722.050
2011	722.387	722.427	722.564	722.598	722.606	722.602	722.615	722.613	722.604	722.600	722.593	722.593	722.589
2012	722.559	722.577	722.574	722.601	722.674	722.679	722.667	722.663	722.651	722.658	722.657	722.650	722.642
Min	722.076	722.062	722.077	722.073	722.056	722.043	722.048	722.035	722.037	722.030	722.037	722.047	722.050
Max	723.425	723.385	723.434	723.466	723.471	723.449	723.434	723.426	723.414	723.425	723.404	723.379	723.362
Mean	722.729	722.741	722.751	722.751	722.753	722.754	722.753	722.750	722.746	722.749	722.753	722.754	722.754

Table: A.14 continued: Lac Ste Anne Simulated Weekly Water Levels (m).

Wk/Yr	40	41	42	43	44	45	46	47	48	49	50	51	52	Mean
1955	722.855	722.854	722.850	722.848	722.848	722.896	722.894	722.890	722.892	722.887	722.883	722.886	722.884	722.968
1956	722.895	722.894	722.891	722.889	722.892	722.890	722.890	722.889	722.890	722.889	722.895	722.915	722.916	722.871
1957	722.602	722.647	722.653	722.658	722.663	722.669	722.675	722.689	722.735	722.744	722.763	722.773	722.783	722.746
1958	722.708	722.712	722.720	722.726	722.724	722.724	722.724	722.726	722.731	722.741	722.743	722.755	722.766	722.759
1959	722.547	722.554	722.582	722.583	722.590	722.608	722.611	722.613	722.623	722.625	722.628	722.630	722.632	722.647
1960	722.635	722.634	722.649	722.650	722.658	722.662	722.670	722.680	722.698	722.701	722.712	722.715	722.729	722.636
1961	722.473	722.477	722.475	722.501	722.500	722.500	722.500	722.503	722.504	722.522	722.523	722.532	722.536	722.619
1962	722.742	722.746	722.758	722.766	722.770	722.776	722.780	722.793	722.800	722.803	722.812	722.815	722.819	722.687
1963	722.748	722.743	722.740	722.740	722.738	722.739	722.743	722.752	722.756	722.757	722.757	722.765	722.769	722.831
1964	722.727	722.732	722.736	722.745	722.755	722.762	722.770	722.800	722.811	722.841	722.844	722.853	722.858	722.737
1965	723.342	723.315	723.289	723.263	723.241	723.226	723.209	723.195	723.191	723.174	723.159	723.145	723.131	723.125
1966	723.012	723.019	723.021	723.020	723.018	723.014	723.011	723.016	723.010	723.003	723.001	722.997	722.992	722.997
1967	722.601	722.614	722.615	722.615	722.619	722.622	722.629	722.629	722.638	722.637	722.638	722.647	722.651	722.808
1968	722.446	722.455	722.468	722.468	722.471	722.472	722.475	722.480	722.482	722.484	722.492	722.513	722.520	722.537
1969	722.638	722.665	722.684	722.699	722.715	722.728	722.743	722.781	722.796	722.808	722.820	722.832	722.854	722.583
1970	722.643	722.650	722.653	722.652	722.681	722.681	722.687	722.693	722.706	722.721	722.732	722.737	722.739	722.776
1971	723.220	723.207	723.194	723.185	723.174	723.170	723.166	723.158	723.159	723.150	723.162	723.153	723.157	722.952
1972	723.078	723.067	723.060	723.054	723.053	723.054	723.055	723.047	723.039	723.048	723.043	723.040	723.046	723.050
1973	722.911	722.938	722.936	722.938	722.953	722.967	722.973	722.979	722.985	722.988	722.989	723.001	722.997	722.928
1974	723.154	723.139	723.125	723.109	723.094	723.083	723.070	723.060	723.050	723.039	723.031	723.023	723.037	723.127
1975	722.925	722.923	722.919	722.918	722.922	722.918	722.914	722.909	722.915	722.923	722.939	722.939	722.935	722.918
1976	722.725	722.730	722.732	722.730	722.730	722.729	722.729	722.730	722.733	722.737	722.769	722.783	722.785	722.802
1977	723.106	723.111	723.113	723.115	723.116	723.118	723.116	723.109	723.106	723.110	723.113	723.107	723.097	722.937
1978	723.033	723.036	723.036	723.042	723.044	723.051	723.062	723.065	723.064	723.075	723.075	723.074	723.071	722.973
1979	722.999	722.999	722.999	722.999	722.997	722.994	722.991	722.987	722.994	722.994	723.023	723.026	723.020	722.995
1980	723.243	723.230	723.227	723.214	723.211	723.199	723.191	723.181	723.170	723.161	723.172	723.179	723.187	723.070
1981	722.875	722.887	722.895	722.891	722.891	722.887	722.885	722.884	722.881	722.879	722.884	722.886	722.885	722.929
