ATHABASCA RIVER BASIN STUDY

HISTORICAL NATURAL FLOWS

1912 TO 1980

by:

R.A. Bothe, P. Eng.
Hydrology Branch
Technical Services Division
Alberta Environment

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SYNOPSIS

This report presents details on the analysis of historical natural flows in the Athabasca River basin. Monthly flows are provided for the period 1912 to 1980 at 21 locations on the Athabasca River and its major tributaries. The flow data sets are suitable for water management planning on the scale of the Athbasca River basin.

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1. INTRODUCTION

This is a report on the supply of water in the Athabasca River basin. The report will serve as a reference for preliminary planning studies in that it presents a regional picture of the availability of water throughout the basin. The data contained within this report will enable a first level assessment of water supply such that zones of anticipated shortage can be identified as requiring more detailed study.

1.1 Objective

The objective of this study is to provide data sets of monthly mean natural flows at selected locations in the Athabasca River basin. Missing data are estimated such that a uniform period of record is available at all locations.

1.2 Scope

The analysis of water availability is limited to the Athabasca River and its major tributaries. Streamflow records are available at many locations not considered in this study, however, their inclusion in the report would have limited benefit to the regional nature of the study. Estimating missing records at most of these sites would be difficult. If a region that could undergo water supply shortages is identified, these stations will form part of a more detailed study. However, the time frame of such a study will likely be modified to ensure an accurate representation of streamflow throughout the region.

The time frame selected for this study encompasses the period 1912 to 1980. Streamflow records in the Athabasca River basin commence in May of 1913 at station 07BE001 - Athabasca River at Athabasca, thus ensuring adequate representation of basin runoff in the early years of

the study period. The decision to initialize the study at 1912 conforms to prior water supply studies within the Athabasca River basin and Alberta. It represents the earliest date where yearly streamflow records at the principal Alberta hydrometric stations were obtained.

1.3 Prior Studies

Two studies related to long term natural flow in the Athabasca River basin have been completed prior to this report. The first study, undertaken by the Saskatchewan-Nelson Basin Board (SNBB), dealt with water supply in the Saskatchewan-Nelson basin. Although the Alberta portion of the study concentrated on river basins south of the Athabasca, natural flows at five hydrometric stations and four points of interest within the Athabasca River basin were analysed. These data files are used to help verify results of this study.

A study of the Lesser Slave Lake water levels was conducted by Water Survey of Canada in 1978. Verification and synthesis of lake levels represented the major component of the study, however, daily discharges at the outlet for the period 1914 to 1977 were produced. These flows are used in this study in preparing the natural flow file for the Lesser Slave River.

2. SELECTION OF NATURAL FLOW POINTS

The selection of locations where natural flows are developed is based on the availability of streamflow data and the expected reliability of the estimates produced. Two types of data sets are used in the study and are classified as follows: (1) those sites with sufficient data to enable reasonable estimates of natural flow to be made for the study period and (2) those sites with insufficient or no streamflow data. For identification purposes, the former data sets are called C files; the later, G files. The criteria for establishing the C file are outlined in detail in Section 5 - Extention of Natural Flows.

2.1 The C Files

The locations where sufficient streamflow data exists to permit extension of the recorded period to the study period are listed in Table 2-1 and are shown in Figure 2-1. Fifteen sites met the criteria for reasonable accuracy. All sites are located at active hydrometric stations.

2.2 The G Files

Streamflow files are created at six locations where no streamflow records are recorded. The sites are listed in Table 2-2 and shown in Figure 2-1. Four of the sites represent potential reservoirs which were studied by the SNBB. Although no plans exist for these sites, updating the data files at these locations was considered appropriate. The remaining two sites are located at the mouths of major tributaires, for which streamflow records are not available.

TABLE 2-1 THE C FILES

NAME	CODE	LOCATION
Athabasca River near Jasper	C7AA02	NW27-45-01-W6M
Athabasca River at Hinton	C7AD02	SE22-51-25-W5M
Athabasca River near Windfall	C7AE01	NE20-60-14-W5M
McLeod River above Embarras River	C7AF02	SE07-52-18-W5M
McLeod River near Wolf Creek	C7AG01	NW10-54-16-W5M
McLeod River near Whitecourt	C7AG04	SE15-58-13-W5M
Pembina River below Paddy Creek	C7BA01	NE12-48-10-W5M
Pembina River near Entwistle	C7BB02	SW29-53-07-W5M
Pembina River at Jarvie	C7BC02	NE15-63-27-W4M
Athabasca River at Athabasca	C7BE01	SE20-66-22-W4M
Lesser Slave River at Highway No. 2	C7BK06	NE06-73-04-W5M
Clearwater River at Draper	C7CD01	NW32-88-08-W4M
Clearwater River above Christina River	C7CD05	SE33-88-07-W4M
Athabasca River below McMurray	C7DA01	NW05-90-09-W4M
Athabasca River at Embarras Airport	C7DD01	NE15-106-09-W4M

TABLE 2-2 THE G FILES

NAME	CODE	LOCATION
Athabasca - Oldman Dam Site	G7 AA	23-55-22-W5M
McLeod Valley Dam Site	G7 AB	03-55-14-W5M
Berland River at the Mouth	G7 AC	12-58-20-W5M
Pembina Dam Site	G7 BA	17-53-07-W5M
Moose Portage Dam Site	G7 BB	17-72-25-W4M
Christina River at the Mouth	G7 CA	28-88-07-W4M

2.3 Regions Not Analysed

One region within the Athabasca River basin for which a streamflow file is not produced is the La Biche River basin. Streamflow data for most of this basin is incomplete. Although several new hydrometric stations have been located within this region, a useable data set will not be available for several years. The possibility of creating a G file for this region was examined, however the accuracy of the estimated flows was prohibitive to performing any analysis. The La Biche River basin represents about 20% of the area bounded by the Athabasca River at Athabasca, the Athabasca River below McMurray, and the Clearwater River at Draper stations. Applying an equal-area yield to this zone indicates that the mean annual flow from the La Biche River basin is about 4.5% of the mean annual flow at the Athabasca River at Athabasca station. The reliability of a data set produced from this approach would be poor, as the entire flow in the La Biche River is virtually offset by the possible measurement error at the Athabasca River at Athabasca gauge.

3. PROJECTS AFFECTING NATURAL FLOW

Many small projects affect natural flow in the Athabasca River basin. In most cases it is not possible to include their effect into the calculation of natural flow, as the historical use of the water cannot be reconstructed with reliability. Table 3-1 lists estimated 1980 withdrawals as a percentage of the mean annual flow for selected regions in the basin. The withdrawals include municipal, agricultural, and industrial uses.

TABLE 3-1

1980 WATER WITHDRAWALS

REGION	WITHDRAWAL (dam^3)	% OF MEAN ANNUAL FLOW ORIGINATING IN THE REGION
Athabasca River above Hinton	600	0.01
Athabasca River, Hinton to Windfall (local)	45,800	2.17
McLeod River above Embarras River	1,800	0.29
Pembina River above Entwistle	3,600	0.52
Lesser Slave River	8,800	0.62
Clearwater River	800	0.02
Athabasca River McMurray to Embarras Airport (local)	97,800	6.59

For most regions, water withdrawal represents a small portion of the mean annual flow originating in the region, usually less than the 4% measurement error. The exception is the local area between the

Athabasca River below McMurray and the Athabasca River at Embarras Airport stations, where 1980 withdrawals amounted to over 6% of local runoff. Virtually all of the water withdrawal in this region can be accounted for by the Suncor and Syncrude oil sands plants. Table 3-2 lists total consumption estimates for these projects. Although these consumptive uses represent a quantifiable portion of the runoff from the region, they are insignificant with respect to the total volume of water in the Athabasca River that passes through the region.

TABLE 3-2

ESTIMATED TOTAL CONSUMPTIVE USE FOR SUNCOR AND SYNCRUDE

MONTHLY MEAN FLOW (CMS)

	1974	1975	1976	1977	1978	1979	1980
January	0.23	0.23	0.23	0.26	0.27	0.39	0.32
February	0.23	0.23	0.22	0.26	0.28	0.43	0.31
March	0.23	0.23	0.23	0.26	0.29	0.48	0.34
April	0.23	0.23	0.23	0.26	0.36	0.40	0.36
May	0.23	0.23	0.23	0.26	0.36	0.31	0.39
June	0.23	0.23	0.23	0.26	0.29	0.35	0.32
July	0.23	0.23	0.23	0.26	0.47	0.36	0.43
August	0.23	0.23	0.23	0.28	0.42	0.41	0.34
September	0.23	0.23	0.23	0.39	0.40	0.34	0.37
October	0.23	0.23	0.23	0.34	0.30	0.29	0.34
November	0.23	0.23	0.23	0.26	0.40	0.39	0.35
December	0.23	0.23	0.23	0.25	0.45	0.34	0.37

4. NATURAL FLOW CALCULATION (B-FILES)

Monthly flow data files, where recorded flows have been adjusted to natural flows, are named B-files. A separate listing of the B-files is not presented in this report since, with the exception of the Athabasca River at Embarras Airport, they represent the recorded flows summarized by Water Survey of Canada. The B-file data can be obtained in this report by examining the C-file listings in Appendix I. Monthly natural flow data which are not shaded in the C-files, represent the B-file data.

The Athabasca River at Embarras Airport station represents the only study location where water withdrawals from the upstream region are historically quantifiable. Natural flows are calculated at this site by adding the estimated consumptive withdrawals listed in Table 3-2 to the recorded flow. Although this change to the recorded flow at the Athabasca River at Embarras Airport is insignificant, accounting for the water use of the recognizible industry in the region is considered appropriate.

5. EXTENSION OF NATURAL FLOWS

The objective of this study is to provide data sets of monthly natural flows at selected sites for the period 1912 to 1980. In this section, the regression procedures used to estimate the missing flows at the study points are discussed.

5.1 Initial Natural Flow Data

The hydrometric stations listed in Table 2-1 are selected on the basis that their record lengths are sufficient to initiate regression analyses with other stations. The available natural flows at these sites, which comprise the B-files, become the basic values used to produce the completed 1912 to 1980 data sets, the C-files.

In some instances, it is necessary to use natural flow data from hydrometric stations outside of the Athabasca River basin in order to complete the C-files. One station used is Station 05BB001 - Bow River near Banff. Natural monthly flows for this station are complete for the 1912 to 1980 period and are obtained from the WSC Historical Streamflow Summary. The only other station, localed outside the basin, which is used is Station 05DF001 - North Saskatchewan River at Edmonton. Natural monthly flows at this location were produced by MacLaren (1981) in a flow synthesis study of the North Saskatchewan River basin.

Where hydrometric stations are judged to be close enough that they record essentially the same streamflow, the data at both stations are combined. This is the case for Station 07AD002 - Athabasca River at Hinton and Station 07AD001 - Athabasca River at Entrance. As the former station is still active, the streamflow records were combined in this data set.

5.2 Procedure for Estimating Missing Flow Data

The method used to produce estimates of missing flow data is to derive a regression equation for monthly flows between hydrometric stations with overlapping records. The regression equation is then used to provide estimates of the missing data at the station with the shorter record from the data at the station with the longer record.

In all instances, the primary goal is to obtain the best data set possible, not just the best regression equation. The data produced from the regression techniques had to make sense hydrologically. Estimated flows are compared to flows at upstream and/or downstream hydrometric stations to ensure they fit the overall relation in the basin. Anomalies are explained, or the regression equation is rejected.

The procedures used in preparing the estimated flows for the C-file are briefly summarized as follows:

(a) Regression equations are produced in the form

$$\log X_1 = b_1 + b_2 \log X_2 + b_3 \log X_3 + \ldots + b_n \log X_n$$

where X_1 = monthly flow at subject station (dependent variable)

X_{2-n} = monthly flow at other station (independent variable)

b_{1-n} = constant

Estimates of X_1 are produced where X_1 records are missing but X_{2-n} are recorded.

(b) Where possible, the regression equations and corresponding flow estimates are based on B-file data. In some instances, completed C-file data is analysed. In these cases, only the C-file flow data is used to provide estimates; the regression equation is still produced from the B-file data.

(c) Portions of missing records often are estimated with more than one regression equation. Regression equations are therefore ranked in priority with the best analysis given the highest priority in filling voids. Lower priority equations are used only when the absence of data for the independent variables make it necessary.

Priority ranking among various equations is based on the correlation coefficient of the regression equation and the standard error of estimate. The equation having the highest correlation and the lowest standard error is preferred.

(d) The completed C-files are compared with other flow files upstream and/or downstream of the subject location to ensure the estimated flow data fits the overall relation in the region. If seasonal variations, known low flow frequencies, specific flood events, and local runoffs are adequately represented by the estimated data, the C-file is accepted. If anomalies occur that cannot be explained, the regression equations in question are replaced by a new priority ranking of equations and a new C-file data set is obtained.

5.3 The C Files

The completed C-files are tabulated in Appendix I. Included in the listing are the regression equations used to estimate missing data. The exact equation used to determine each estimate can be identified by relating the type of shading in the overlay to the appropriate shading in the tabulated regression equations.

6. NATURAL FLOWS AT POINTS OF INTEREST

The monthly flow data sets at points of interest, the G-files, are derived from data in the C-files. They are primarily based on drainage area ratios between the point of interest and appropriate C-files. A linear interpolation is used, assuming that unit runoff is uniform over the drainage area lying between the hydrometric stations. In two instances, reservoir sites are located close to hydrometric stations such that the corresponding C-files are considered representative.

6.1 Procedures for Estimating Flows at Points of Interest

The equations used to prepare the G-files are listed in Table 6-1. Where more than one equation appears, the first equation listed is used to complete as much of the G-file as possible; the second equation is used to complete the data file.

6.2 The G Files

The completed G-files are tabulated in Appendix II. The data in the G-files are generally of a lesser quality than the C-file data, due to the method of their estimation. However, these data files are the best available estimates for the points of interest. In areas of limited data, such as the Christina River basin, the representation of the historical flows is more than adequate for preliminary resource management planning.

TABLE 6-1

COMPUTATION EQUATIONS FOR FLOWS AT POINTS OF INTEREST

Name	Code	Equation
Athabasca-Oldman Dam Site	G7 AA	1. G7AA = C7AD02 + 0.160 (C7AE01 - C7AD02 - B7AC01)
		2. G7AA = C7AD02 + 0.145 (C7AE01 - C7AD02)
McLeod Valley Dam Site	G7 AB	1. G7AB = C7AG01 + 0.589 (C7AG04 - C7AG02)
Berland River at Mouth	G7 AC	1. G7AC = B7AC01 + 0.614 (C7AE01 - C7AD02 - B7AG01)
		2. G7AC = 0.556 (C7AE01 - C7AD02)
Pembina Dam Site	G7 BA	1. G7BA = C7BB02
Moose Portage Dam Site	G7 BB	1. G7BB = C7BE01
Christina River at Mouth	G7 CA	1. C7CA = 0.973 (C7CD01 - C7CD05)

7. DISCUSSION OF RESULTS

The mean annual flows for the Athabasca River basin are shown on a schematic of the basin in Figure 7-1. For the 1912 to 1980 period, mean annual flow for the basin amounts to 701 m^3/sec, based on the Athabasca River at Embarras Airport station. This represents an average runoff over the entire basin of 143 mm.

7.1 Spatial Variation of Runoff

The spatial distribution of the water within the basin is significant. Almost 26% of the flow measured at the Athabasca River at Embarras River station originates in the headwater zone upstream of Hinton, an area comprising only 6% of the total basin area. About 19% of the flow originates from the Clearwater River basin. Thus, 45% of the runoff at the Athabasca River at Embarras Airport station originates from only one quarter of the basin area.

TABLE 7-1

MEAN ANNUAL RUNOFF DEPTH

Sub-Area	Average Runoff Depth Over Sub-Area (mm)
Athabasca River near Jasper	722
Berland River at Mouth	220
McLeod River near Whitecourt	162
Pembina River at Jarvie	78
Lesser Slave River at Highway No. 2	98
Christina River at Mouth	106
Clearwater River above Christina River	156

Table 7-1 lists mean annual runoff depth for selected sub-areas of the Athabasca River basin. The range in the runoff depths listed is over 600 mm. The Athabasca River near Jasper runoff depth of 722 mm approximates the upper limit in the basin. However, runoff depths less than those shown in Table 7-1 are common. For example, available records for the Shoal Creek basin indicate that average runoff depth is about 33 mm.

7.2 Use of Data Files

The data files of monthly flow provide a good basis for assessing major runoff components in the Athabasca River basin. These flows can be used to assess the changes major projects could have on the natural runoff specific to the Athabasca River. Caution should be exercised in applying the data files outside of this context.

The data files should not be subtracted to produce runoff data sets for local areas, unless this local runoff represents a significant portion of the most downstream station bounding the area. The G-file for the Christina River is produced using this procedure, as its estimated runoff averages 34% of the Clearwater River at Draper flow.

Subtracting the data files for the Athabasca River below McMurray and the Athabasca River at Embarras Airport to estimate local runoff is not valid. The difference in mean annual flow at these two sites is only 7%. Based on the two data files, runoff depth from this local area would be 67mm, whereas the likely value is closer to 100 mm. This fact does not invalidate either data file, rather it illustrates the potential for errors by misusing the data files. The 33 mm difference between the calculated and expected runoff depth of this local area

can be accounted for by a 3% change in the flows at either of the Athabasca River stations. Applied to annual runoff at either station, ±3% is insignificant. Applied as a volume in the local area, misrepresentation of runoff depths could occur.

7.3 Negative Local Area Flows

In order to balance the flow in a particular month, local runoff from an area occasionally must be negative. This, of course, is physically impossible. Negatives usually are associated with a combination of travel time and measurement error. As an example, WSC recorded May 1980 flows for the reach between the Athabasca River near Windfall station and the Athabasca River at Athabasca station are listed in Table 7-2. To balance the system, the local area flow must be -47.9 m^3/sec. This absolute quantity exceeds the recorded flow for the Pembina River at Jarvie.

TABLE 7-2

MAY 1980 RECORDED FLOWS

Station	Mean Flow (m^3/sec)
Athabasca River near Windfall	352
McLeod River near Whitecourt	73.1
Pembina River at Jarvie	47.2
Lesser Slave River at Highway #2	65.6
Total	537.9
Athabasca River at Athabasca	490
Local Area	-47.9

The majority of the negative local flow can be explained by travel time. For these flow magnitudes, travel time between Windfall and Athabasca is about 36 hours. Shifting the Athabasca River at Athabasca data set by this amount gives a monthly flow of 522 m^3/sec as opposed to 490 m^3/sec. Combining flood flows that were previously split between May and June accounts for the major increase. The remaining negative local runoff of -15.9 m^3/sec represents only 3% of the Athabasca River at Athabasca flow and likely results from combined gauging errors at the five hydrometric stations.

The occasional occurrence of negative flow in a local area further illustrates the errors which could arise if the data files are used out of context. The data files are representative of monthly flows at specific locations in the basin. Errors associated with measurement of data and estimation of missing data are minor at each location, but could override an analysis where several stations are used to estimate local flows.

8. SUMMARY

This study has produced a set of monthly natural flows at 21 locations on the Athabasca River and its major tributaries. The data sets, covering the period 1912 to 1980, are suitable for water management planning on the scale of the Athabasca River basin. If an area is identified as having a potential water supply problem, a detailed analysis of the region, likely on a shorter time frame, should be considered.

9. REFERENCES

1. Alberta Environment, Planning Division, North Saskatchewan River Basin Flow Synthesis Study, MacLaren Engineers, Planners, and Scientists Inc., March, 1981.

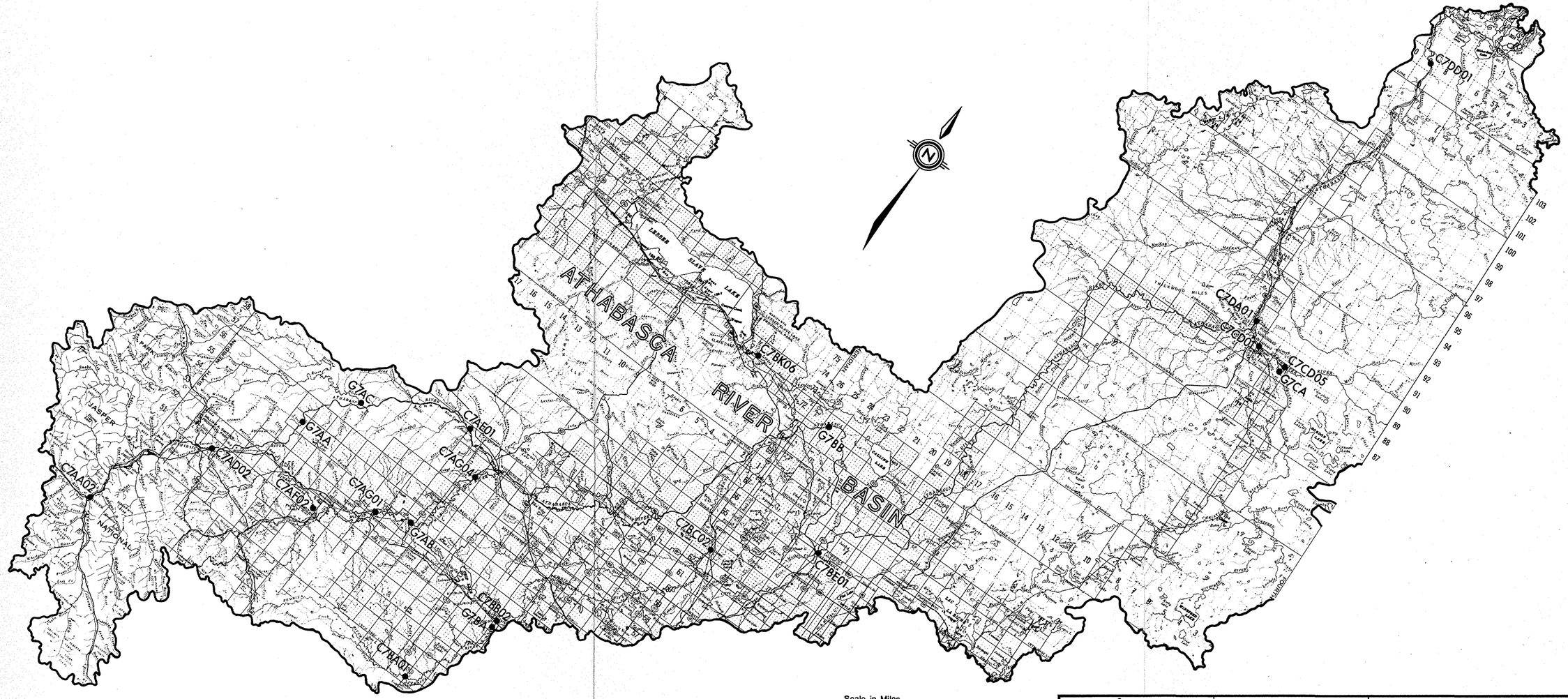
2. Saskatchewan-Nelson Basin Board, Water Supply for the Saskatchewan-Nelson Basin, 1972.

3. Water Survey of Canada, Lesser Slave Lake Water Levels 1914-1977, Inland Waters, Environment Canada, 1978.

4. Water Survey of Canada, Alberta Historical Streamflow Summary, Inland Waters, Environment Canada, 1979.

APPENDIX I

THE C FILES



Scale in Miles

10 0 10 20 30 40 50

10 0 10 20 30 40 50 60 70

Scale in Kilometres

Alberta ENVIRONMENT	TECHNICAL SERVICES DIVISION **HYDROLOGY BRANCH**	. LOCATIONS OF C FILES AND G - FILES
SUBMITTED R. BOTHE, P. ENG. DATE OCTOBER 1982	DESIGNED R. BOTHE, P. ENG. CHECKED	
APPROVED R. BOTHE, P. ENG. DATE OCTOBER 1982	DRAWN V. DA SILVA CHECKED R. BOTHE, P. ENG.	SCALE AS SHOWN DATE OCTOBER 1982
		FIGURE No. 2-1

C - FILE

INDEX OF STREAM GAUGING STATIONS AND DATA IN ORDER OF CODE NUMBER

NAME	CODE	LOCATION	D.A.*	PAGE
ATHABASCA RIVER NEAR JASPER	C7AA02	NW27-45-01-W6M	3877	25
ATHABASCA RIVER AT HINTON	C7AD02	SE22-51-25-W5M	9787	27
ATHABASCA RIVER NEAR WINDFALL	C7AE01	NE20-60-14-W5M	19880	29
MCLEOD RIVER ABOVE EMBARRAS RIVER	C7AF02	SE07-52-18-W5M	2561	31
MCLEOD RIVER NEAR WOLF CREEK	C7AG01	NW10-54-16-W5M	6311	33
MCLEOD RIVER NEAR WHITECOURT	C7AG04	SE15-58-13-W5M	9111	35
PEMBINA RIVER BELOW PADDY CREEK	C7BA01	NE12-48-10-W5M	2905	37
PEMBINA RIVER NEAR ENTWISTLE	C7BB02	SW29-53-07-W5M	4415	39
PEMBINA RIVER AT JARVIE	C7BC02	NE15-63-27-W4M	13097	41
ATHABASCA RIVER AT ATHABASCA	C7BE01	SE20-66-22-W4M	74055	43
LESSER SLAVE RIVER AT HIGHWAY NO. 2	C7BK06	NE06-73-04-W5M	14397	45
CLEARWATER RIVER AT DRAPER	C7CD01	NW32-88-08-W4M	30897	47
CLEARWATER RIVER ABOVE CHRISTINA RIVER	C7CD05	SE33-88-07-W4M	17165	49
ATHABASCA RIVER BELOW MCMURRAY	C7DA01	NW05-90-09-W4M	132956	51
ATHABASCA RIVER AT EMBARRAS AIRPORT	C7DD01	NE15-106-09-W4M	154845	53

* D.A. = DRAINAGE AREA IN SQUARE KILOMETERS. FROM PFRA HYDROLOGY MEMORANDUM #25, 1978.

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : ATHABASCA RIVER NEAR JASPER C7A A02

		INTERCEPT	INDEPENDENT VARIABLES					R=Coeff. of corr.	Se=Std. error of est.
			LAG1	B5BBO1	B7ADO2				
PRIORITY 1	JAN.	-0.3071	0.2320	0.3890	0.4915			0.904	0.075
	FEB.								
	MAR.								
	APR.	0.1813		1.0286				0.808	0.096
	MAY.	-0.2229	0.0049	0.3472	0.6907			0.969	0.046
	JUN.	0.1290	-0.0744	0.1726	0.7545			0.906	0.039
	JUL.	0.7652	-0.0482	0.1236	0.5639			0.834	0.042
	AUG.	0.8356	-0.2054	0.4050	0.4816			0.823	0.046
	SEP.	-0.0620	0.0774	0.1782	0.6981			0.870	0.052
	OCT.	-0.2117	0.1407	0.3502	0.5588			0.838	0.058
	NOV.								
	DEC.								

			LAG1	B5BBO1					
PRIORITY 2	JAN.	0.1742	0.3493	0.5334				0.876	0.084
	FEB.								
	MAR.								
	APR.								
	MAY.	0.4589	0.0200	0.8458				0.926	0.066
	JUN.	1.0505	-0.0304	0.6635				0.819	0.051
	JUL.	1.6850	-0.0304	0.6635				0.727	0.051
	AUG.	1.2365	-0.1351	0.7682				0.770	0.050
	SEP.	0.7038	0.0891	0.7098				0.663	0.077
	OCT.	0.2449	0.3430	0.5553				0.710	0.070
	NOV.								
	DEC.								

				B5BBO1					
PRIORITY 3	JAN.	-0.0424		1.2184				0.831	0.097
	FEB.								
	MAR.								
	APR.								
	MAY.								
	JUN.								
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC.								

SAME EQUATION USED FOR JAN, FEB, MAR, NOV, DEC
BASED ON COMBINED DATA FOR THESE MONTHS

ATHABASCA RIVER NEAR JASPER
NATURAL MEAN MONTHLY FLOW (CMS)

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	11.8	10.4	9.1	13.4	71.6	205.3	264.4	278.8	188.5	81.6	28.1	16.1	93.0	105	2941355
1913	13.4	11.1	10.0	19.0	68.3	285.6	256.6	248.8	116.4	49.5	26.3	15.6	93.9	106	2960167
1914	13.5	9.1	9.4	16.3	67.4	233.4	321.7	184.4	90.4	53.7	24.3	15.3	87.2	98	2748720
1915	15.2	13.1	12.0	21.3	112.0	225.4	284.6	340.8	97.1	45.1	23.8	20.3	101.7	115	3207632
1916	7.8	12.7	12.9	21.0	44.5	251.4	294.9	208.3	127.9	61.6	30.3	17.1	91.1	103	2880914
1917	12.2	11.1	8.0	9.7	69.7	198.5	297.0	175.2	105.3	75.9	32.6	24.9	85.6	96	2699445
1918	20.9	11.3	10.4	18.8	77.5	314.7	277.2	169.2	131.2	69.2	22.7	16.8	95.4	107	3007799
1919	13.0	9.8	10.3	16.1	76.3	195.2	254.7	230.8	112.8	36.2	29.1	18.2	84.1	95	2651816
1920	10.3	9.7	9.1	11.8	40.5	191.3	389.7	231.9	117.1	62.1	26.6	14.6	93.4	105	2953440
1921	12.2	11.0	9.5	19.9	75.5	260.4	270.3	213.1	91.8	47.2	31.1	29.7	89.8	101	2832158
1922	16.4	11.4	8.2	13.0	67.7	281.5	269.6	254.9	156.2	54.1	24.6	15.0	98.2	111	3097118
1923	12.9	11.1	10.9	17.1	65.8	272.9	271.7	231.7	135.1	52.6	23.9	14.8	93.8	106	2957710
1924	8.7	10.5	10.0	11.2	116.4	197.7	263.4	226.0	150.1	63.7	31.8	12.8	92.2	104	2917139
1925	9.6	9.2	13.4	19.2	155.3	266.4	303.5	244.2	140.6	42.7	21.8	17.9	104.3	118	3290004
1926	9.9	10.4	13.4	39.3	81.4	156.6	269.4	173.8	101.6	41.8	21.5	12.7	78.2	88	2465516
1927	9.2	7.5	8.4	15.9	48.5	215.1	233.9	204.0	119.0	69.8	22.9	8.7	80.7	91	2544739
1928	13.8	9.5	6.7	9.2	174.3	277.3	330.6	218.6	101.6	37.0	21.4	14.1	101.7	115	3214690
1929	8.5	6.5	7.9	11.2	62.1	292.1	218.8	222.3	107.5	54.5	20.8	11.9	85.7	97	2703984
1930	6.8	9.0	8.5	23.0	77.8	266.0	307.3	242.7	123.7	42.8	21.0	14.3	95.8	108	3021350
1931	10.2	8.1	8.7	10.8	81.8	262.0	270.8	182.4	115.3	52.1	24.0	12.3	87.0	98	2743794
1932	9.4	11.3	9.8	18.7	88.3	299.2	241.9	238.0	105.5	39.9	18.1	11.0	91.2	103	2882458
1933	8.7	7.8	7.7	17.7	70.8	269.4	291.0	228.0	144.4	61.6	37.2	20.8	97.6	110	3078136
1934	10.9	8.3	9.6	48.4	188.6	226.3	247.5	193.9	93.7	58.6	31.1	16.2	95.1	107	2998105
1935	14.8	14.0	11.4	14.6	62.1	255.1	325.7	213.0	127.2	43.1	19.2	13.7	93.4	105	2946034
1936	9.5	5.6	5.7	17.7	130.8	238.4	210.9	186.8	81.0	47.8	24.8	14.1	81.4	92	2573397
1937	7.4	5.4	7.9	11.2	66.1	208.9	264.3	177.0	108.0	39.7	26.1	17.3	78.9	89	2489071
1938	13.4	9.3	7.7	14.9	95.6	308.1	276.6	162.4	129.9	52.7	24.4	17.5	93.1	105	2936308
1939	11.4	7.6	11.2	16.4	119.4	165.2	260.0	195.5	99.9	53.3	30.0	19.8	83.4	94	2629852
1940	12.9	10.6	9.9	16.3	115.4	222.3	250.1	187.0	125.2	57.4	25.3	16.0	87.7	99	2772243
1941	11.8	10.0	9.6	19.7	65.1	195.9	230.6	175.3	90.2	45.3	22.9	15.6	74.8	84	2359230
1942	13.1	10.7	9.5	15.0	79.2	203.7	261.6	216.0	111.0	51.2	23.4	16.2	86.6	98	2732257
1943	14.0	12.1	11.0	27.5	55.9	176.3	314.4	169.5	89.8	45.0	22.3	14.9	81.8	92	2581008
1944	11.9	10.6	9.3	14.1	80.8	218.7	219.9	214.6	116.3	53.3	25.3	16.0	82.8	93	2619108
1945	12.2	10.8	10.3	12.1	53.3	193.6	241.7	174.1	94.5	45.6	23.1	15.3	74.3	84	2344542
1946	12.6	11.6	11.0	17.5	112.2	234.1	244.6	186.4	125.7	53.9	24.9	16.6	88.1	99	2777213
1947	13.4	11.9	11.1	22.3	115.8	243.6	259.9	172.4	113.0	54.3	30.7	18.9	90.4	102	2849765
1948	14.2	12.5	11.9	18.3	140.6	289.7	241.0	215.4	104.2	44.7	21.8	14.6	94.4	106	2985517
1949	11.3	10.0	10.3	15.2	100.2	160.0	200.6	152.9	90.6	42.2	22.3	13.6	70.4	79	2219797
1950	11.1	10.6	9.6	14.1	41.0	285.3	284.3	185.4	103.7	46.3	23.8	17.1	86.6	98	2736585
1951	13.2	10.4	8.9	17.4	113.2	216.6	316.4	204.4	109.2	54.7	25.9	16.9	92.9	105	2931045
1952	13.5	11.9	10.5	23.0	106.6	230.3	266.7	206.2	95.1	47.1	21.1	14.1	87.6	99	2768798
1953	12.6	10.6	10.1	13.4	62.1	248.4	280.9	197.1	107.9	52.7	27.1	17.5	87.2	98	2749446
1954	13.6	11.8	11.2	14.6	77.2	248.6	344.1	261.4	152.0	60.7	29.3	17.7	104.1	117	3284252
1955	13.7	11.2	10.9	13.2	45.5	288.1	257.4	184.4	96.9	39.6	19.2	14.2	86.6	98	2731254
1956	12.2	9.9	9.5	10.0	123.9	260.6	245.8	178.9	93.8	45.1	22.3	12.3	86.3	97	2729664
1957	10.4	10.8	10.3	13.6	171.8	197.0	209.4	156.8	100.1	46.3	25.6	15.0	81.1	91	2558351
1958	12.4	10.7	9.1	12.7	148.9	245.9	239.8	187.3	98.6	49.7	23.5	14.7	88.6	100	2793388
1959	11.8	9.5	10.8	14.7	79.9	261.0	282.2	184.7	130.7	57.8	27.2	21.2	93.1	105	2935124
1960	14.1	12.5	12.4	18.5	52.9	235.1	324.0	185.2	103.1	53.2	27.3	19.1	88.4	100	2796778
1961	10.9	8.7	9.5	14.1	108.1	280.2	225.3	204.8	87.3	63.9	27.5	14.9	88.4	100	2788255
1962	10.1	7.9	7.6	21.8	69.9	229.0	253.4	204.4	99.8	44.5	27.0	16.1	83.1	94	2620765
1963	17.1	14.4	8.4	15.5	74.5	244.1	254.6	197.1	116.1	53.7	26.8	17.0	87.3	98	2752912
1964	12.7	11.0	9.3	14.5	43.7	303.6	267.3	171.9	104.8	70.1	34.0	18.8	88.6	100	2802271
1965	13.2	12.4	11.3	17.7	65.1	263.6	307.5	238.8	117.9	69.6	40.6	29.7	101.2	114	3190919
1966	15.3	12.1	9.5	18.2	119.7	216.9	291.6	220.8	116.7	63.1	30.2	18.7	95.1	107	2997841
1967	15.6	13.7	12.4	14.4	57.7	339.1	276.4	216.3	125.1	53.8	25.8	16.9	97.6	110	3078853
1968	14.3	12.2	12.8	13.4	70.3	245.4	299.8	194.6	119.2	49.4	24.5	15.1	89.5	101	2831556
1969	12.6	11.1	11.0	21.3	107.1	243.1	224.1	222.5	99.0	46.2	25.8	15.1	87.1	98	2745964
1970	11.2	11.3	9.6	11.6	47.0	276.5	230.0	177.0	82.3	31.6	13.0	10.8	74.7	84	2354693
1971	8.9	12.8	9.6	14.7	104.5	248.5	222.1	224.8	103.7	45.3	23.9	15.0	87.0	98	2742638
1972	12.8	13.0	12.0	11.3	109.5	374.4	229.3	223.4	97.9	46.9	21.9	14.2	97.4	110	3078849
1973	12.7	12.5	9.6	13.4	89.6	223.1	201.1	207.7	91.7	44.0	17.3	15.6	78.6	89	2480209
1974	12.1	12.4	10.0	19.5	53.2	295.9	285.5	201.9	112.8	61.7	25.1	17.8	93.1	105	2935360
1975	13.4	12.5	10.8	11.9	45.9	183.3	311.2	156.0	83.0	46.4	40.0	18.6	78.2	88	2467764
1976	14.1	12.1	11.1	17.0	107.1	168.9	299.4	270.1	141.6	54.6	24.8	19.0	95.5	108	3020133
1977	13.2	10.5	9.4	17.2	63.1	223.4	206.5	202.8	96.1	39.5	23.3	15.1	77.1	87	2430355
1978	12.6	11.9	9.7	15.5	62.1	273.0	315.6	186.1	195.4	71.7	28.3	20.4	100.6	113	3172690
1979	13.2	11.0	11.8	12.4	53.9	216.0	254.0	187.0	110.4	45.7	12.8	12.4	78.8	89	2486079
1980	12.6	11.1	9.3	39.7	153.4	211.2	197.1	151.6	88.7	60.3	22.4	30.7	82.6	93	2612893
MIN	6.8	5.4	5.7	9.2	40.5	156.6	197.1	151.6	62.3	31.6	12.8	8.7	70.4		
MAX	20.9	14.4	13.4	48.4	188.6	374.4	389.7	340.8	195.4	75.9	40.6	30.7	104.3		
MEAN	12.2	10.7	10.0	17.2	87.0	243.2	268.1	205.4	111.5	52.1	25.3	16.6	88.7	100	2800272

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : ATHABASCA RIVER AT HINTON C7A D02

PRIORITY 1

	INTERCEPT	INDEPENDENT VARIABLES					R=Coeff. of corr.	Se=Std. error of est.
		LAG1	B5DF01	B5BB01	(B7BE01	-C7BK06)		
JAN.	0.5847	0.3356		0.0870	0.1761		0.814	0.082
FEB.								
MAR.								
APR.	0.4248		0.1800	0.8474			0.875	0.070
MAY.	0.8534	0.0294		0.7501	0.0307		0.875	0.061
JUN.	0.9686	0.0321		0.5962	0.1380		0.872	0.043
JUL.	1.3244	-0.0329		0.5896	0.0919		0.762	0.056
AUG.	0.2795	0.2275		0.5733	0.2256		0.863	0.040
SEP.	0.5583	0.1523		0.5068	0.2296		0.769	0.060
OCT.	0.3911	0.2219		0.5328	0.1782		0.704	0.068
NOV.								
DEC.								

PRIORITY 2

		LAG1	B5DF01	B5BB01				
JAN.	0.5472	0.3835	0.1054	0.2060			0.800	0.095
FEB.								
MAR.								
APR.								
MAY.	0.8700	0.0227	0.0161	0.7738			0.930	0.059
JUN.	1.1489	0.0450	0.1301	0.5234			0.862	0.042
JUL.	1.5513	-0.0610	0.0778	0.5462			0.743	0.056
AUG.	0.5877	0.1476	0.2976	0.4441			0.870	0.037
SEP.	0.6149	0.1943	0.2374	0.4269			0.747	0.063
OCT.	0.7418	0.2013	0.0532	0.5452			0.567	0.083
NOV.								
DEC.								

PRIORITY 3

			B5DF01	B5BB01				
JAN.	0.5283		0.1586	0.7987			0.712	0.111
FEB.								
MAR.								
APR.								
MAY.								
JUN.								
JUL.								
AUG.								
SEP.								
OCT.								
NOV.								
DEC.								