1982	723.085	723.086	723.080	723.092	723.088	723.084	723.080	723.081	723.071	723.060	723.048	723.038	723.034	722.968
1983	722.887	722.890	722.894	722.894	722.913	722.916	722.922	722.928	722.935	722.943	722.955	722.963	722.963	722.916
1984	722.794	722.793	722.796	722.859	722.868	722.885	722.890	722.904	722.912	722.920	722.922	722.934	722.942	722.860
1985	722.888	722.893	722.915	722.927	722.938	722.945	722.961	722.970	722.979	722.985	722.989	723.012	723.017	722.905
1986	723.260	723.272	723.261	723.248	723.240	723.231	723.226	723.229	723.217	723.208	723.191	723.175	723.159	723.074
1987	722.599	722.600	722.596	722.593	722.592	722.591	722.590	722.590	722.590	722.589	722.589	722.589	722.591	722.770
1988	722.638	722.634	722.633	722.636	722.635	722.636	722.637	722.647	722.647	722.647	722.648	722.648	722.648	722.568
1989	723.204	723.176	723.155	723.136	723.163	723.164	723.160	723.143	723.130	723.113	723.099	723.087	723.072	722.952
1990	722.923	722.925	722.916	722.909	722.904	722.896	722.900	722.892	722.914	722.908	722.900	722.892	722.897	722.964
1991	722.828	722.823	722.815	722.877	722.873	722.880	722.874	722.868	722.863	722.869	722.875	722.869	722.863	722.910
1992	722.549	722.545	722.541	722.538	722.536	722.539	722.543	722.544	722.556	722.556	722.556	722.563	722.569	722.683
1993	722.448	722.446	722.442	722.440	722.443	722.455	722.468	722.469	722.473	722.473	722.473	722.482	722.483	722.505
1994	722.689	722.690	722.687	722.687	722.685	722.697	722.697	722.698	722.707	722.712	722.715	722.714	722.713	722.618
1995	722.604	722.603	722.604	722.606	722.610	722.616	722.639	722.640	722.651	722.673	722.675	722.690	722.690	722.625
1996	723.040	723.024	723.009	722.996	722.990	722.996	723.010	723.022	723.016	723.005	722.994	722.982	722.984	722.947
1997	723.024	723.008	722.995	722.992	722.999	722.987	722.976	722.967	722.961	722.951	722.943	722.935	722.926	723.036
1998	722.541	722.546	722.553	722.554	722.554	722.554	722.555	722.571	722.571	722.572	722.572	722.575	722.581	722.681
1999	722.734	722.732	722.727	722.722	722.718	722.716	722.714	722.715	722.713	722.712	722.709	722.713	722.712	722.743
2000	722.601	722.599	722.596	722.595	722.593	722.595	722.600	722.599	722.599	722.603	722.610	722.613	722.617	722.627
2001	722.675	722.674	722.674	722.677	722.684	722.683	722.683	722.683	722.689	722.697	722.698	722.698	722.698	722.577
2002	722.429	722.437	722.439	722.444	722.446	722.444	722.452	722.453	722.453	722.453	722.453	722.453	722.453	722.560
2003	722.429	722.429	722.428	722.431	722.452	722.458	722.459	722.468	722.471	722.472	722.475	722.477	722.478	722.493
2004	722.380	722.379	722.386	722.410	722.411	722.412	722.415	722.417	722.419	722.421	722.429	722.433	722.438	722.415
2005	722.534	722.540	722.539	722.545	722.544	722.545	722.547	722.549	722.550	722.553	722.558	722.559	722.559	722.542
2006	722.296	722.295	722.301	722.318	722.334	722.338	722.346	722.353	722.362	722.367	722.372	722.373	722.372	722.414
2007	722.915	722.903	722.887	722.874	722.865	722.861	722.852	722.845	722.839	722.837	722.833	722.829	722.823	722.716
2008	722.360	722.359	722.355	722.353	722.350	722.350	722.351	722.355	722.357	722.357	722.364	722.369	722.373	722.541
2009	722.233	722.232	722.237	722.239	722.241	722.247	722.247	722.247	722.249	722.253	722.260	722.263	722.271	722.306
2010	722.056	722.053	722.050	722.049	722.054	722.055	722.055	722.063	722.066	722.067	722.071	722.081	722.082	722.136
2011	722.587	722.588	722.588	722.588	722.590	722.592	722.596	722.606	722.607	722.613	722.615	722.616	722.621	722.374
2012	722.638	722.646	722.656	722.656	722.657									722.631
Min	722.056	722.053	722.050	722.049	722.054	722.055	722.055	722.063	722.066	722.067	722.071	722.081	722.082	722.136
Max	723.342	723.315	723.289	723.263	723.241	723.231	723.226	723.229	723.217	723.208	723.191	723.179	723.187	723.127
Mean	722.754	722.755	722.755	722.757	722.759	722.763	722.765	722.768	722.771	722.772	722.775	722.778	722.779	722.760