SAME EQUATION USED FOR JAN, FEB. MAR. NOV, DEC
BASED ON COMBINED DATA FOR THESE MONTHS

ATHABASCA RIVER AT HINTON
NATURAL MEAN MONTHLY FLOW (CMS)

07A D02

	JANN	FEEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	32.8	29.6	27.7	38.6	159.7	537.3	521.3	539.7	307.8	144.6	68.1	44.7	196.6	108	6217633
1913	35.1	31.0	28.9	56.9	151.3	572.9	488.5	454.1	279.7	131.6	64.0	47.0	195.4	108	6161480
1914	33.5	30.2	29.3	46.1	185.5	574.3	594.0	385.3	225.3	148.3	60.5	35.0	196.8	109	6206208
1915	31.2	28.6	29.9	62.9	200.9	454.2	566.4	505.2	200.9	89.7	68.2	33.2	190.5	105	6008129
1916	24.4	25.7	31.0	42.7	103.9	525.7	620.3	425.1	271.7	146.7	67.1	38.7	194.2	107	6139624
1917	34.9	27.9	29.1	36.5	171.6	453.5	653.4	336.9	250.8	198.9	64.7	55.0	194.0	107	6118598
1918	46.6	37.3	48.4	61.1	160.6	680.8	657.2	421.1	265.8	110.9	50.4	30.0	215.3	119	6788141
1919	30.0	29.5	32.8	39.6	150.8	379.1	467.1	418.0	302.2	114.4	52.9	35.0	171.9	95	5420372
1920	26.5	30.1	27.9	34.0	90.2	358.0	882.6	529.1	214.6	138.2	52.9	38.8	203.3	112	6427347
1921	36.5	44.0	34.2	50.3	193.0	525.2	445.7	382.0	177.6	122.4	89.7	44.7	179.5	99	5661950
1922	32.6	29.6	28.3	33.2	178.1	488.5	446.9	416.7	238.8	100.1	54.0	33.7	174.2	96	5494816
1923	28.6	25.9	25.2	43.2	125.8	521.9	487.7	430.2	277.2	113.1	62.7	42.1	182.8	101	5763657
1924	27.5	28.3	34.6	35.4	234.1	467.0	554.4	440.4	337.2	140.6	50.6	26.1	198.7	110	6282087
1925	22.3	26.0	36.2	94.2	311.3	549.0	524.1	505.3	310.0	120.4	58.5	52.1	218.6	121	6894847
1926	30.8	32.9	40.8	91.9	201.9	357.0	475.4	319.4	259.0	125.4	64.2	32.8	170.5	94	5376515
1927	26.3	27.2	35.3	43.4	86.8	527.6	512.5	404.9	253.6	149.7	44.4	28.4	179.1	99	5649448
1928	40.3	28.9	43.4	45.9	305.9	577.3	601.4	373.0	218.5	85.3	48.3	29.8	200.8	111	6343417
1929	29.3	26.1	32.8	38.5	134.9	563.6	397.2	341.3	201.6	119.4	64.8	41.8	166.5	92	5251678
1930	27.4	27.1	29.7	61.7	163.5	580.2	591.7	427.0	271.8	98.9	59.8	36.8	198.9	110	6271236
1931	37.6	27.6	31.4	35.1	197.9	499.4	541.5	316.6	237.5	133.7	57.4	26.5	178.4	99	5658703
1932	23.9	28.5	25.8	60.0	172.1	614.6	436.6	410.6	200.5	82.1	38.1	24.5	176.7	97	5587072
1933	21.7	19.8	20.8	36.7	148.1	531.6	568.5	459.4	326.0	154.4	100.2	61.8	205.1	113	6468163
1934	26.7	22.5	31.9	141.1	372.0	503.8	462.0	345.9	184.3	149.3	76.6	40.8	197.5	109	6228434
1935	35.6	46.4	34.3	59.2	127.2	505.3	691.3	380.5	273.8	93.2	46.1	43.7	195.6	108	6169958
1936	28.1	11.6	14.7	72.7	274.3	535.7	363.5	331.4	155.9	136.8	69.5	43.3	170.3	94	5384446
1937	18.3	13.1	31.2	22.6	149.8	433.2	516.8	321.6	224.7	75.4	54.1	47.3	159.9	88	5044104
1938	38.0	23.9	18.5	30.5	206.0	663.4	559.4	303.4	277.8	116.8	63.7	57.5	197.3	109	6222649
1939	30.5	19.3	47.8	38.8	256.2	347.0	470.6	358.1	199.8	124.4	67.9	55.3	169.3	93	5337488
1940	35.9	25.2	27.7	50.7	248.4	467.6	453.3	319.6	240.4	128.3	58.9	39.9	175.3	97	5543297
1941	31.5	26.2	27.7	47.3	143.1	392.6	407.6	302.0	180.5	112.6	58.0	38.6	148.9	82	4695730
1942	32.8	29.0	26.6	39.5	171.1	439.2	535.6	406.7	250.0	122.7	60.2	42.1	180.7	100	5697616
1943	35.2	31.5	30.0	81.6	127.9	378.0	612.2	380.9	188.8	102.5	52.7	36.3	172.7	95	5446237
1944	30.8	28.5	27.9	37.8	177.2	517.0	396.4	366.7	241.2	125.6	61.4	39.7	171.0	94	5408252
1945	32.6	29.7	29.0	31.1	120.7	378.0	413.6	294.6	178.2	106.4	57.1	40.4	143.3	79	4520260
1946	34.3	31.6	30.4	47.9	234.7	506.3	441.2	314.6	228.0	108.6	54.1	40.9	173.5	96	5470284
1947	35.1	32.0	31.2	64.2	247.3	510.9	478.9	337.3	242.7	155.6	72.5	46.6	188.8	104	5952956
1948	37.1	32.0	31.6	53.5	304.8	631.5	447.9	414.3	242.2	111.9	55.6	35.9	200.4	111	6338061
1949	31.0	28.5	28.4	41.9	211.2	322.8	326.3	277.6	180.6	91.0	52.4	33.9	136.2	75	4294799
1950	29.2	27.9	28.8	38.5	97.0	553.4	549.9	345.9	201.0	94.4	51.0	39.4	172.0	95	5424345
1951	32.7	28.9	26.2	45.3	244.0	438.2	618.6	390.3	214.5	116.2	53.9	38.5	188.3	104	5939788
1952	29.7	27.7	26.3	69.2	228.3	500.0	504.6	363.7	193.0	107.0	53.2	35.0	178.5	98	5645094
1953	30.4	29.4	29.9	35.8	141.5	516.1	535.2	406.3	254.2	124.8	60.2	39.8	184.7	102	5824107
1954	33.9	32.7	31.7	38.0	174.3	578.4	708.6	575.1	394.6	156.4	69.8	48.0	238.1	131	7508864
1955	35.3	30.1	26.0	40.2	114.2	589.1	605.3	336.4	193.9	83.1	37.6	34.0	178.0	98	5614820
1956	32.5	29.1	28.5	57.0	252.3	550.2	450.2	317.0	198.5	117.1	57.0	30.4	177.0	98	5598027
1957	27.1	35.8	34.6	35.7	369.0	428.9	355.3	256.2	216.4	104.9	63.8	33.7	164.2	91	5178385
1958	31.8	28.6	27.0	39.9	304.3	552.5	431.1	317.3	200.9	115.5	54.9	36.2	179.2	99	5650937
1959	30.0	21.6	34.6	41.6	180.0	587.3	554.7	334.1	273.8	125.8	54.8	55.4	192.0	106	6054806
1960	38.1	39.9	34.9	39.3	121.1	481.3	693.7	369.6	211.6	130.0	62.0	50.9	190.1	105	6010517
1961	23.4	19.7	26.9	31.9	214.9	574.2	401.8	338.0	170.5	172.4	61.3	31.4	173.0	95	5457151
1962	22.5	18.6	19.0	57.8	154.1	465.3	463.4	350.4	199.8	95.9	63.3	40.5	163.4	90	5151959
1963	68.3	46.6	16.9	51.1	156.2	493.3	464.4	329.0	233.5	117.0	58.5	41.0	173.5	96	5470205
1964	30.4	30.7	24.3	36.9	96.1	602.5	497.3	282.7	215.5	160.9	74.3	40.3	174.8	96	5517363
1965	28.0	28.8	31.9	49.2	147.3	572.7	628.4	444.8	243.3	166.9	98.6	100.1	212.8	117	6712382
1966	33.7	32.4	21.7	49.1	238.1	434.8	553.1	413.3	238.0	145.7	68.4	46.8	190.6	105	6011807
1967	46.8	42.7	36.6	47.6	124.1	670.4	524.4	381.9	256.9	119.9	60.7	48.5	197.3	109	6221823
1968	43.6	36.6	41.9	34.5	164.5	498.3	620.0	386.1	254.9	105.9	54.4	36.6	190.4	105	6020033
1969	35.1	32.2	35.1	50.6	211.7	507.2	384.7	448.3	196.5	101.1	62.9	38.4	176.2	97	5555675
1970	30.6	33.8	26.8	31.1	110.1	521.3	381.9	286.1	132.3	69.6	34.4	30.1	141.1	78	4450490
1971	24.1	31.4	27.7	40.6	213.0	580.7	497.4	393.3	215.5	115.5	48.6	29.7	185.6	102	5854496
1972	33.5	30.0	41.4	36.7	218.2	752.3	458.9	352.6	199.2	118.3	52.5	35.9	194.3	107	6144063
1973	32.7	32.9	35.2	38.5	200.8	456.6	384.1	310.2	153.4	100.4	46.3	45.4	153.8	85	4850303
1974	36.5	31.5	29.9	48.6	123.4	565.0	531.8	369.7	234.4	131.2	62.1	52.7	185.5	102	5850868
1975	34.2	29.6	32.6	38.0	101.5	347.2	511.3	277.6	156.7	90.5	80.4	42.9	146.1	81	4605864
1976	30.8	32.2	29.5	43.9	207.3	321.2	513.0	469.4	263.9	118.5	49.3	38.8	177.3	98	5607769
1977	34.5	33.1	30.3	42.4	165.8	466.1	417.3	364.6	208.5	92.6	39.8	39.8	162.0	89	5108162
1978	33.8	31.4	34.9	43.7	137.6	515.1	557.8	324.2	359.0	166.1	62.1	44.4	193.3	107	6094959
1979	34.7	32.5	33.6	35.4	121.2	417.3	440.1	300.2	185.3	95.7	35.4	25.0	147.1	81	4637582
1980	22.5	26.1	27.6	57.5	265.7	525.5	351.8	268.6	181.9	133.5	55.8	46.4	164.0	90	5187608
MIN	18.3	11.6	14.7	22.6	86.8	321.2	326.3	256.2	132.3	69.6	34.4	24.5	136.2		
MAX	68.3	46.6	48.4	141.1	372.0	752.3	882.6	575.1	394.6	198.9	100.2	100.1	238.1		
MEAN	32.3	29.6	30.5	47.7	185.5	504.9	510.2	373.9	231.6	120.7	59.2	40.8	181.4	100	5723232

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : ATHABASCA RIVER NEAR WINDFALL C7A E01

PRIORITY 1

	INTERCEPT	INDEPENDENT VARIABLES					R=Coeff. of corr.	Se=Std. error of est.
		LAG1	B7AD02	(C7BE01	-C7BK06)			
JAN.	0.6033	0.3619	0.1399	0.1376			0.814	0.084
FEB.								
MAR.								
APR.	0.8664			0.4691			0.730	0.111
MAY.	0.0474	-0.0002	0.5854	0.4092			0.894	0.052
JUN.	-0.0648	0.0183	0.6698	0.3476			0.973	0.024
JUL.	-0.3664	0.0633	0.7208	0.3533			0.943	0.034
AUG.	-0.6879	0.1068	0.5020	0.6317			0.972	0.025
SEP.	-0.4958	0.2210	0.5375	0.4247			0.968	0.034
OCT.	-0.2960	0.0980	0.6226	0.4160			0.938	0.047
NOV.								
DEC.								

PRIORITY 2

		LAG1		(C7BE01	-C7BK06)			
JAN.	0.6644	0.4077		0.1761			0.811	0.085
FEB.								
MAR.								
APR.								
MAY.	1.2682	0.2319		0.2673			0.615	0.089
JUN.	1.1102	-0.0779		0.6405			0.861	0.052
JUL.	1.2307	-0.0376		0.5620			0.764	0.063
AUG.	-0.2953	0.2048		0.8499			0.943	0.035
SEP.	-0.0083	0.3375		0.5967			0.917	0.052
OCT.	0.1563	0.2992		0.5575			0.847	0.069
NOV.								
DEC.								

PRIORITY 3

				(C7BE01	-C7BK06)			
JAN.	0.5951			0.6153			0.699	0.103
FEB.								
MAR.								
APR.								
MAY.								
JUN.								
JUL.								
AUG.								
SEP.								
OCT.								
NOV.								
DEC								

SAME EQUATION USED FOR JAN, FEB, MAR, NOV, DEC
BASED ON COMBINED DATA FOR THESE MONTHS

ATHABASCA RIVER NEAR WINDFALL
NATURAL MEAN MONTHLY FLOW (CMS)

07AE001

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	52.8	48.3	45.7	94.9	312.2	667.6	799.3	656.6	388.7	220.1	90.4	64.4	284.6	115	9000556
1913	53.2	48.4	46.3	125.4	267.7	643.7	637.6	572.0	302.2	150.8	70.6	55.6	249.1	100	7854260
1914	48.8	45.1	44.2	60.5	224.2	925.4	672.6	354.4	227.6	174.7	72.6	51.1	243.4	98	7675342
1915	46.6	43.4	45.5	104.2	265.4	652.6	847.3	540.4	285.3	133.7	77.9	57.4	268.3	108	8462008
1916	47.5	43.9	43.9	83.7	185.5	626.3	822.0	503.3	328.1	199.7	81.5	58.1	252.8	102	7994007
1917	50.7	44.9	43.1	86.0	415.8	655.2	731.0	363.4	261.4	244.4	81.8	63.1	254.9	103	8039245
1918	57.5	51.9	51.7	101.6	247.3	835.9	795.6	435.1	277.7	143.3	67.6	52.6	260.9	105	8226587
1919	46.7	44.3	42.8	80.7	198.4	479.7	508.1	431.0	367.2	154.1	73.9	56.3	207.9	84	6555224
1920	47.7	45.5	43.8	62.8	301.8	570.3	1015.1	656.6	312.0	206.4	70.0	54.4	283.8	114	8973802
1921	50.6	50.3	48.4	105.2	362.6	700.2	556.1	462.2	240.7	171.8	99.4	62.5	243.6	98	7681790
1922	46.6	44.6	43.0	65.0	254.5	557.5	487.2	420.9	280.6	146.0	70.7	49.6	206.6	83	6516855
1923	42.8	38.9	37.5	78.3	220.2	687.6	642.3	520.3	353.1	187.1	109.1	72.0	250.2	101	7890961
1924	51.8	47.9	47.0	60.0	416.5	570.9	631.5	605.0	492.0	238.1	105.6	61.1	278.2	112	8787655
1925	44.7	41.2	45.0	178.6	454.7	696.9	591.3	647.4	462.9	217.9	100.3	73.8	297.6	120	9385481
1926	60.1	54.7	54.9	123.2	298.3	469.0	530.0	332.1	351.9	225.3	112.4	69.4	224.4	90	7075648
1927	54.0	49.8	50.8	101.6	225.7	719.0	738.9	488.2	337.9	219.8	84.2	58.4	262.0	106	8261659
1928	52.6	45.5	48.1	94.2	452.5	798.4	809.9	482.7	272.9	136.2	78.7	60.5	276.9	112	8756094
1929	50.2	45.6	47.5	86.1	270.4	663.3	465.9	373.8	241.3	182.9	87.1	59.9	215.3	87	6789162
1930	46.0	42.9	43.4	101.6	300.2	775.4	713.4	459.8	313.0	135.5	88.7	64.7	258.1	104	8140327
1931	55.4	50.3	49.8	67.0	287.2	609.8	678.8	416.3	296.3	184.1	82.9	59.0	237.6	96	7493684
1932	49.5	46.2	43.8	103.4	333.5	848.2	574.1	505.3	295.1	138.3	81.2	57.0	256.6	103	8114947
1933	48.2	43.8	42.0	97.4	344.7	693.1	689.7	515.3	379.4	193.7	75.4	61.7	266.7	107	8410016
1934	50.6	45.3	46.9	103.7	514.6	646.2	562.4	399.8	236.5	189.7	72.1	58.4	245.3	99	7736821
1935	51.4	49.9	45.9	100.8	278.1	680.5	964.9	551.4	352.8	149.3	89.7	62.3	283.1	114	8926621
1936	51.5	41.2	38.1	149.7	499.0	714.2	485.1	414.3	232.1	177.2	76.7	56.6	245.2	99	7754508
1937	45.9	39.7	42.0	59.6	266.6	553.5	651.6	404.7	286.3	129.5	90.0	65.6	220.5	89	6961580
1938	54.4	46.5	42.0	69.3	268.6	748.2	628.6	387.9	338.0	145.0	66.4	58.2	238.7	96	7526913
1939	50.0	43.8	48.3	84.4	328.9	417.2	543.4	360.9	196.1	159.4	75.3	61.7	198.9	80	6272834
1940	49.9	45.6	44.1	128.9	355.0	606.9	561.6	356.2	244.6	152.9	77.3	57.1	224.0	90	7082586
1941	47.3	44.1	42.6	71.6	203.9	484.6	575.6	393.1	256.1	185.5	87.1	61.0	205.8	83	6491101
1942	51.2	47.1	44.5	80.5	238.4	746.3	648.0	485.9	360.7	185.6	85.1	62.8	253.5	102	7994712
1943	51.1	46.6	44.9	143.9	294.0	730.5	671.0	472.3	249.1	138.4	69.3	53.5	248.2	100	7828201
1944	46.4	44.0	43.4	82.6	280.7	1158.0	689.1	491.3	305.5	185.7	86.6	66.9	287.8	116	9100446
1945	47.6	42.6	42.9	68.3	243.5	607.9	439.9	333.9	182.5	151.8	83.7	60.4	185.2	75	5839916
1946	48.7	44.7	43.7	95.4	258.8	734.0	550.1	348.5	211.1	114.5	61.9	53.6	214.5	86	6763001
1947	46.7	43.1	43.7	120.1	324.0	528.8	557.1	506.9	330.4	204.3	93.1	65.3	248.2	100	7826921
1948	52.2	46.9	45.1	115.9	449.8	753.4	611.6	664.0	395.4	212.1	87.3	60.0	292.0	118	9232451
1949	51.1	47.2	45.4	51.2	246.4	459.4	476.8	430.9	233.8	118.8	61.8	50.6	193.9	78	6115237
1950	45.9	44.9	45.9	83.1	277.7	626.7	595.1	376.4	215.9	105.7	54.6	51.3	211.3	85	6664735
1951	47.6	45.7	44.3	82.4	330.2	505.4	620.7	421.3	232.5	126.3	66.0	51.4	215.8	87	6805306
1952	45.6	41.0	39.4	131.3	280.8	745.9	646.0	403.9	231.8	142.0	76.1	53.4	236.7	95	7484450
1953	46.0	44.9	45.6	82.4	301.7	732.0	594.9	637.9	416.1	184.1	86.5	59.6	270.5	109	8530753
1954	52.0	49.6	48.2	57.4	318.0	1142.1	698.0	803.5	681.9	297.1	109.6	78.1	362.2	146	11422535
1955	55.5	46.6	42.6	104.8	245.5	807.5	767.6	422.2	229.5	113.0	46.4	46.4	245.0	99	7727628
1956	47.2	46.2	44.9	135.8	396.7	748.1	532.7	403.9	240.2	147.7	51.5	43.7	237.0	96	7495963
1957	39.1	40.9	44.1	89.3	529.6	524.7	424.9	383.8	280.0	170.5	119.5	72.3	227.8	92	7183180
1958	57.7	52.4	49.7	131.9	453.4	665.0	561.8	309.1	211.3	134.9	56.5	46.6	228.5	92	7207437
1959	43.7	41.2	44.3	79.5	258.8	721.2	666.3	353.2	318.4	187.3	68.4	61.3	237.9	96	7503063
1960	52.6	48.9	46.6	87.1	248.6	707.4	812.7	409.0	228.2	145.0	72.2	81.0	245.7	99	7770000
1961	65.6	57.8	55.0	84.3	316.6	691.5	502.1	399.3	206.8	237.0	127.5	60.0	234.6	95	7397999
1962	68.2	53.5	43.2	157.7	359.5	614.0	628.6	449.4	293.5	150.0	110.6	136.0	256.6	103	8091696
1963	102.2	57.5	40.9	171.2	318.9	534.3	544.7	372.9	290.9	162.7	84.6	45.4	236.3	95	7452751
1964	49.2	54.3	28.1	58.0	247.0	776.9	648.4	477.2	380.7	272.4	103.2	64.2	263.7	106	8339345
1965	38.8	41.5	42.7	156.8	359.1	894.6	1087.8	677.8	454.5	301.2	151.1	57.6	357.2	144	11265436
1966	58.7	65.2	46.5	116.6	534.0	595.2	734.4	646.8	368.9	250.1	132.7	77.8	304.2	123	9592015
1967	47.5	49.5	37.2	45.5	237.4	855.3	651.1	465.2	287.2	146.8	93.2	53.5	248.3	100	7829714
1968	43.5	35.6	53.2	77.4	248.9	590.5	703.9	485.0	298.8	144.8	75.0	62.5	236.6	95	7461306
1969	39.8	46.0	45.0	77.0	265.4	575.1	468.3	635.4	277.5	152.7	56.1	40.9	224.5	90	7078881
1970	47.7	53.2	50.3	92.4	213.9	632.3	457.4	314.2	154.5	95.8	57.2	48.6	185.3	75	5844657
1971	36.4	37.7	39.8	128.7	296.0	889.5	891.8	485.5	274.6	169.3	79.3	66.9	284.3	115	8966185
1972	54.0	42.6	70.1	87.0	389.2	1034.5	560.6	437.4	275.6	219.4	101.8	71.6	278.9	112	8819167
1973	56.8	54.2	57.8	131.4	415.6	616.3	484.2	395.2	202.5	169.7	66.4	63.2	227.2	92	7165419
1974	50.1	47.8	47.0	164.4	348.6	678.9	635.9	428.0	286.1	171.5	90.8	66.5	252.4	102	7959167
1975	48.8	45.4	40.1	72.0	207.2	440.9	619.0	308.6	189.1	119.8	102.9	50.4	188.0	76	5929554
1976	48.3	54.2	42.9	128.1	297.9	434.7	633.9	667.7	361.3	172.4	85.1	62.6	250.1	101	7909444
1977	53.5	52.4	51.5	90.1	427.4	675.7	642.4	545.7	366.9	201.7	93.8	62.3	273.5	110	8623817
1978	57.4	53.6	51.9	128.5	257.8	685.3	720.6	474.1	484.3	235.5	86.3	64.4	271.8	110	8570675
1979	53.8	49.0	60.3	92.8	257.3	544.3	597.7	366.5	230.7	135.0	55.0	44.4	208.3	84	6568422
1980	43.3	42.2	43.6	135.6	351.7	886.9	523.0	375.6	284.2	200.1	95.2	68.8	254.3	102	8041290
MIN	36.4	35.6	28.1	45.5	185.5	417.2	424.9	308.6	154.5	95.8	46.4	40.9	185.2		
MAX	102.2	65.2	70.1	178.6	534.0	1159.0	1087.8	803.5	681.9	301.2	151.1	136.0	362.2		
MEAN	50.7	46.8	45.8	99.8	314.2	682.5	640.0	466.5	300.4	174.9	83.8	60.6	248.1	100	7829949

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : MCLEOD RIVER ABOVE EMBARRAS RIVER C7A F02

		INTERCEPT	INDEPENDENT VARIABLES					R=Coeff. of corr.	Se=Std. error of est.
			LAG1	C7AGO1					
PRIORITY 1	JAN.	0.0206	0.3903	0.1983				0.663	0.105
	FEB.	0.0578	0.6750	0.0552				0.727	0.092
	MAR.	0.0010		0.6172				0.648	0.132
	APR.	-0.0870		0.7876				0.825	0.130
	MAY.	0.0544		0.8150				0.940	0.051
	JUN.	0.0811		0.8423				0.954	0.072
	JUL.	0.1725		0.7591				0.932	0.080
	AUG.	-0.2552		0.9829				0.946	0.094
	SEP.	-0.1518		0.9260				0.977	0.069
	OCT.	-0.1996	0.1675	0.7904				0.975	0.061
	NOV.	-0.1788	0.3602	0.5691				0.911	0.104
	DEC.	-0.0304	0.4937	0.2317				0.885	0.087

				C7AGO1					
PRIORITY 2	JAN.	0.0626		0.4478				0.535	0.116
	FEB.								
	MAR.								
	APR.								
	MAY.								
	JUN.								
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC.								

PRIORITY 3	JAN.								
	FEB.								
	MAR.								
	APR.								
	MAY.								
	JUN.								
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC.								

MCLEOD RIVER ABOVE EMBARRAS RIVER
NATURAL MEAN MONTHLY FLOW (CMS)

CCMA 07JA F022

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DECC	MEAN	%	CUBIC DAM
1912	2.4	2.2	2.5	12.1	52.3	52.2	59.2	55.0	41.3	25.3	12.4	5.7	27.0	136	853105
1913	3.1	2.7	3.0	17.5	27.8	52.9	38.7	39.4	19.8	10.9	6.2	3.6	18.9	95	595054
1914	2.4	2.2	2.2	7.6	25.5	109.4	33.6	9.4	11.7	8.6	5.4	3.2	18.5	93	582927
1915	2.1	2.0	2.2	7.2	19.1	106.1	105.8	27.1	16.5	14.8	7.8	3.7	26.3	133	829863
1916	2.1	2.0	3.1	11.7	23.6	53.1	46.1	23.7	15.9	14.2	8.1	4.2	17.5	88	553514
1917	2.5	2.3	1.7	9.8	87.9	68.5	27.5	15.3	20.1	15.0	8.8	4.9	22.1	112	698209
1918	3.2	2.9	3.1	19.1	40.6	52.4	36.4	13.9	10.9	7.1	3.8	2.7	16.4	83	516935
1919	2.1	2.0	1.6	7.3	12.8	23.6	13.3	10.4	38.8	13.6	6.8	3.7	11.3	57	356457
1920	2.6	2.3	2.4	5.4	81.9	70.0	32.5	20.3	17.3	11.4	6.9	3.2	21.3	108	674367
1921	2.0	1.9	2.4	19.5	66.9	39.5	19.8	13.1	10.3	7.1	4.5	2.7	15.9	80	501692
1922	1.8	1.7	1.1	13.3	53.4	21.6	18.1	9.9	7.3	5.1	3.1	1.9	11.6	59	366078
1923	1.4	1.4	1.0	8.8	17.3	70.4	46.4	33.5	16.1	12.6	7.0	4.0	18.4	93	579715
1924	2.5	2.3	2.5	7.6	52.6	51.5	24.0	35.0	26.9	18.3	9.4	4.6	19.8	100	626701
1925	2.7	2.4	3.2	25.3	23.6	64.1	21.3	71.8	67.8	36.3	16.9	6.7	28.5	144	898156
1926	3.4	2.9	5.5	19.1	16.0	31.6	16.9	20.1	94.9	53.6	23.2	8.6	24.8	125	782280
1927	3.9	3.3	2.6	16.3	52.5	73.0	57.6	28.9	30.9	18.6	9.4	4.6	25.2	127	795975
1928	2.7	2.5	3.9	12.6	41.9	88.0	61.7	23.8	13.8	10.6	6.3	3.8	22.7	114	717047
1929	2.5	2.3	4.4	11.8	38.7	37.8	21.9	8.7	12.5	15.2	8.0	4.1	14.0	71	442866
1930	2.5	2.3	2.5	22.2	46.0	52.9	30.0	11.6	10.3	8.8	6.1	3.6	16.6	84	523534
1931	2.1	2.0	2.0	7.0	23.5	37.1	33.3	17.1	16.8	12.3	6.9	3.8	13.7	69	432539
1932	2.4	2.3	2.2	13.5	48.6	81.9	30.8	20.6	18.9	13.2	7.2	3.9	20.5	103	646716
1933	2.5	2.3	2.4	12.6	69.9	49.8	28.9	16.9	17.7	11.7	6.2	3.6	18.8	95	593615
1934	2.3	2.2	3.3	13.6	43.4	41.0	19.2	10.9	9.2	7.9	4.9	3.1	13.5	68	424504
1935	2.1	2.0	1.9	13.5	42.8	52.6	51.2	28.6	19.1	13.1	7.8	4.2	20.0	101	631391
1936	2.6	2.4	2.2	22.3	63.5	51.4	21.8	14.4	12.7	9.7	5.7	3.4	17.7	89	559509
1937	2.2	2.1	1.9	7.7	31.5	35.1	28.9	13.7	14.2	10.9	6.7	3.8	13.3	67	419464
1938	2.4	2.3	2.3	8.5	23.1	47.1	27.8	17.3	25.9	11.4	6.3	3.6	14.9	75	468710
1939	2.4	2.2	2.9	10.2	26.6	25.6	26.0	10.4	6.0	6.7	4.7	3.0	10.6	54	335082
1940	2.1	2.0	2.0	18.4	58.4	36.7	24.1	10.9	14.9	10.6	5.9	3.4	15.8	80	500597
1941	2.3	2.1	2.2	8.1	14.2	28.2	25.4	14.6	13.1	12.3	6.6	3.6	11.1	56	351005
1942	2.4	2.3	2.1	9.6	23.2	65.8	44.0	27.2	32.7	17.9	9.3	5.6	20.1	101	634477
1943	2.7	2.5	2.7	21.4	26.6	61.6	40.0	21.8	11.3	7.9	4.6	2.6	17.2	87	543207
1944	2.1	2.0	2.2	9.8	36.7	164.5	42.2	29.6	22.4	15.3	8.2	4.3	29.8	150	943208
1945	2.6	2.4	2.7	7.6	29.8	30.3	15.7	11.2	7.3	5.1	3.9	3.5	10.7	54	337937
1946	2.3	2.2	2.7	12.0	27.7	73.6	24.8	10.8	9.8	6.1	3.7	2.5	14.9	75	468375
1947	1.9	1.9	2.5	16.7	47.0	47.9	28.0	24.2	24.3	17.7	9.8	4.9	19.0	96	598130
1948	2.8	2.6	3.0	15.7	189.3	70.9	33.1	55.5	31.4	18.1	8.8	4.5	36.5	184	1155500
1949	2.7	2.4	2.5	11.3	22.3	20.7	19.5	17.8	9.6	5.9	3.9	2.6	10.2	51	320143
1950	1.9	1.9	1.9	10.0	35.0	50.0	32.9	13.7	9.7	5.4	3.2	2.4	13.8	70	435555
1951	1.8	1.8	1.8	10.0	74.7	29.0	38.6	17.2	13.1	8.4	5.3	3.1	17.2	87	543219
1952	2.2	2.1	2.2	19.4	27.5	56.7	41.3	18.1	12.2	9.2	5.5	3.2	19.1	96	603745
1953	2.2	2.1	2.5	9.7	53.2	73.9	33.2	48.9	38.4	16.3	8.4	4.3	24.5	124	772596
1954	2.6	2.4	2.7	7.1	85.6	165.1	45.0	102.6	185.8	59.7	13.5	4.5	56.7	286	1788085
1955	2.6	2.7	3.3	13.6	46.4	91.0	39.5	14.3	8.4	5.2	4.2	2.9	19.9	100	628136
1956	2.7	2.2	2.3	11.0	33.4	33.9	17.8	15.5	14.6	8.8	5.1	4.2	13.0	65	410008
1957	2.4	2.5	3.8	17.0	55.8	30.8	26.2	33.9	26.2	19.2	10.9	7.4	20.0	101	632038
1958	5.9	4.0	3.0	23.3	52.5	56.0	53.2	8.4	8.9	5.8	3.3	1.6	19.1	97	603583
1959	2.7	2.3	2.6	13.1	36.8	88.3	29.6	11.3	19.2	21.6	13.1	5.9	20.5	104	647673
1960	4.0	2.8	3.6	8.4	38.8	81.2	43.7	14.8	8.8	7.7	5.0	3.2	18.5	93	585081
1961	2.3	1.5	2.9	7.2	23.9	22.3	27.3	21.8	9.0	17.1	12.1	6.1	12.9	65	406160
1962	2.8	2.9	4.0	30.5	56.0	43.0	43.2	25.9	23.6	12.6	10.4	3.8	21.7	109	682844
1963	2.3	2.4	2.9	20.5	43.4	33.5	22.7	8.2	9.3	6.7	3.8	2.3	13.2	67	416489
1964	2.2	2.4	2.3	5.4	54.0	92.2	23.8	16.2	59.3	31.6	11.1	5.4	25.4	128	804469
1965	2.3	2.6	3.1	18.5	64.0	105.9	97.8	23.7	66.1	25.7	10.8	7.6	35.8	180	1128233
1966	2.9	3.7	4.1	9.9	65.5	35.7	56.9	58.0	25.9	15.9	10.7	5.8	24.8	125	782501
1967	3.1	2.3	3.4	7.9	45.7	85.4	20.7	10.9	5.0	4.7	3.1	2.1	16.2	82	510949
1968	1.4	1.1	11.7	16.2	36.4	36.2	39.2	36.8	15.5	9.6	4.8	2.9	17.7	89	561051
1969	2.3	1.4	3.4	22.3	29.5	25.5	67.0	104.8	20.4	16.3	12.4	3.5	26.0	131	820605
1970	1.9	2.7	3.2	7.6	40.5	44.3	13.6	8.2	5.7	4.1	2.3	1.9	11.4	57	358537
1971	1.6	1.7	1.9	22.6	42.0	102.1	76.1	14.9	11.4	12.4	6.1	3.3	24.7	125	780408
1972	2.5	2.2	2.4	7.7	62.5	84.7	43.2	16.3	22.9	37.4	11.0	5.8	24.9	126	788078
1973	4.4	3.4	3.4	14.9	84.0	46.9	21.8	13.2	8.9	10.4	5.4	4.2	18.5	93	584308
1974	2.7	3.0	3.2	24.3	75.1	52.4	30.4	17.1	18.7	11.6	6.3	3.9	20.8	105	655849
1975	2.0	1.5	1.4	4.3	29.7	30.0	24.3	8.1	7.0	4.8	2.8	2.5	9.9	50	312999
1976	1.9	2.0	1.9	14.9	32.2	29.5	18.7	45.7	17.2	9.6	5.0	4.0	15.3	77	482796
1977	2.1	2.5	1.9	8.2	86.4	61.0	46.3	43.8	48.8	26.1	8.0	4.5	28.3	143	892927
1978	3.0	2.6	2.7	19.4	52.4	71.2	49.3	21.8	42.8	19.2	8.1	4.5	24.8	125	782468
1979	1.8	1.9	4.2	9.7	40.7	40.1	24.6	14.0	7.4	6.6	3.5	2.8	13.2	66	415652
1980	1.8	2.1	2.0	21.2	31.8	203.0	60.2	27.9	34.6	17.6	12.8	6.7	35.0	176	1105892
MIN	1.4	1.1	1.0	4.3	12.8	20.7	13.3	8.1	5.0	4.1	2.3	1.6	9.9		
MAX	5.9	4.0	11.7	30.5	189.3	203.0	105.8	104.8	185.8	59.7	23.2	8.6	56.7		
MEAN	2.5	2.3	2.8	13.5	45.9	60.8	36.1	24.3	23.3	14.4	7.5	4.0	19.8	100	625817

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : MCLEOD RIVER NEAR WOLF CREEK C7A G01

PRIORITY 1

	INTERCEPT	INDEPENDENT VARIABLES					R=Coeff. of corr.	Se=Std. error of est.
		LAG1	B5DF01	(B7BE01	-C7BK06)			
JAN.	-0.1634	0.9388	0.1421	-0.0920			0.849	0.124
FEB.	-0.9488	0.8483	0.1688	0.4231			0.911	0.109
MAR.	-1.4243	0.5439	0.6238	0.4162			0.881	0.129
APR.	-0.3532		0.3731	0.4422			0.722	0.179
MAY.	-1.5631		0.4760	0.8370			0.842	0.143
JUN.	-3.1634	-0.0758	0.5535	1.2627			0.868	0.124
JUL.	-4.3043	-0.0731	0.8833	1.2891			0.883	0.134
AUG.	-4.9254	0.0390	0.6503	1.7032			0.850	0.152
SEP.	-3.9516	0.1217	0.6060	1.4619			0.871	0.171
OCT.	-1.9127	0.3235	0.3100	0.8904			0.879	0.129
NOV.	-0.6644	0.6023	0.2928	0.1906			0.883	0.107
DEC.	-0.2933	0.5947	-0.1506	0.3940			0.838	0.115

PRIORITY 2

		LAG1	B5DF01					
JAN.	-0.2974	0.8956	0.1434				0.854	0.120
FEB.	-0.2445	0.9817	0.1449				0.902	0.112
MAR.	-0.9178	0.6096	0.7429				0.869	0.133
APR.	-0.2518		0.8194				0.700	0.183
MAY.	-1.1842		1.2754				0.762	0.169
JUN.	-1.3387	0.1125	1.1246				0.758	0.161
JUL.	-2.2630	0.2914	1.2742				0.776	0.178
AUG.	-2.6304	0.1483	1.5127				0.679	0.208
SEP.	-1.9777	0.3886	1.2090				0.769	0.220
OCT.	-0.1848	0.5729	0.3364				0.832	0.148
NOV.	-0.3711	0.6561	0.3144				0.883	0.106
DEC.	0.1404	0.7533	-0.0615				0.812	0.121

PRIORITY 3

			B5DF01					
JAN.	0.0689		0.4009				0.316	0.214
FEB.								
MAR.								
APR.								
MAY.								
JUN.								
JUL.								
AUG.								
SEP.								
OCT.								
NOV.								
DEC.								

MCLEOD RIVER NEAR WOLF CREEK

NATURAL MEAN MONTHLY FLOW (CMS)

07AA 0001

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	4.8	4.6	4.5	30.4	110.0	82.6	126.3	90.2	50.1	48.4	22.5	11.3	53.6	138	1695482
1913	7.5	6.9	5.8	48.8	50.7	89.0	73.2	76.3	35.7	19.6	11.2	6.8	36.2	93	1140909
1914	4.8	3.9	3.7	16.9	47.8	211.1	60.7	17.7	20.8	16.2	10.3	5.5	34.9	90	1099912
1915	3.4	3.1	3.7	15.7	32.0	203.7	275.1	52.2	30.1	29.7	13.9	4.8	55.9	144	1764410
1916	2.7	2.1	6.2	29.3	41.4	89.6	97.3	45.5	26.9	28.5	15.2	7.4	32.9	85	1041071
1917	5.0	3.0	2.4	23.5	208.1	121.1	46.7	29.1	37.4	29.2	16.8	12.2	44.8	115	1413836
1918	12.6	10.9	6.2	54.5	80.7	88.2	67.5	26.4	19.3	12.8	6.2	5.5	32.6	84	1029565
1919	4.4	3.1	2.2	16.0	19.5	34.2	17.9	19.6	75.5	22.4	11.4	6.5	19.4	50	610979
1920	7.1	4.0	4.1	11.1	190.8	124.2	58.0	39.0	31.6	21.2	10.0	4.8	42.3	109	1336703
1921	2.8	2.6	4.1	56.0	149.0	63.0	30.3	25.0	18.1	13.0	8.5	4.2	31.6	81	995187
1922	1.8	1.0	1.1	34.6	112.9	30.8	27.0	18.8	12.5	9.3	5.2	2.1	21.6	56	680946
1923	1.1	0.2	0.3	20.4	28.3	125.2	92.8	64.7	29.4	24.5	12.6	8.3	34.1	88	1076093
1924	5.5	5.1	4.3	16.9	110.9	86.3	38.9	67.7	51.0	35.2	16.7	8.4	37.4	96	1181757
1925	5.9	4.1	6.7	77.8	41.5	112.0	33.3	140.6	138.4	68.9	27.4	13.9	55.9	144	1764027
1926	6.8	9.6	15.7	54.6	25.7	48.3	28.6	38.6	199.1	104.9	41.7	17.5	49.3	127	1556033
1927	11.5	11.1	4.7	44.5	110.9	130.5	123.5	55.8	59.3	34.8	16.6	8.4	51.2	132	1613638
1928	6.3	5.4	8.9	32.3	83.9	163.1	135.2	45.8	24.8	20.8	11.5	8.1	45.6	117	1441524
1929	5.4	4.6	11.2	29.7	76.0	59.7	34.4	16.4	22.3	32.7	14.3	7.4	26.3	68	829286
1930	5.2	4.1	4.5	66.2	94.0	89.0	52.3	21.9	18.1	17.0	12.4	6.3	32.7	84	1030308
1931	2.7	2.5	3.0	15.2	41.3	58.4	60.0	32.7	30.6	23.6	12.6	7.5	24.3	62	765873
1932	5.1	4.8	3.6	35.1	100.6	149.7	54.1	39.5	34.8	25.1	12.9	7.5	39.4	101	1245064
1933	5.3	4.9	4.2	32.3	157.1	83.0	49.8	32.4	32.5	21.9	10.7	6.7	37.0	95	1165545
1934	4.7	4.3	5.7	35.5	87.5	65.6	29.0	20.7	16.1	15.4	9.0	5.7	25.1	65	792421
1935	3.8	3.9	2.9	35.2	86.0	88.5	105.9	55.1	36.4	24.6	14.6	8.4	38.9	100	1227014
1936	5.7	5.2	3.6	66.5	145.6	86.1	34.3	27.4	22.6	18.4	10.4	6.5	35.6	92	1125698
1937	4.1	3.6	2.8	17.3	89.1	54.7	49.9	26.1	25.7	21.0	12.6	7.4	23.8	61	751247
1938	5.1	4.9	3.8	19.5	40.5	77.7	47.3	33.0	49.1	19.4	11.3	6.5	26.5	68	836802
1939	4.7	4.5	5.7	24.5	48.1	37.7	43.3	19.8	10.1	13.6	9.4	6.5	19.0	49	600225
1940	4.0	3.5	3.2	51.9	126.0	57.8	35.2	20.6	26.9	20.0	10.6	6.4	30.9	80	977595
1941	4.5	3.5	3.6	16.3	22.3	42.3	42.0	27.7	23.5	24.8	12.1	7.5	19.4	50	612045
1942	4.5	4.4	3.2	22.6	40.5	115.6	86.6	52.3	63.0	32.6	16.6	9.0	37.7	97	1189362
1943	5.2	5.7	5.0	61.2	48.1	107.2	76.4	41.7	20.0	14.5	8.8	6.5	33.5	86	1057140
1944	5.7	5.4	3.6	23.5	71.3	392.7	82.0	57.2	41.9	29.3	14.9	8.6	60.7	156	1919302
1945	5.7	5.2	4.9	16.9	55.2	46.0	22.3	21.2	12.4	19.4	11.5	6.3	19.0	49	600243
1946	4.9	4.5	4.9	30.2	50.5	131.9	41.0	20.4	17.1	10.9	8.8	4.4	27.2	70	859087
1947	3.3	3.1	4.4	46.0	96.5	79.2	47.7	46.5	45.8	34.5	18.4	9.7	36.4	94	1147994
1948	6.7	6.2	5.8	42.5	533.4	126.2	59.5	108.3	60.3	33.6	15.2	8.8	84.5	218	2673313
1949	5.8	5.3	4.5	26.1	38.7	29.2	29.6	34.0	16.8	10.5	7.1	5.1	18.0	46	566812
1950	3.4	3.0	2.6	21.9	60.2	83.4	59.0	26.1	17.0	9.3	5.8	4.2	25.0	64	786898
1951	3.0	2.7	2.6	23.9	170.8	43.6	72.8	32.8	23.5	15.4	10.1	5.2	34.2	88	1078433
1952	4.1	3.4	3.6	55.7	50.1	160.2	79.6	34.5	21.7	17.4	10.2	5.7	37.1	95	1173054
1953	4.1	3.9	4.3	23.1	112.3	132.4	59.8	95.1	74.9	28.1	14.8	7.7	46.9	121	1479269
1954	5.3	5.9	5.0	15.8	210.3	344.2	89.3	202.8	411.6	104.3	41.4	17.8	121.1	312	3819483
1955	12.1	9.3	6.5	37.5	97.5	126.3	69.5	28.5	15.4	11.0	5.7	4.2	34.6	89	1092098
1956	3.0	3.0	3.1	51.2	79.9	102.0	34.1	30.4	18.9	13.9	7.3	3.9	29.2	75	923270
1957	3.0	2.3	2.8	27.0	117.0	44.6	22.7	33.2	31.8	36.0	24.1	15.3	30.2	78	952190
1958	10.0	9.9	9.5	46.6	107.1	101.9	137.7	25.2	14.1	9.9	5.7	3.3	40.3	104	1270685
1959	3.8	4.1	5.5	28.0	64.9	143.8	51.6	21.1	33.3	41.3	21.9	12.7	36.0	93	1136538
1960	8.0	7.0	7.0	23.9	100.6	132.2	88.9	21.2	17.5	16.9	9.1	6.7	36.6	94	1158524
1961	5.7	4.4	5.2	19.0	57.8	32.4	44.6	36.1	14.0	37.0	31.4	11.0	25.1	65	790811
1962	5.5	7.9	8.1	63.9	102.7	60.9	66.1	42.9	47.3	26.0	20.6	8.5	38.3	99	1208940
1963	4.8	3.8	3.3	78.7	96.6	49.7	31.1	13.5	16.6	11.9	8.7	4.2	27.0	69	850216
1964	2.6	3.2	3.4	9.5	114.3	124.7	46.3	40.2	123.5	52.8	17.6	9.5	45.6	117	1442556
1965	6.2	5.8	7.6	26.7	139.9	203.1	236.0	49.3	111.7	47.2	16.7	11.6	72.2	186	2275822
1966	6.4	5.7	5.5	45.1	134.4	63.5	116.6	141.1	61.7	39.8	21.5	9.8	54.7	141	1725666
1967	6.0	8.5	6.3	13.9	92.9	135.5	35.3	24.7	9.4	10.1	7.2	4.0	29.5	76	931411
1968	3.9	5.3	17.1	33.4	64.8	61.5	60.8	74.6	32.1	18.3	12.0	9.6	32.9	85	1040937
1969	6.9	5.7	5.9	39.9	60.7	38.2	118.1	176.4	44.4	35.1	17.2	10.6	47.0	121	1483721
1970	6.9	6.2	8.7	23.1	68.9	78.3	31.6	17.6	11.2	9.2	4.6	4.9	22.7	58	714899
1971	4.1	4.8	5.1	63.1	78.9	211.5	210.7	33.3	25.8	31.3	16.6	9.8	58.1	150	1832681
1972	6.5	5.9	5.9	24.0	154.3	213.3	77.3	34.2	38.9	66.9	22.8	14.1	55.4	143	1752011
1973	9.0	9.2	9.3	60.2	156.4	77.8	35.3	32.1	16.5	22.3	12.6	9.1	37.8	97	1193148
1974	6.7	6.7	6.4	75.6	175.6	70.2	57.9	31.9	28.5	19.9	8.5	6.8	41.5	107	1307399
1975	4.7	3.9	3.7	15.4	57.7	49.9	45.6	14.8	11.7	8.8	5.3	5.3	19.0	49	598998
1976	5.3	4.6	4.6	40.3	44.9	41.0	31.7	75.4	27.4	15.9	8.4	5.7	25.5	66	806772
1977	4.1	5.3	4.9	20.3	201.9	101.4	70.6	81.8	109.4	52.0	10.6	9.1	56.3	145	1776570
1978	7.2	5.4	7.6	44.9	110.6	142.0	91.4	38.9	79.9	36.0	15.0	10.6	49.3	127	1553658
1979	4.4	5.0	9.9	26.7	74.6	69.4	59.6	26.6	12.4	14.1	5.5	5.8	26.3	68	829922
1980	5.2	5.0	4.5	49.9	64.0	400.3	129.8	56.9	73.1	33.0	15.5	12.8	70.5	181	2229227
MIN	1.1	0.2	0.3	9.5	19.5	29.2	17.9	13.5	9.4	8.8	4.6	2.1	18.0		
MAX	12.6	11.1	17.1	78.7	533.4	400.3	275.1	202.8	411.6	104.9	41.7	17.8	121.1		
MEAN	5.4	4.9	5.3	35.3	96.8	107.6	69.2	46.6	44.9	27.4	13.7	7.9	38.9	100	1226542

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : MCLEOD RIVER NEAR WHITECOURT C7A G04

		INTERCEPT	INDEPENDENT VARIABLES					R=Coefl. of corr.	Se=Std. error of est.
			C7AG01						
PRIORITY 1	JAN.	-0.5806	1.5312					0.912	0.123
	FEB.								
	MAR.	-0.0090	1.0674					0.705	0.155
	APR.	0.0060	1.0697					0.975	0.056
	MAY.	0.1758	0.9555					0.971	0.054
	JUN.	0.0388	1.0186					0.991	0.044
	JUL.	0.1701	0.9649					0.976	0.056
	AUG.	0.2255	0.9164					0.992	0.037
	SEP.	0.1205	0.9791					0.997	0.027
	OCT.	0.0357	1.0395					0.994	0.033
	NOV.								
	DEC.								

PRIORITY 2	JAN.								
	FEB.								
	MAR.								
	APR.								
	MAY.								
	JUN.								
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC.								

PRIORITY 3	JAN.								
	FEB								
	MAR.								
	APR.								
	MAY.								
	JUN.								
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC.								

SAME EQUATION USED FOR JAN, FEB, NOV, DEC
BASED ON COMBINED DATA FOR THESE MONTHS

MCLEOD RIVER NEAR WHITECOURT
NATURAL MEAN MONTHLY FLOW (CMS)

C7A G04

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	3.0	2.7	4.8	39.2	133.6	104.1	159.8	121.9	97.6	61.3	30.6	10.8	64.4	138	2037138
1913	5.7	5.1	6.4	64.8	52.8	105.6	93.1	89.2	45.0	23.9	10.6	6.1	43.4	93	1368229
1914	2.9	2.1	5.9	20.9	80.2	255.0	71.8	23.4	25.8	19.6	9.3	3.9	42.0	90	1324016
1915	1.6	1.4	3.9	19.3	411.1	248.9	334.2	83.0	37.0	35.9	14.8	2.9	67.3	144	2121246
1916	1.2	0.8	6.9	97.6	52.6	105.6	122.6	65.6	35.8	35.3	17.0	5.7	39.9	85	1261016
1917	3.1	1.4	2.5	29.8	246.0	144.8	60.4	36.9	45.7	35.2	19.8	12.0	53.6	114	1689248
1918	12.8	10.1	6.9	73.0	99.5	104.6	66.2	33.8	23.5	15.4	4.3	3.6	39.6	85	1249808
1919	2.8	1.5	2.3	19.7	25.5	40.0	23.5	25.7	91.0	27.5	10.9	4.6	22.9	49	723092
1920	5.3	2.2	4.4	13.3	226.4	148.5	74.4	46.2	38.8	25.8	8.9	2.9	50.2	107	1586544
1921	1.3	1.1	4.4	75.2	172.8	78.4	29.7	32.1	22.5	15.9	6.9	2.3	38.1	81	1201220
1922	0.7	0.5	1.1	44.9	137.1	25.8	25.8	24.8	15.6	11.0	3.3	0.8	26.1	56	823986
1923	0.5	0.5	1.0	25.6	96.6	149.7	117.4	78.7	96.2	30.2	12.8	5.6	41.3	88	1301151
1924	5.6	5.1	4.6	20.9	134.6	102.6	56.6	80.0	62.1	44.0	19.6	6.6	44.5	95	1408736
1925	4.0	2.3	7.4	106.8	52.6	133.7	43.6	155.3	164.9	88.4	41.9	14.7	68.1	145	2147822
1926	7.3	6.2	18.5	73.2	33.4	56.7	37.6	47.6	235.3	136.6	78.6	21.1	62.9	134	1982840
1927	61.1	10.4	6.1	58.6	134.6	156.2	154.3	67.0	71.9	43.6	19.4	6.6	61.9	132	1951054
1928	4.4	3.5	10.1	41.8	103.2	196.1	168.4	55.9	30.6	25.4	11.1	6.5	54.8	117	1734418
1929	3.5	2.7	12.9	96.1	93.9	70.5	45.0	21.8	23.6	40.7	15.4	5.6	31.7	68	998175
1930	3.3	2.3	4.9	89.6	116.1	106.6	57.4	25.4	22.6	20.6	12.4	4.4	39.9	85	1257134
1931	1.2	1.1	3.1	18.7	52.4	58.9	73.9	41.0	37.6	29.0	12.6	5.5	29.2	62	920496
1932	3.1	2.7	3.6	45.6	122.9	174.6	69.5	46.9	42.7	31.0	13.2	5.8	47.4	101	1498747
1933	3.4	3.0	4.6	41.7	188.1	86.6	54.2	40.6	39.9	26.9	9.9	4.8	44.1	94	1390394
1934	2.8	2.5	7.5	46.2	101.6	77.8	38.1	27.0	20.0	16.6	7.6	3.8	30.1	64	948457
1935	2.0	1.7	3.1	45.7	105.7	101.2	133.0	66.2	46.3	30.6	16.3	6.9	46.9	100	1480074
1936	3.7	3.3	3.6	90.3	188.2	102.2	44.8	34.9	28.0	22.4	9.6	4.8	43.1	92	1361664
1937	2.3	1.7	2.9	21.5	73.9	64.6	64.3	33.4	31.7	25.7	12.0	5.6	28.5	61	900240
1938	3.2	2.5	4.1	24.3	51.4	92.1	61.1	41.4	58.6	23.7	10.7	5.0	31.7	68	999164
1939	2.8	2.4	6.3	31.1	60.7	44.1	56.1	25.9	12.7	16.4	8.1	4.0	22.7	48	716005
1940	2.2	1.8	3.4	69.3	152.3	66.1	61.0	28.9	33.2	24.5	9.5	4.5	37.3	80	1180309
1941	2.4	2.1	3.8	22.7	29.1	49.6	54.5	35.3	29.1	30.6	11.9	5.6	23.2	49	730249
1942	3.0	2.5	3.4	28.5	51.5	135.0	109.5	63.2	76.3	40.6	19.5	7.5	45.4	97	1433087
1943	4.3	3.8	5.5	85.6	60.6	127.9	97.0	61.4	24.8	17.5	6.4	3.5	40.8	87	1285974
1944	2.0	1.7	3.8	29.7	88.2	479.8	104.0	58.6	51.2	36.3	16.4	7.0	73.7	157	2330337
1945	3.8	3.3	5.3	20.9	59.2	54.0	29.6	27.6	15.5	23.6	11.1	5.0	22.5	48	710280
1946	2.9	2.7	6.3	39.0	63.5	157.9	53.2	26.7	21.3	13.0	4.5	2.5	32.7	70	1031600
1947	1.6	1.5	4.8	60.9	118.1	93.9	61.6	56.7	55.6	43.1	22.6	8.5	44.3	95	1396524
1948	4.8	4.3	6.4	55.9	604.6	150.9	76.2	123.0	73.1	41.9	16.9	7.3	97.9	209	3095089
1949	3.9	3.4	4.9	36.0	46.3	34.0	38.9	42.6	20.8	12.5	5.4	3.1	21.3	46	673234
1950	1.7	1.4	3.0	30.3	75.2	98.0	75.6	33.4	21.2	11.0	3.9	2.4	30.0	64	945632
1951	1.4	1.2	2.7	30.2	202.4	51.1	92.7	41.2	29.0	18.6	9.1	3.4	40.8	87	1285609
1952	2.3	1.7	3.9	74.1	65.1	182.5	100.9	43.1	26.9	21.1	9.2	3.7	45.2	96	1428437
1953	2.3	2.1	4.7	29.2	138.4	158.6	76.6	109.2	90.3	34.6	16.2	6.0	55.8	119	1759132
1954	3.3	3.6	5.5	19.1	248.4	419.5	112.6	218.4	479.0	136.1	78.6	21.5	145.5	311	4589349
1955	12.0	8.0	7.3	49.0	116.2	151.1	81.2	32.7	19.1	13.1	3.8	2.4	41.7	89	1314852
1956	1.4	1.4	3.3	62.4	95.5	121.5	44.5	36.5	23.4	16.7	5.5	2.2	35.4	76	1120052
1957	1.4	0.9	2.9	34.5	141.9	52.4	30.1	41.6	39.1	45.1	34.3	17.1	37.0	79	1167793
1958	8.9	8.9	10.6	61.6	130.4	121.4	171.4	32.3	17.6	11.2	3.8	1.6	48.7	104	1534818
1959	2.0	2.3	6.1	35.6	80.8	172.5	86.6	27.5	40.8	51.9	29.5	12.9	44.1	94	1391252
1960	6.3	6.2	7.6	30.2	122.8	158.3	112.3	27.6	21.8	20.5	7.8	4.8	43.9	94	1387257
1961	3.8	2.6	5.6	23.7	72.3	37.8	57.8	45.0	17.5	46.3	51.5	10.4	31.4	67	990636
1962	3.6	6.2	6.6	86.5	125.3	71.6	84.4	52.7	57.6	32.1	27.0	6.9	46.9	100	1479675
1963	2.9	2.0	3.5	108.2	118.1	58.4	40.8	18.3	20.6	14.2	7.3	2.4	33.1	71	1044817
1964	1.2	1.6	3.6	11.3	138.7	149.1	56.6	49.6	147.4	67.1	21.3	8.2	54.9	117	1736195
1965	4.3	3.9	6.5	34.1	168.3	245.1	288.2	59.8	133.6	59.7	19.6	11.3	86.8	185	2737188
1966	4.5	3.8	6.0	58.6	181.9	74.9	145.9	156.8	74.7	50.0	28.9	8.7	65.2	139	2056236
1967	4.1	7.0	7.0	17.0	113.8	182.4	46.1	34.6	11.6	12.0	5.4	2.2	35.1	75	1107504
1968	2.1	3.4	20.3	43.3	80.7	70.6	61.4	79.0	36.7	21.0	11.9	9.5	36.8	79	1163626
1969	4.4	2.3	2.8	41.2	63.3	36.8	119.3	213.6	55.1	39.9	17.4	10.9	51.1	109	1612057
1970	6.5	5.9	7.5	25.1	105.7	97.9	46.4	27.9	14.6	10.4	2.7	3.0	29.6	63	934047
1971	2.9	2.9	6.5	88.0	110.6	265.9	303.9	38.4	28.5	43.9	19.5	8.6	76.9	164	2426048
1972	4.6	4.0	4.8	27.2	180.6	249.2	108.1	44.0	44.5	79.0	31.5	15.1	66.2	141	2091827
1973	7.6	7.9	11.0	81.0	169.5	93.8	42.7	40.9	24.0	31.6	12.8	7.7	44.4	95	1400165
1974	4.8	4.8	7.9	105.5	211.3	76.6	76.9	35.6	22.6	23.4	6.8	4.9	49.6	106	1563446
1975	2.8	2.1	3.6	19.8	72.0	60.6	63.7	19.4	15.8	10.9	3.4	3.4	23.3	50	733868
1976	3.4	2.7	5.3	59.6	52.3	47.4	40.9	86.9	34.1	18.5	6.9	3.7	30.2	65	955879
1977	2.8	3.4	7.1	31.0	245.9	130.8	87.3	96.4	136.3	67.7	9.8	7.8	69.3	148	2184147
1978	5.4	3.4	12.8	56.0	124.6	173.0	114.4	46.9	100.4	45.3	16.5	9.7	59.2	126	1866709
1979	2.6	3.1	13.6	34.4	110.3	101.5	87.3	34.1	15.6	16.4	3.6	3.8	35.8	76	1127953
1980	3.3	3.1	6.3	75.6	73.1	443.4	156.5	69.5	92.1	43.4	17.4	13.1	82.7	177	2614778
MIN	0.3	0.3	1.0	11.3	25.6	34.0	23.9	18.3	11.8	10.4	2.7	0.8	21.3		
MAX	12.8	10.4	20.3	108.2	604.6	479.8	334.2	218.4	479.0	136.8	78.6	21.5	145.5		
MEAN	3.7	3.2	5.9	46.3	117.5	128.5	88.0	56.0	54.3	34.2	15.9	6.6	46.8	100	1478250

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : PEMBINA RIVER BELOW PADDY CREEK C7B A01

		INTERCEPT	INDEPENDENT VARIABLES					R=Coeff. of corr.	Se=Std. error of est.
			LAG1	C7BB02	C7AG01				
PRIORITY 1	JAN.								
	FEB.								
	MAR.	-0.0655		0.1417	0.4800			0.691	0.102
	APR.	0.0466	-0.2277	0.8933				0.951	0.088
	MAY.	0.0571	-0.0714	0.9489				0.962	0.057
	JUN.	0.1103	-0.1036	0.9698				0.989	0.046
	JUL.	0.0926	-0.0128	0.8825				0.966	0.080
	AUG.	-0.1445	0.0961	0.9479				0.982	0.061
	SEP.	0.0402	0.0246	0.8962				0.975	0.083
	OCT.	0.0580	0.0270	0.8524				0.928	0.108
	NOV.								
	DEC.								
PRIORITY 2	JAN.								
	FEB.								
	MAR.								
	APR.								
	MAY.								
	JUN.								
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC.								
PRIORITY 3	JAN.								
	FEB.								
	MAR.								
	APR.								
	MAY.								
	JUN.								
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC.								

PEMBINA RIVER BELOW PADDY CREEK
NATURAL MEAN MONTHLY FLOW (CMS)

C7B A01

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	-	-	2.0	12.4	47.2	28.9	50.3	33.6	30.0	17.6	-	-	-	-	-
1913	-	-	2.3	24.5	20.4	30.5	25.7	27.8	12.7	9.1	-	-	-	-	-
1914	-	-	1.8	7.4	20.7	107.1	32.9	7.5	8.2	7.0	-	-	-	-	-
1915	-	-	1.6	10.6	10.1	116.8	90.2	25.8	11.1	11.2	-	-	-	-	-
1916	-	-	2.9	8.8	29.5	95.4	45.7	23.2	19.6	14.5	-	-	-	-	-
1917	-	-	1.4	9.0	132.4	89.2	24.1	10.2	10.5	10.0	-	-	-	-	-
1918	-	-	2.3	21.4	27.9	23.9	19.6	8.9	7.1	6.6	-	-	-	-	-
1919	-	-	1.3	8.5	10.9	13.7	4.9	5.3	37.2	8.9	-	-	-	-	-
1920	-	-	1.7	4.5	151.6	37.6	14.9	14.7	9.3	8.2	-	-	-	-	-
1921	-	-	2.1	22.6	81.2	23.8	13.8	11.5	8.7	6.9	-	-	-	-	-
1922	-	-	0.9	9.8	32.6	7.7	11.1	6.2	5.1	4.2	-	-	-	-	-
1923	-	-	0.9	9.8	15.9	47.3	35.5	26.1	13.7	10.0	-	-	-	-	-
1924	-	-	1.9	5.9	57.6	25.2	15.5	25.4	24.7	14.9	-	-	-	-	-
1925	-	-	2.5	45.9	20.0	35.8	13.6	50.8	56.3	27.8	-	-	-	-	-
1926	-	-	4.1	20.8	12.9	17.0	10.9	15.4	56.0	30.8	-	-	-	-	-
1927	-	-	2.2	16.8	45.7	46.1	50.2	23.3	22.5	13.6	-	-	-	-	-
1928	-	-	3.1	14.0	34.8	59.9	56.3	15.4	10.2	7.9	-	-	-	-	-
1929	-	-	3.3	10.0	34.7	19.7	12.6	6.0	7.8	8.9	-	-	-	-	-
1930	-	-	2.0	20.8	35.0	53.7	21.2	8.5	7.3	6.1	-	-	-	-	-
1931	-	-	1.7	5.9	17.8	19.2	22.3	12.8	11.8	8.7	-	-	-	-	-
1932	-	-	1.7	15.9	43.6	52.8	22.2	14.5	13.3	9.2	-	-	-	-	-
1933	-	-	1.9	13.7	71.1	27.0	19.7	12.3	12.4	7.8	-	-	-	-	-
1934	-	-	2.6	14.8	37.5	21.4	11.1	8.0	6.3	5.8	-	-	-	-	-
1935	-	-	1.5	16.4	36.4	29.7	41.4	20.5	13.9	9.1	-	-	-	-	-
1936	-	-	1.7	41.8	69.8	28.9	13.8	10.1	8.7	6.8	-	-	-	-	-
1937	-	-	1.5	5.7	21.3	17.3	18.4	10.4	9.9	7.8	-	-	-	-	-
1938	-	-	1.8	6.5	15.7	26.1	15.0	11.2	18.0	12.1	-	-	-	-	-
1939	-	-	2.3	8.8	19.6	11.4	15.7	6.7	3.5	4.5	-	-	-	-	-
1940	-	-	1.6	29.1	51.7	18.4	14.6	7.8	10.4	6.3	-	-	-	-	-
1941	-	-	1.7	6.0	7.2	13.5	15.4	10.1	9.8	7.7	-	-	-	-	-
1942	-	-	1.6	8.4	16.6	41.5	34.7	18.2	24.3	14.0	-	-	-	-	-
1943	-	-	2.1	36.8	17.4	38.3	30.3	16.1	7.8	6.3	-	-	-	-	-
1944	-	-	1.7	8.8	30.1	164.1	35.4	18.5	15.3	10.6	-	-	-	-	-
1945	-	-	2.1	5.1	24.4	14.2	8.0	7.3	4.8	6.1	-	-	-	-	-
1946	-	-	2.1	12.2	20.7	47.6	16.1	7.8	8.4	5.8	-	-	-	-	-
1947	-	-	2.0	23.1	38.8	26.3	18.2	19.2	18.2	12.0	-	-	-	-	-
1948	-	-	2.3	19.8	282.5	42.4	23.6	40.3	23.7	12.1	-	-	-	-	-
1949	-	-	2.0	11.1	15.2	8.7	10.4	13.1	6.8	5.5	-	-	-	-	-
1950	-	-	1.5	9.2	24.2	28.2	22.8	8.5	8.3	6.6	-	-	-	-	-
1951	-	-	1.4	9.3	61.7	13.0	27.3	12.4	7.9	7.7	-	-	-	-	-
1952	-	-	1.9	33.6	18.9	58.7	32.4	11.8	7.7	7.2	-	-	-	-	-
1953	-	-	1.8	7.8	61.8	46.6	23.8	36.4	29.8	13.7	-	-	-	-	-
1954	-	-	2.1	6.4	106.0	136.2	38.4	69.1	144.0	44.3	-	-	-	-	-
1955	-	-	2.5	17.6	64.2	30.2	15.8	7.9	4.4	4.9	-	-	-	-	-
1956	-	-	1.7	16.9	18.9	19.4	8.7	8.9	8.2	4.4	-	-	-	-	-
1957	-	-	1.8	15.1	30.0	16.7	13.4	14.4	13.8	10.8	-	-	-	-	-
1958	-	-	2.4	19.1	47.3	29.9	34.9	7.0	5.3	4.1	-	-	-	-	-
1959	-	-	1.3	7.4	21.9	51.6	19.0	7.9	9.6	11.1	-	-	-	-	-
1960	-	-	3.2	14.6	40.4	32.1	34.4	7.2	5.8	6.2	-	-	-	-	-
1961	-	-	2.1	3.8	21.4	9.7	17.9	14.2	4.2	9.6	-	-	-	-	-
1962	-	-	1.8	25.1	31.3	18.9	24.4	19.6	21.9	8.9	-	-	-	-	-
1963	-	-	2.7	48.2	46.3	18.1	9.9	5.0	6.0	3.6	-	-	-	-	-
1964	-	-	1.8	5.7	50.8	33.9	26.8	16.6	53.8	28.6	-	-	-	-	-
1965	-	-	2.4	25.2	62.0	98.6	117.6	16.7	34.8	16.1	-	-	-	-	-
1966	-	-	1.9	10.3	36.5	19.7	40.9	70.6	21.0	13.6	-	-	-	-	-
1967	-	-	1.9	11.9	36.2	34.6	10.9	6.5	3.2	3.5	-	-	-	-	-
1968	-	-	5.1	7.6	31.9	21.5	20.6	32.1	14.5	7.5	-	-	-	-	-
1969	-	-	1.7	22.6	20.6	17.0	59.6	73.1	26.4	20.5	-	-	-	-	-
1970	-	-	2.8	8.0	29.5	33.8	14.1	8.2	5.1	4.1	-	-	-	-	-
1971	-	-	1.8	25.1	28.8	75.8	92.6	12.4	7.2	8.7	-	-	-	-	-
1972	-	-	2.6	11.6	50.5	96.1	43.8	17.1	13.2	23.7	-	-	-	-	-
1973	-	-	3.4	26.6	68.3	25.3	16.6	20.4	9.4	8.0	-	-	-	-	-
1974	-	-	3.0	41.9	85.7	24.4	30.8	12.7	10.5	10.2	-	-	-	-	-
1975	-	-	1.9	8.8	24.0	16.3	23.2	7.3	5.9	3.4	-	-	-	-	-
1976	-	-	2.5	18.9	15.5	17.2	15.1	27.0	10.5	6.0	-	-	-	-	-
1977	-	-	2.1	9.7	88.4	42.6	22.4	26.3	36.2	15.9	-	-	-	-	-
1978	-	-	3.5	13.8	37.0	61.7	36.4	13.0	39.3	15.4	-	-	-	-	-
1979	-	-	3.6	9.7	36.7	24.6	14.0	6.9	4.4	5.0	-	-	-	-	-
1980	-	-	2.1	27.3	28.9	149.4	69.1	30.4	34.3	14.3	-	-	-	-	-
MIN	-	-	0.9	3.8	7.2	7.7	4.9	5.0	3.2	3.4	-	-	-		
MAX	-	-	5.1	48.2	282.5	164.1	117.6	73.1	144.0	44.3	-	-	-		
MEAN	-	-	2.1	15.8	43.0	39.2	27.9	18.0	17.2	10.6	-	-	-	-	-

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : PEMBINA RIVER NEAR ENTWISTLE C7B B02

PRIORITY 1

	INTERCEPT	INDEPENDENT VARIABLES					R=Coeff. of corr.	Se=Std. error of est.
		LAG1	B5DF01	B7AG01	(B7BE01	-C7BK06)		
JAN.	-0.7186	0.2877		0.1514	0.4283		0.710	0.137
FEB.	-1.0436	0.5349		0.0113	0.6552		0.821	0.111
MAR.	-0.7226	0.8467		0.3031	0.3665		0.809	0.153
APR.	-1.2282			0.5521	0.7087		0.918	0.125
MAY.	-1.3321	-0.0799		0.6332	0.6742		0.942	0.103
JUN.	-1.5986	0.0027		0.9401	0.4559		0.958	0.097
JUL.	-1.6011	0.1283		0.8741	0.4459		0.919	0.146
AUG.	-0.6214	0.0121		1.0225	0.0847		0.932	0.114
SEP.	-1.4621	0.1682		0.8103	0.4527		0.928	0.142
OCT.	-0.6710	0.3663		0.4296	0.2836		0.937	0.096
NOV.	-0.3340	0.4798		0.2940	0.1258		0.865	0.109
DEC.	-0.4829	0.4650		0.5195	0.0896		0.796	0.155

PRIORITY 2

		LAG1	B5DF01		(B7BE01	-C7BK06)		
JAN.	0.2707	0.4547	-0.1274				0.669	0.135
FEB.	-0.1699	0.6928	0.1671				0.688	0.137
MAR.	-1.3211	0.9409	0.8787				0.864	0.128
APR.	-1.6764		1.3810				0.888	0.137
MAY.	-2.4743		0.6664		0.9029		0.900	0.129
JUN.	-4.6029		0.6362		1.4968		0.869	0.153
JUL.	-5.8782		1.0394		1.5234		0.879	0.169
AUG.	-5.3818		0.2471		2.1391		0.807	0.174
SEP.	-4.9337		0.3539		2.0001		0.837	0.197
OCT.	-0.6715	0.5427	0.5078				0.864	0.136
NOV.	-0.5449	0.5774	0.3923				0.866	0.113
DEC.	-0.0762	0.8871	-0.0631				0.777	0.167

PRIORITY 3

		LAG1	B5DF01					
JAN.	0.4589		-0.1127				0.607	0.178
FEB.								
MAR.								
APR.								
MAY.	-2.2497	0.1667	1.5136				0.823	0.168
JUN.	-2.2333	0.1775	1.2856				0.751	0.196
JUL.	-3.0559	0.3820	1.4400				0.782	0.222
AUG.	-1.8768	0.2034	1.0754				0.507	0.254
SEP.	-2.4265	0.5194	1.2343				0.707	0.254
OCT.								
NOV.								
DEC.								

PEMBINA RIVER AT ENTWISTLE
NATURAL MEAN MONTHLY FLOW (CMS)

C7B B02

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	[illegible]	1.9	2.1	17.7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	22.9	10.0	5.1	25.5	128	806870
1913	2.7	2.5	2.5	39.2	84.8	96.0	37.0	33.7	14.0	10.5	5.8	2.2	17.8	89	562311
1914	2.0	1.9	1.9	9.6	26.1	131.8	44.0	8.8	9.0	7.9	4.2	1.7	20.6	103	648730
1915	1.1	0.8	1.9	14.4	11.8	133.4	138.2	25.5	12.1	13.4	6.2	2.2	30.2	151	952707
1916	1.3	1.2	1.9	12.5	28.5	30.3	67.2	26.5	22.9	17.9	10.7	3.6	18.8	94	594854
1917	2.4	2.0	1.7	11.3	176.9	72.1	30.7	11.9	11.6	11.8	8.1	3.4	28.9	145	911697
1918	3.6	2.4	2.3	34.0	35.7	28.9	24.0	10.6	7.6	7.6	4.2	2.3	13.6	68	429672
1919	1.2	0.4	0.4	10.3	11.9	14.7	4.9	7.1	48.8	9.9	7.5	4.1	10.1	50	317543
1920	2.8	1.8	1.1	5.5	193.7	55.4	17.6	18.5	10.1	9.4	3.9	1.0	26.9	135	852185
1921	1.9	3.5	3.8	34.9	84.1	31.3	16.1	14.3	8.7	6.9	4.7	3.3	17.9	90	564189
1922	1.4	0.1	0.0	11.5	40.6	9.2	12.4	7.6	5.3	4.3	3.6	0.8	8.1	41	256726
1923	0.3	0.1	0.7	11.1	18.2	54.9	47.4	30.9	15.3	11.7	6.3	3.3	16.8	84	528504
1924	2.1	2.0	1.9	6.7	70.8	33.1	18.4	32.6	29.6	18.3	7.4	4.0	19.0	95	600299
1925	2.3	2.1	2.8	81.1	27.3	47.4	16.0	68.7	72.8	37.2	12.9	5.2	31.4	157	990152
1926	2.7	2.6	5.3	38.1	16.3	18.8	12.2	17.2	75.0	42.0	18.6	8.0	21.2	106	668116
1927	3.0	2.7	3.7	25.4	80.4	60.1	70.1	26.5	26.8	16.6	7.7	4.0	25.7	129	811045
1928	2.0	2.2	5.3	22.5	84.7	76.5	80.9	21.6	11.2	9.0	5.2	2.5	23.7	119	748773
1929	1.6	1.5	3.3	15.8	43.4	24.3	14.5	7.3	8.3	10.4	5.0	2.8	11.6	58	367355
1930	1.8	1.9	2.2	31.6	46.4	42.3	26.3	9.9	7.8	6.7	4.6	2.8	15.4	77	486025
1931	2.0	2.0	2.9	7.4	20.1	22.0	27.7	15.0	13.2	10.0	5.5	3.0	11.0	55	348017
1932	1.9	1.9	1.8	22.5	53.2	68.6	22.5	17.4	15.0	10.8	5.6	3.1	19.5	98	615646
1933	1.9	1.9	1.9	19.6	94.8	36.3	26.2	12.8	13.9	8.6	4.5	2.8	18.9	95	595946
1934	1.8	1.9	3.4	23.0	48.6	46.5	19.6	10.4	5.6	6.3	4.0	2.9	12.3	62	387889
1935	1.8	1.8	1.6	22.5	47.6	27.3	58.1	23.6	15.7	10.5	6.7	3.6	19.2	96	605085
1936	2.1	2.1	1.8	66.1	181.1	38.4	18.6	19.6	9.5	9.6	4.6	2.8	22.1	111	697997
1937	2.0	1.8	1.4	8.6	25.0	29.1	22.2	12.5	10.9	8.9	5.6	3.1	10.1	51	318485
1938	2.0	1.8	1.7	8.4	19.5	80.0	21.8	13.6	21.2	14.3	7.0	2.7	12.1	61	382807
1939	2.1	2.0	3.1	12.3	23.6	13.0	38.5	8.0	3.5	4.8	4.0	2.3	8.2	41	257153
1940	1.6	1.7	1.5	49.5	73.8	23.7	17.1	9.4	11.6	8.5	4.9	2.7	16.6	83	525644
1941	1.5	1.5	1.8	7.5	9.0	13.9	18.0	12.4	10.8	6.7	4.1	2.6	7.7	39	243012
1942	2.0	1.5	1.4	10.8	19.7	46.1	45.1	21.8	29.0	17.1	8.2	4.2	17.6	88	554364
1943	2.2	2.1	2.3	60.7	23.2	24.8	39.5	18.8	8.0	6.9	3.8	2.3	17.9	90	564097
1944	1.8	1.8	1.8	11.4	37.1	212.9	48.1	22.7	17.5	12.6	6.5	3.8	31.3	157	989527
1945	2.5	2.0	2.3	6.6	25.6	16.7	8.6	9.4	4.7	6.9	4.7	2.6	8.0	40	250889
1946	1.8	1.8	2.3	17.6	25.6	57.1	35.3	9.1	6.8	6.4	3.5	2.0	12.8	64	402455
1947	1.8	1.7	2.4	25.5	52.5	99.5	22.1	23.9	21.2	14.4	8.0	4.1	18.5	93	584706
1948	2.6	2.0	2.8	91.0	417.2	66.9	29.8	30.9	27.6	14.4	6.5	3.6	55.1	276	1742771
1949	2.1	2.0	2.0	15.5	19.4	39.5	11.5	10.9	6.9	5.5	3.5	2.4	8.1	41	256686
1950	1.8	1.8	1.5	11.8	25.6	35.9	28.5	11.2	6.6	6.0	3.4	2.0	11.6	58	364668
1951	1.6	1.7	1.4	11.6	106.8	17.3	34.5	14.4	8.5	8.6	5.9	3.2	18.2	91	573756
1952	2.0	2.0	2.6	53.1	25.2	21.4	42.9	13.5	8.2	6.1	4.5	2.2	19.7	98	621692
1953	2.5	1.9	2.2	10.2	85.0	54.6	30.1	45.6	38.1	16.6	7.6	4.1	23.7	119	748364
1954	2.2	2.5	2.2	8.6	138.4	201.0	52.5	85.6	205.7	62.4	15.5	6.6	65.1	326	2053958
1955	2.2	2.7	3.4	27.8	86.7	40.3	18.8	9.5	4.5	5.2	1.9	1.1	17.1	86	539665
1956	1.2	2.9	2.7	27.1	26.0	27.3	12.5	12.3	8.9	4.5	3.7	2.2	10.9	55	345623
1957	1.8	1.7	1.3	19.4	39.6	17.8	13.4	14.6	14.1	12.9	10.9	6.9	12.9	65	407790
1958	2.1	3.6	7.3	33.2	43.5	39.9	38.5	6.9	4.4	3.4	2.3	1.8	15.6	78	492564
1959	1.1	0.5	1.9	8.4	19.5	54.2	24.7	9.4	13.8	13.4	6.2	4.2	13.1	66	413695
1960	2.7	2.7	8.4	18.7	56.2	36.2	50.1	7.2	6.4	6.3	3.2	1.4	16.7	84	528303
1961	1.1	1.6	1.2	5.9	25.5	10.8	13.0	16.4	2.5	4.7	4.5	1.9	7.5	37	235842
1962	1.5	1.5	1.8	38.1	48.6	29.3	29.8	29.1	26.9	11.8	9.5	7.6	19.7	99	622107
1963	2.2	1.8	2.6	58.0	67.4	23.3	13.1	5.7	5.7	4.9	2.7	1.4	15.8	79	497775
1964	1.6	2.1	1.8	7.1	64.7	39.3	39.3	22.0	65.4	38.8	10.2	3.7	24.7	124	781767
1965	1.0	2.1	2.3	49.3	80.3	132.0	172.9	14.5	27.7	14.1	6.2	3.8	42.4	212	1336692
1966	2.2	3.0	4.4	17.7	45.7	24.9	46.5	80.8	27.1	13.9	3.9	5.8	23.2	116	731842
1967	3.2	2.4	3.9	12.6	52.6	45.9	10.5	8.5	4.0	4.4	3.6	1.2	12.8	64	403184
1968	1.0	0.9	1.7	12.4	35.1	24.8	22.0	38.7	18.7	10.9	5.3	3.0	14.6	73	462229
1969	1.6	1.0	1.1	34.5	30.5	17.8	70.6	88.6	34.9	27.1	11.1	8.1	27.5	138	866721
1970	2.5	2.0	3.1	14.4	34.1	37.6	15.2	8.9	5.5	5.3	2.3	2.0	11.1	56	350120
1971	1.9	2.3	2.6	45.7	38.4	90.3	145.2	13.8	7.6	10.5	6.5	3.2	30.8	154	972166
1972	2.0	1.8	2.5	22.5	66.8	120.9	52.8	20.0	13.9	24.4	10.5	6.9	28.8	144	910616
1973	4.4	3.6	4.0	39.4	82.4	34.3	24.8	25.9	12.2	10.8	6.7	4.0	21.2	106	667071
1974	3.1	3.4	3.6	79.8	125.3	35.0	49.8	15.8	11.8	10.1	5.4	2.8	29.0	145	914534
1975	2.5	2.8	2.5	9.7	35.9	22.8	35.2	9.3	7.9	4.7	2.3	2.0	11.5	58	364078
1976	2.5	2.4	2.5	26.4	20.7	18.4	18.5	29.1	12.4	6.3	3.6	3.2	12.2	61	384677
1977	2.5	2.2	2.1	12.6	112.2	61.2	26.8	28.4	39.9	20.2	5.0	4.1	26.6	133	838899
1978	3.2	2.8	5.0	19.3	49.2	81.3	56.3	17.8	45.4	21.0	10.1	5.9	26.5	133	835900
1979	2.9	2.2	7.4	27.1	51.9	33.4	24.5	11.9	5.5	7.0	3.9	3.1	15.1	76	477416
1980	2.7	2.4	2.4	38.2	38.9	210.0	88.8	36.0	41.9	20.1	8.7	5.1	41.1	206	1299810
MIN	0.3	0.1	0.0	5.5	8.0	9.2	4.9	5.7	2.5	3.4	1.9	0.8	7.5		
MAX	4.4	3.6	8.4	81.1	417.2	212.9	172.9	88.6	205.7	62.4	18.6	8.1	65.1		
MEAN	2.1	2.0	2.6	24.1	56.6	50.0	36.8	21.6	20.6	12.7	6.2	3.4	20.0	100	629917

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : PEMBINA RIVER AT JARVIE C7B C02

		INTERCEPT	INDEPENDENT VARIABLES					R=Coeff. of corr.	Se=Std. error of est.
			LAG1	C7BB02					
PRIORITY 1	JAN.	0.0445	0.6675	0.2030				0.923	0.101
	FEB.	0.0091	0.7152	0.3413				0.958	0.068
	MAR.	0.0178	0.3500	1.0703				0.798	0.209
	APR.	0.4730		0.9730					0.814
	MAY.	-0.1945	0.2390	0.9640				0.953	0.082
	JUN.	-0.2635	0.3534	0.8325				0.949	0.103
	JUL.	-0.1879	0.3220	0.8911				0.938	0.134
	AUG.	-0.0268	0.3314	0.7361				0.970	0.073
	SEP.	0.0007	0.3566	0.7126				0.953	0.117
	OCT.	0.0596	0.3596	0.6764				0.981	0.064
	NOV.	-0.0227	0.6083	0.3461				0.930	0.110
	DEC.	-0.2706	0.9368	0.1712				0.917	0.137
				C7BB02					
PRIORITY 2	JAN.	0.2952		0.8817				0.570	0.211
	FEB.								
	MAR.								
	APR.								
	MAY.								
	JUN.								
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC.								
PRIORITY 3	JAN.								
	FEB.								
	MAR.								
	APR.								
	MAY.								
	JUN.								
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC.								

PEMBINA RIVER AT JARVIE
NATURAL MEAN MONTHLY FLOW (CMS)

C7B C02

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	3.5	3.1	3.5	48.7	85.2	53.4	100.4	64.1	57.3	40.1	19.9	11.7	41.1	127	1298770
1913	6.8	5.4	5.0	105.5	46.0	41.6	52.6	46.6	25.9	18.2	10.1	5.7	30.8	95	972183
1914	4.1	3.5	3.1	27.0	30.9	106.6	83.1	20.2	13.9	11.9	7.1	3.6	26.3	81	829462
1915	2.7	2.1	2.6	39.9	16.7	86.7	215.5	60.6	25.6	21.4	11.5	6.0	41.3	128	1301028
1916	3.9	2.9	3.0	34.8	37.7	33.7	83.6	45.4	35.4	29.5	16.9	9.4	28.2	87	892084
1917	5.9	4.6	3.1	31.5	214.1	127.9	63.8	23.1	17.6	17.1	11.0	6.3	44.1	137	1391444
1918	4.9	4.3	4.3	91.8	59.1	37.9	34.7	17.3	11.7	11.0	6.7	3.7	24.0	74	755441
1919	2.8	2.1	1.4	28.8	15.6	13.5	6.0	7.2	32.3	18.9	11.4	6.7	12.2	38	384573
1920	4.8	3.8	1.8	15.7	197.7	99.9	36.0	26.4	16.7	14.4	7.7	3.6	35.9	111	1134912
1921	3.0	3.4	6.7	94.1	135.7	54.4	27.4	19.9	13.6	10.9	6.9	4.0	31.8	98	1002725
1922	3.0	2.3	1.4	31.9	52.0	13.9	13.9	10.0	7.4	6.4	4.6	2.2	12.5	39	393473
1923	1.9	1.6	1.2	31.0	23.9	46.9	68.2	47.6	27.7	20.0	11.1	6.3	24.1	74	759160
1924	4.4	3.7	3.2	19.0	78.4	46.8	29.3	37.4	40.7	31.1	15.4	8.8	26.6	82	840932
1925	5.6	4.5	5.4	214.1	55.9	56.1	27.4	63.4	93.4	67.6	29.9	17.7	53.3	165	1681432
1926	9.2	6.8	12.1	102.5	28.4	20.5	15.6	19.0	62.0	83.4	31.3	19.3	32.5	101	1024154
1927	10.0	7.4	8.5	69.2	91.6	81.5	115.4	50.6	42.2	25.5	15.1	8.6	44.4	137	1398644
1928	5.4	4.5	10.4	61.9	66.7	89.0	133.9	45.7	21.9	15.4	8.8	4.9	39.2	121	1238688
1929	3.7	3.2	5.7	43.6	59.8	33.0	21.1	11.2	10.7	13.1	7.9	4.5	18.2	56	573358
1930	3.4	3.1	3.6	85.7	74.9	56.6	42.9	17.7	12.1	10.2	6.6	3.7	26.7	83	843485
1931	3.1	3.1	4.8	20.8	24.4	22.1	33.1	22.0	19.0	15.7	9.2	5.2	15.3	47	481451
1932	3.8	3.3	2.6	61.4	84.6	88.7	52.2	28.5	22.8	17.5	9.8	5.5	31.7	98	1003179
1933	4.0	3.4	3.2	53.6	133.3	61.0	40.7	23.3	20.1	14.7	8.2	4.5	31.0	96	977770
1934	3.4	3.0	5.7	62.7	72.7	36.1	19.6	13.7	9.8	9.1	5.8	3.2	20.6	64	650000
1935	2.7	2.6	2.2	61.8	70.8	50.0	80.8	41.3	26.9	18.4	10.8	6.2	31.4	97	989173
1936	4.4	3.8	2.7	175.4	188.2	73.0	30.0	18.7	14.1	11.6	7.1	4.0	44.4	137	1403246
1937	3.2	2.9	2.1	19.4	28.8	21.8	27.1	16.0	15.4	13.4	8.5	4.8	13.8	43	436513
1938	3.6	3.1	2.8	23.5	23.8	28.4	29.0	19.6	25.6	22.5	12.4	7.1	16.8	52	530348
1939	4.8	4.0	5.7	34.2	31.3	15.6	20.6	11.9	6.9	6.3	4.7	2.6	12.3	38	389083
1940	2.4	2.3	2.2	116.7	122.6	41.6	26.4	14.5	14.8	13.9	8.1	4.5	30.8	95	975138
1941	3.5	3.1	2.8	21.1	9.8	10.9	18.0	15.6	14.5	13.0	7.7	4.3	10.4	32	327466
1942	3.3	3.0	2.2	30.0	25.4	43.0	54.6	36.1	38.9	29.5	15.4	8.9	25.2	78	795231
1943	5.6	4.5	4.2	161.5	44.6	49.4	58.9	31.5	16.1	11.3	6.6	3.6	33.0	102	1041443
1944	2.9	2.7	2.9	91.8	47.6	185.1	107.4	44.1	29.7	21.4	11.7	6.7	41.1	127	1300163
1945	4.6	3.9	4.0	18.5	32.5	19.4	11.2	10.9	7.0	6.5	6.0	3.4	10.9	34	342198
1946	2.8	2.6	3.5	46.4	36.8	56.5	32.5	15.1	10.4	9.3	5.7	3.1	18.9	58	596086
1947	2.6	2.4	3.7	95.9	88.1	49.1	35.0	31.6	30.3	23.7	13.4	7.8	32.0	99	1010011
1948	5.1	4.3	4.7	84.0	618.7	174.9	68.9	69.0	48.5	28.1	13.8	7.8	94.6	293	2992581
1949	5.1	4.2	3.6	42.8	25.9	11.3	12.2	17.3	10.9	9.0	5.6	3.2	12.6	39	398574
1950	2.5	2.6	2.3	32.6	38.6	37.2	40.2	18.9	11.0	9.1	5.6	3.0	17.1	53	538224
1951	2.6	2.4	2.0	32.7	132.5	52.9	45.9	23.9	14.2	13.0	8.4	4.8	26.5	82	836257
1952	5.6	5.2	4.7	141.6	46.6	74.1	72.3	26.3	14.4	12.4	7.6	4.3	34.2	108	1080630
1953	3.3	3.0	3.5	29.1	80.1	79.2	53.5	58.7	65.1	32.4	16.0	9.2	35.5	110	1117993
1954	5.7	4.7	4.2	24.0	156.1	268.6	131.0	125.2	249.6	136.7	45.8	28.3	98.8	306	3115741
1955	12.1	8.5	8.0	75.5	132.6	66.5	33.5	15.8	7.8	7.3	4.0	2.0	31.3	97	985661
1956	1.8	2.3	4.0	73.6	41.4	31.9	18.4	15.6	12.7	7.9	5.3	2.9	18.1	56	572113
1957	2.6	2.4	1.9	53.2	57.4	25.1	38.1	17.6	18.4	17.5	12.4	7.9	19.6	61	618145
1958	5.1	5.1	5.1	104.2	60.7	30.0	51.1	10.4	7.6	6.3	3.9	2.1	24.3	75	767173
1959	1.6	1.6	3.8	19.6	26.6	49.4	36.9	13.9	16.4	17.5	10.2	6.0	17.0	53	537050
1960	4.5	4.2	13.5	37.8	58.0	42.7	72.6	13.7	8.8	9.5	5.6	2.8	22.9	71	723708
1961	2.3	2.1	6.8	26.9	28.3	15.1	11.9	20.5	5.6	6.4	4.8	2.1	11.1	34	349870
1962	2.3	1.7	1.6	60.4	89.5	51.1	40.4	39.4	34.1	20.7	18.9	8.3	30.8	95	972329
1963	6.3	3.6	2.7	119.7	120.2	40.4	19.2	8.6	7.3	6.3	2.3	2.0	28.3	87	891118
1964	1.9	2.4	4.5	9.1	63.2	37.3	38.9	28.2	57.2	57.7	17.1	8.4	27.2	84	861635
1965	6.8	4.4	6.1	152.6	181.0	168.0	321.1	56.2	52.3	33.4	19.2	13.3	85.1	263	2682185
1966	5.6	5.9	6.1	77.6	65.2	42.3	54.3	81.4	44.2	21.7	12.8	5.8	35.4	110	1115974
1967	5.1	4.8	4.4	41.0	75.0	59.2	18.7	14.2	4.1	4.7	3.8	0.9	19.7	61	621062
1968	0.7	0.7	2.3	10.4	34.7	30.4	17.8	40.1	22.0	12.4	7.0	3.1	15.2	47	480060
1969	1.6	1.6	1.8	75.7	49.9	17.7	76.9	106.7	55.3	43.4	18.5	13.7	38.8	120	1225085
1970	5.4	5.2	4.5	93.0	52.9	43.4	24.8	16.1	6.6	6.3	4.3	2.2	22.0	68	694834
1971	1.8	1.8	2.2	103.7	81.1	116.5	279.0	55.3	23.9	23.9	12.9	8.8	59.7	185	1881952
1972	5.0	4.2	6.4	140.1	116.7	112.1	110.7	38.4	20.5	32.3	14.1	7.3	50.7	157	1602578
1973	5.4	5.7	5.0	57.1	97.9	62.5	41.9	34.5	23.1	21.0	14.4	6.9	31.4	97	990530
1974	5.0	3.8	5.1	308.9	289.0	73.8	115.8	32.3	22.1	17.5	11.7	5.9	74.5	231	2349301
1975	5.0	4.4	3.9	27.2	61.0	28.1	71.4	20.3	25.6	10.2	5.3	4.0	22.3	69	704654
1976	4.4	4.7	7.9	84.0	29.6	20.4	25.8	32.6	22.3	10.6	6.0	4.6	21.0	65	664821
1977	4.8	4.3	4.5	46.9	134.3	144.3	59.9	46.8	53.3	38.8	12.9	10.2	46.9	145	1479018
1978	7.5	6.7	18.3	66.2	61.3	98.6	76.3	26.2	70.0	40.4	18.9	12.6	42.0	130	1323719
1979	6.8	5.0	37.6	102.5	116.3	74.4	101.4	32.0	13.9	12.7	8.6	6.1	43.4	134	1367358
1980	4.6	4.2	4.5	83.9	47.2	237.1	134.9	57.2	60.1	37.1	20.8	15.5	58.8	182	1858006
MIN	0.7	0.7	1.2	9.1	9.8	10.9	6.0	7.2	4.1	4.7	2.3	0.9	10.4		
MAX	12.1	8.5	37.6	308.9	618.7	268.6	321.1	125.2	249.6	136.7	45.8	28.3	98.8		
MEAN	4.3	3.6	4.9	67.4	82.7	63.0	60.2	32.5	28.8	21.4	11.2	6.5	32.3	100	1019767

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : ATHABASCA RIVER AT ATHABASCA C7B E01

		INTERCEPT	INDEPENDENT VARIABLES					R=Coeff. of corr.	Se=Std. error of est.
			LAG1	B5DF01	C7BK06				
PRIORITY 1	JAN.	1.1548		0.1108	0.4496			0.808	0.075
	FEB.	1.2540		0.1102	0.3671			0.920	0.044
	MAR.	1.0605		0.2444	0.3481			0.846	0.060
	APR.	0.3680		0.9160	0.0805			0.852	0.123
	MAY.	0.3651		0.8465	0.2298			0.842	0.107
	JUN.	0.9059	0.1365	0.5558	0.1093			0.752	0.091
	JUL.	1.1078		0.5772	0.1805			0.817	0.072
	AUG.	1.0124		0.5537	0.2615			0.703	0.076
	SEP.	0.7871		0.6085	0.2568			0.866	0.073
	OCT.	0.9711		0.4978	0.2753			0.768	0.082
	NOV.	1.2949		0.3247	0.2356			0.781	0.077
	DEC.	0.9546		0.3794	0.3356			0.807	0.078
PRIORITY 2	JAN.								
	FEB.								
	MAR.								
	APR.								
	MAY.								
	JUN.								
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC.								
PRIORITY 3	JAN.								
	FEB.								
	MAR.								
	APR.								
	MAY.								
	JUN.								
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC.								

ATHABASCA RIVER AT ATHABASCA
NATURAL MEAN MONTHLY FLOW (CMS)

C7B E01

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	97.9	93.0	93.6	272.0	787.8	1032.9	1400.6	995.6	624.8	393.8	205.3	127.0	513.2	120	16227043
1913	99.4	83.2	84.1	462.0	382.8	949.2	1044.0	891.0	469.4	252.2	152.8	107.5	418.2	98	13188452
1914	90.6	82.1	89.5	130.6	374.3	1592.5	1169.3	548.1	391.8	356.1	165.5	90.1	424.6	99	13389303
1915	103.8	91.5	114.5	328.7	371.1	1147.4	1656.0	831.7	424.6	252.8	154.6	94.5	467.0	109	14725963
1916	74.9	71.6	74.5	208.6	388.5	786.2	1275.1	655.0	439.0	285.5	164.3	82.9	376.9	88	11918689
1917	79.9	64.3	61.8	211.7	1257.0	1123.0	833.9	491.0	347.7	314.0	169.8	95.8	423.3	99	13348955
1918	109.1	88.5	87.9	289.0	403.6	1046.2	974.0	523.2	332.5	211.5	125.4	82.3	357.3	84	11267475
1919	70.7	66.3	57.0	185.1	266.0	680.7	645.1	578.7	542.1	233.7	148.4	100.3	298.7	70	9421219
1920	85.7	81.9	79.1	126.9	1446.8	1232.5	1209.0	851.2	511.8	384.7	175.4	101.4	527.3	123	16673298
1921	113.0	119.1	123.2	349.6	804.0	1056.4	853.4	691.8	411.9	301.0	227.7	104.8	431.3	101	13601951
1922	75.3	77.4	80.7	140.5	539.4	661.4	607.4	560.9	402.9	258.4	138.7	59.6	301.7	71	9513063
1923	56.7	49.4	51.8	180.6	437.1	1015.1	1023.4	704.3	492.9	343.6	244.5	143.4	397.1	93	12523290
1924	66.2	87.9	81.2	108.6	808.8	705.7	765.9	853.0	750.5	402.8	233.3	89.7	414.2	97	13097176
1925	54.1	55.6	84.4	925.7	689.8	931.6	711.7	874.0	707.3	419.8	220.7	176.6	488.9	114	15417059
1926	155.6	129.7	134.8	431.3	464.6	716.7	697.2	470.0	666.8	446.2	269.9	144.1	394.7	92	12446792
1927	103.9	103.8	117.4	299.3	768.8	1139.1	1407.0	715.4	567.9	390.3	197.3	118.6	496.7	116	15662401
1928	113.2	96.5	123.2	290.2	723.1	1259.4	1269.4	654.6	411.5	285.8	163.4	147.0	462.7	108	14630871
1929	88.2	78.5	100.4	215.3	648.2	809.4	654.1	545.8	378.6	346.4	188.2	83.1	346.4	81	10923223
1930	60.5	67.0	75.8	304.8	641.2	1193.0	976.5	630.8	458.0	251.9	214.1	164.0	421.4	99	13287861
1931	118.1	110.7	129.1	183.6	449.5	790.3	1000.3	637.5	461.2	288.0	178.2	125.6	371.7	87	11722168
1932	124.5	80.3	80.7	319.8	770.2	1341.5	842.4	752.3	535.7	324.8	195.3	135.1	468.2	109	14806192
1933	113.5	98.6	100.2	297.8	1007.5	1006.0	947.7	682.5	503.3	268.7	185.4	113.7	444.4	104	14015955
1934	98.7	90.8	107.2	329.0	788.1	927.9	878.1	653.4	461.8	339.8	212.1	154.3	420.6	98	13263857
1935	127.8	111.0	106.6	335.7	838.1	1150.1	1742.9	981.6	634.4	385.4	254.9	150.4	569.9	133	17971769
1936	142.7	119.3	101.6	570.6	1074.4	1102.2	825.6	712.4	503.2	331.3	216.5	134.7	503.7	118	15926710
1937	118.7	101.7	95.8	151.6	582.0	828.5	1020.7	630.4	483.6	308.3	208.3	133.0	390.8	91	12325743
1938	104.0	91.0	100.4	159.2	373.8	818.2	726.4	585.7	510.8	191.9	122.5	104.0	325.9	76	10276450
1939	81.6	77.5	88.2	207.4	417.8	526.3	745.5	466.6	236.8	233.8	142.9	104.0	279.0	65	8798131
1940	67.4	65.6	65.4	456.6	960.6	867.1	804.0	514.3	396.7	249.0	137.7	77.9	390.8	91	12357351
1941	56.2	57.4	58.1	142.6	205.2	568.5	828.6	565.4	405.2	335.6	178.3	101.0	294.3	69	9280938
1942	69.0	80.9	73.9	188.8	337.7	1129.5	1047.9	707.2	602.5	295.5	187.6	112.3	404.1	94	12742592
1943	73.9	68.9	71.2	586.2	438.4	1117.7	1102.2	675.6	352.6	212.3	124.4	74.7	405.6	96	12917929
1944	59.7	58.8	62.9	191.4	581.9	2251.0	1123.4	695.8	471.7	302.0	163.6	72.8	502.9	118	15904012
1945	52.6	51.0	59.6	130.3	411.3	628.7	516.1	498.5	270.5	278.9	155.2	88.1	263.1	62	8297613
1946	57.2	66.8	62.0	250.3	386.6	1103.9	783.2	495.8	314.5	162.8	98.9	89.4	322.6	75	10175030
1947	59.7	58.6	63.1	400.6	722.4	904.6	795.4	768.7	537.6	353.7	196.6	116.3	416.6	97	13139365
1948	76.4	67.3	70.0	385.4	2499.6	1252.7	969.3	1044.1	635.4	358.3	191.6	101.0	640.9	150	20268337
1949	91.2	81.3	83.0	245.3	355.4	556.4	606.5	667.6	346.7	183.5	118.6	86.5	286.5	67	9034812
1950	80.1	72.0	73.5	201.6	574.8	899.0	909.0	562.2	338.9	165.7	106.8	111.9	343.0	80	10817081
1951	85.9	81.8	79.4	204.9	1097.8	688.8	972.5	640.3	371.7	221.4	152.1	99.2	394.3	92	12433452
1952	74.6	74.2	72.5	509.8	428.9	1170.2	1058.9	602.6	370.1	251.9	144.6	64.8	402.1	94	12715746
1953	59.8	68.8	81.2	194.9	785.4	1151.2	922.7	1006.0	706.5	282.2	178.3	89.7	462.8	108	14594808
1954	87.8	89.6	89.1	107.8	1293.7	2277.0	1257.9	1276.5	1391.8	500.5	276.7	203.0	739.9	173	23333623
1955	90.3	77.4	77.6	330.8	668.7	1291.3	1053.3	636.6	355.7	224.4	98.1	96.0	421.7	99	13300251
1956	98.4	88.0	81.3	533.5	687.7	1163.3	746.6	651.4	390.7	247.7	107.8	67.1	405.5	95	12821517
1957	56.1	66.2	90.9	240.7	794.0	677.8	665.0	726.7	492.1	366.6	307.6	174.3	390.4	91	12310275
1958	137.1	131.2	125.9	514.3	746.1	840.4	937.2	438.2	322.2	214.4	106.3	86.9	384.9	90	12138456
1959	67.7	66.2	79.7	185.0	388.6	922.0	860.5	465.5	475.2	307.5	124.0	119.5	339.7	79	10713478
1960	78.9	67.8	72.8	218.5	520.0	961.7	1236.3	530.1	308.9	222.3	140.4	80.1	371.1	87	11733698
1961	75.5	69.7	81.2	185.6	407.2	826.6	768.5	571.0	288.9	298.6	176.5	102.7	322.5	75	10171465
1962	94.4	76.0	66.0	494.6	959.3	1018.5	954.5	703.7	467.1	270.8	179.0	109.5	451.5	106	14239427
1963	104.6	99.0	101.0	623.3	926.8	895.8	744.1	531.3	412.2	260.4	121.6	120.4	413.2	97	13029603
1964	86.2	85.5	69.9	133.7	606.7	986.9	918.0	782.7	678.4	560.4	243.4	164.1	444.2	104	14046868
1965	135.6	114.6	122.5	418.8	1101.4	1526.8	2013.8	933.3	782.3	511.8	271.3	164.1	678.5	159	21396293
1966	125.2	122.7	94.1	213.7	849.8	909.2	986.0	956.7	631.2	326.2	208.2	172.4	468.8	110	14785372
1967	126.3	99.7	96.7	214.4	697.3	1179.8	748.4	549.8	362.2	247.6	135.6	79.2	378.4	89	11965181
1968	60.4	69.4	94.3	129.5	380.3	762.3	848.7	685.1	418.6	245.0	121.4	70.9	324.9	76	10274972
1969	56.9	58.8	64.0	395.0	477.5	655.5	708.5	998.6	524.1	360.3	180.0	128.2	386.0	90	12173621
1970	89.1	78.4	80.5	359.8	515.9	878.5	817.5	493.1	292.1	209.7	128.6	86.7	337.1	79	10630025
1971	72.6	73.4	77.2	441.0	661.6	1538.6	2134.8	782.1	454.3	374.8	200.0	126.0	582.1	136	18358642
1972	103.7	89.3	100.8	370.9	1058.0	1640.7	1130.9	728.7	468.7	443.3	232.8	124.7	542.0	127	17139668
1973	134.1	133.4	116.0	377.1	856.6	1084.5	783.6	637.0	360.2	339.1	159.3	133.5	428.7	100	13519446
1974	110.1	112.8	104.0	972.5	1547.5	1009.7	1175.0	665.4	463.7	322.9	198.9	124.0	571.6	134	18024620
1975	109.0	101.8	105.4	234.8	529.4	672.9	1113.1	536.5	452.2	253.4	202.0	128.8	371.9	87	11728886
1976	125.4	115.5	97.3	425.8	483.0	599.3	889.0	1027.8	642.1	340.0	174.4	96.8	419.5	98	13266875
1977	118.8	137.3	129.1	360.6	1083.1	1355.6	1107.5	887.2	736.9	476.4	227.5	149.4	566.5	132	17863968
1978	122.4	104.3	134.2	369.2	695.6	1248.1	1162.1	679.4	997.4	511.3	209.4	140.9	532.8	125	16801887
1979	107.4	96.2	152.2	324.3	856.5	1114.4	1340.8	658.5	388.7	271.0	159.7	96.3	466.5	109	14711353
1980	105.3	92.3	107.5	409.6	490.1	1715.2	1044.6	648.8	580.4	398.4	225.3	141.6	496.2	116	15691708
MIN	52.8	49.4	51.8	107.8	209.2	526.3	516.1	438.2	236.8	162.8	98.1	59.6	263.1		
MAX	155.6	137.3	152.2	972.5	2499.6	2277.0	2134.8	1276.5	1391.8	560.4	307.6	203.0	739.9		
MEAN	92.6	86.1	90.3	315.7	703.9	1037.7	996.1	692.7	492.1	312.7	178.1	113.7	427.6	100	13495863

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : LESSER SLAVE RIVER AT HIGHWAY NO. 2 C7B K06

		INTERCEPT	INDEPENDENT VARIABLES				R=Coeff. of corr.	Se=Std. error of est.
			B7BK01					
PRIORITY 1	JAN.	-0.0277	1.0147				0.982	0.037
	FEB.	-0.0369	1.0213				0.986	0.033
	MAR.	-0.0323	1.0189				0.990	0.028
	APR.	0.1328	0.9203				0.901	0.081
	MAY	0.0076	1.0135				0.968	0.049
	JUN.	0.2024	0.8981				0.965	0.050
	JUL.	-0.0104	1.0128				0.992	0.028
	AUG.	0.0065	1.0019				0.997	0.016
	SEP.	0.0692	0.9644				0.990	0.031
	OCT.	0.0335	0.9858				0.995	0.022
	NOV.	-0.1288	1.0768				0.946	0.075
	DEC.	-0.0413	1.0204				0.969	0.051

PRIORITY 2	JAN.								
	FEB.								
	MAR.								
	APR.		DATA OBTAINED DIRECTLY FROM SNBB						
	MAY.		APPENDIX 4 - HYDROLOGY						
	JUN.		VOLUME 2 - TABLE C7BK06						
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC.								

PRIORITY 3	JAN.								
	FEB.								
	MAR.								
	APR.								
	MAY.								
	JUN.								
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC								

LESSER SLAVE RIVER AT HIGHWAY NO. 2
NATURAL MEAN MONTHLY FLOW (CMS)

07B K06

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	[illegible]												47.8	106	1510672
1913	[illegible]												48.7	108	1534305
1914	[illegible]												51.9	116	1636005
1915	[illegible]					62.3	61.8	58.5	50.1	43.0	26.6	18.9	45.5	101	1435228
1916	17.2	20.5	22.6	30.0	39.2	44.6	49.2	46.2	36.5	30.6	26.6	20.3	32.0	71	1011538
1917	17.7	17.1	15.9	22.3	33.3	47.5	49.1	44.9	38.7	36.7	31.4	16.8	31.0	69	978155
1918	19.3	16.8	18.3	18.8	25.5	28.1	30.4	33.3	31.0	29.8	23.8	17.9	24.5	54	771611
1919	18.6	17.0	17.4	19.9	24.6	36.7	54.1	55.3	45.1	40.7	30.9	29.0	32.5	72	1026225
1920	27.8	26.2	27.3	30.2	42.9	76.7	105.9	99.1	91.9	89.6	68.0	44.0	60.9	135	1924249
1921	42.5	52.1	56.9	58.6	63.1	68.3	73.0	73.0	64.3	50.4	37.6	41.6	56.8	127	1792017
1922	29.9	28.6	32.6	36.4	54.4	60.5	51.4	51.7	42.9	37.6	29.4	21.9	39.8	89	1256205
1923	19.7	19.1	21.5	25.5	33.0	39.3	43.6	41.6	34.3	27.1	23.4	16.8	28.8	64	908714
1924	12.9	18.5	20.5	20.7	20.7	21.8	22.5	24.7	27.9	26.0	23.6	21.7	21.8	49	688959
1925	19.5	18.4	21.7	26.7	39.6	47.1	44.1	38.1	35.3	30.0	27.9	24.8	31.2	69	983289
1926	24.2	24.6	23.6	24.4	33.5	53.4	55.6	43.8	40.9	42.0	37.9	28.2	36.1	80	1137152
1927	20.6	17.5	23.6	29.2	39.4	55.0	95.9	101.4	89.6	81.0	52.1	37.1	53.8	120	1696023
1928	43.7	51.7	57.6	60.4	67.7	71.5	70.4	61.8	52.3	46.7	33.4	27.3	53.7	120	1698732
1929	24.7	21.4	21.6	25.8	44.8	59.7	50.1	48.4	46.2	44.3	34.9	22.6	37.1	83	1170810
1930	23.9	22.4	22.5	34.6	49.3	88.3	106.3	92.3	80.5	68.6	56.1	49.6	58.1	129	1831688
1931	34.4	26.1	39.7	42.3	41.1	49.5	55.1	49.4	46.7	41.4	36.6	27.9	40.9	91	1291225
1932	49.5	21.1	26.5	39.0	58.7	73.4	82.1	83.2	75.0	66.7	61.3	46.0	57.3	128	1811876
1933	39.7	35.7	43.4	51.1	52.2	65.7	72.3	71.4	58.6	56.5	44.0	40.4	52.7	117	1662229
1934	30.5	28.4	31.8	46.9	87.5	93.4	118.5	122.4	118.5	102.8	96.7	71.9	79.4	177	2504303
1935	80.7	53.0	60.3	71.1	131.5	155.8	218.9	213.9	183.4	139.8	94.0	79.3	122.3	272	3858210
1936	69.8	61.0	54.9	53.7	96.8	112.0	125.0	116.3	104.9	100.8	91.6	81.0	89.1	198	2818183
1937	55.5	48.7	47.7	65.1	81.3	88.2	78.3	70.7	67.7	56.9	47.7	38.3	62.2	139	1962538
1938	33.9	33.0	45.5	49.6	49.8	43.7	40.0	34.1	30.1	26.9	23.9	22.4	36.1	80	1137849
1939	19.9	19.2	21.1	25.8	28.7	28.7	27.6	24.5	21.5	20.0	21.8	21.2	23.3	52	736212
1940	13.9	13.3	16.4	19.7	25.9	31.8	30.3	27.6	22.4	22.0	13.4	9.9	20.4	45	645294
1941	9.3	8.6	9.4	14.6	15.6	20.1	22.6	23.0	22.9	26.6	25.9	25.9	18.8	42	591934
1942	25.1	22.0	22.2	24.5	24.0	30.9	33.2	29.6	28.1	22.9	20.0	19.0	25.2	56	793336
1943	15.1	13.5	15.2	21.2	23.6	27.9	27.1	25.7	23.4	21.8	18.5	14.1	20.6	46	650493
1944	10.5	9.7	11.3	17.6	17.7	23.0	20.2	16.6	16.5	16.6	11.6	10.4	15.5	34	489759
1945	7.7	6.0	8.9	14.4	20.4	24.6	21.1	20.0	19.6	21.2	11.5	10.7	15.6	35	491091
1946	8.6	7.7	9.3	14.0	19.2	22.6	26.1	19.1	18.4	16.5	10.9	9.9	15.4	34	485986
1947	9.3	8.3	8.6	14.8	24.2	32.0	30.9	30.0	30.2	28.9	25.8	23.0	22.2	49	698650
1948	16.2	12.2	13.2	28.1	43.1	48.3	55.9	51.5	46.2	42.7	37.6	33.2	35.8	80	1133394
1949	26.0	21.6	25.2	30.8	36.9	35.3	34.8	34.6	35.6	35.6	30.7	29.3	31.8	71	1002048
1950	21.1	16.6	19.9	25.6	35.4	47.0	49.4	46.9	45.4	40.5	34.9	29.3	34.4	77	1085461
1951	23.3	23.2	25.2	32.0	59.3	66.9	59.3	61.4	59.0	55.7	54.3	45.4	47.2	105	1489174
1952	36.7	35.1	35.7	43.5	50.5	50.6	52.6	57.0	51.3	47.3	21.4	16.9	41.7	93	1317839
1953	13.1	10.6	14.7	22.1	44.6	54.5	54.8	53.2	50.5	44.9	26.6	21.7	34.4	77	1086049
1954	15.5	11.6	17.2	27.7	59.5	66.2	69.7	73.6	74.5	69.4	54.0	47.6	49.1	109	1548814
1955	30.7	30.2	35.2	42.3	63.7	72.9	78.5	74.5	64.4	59.1	43.0	34.3	52.6	117	1658050
1956	26.4	21.3	23.3	32.4	58.7	71.1	77.3	67.6	66.4	61.6	42.5	33.2	48.8	109	1542526
1957	30.2	29.9	33.2	35.5	54.5	53.6	55.8	63.7	66.5	67.5	61.2	46.7	49.1	109	1547424
1958	37.7	31.4	33.7	43.4	75.2	76.6	69.8	62.5	62.5	56.8	30.3	53.8	52.2	116	1647637
1959	23.2	17.8	21.3	25.0	29.5	38.9	31.9	29.4	28.7	30.4	20.4	16.0	26.3	58	828024
1960	14.2	13.0	17.6	24.1	27.1	35.0	34.7	29.6	26.7	22.1	15.0	13.6	22.7	51	719025
1961	15.3	13.3	14.3	18.9	23.0	34.8	31.7	41.1	35.5	32.8	10.6	13.8	23.8	53	751792
1962	13.8	14.0	14.2	17.3	39.4	63.1	63.4	57.1	44.9	50.7	42.1	27.6	37.4	83	1180639
1963	22.2	27.5	30.9	32.2	88.6	82.4	73.4	67.2	57.5	54.9	46.6	33.2	51.6	115	1626915
1964	30.7	31.6	31.0	41.7	52.8	55.3	61.4	82.9	86.1	80.8	69.0	43.8	55.6	124	1759709
1965	41.6	41.6	44.9	66.1	105.4	107.2	108.4	98.7	101.2	92.1	77.6	49.2	78.0	174	2461312
1966	44.1	51.2	59.6	73.4	79.8	78.4	68.1	63.2	59.1	53.8	39.8	33.1	58.7	131	1849836
1967	30.1	27.9	27.6	37.5	57.4	57.3	52.1	44.3	38.1	32.0	20.6	13.5	36.6	81	1153934
1968	16.6	15.9	19.7	28.5	31.5	36.6	36.2	33.7	32.7	28.8	17.3	14.9	26.1	58	824063
1969	14.4	13.0	14.7	27.7	31.6	29.1	26.4	23.5	25.5	25.1	16.9	18.1	22.4	50	705923
1970	15.0	15.3	17.4	28.7	38.1	41.6	54.4	44.0	41.4	37.4	30.4	20.9	32.1	72	1013524
1971	17.8	18.0	18.8	36.5	49.3	57.8	90.3	84.2	73.8	65.3	46.3	33.8	49.5	110	1561840
1972	30.7	30.4	37.1	52.3	69.9	73.7	76.5	68.6	60.5	56.3	42.2	33.7	52.7	117	1667126
1973	31.9	31.2	35.6	45.5	60.6	77.2	77.3	71.6	68.1	64.4	52.5	37.4	54.6	121	1720828
1974	32.8	34.8	35.0	57.6	97.7	92.3	98.6	91.8	87.4	82.8	68.1	44.6	68.8	153	2170611
1975	44.6	44.6	47.2	55.7	67.1	68.7	82.2	75.5	79.0	69.3	60.4	37.3	61.0	136	1924535
1976	38.6	39.3	42.6	61.1	68.5	72.3	90.0	91.8	103.0	94.2	76.8	52.9	69.5	155	2197231
1977	43.1	51.2	57.0	82.1	100.7	117.0	121.4	111.9	105.8	96.3	77.4	49.7	84.6	188	2668679
1978	46.8	44.9	58.6	74.1	87.3	88.4	82.7	72.4	75.2	73.7	58.2	42.0	67.1	149	2117212
1979	33.3	31.5	42.6	54.1	76.9	100.7	131.9	118.6	108.0	97.6	87.1	57.1	78.7	175	2482591
1980	42.2	44.2	57.0	64.9	65.6	67.9	65.3	62.6	58.5	54.4	48.0	29.1	55.0	122	1738680
MIN	7.7	6.0	8.6	14.0	15.8	20.1	20.2	16.6	18.3	16.5	10.6	9.9	15.4		
MAX	80.7	61.0	60.3	82.1	131.5	155.8	218.9	213.9	183.4	139.8	96.7	81.0	122.3		
MEAN	27.8	26.4	29.6	37.4	51.5	59.4	64.1	60.9	56.4	51.5	40.7	32.1	44.9	100	1417430

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : CLEARWATER RIVER AT DRAPER C7C D01

PRIORITY 1

	INTERCEPT	INDEPENDENT VARIABLES					R=Coefl. of corr.	Se=Std. error of est.
		LAG1	C7DAO1	(C7DAO1	-C7BEO1)			
JAN.	0.1251	0.5089		0.3658			0.858	0.058
FEB.	0.1923	0.9274		-0.0631			0.954	0.030
MAR.	0.6936	0.5895		0.0034			0.879	0.032
APR.	-0.3114		0.8931				0.711	0.157
MAY.	0.2186	0.0396		0.7994			0.891	0.074
JUN.	0.3686	0.1862		0.5912			0.882	0.081
JUL.	-0.6031	0.4613		0.6958			0.948	0.078
AUG.	-0.3609	0.1848		0.8620			0.918	0.086
SEP.	-0.1404	0.1854		0.7763			0.953	0.068
OCT.	0.3042	0.4237		0.3802			0.918	0.070
NOV.	0.5058	0.5987		0.0845			0.927	0.047
DEC.	0.4492	0.5983		0.1130			0.868	0.055

PRIORITY 2

				(C7DAO1	-C7BEO1)			
JAN.	0.4678			0.6750			0.782	0.067
FEB.								
MAR.								
APR.								
MAY.								
JUN.								
JUL.								
AUG.								
SEP.								
OCT.								
NOV.								
DEC.								

PRIORITY 3

JAN.								
FEB.								
MAR.								
APR.								
MAY.								
JUN.								
JUL.								
AUG.								
SEP.								
OCT.								
NOV.								
DEC.								

CLEARWATER RIVER AT DRAPER
NATURAL MEAN MONTHLY FLOW (CMS)

C/C 1001

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	60.5	53.1	52.1	112.2	266.0	226.6	199.9	167.2	222.5	181.7	115.4	82.1	145.9	113	4614588
1913	68.1	59.0	55.5	156.6	197.4	165.5	161.6	139.1	184.4	170.6	107.7	77.1	129.7	100	4089282
1914	62.4	54.8	53.1	70.7	186.2	99.1	141.4	164.4	155.8	134.4	93.0	71.6	108.0	83	3404511
1915	58.4	51.6	51.2	127.6	192.9	148.6	162.1	187.5	214.1	176.1	105.5	78.5	130.3	101	4108488
1916	63.4	55.6	53.5	99.7	194.5	173.2	161.6	166.9	173.6	154.2	100.9	75.3	122.4	94	3870217
1917	61.3	53.6	52.4	89.9	312.9	266.6	207.7	153.3	136.4	122.7	87.1	68.0	134.9	104	4253146
1918	55.6	49.3	49.9	115.3	199.9	184.0	162.6	154.3	146.9	134.5	92.3	69.6	116.5	90	3674584
1919	57.0	50.7	50.7	81.0	161.4	149.9	133.2	117.7	120.2	133.6	92.5	70.1	101.8	79	3210701
1920	58.7	51.9	51.4	68.2	323.1	278.5	230.6	170.9	202.2	168.3	107.8	78.9	149.6	115	4730610
1921	63.0	55.9	53.7	136.2	270.6	226.7	169.2	143.2	164.2	146.6	95.6	72.7	135.2	104	4264870
1922	62.4	54.6	53.1	72.5	223.6	196.4	152.3	116.6	128.6	128.3	90.1	70.3	113.1	87	3568012
1923	57.6	51.0	50.9	77.2	204.1	173.5	167.3	152.4	169.6	152.7	98.4	72.9	119.3	92	3763099
1924	65.1	57.3	54.5	92.5	263.2	227.7	174.7	115.2	152.4	157.9	102.6	78.3	126.2	97	3992005
1925	66.7	58.0	54.9	222.8	259.6	216.6	174.0	106.0	156.1	156.7	102.8	73.9	137.8	106	4344468
1926	61.8	53.9	52.6	161.8	218.0	186.6	154.6	131.4	82.8	104.5	78.3	64.3	112.9	87	3559992
1927	60.4	53.0	52.1	123.6	265.1	219.6	201.3	185.9	185.4	152.9	105.1	77.3	141.5	109	4462777
1928	63.6	55.4	53.4	121.4	258.4	208.5	198.3	179.2	176.1	154.1	100.8	71.4	137.1	106	4336965
1929	61.7	53.9	52.6	96.9	244.6	212.2	169.3	127.3	132.2	121.1	86.4	66.7	119.0	92	3751700
1930	59.6	52.7	51.9	112.5	245.1	199.6	184.9	156.7	156.6	149.6	95.8	68.9	128.6	99	4055648
1931	53.7	43.9	49.1	83.4	206.5	183.4	164.5	151.6	159.0	147.8	87.9	72.1	118.2	91	3727975
1932	58.4	50.8	50.8	123.2	265.2	210.6	193.1	146.4	172.4	158.8	102.6	74.7	134.4	104	4250847
1933	62.4	54.5	52.9	121.1	293.8	247.9	201.1	153.8	183.8	154.4	101.0	74.0	140.6	108	4432529
1934	60.9	53.5	52.3	127.1	265.4	225.2	185.7	146.4	157.1	142.5	95.6	70.1	132.3	102	4173324
1935	59.7	52.4	51.7	132.9	274.6	227.5	206.0	195.5	233.5	193.8	115.6	81.5	152.5	118	4810013
1936	65.9	57.1	54.5	204.4	308.6	253.6	205.7	151.5	167.6	153.2	99.6	73.5	149.6	115	4730275
1937	61.6	53.8	52.6	80.6	232.3	203.3	176.2	156.3	158.1	147.5	97.1	72.0	124 7	96	3933583
1938	61.5	53.8	52.6	85.2	190.5	169.1	150.0	129.3	131.5	138.3	94.9	70.0	111.0	86	3500425
1939	57.9	51.4	51.1	91.9	201.3	180.6	145.9	132.4	126.9	113.7	82.4	63.6	108.6	84	3424454
1940	55.3	49.3	49.6	144.6	290.5	244.4	189.0	146.2	134.7	131.1	91.2	70.0	133.2	103	4213616
1941	58.4	51.9	51.4	66.2	142.2	136.4	129.5	132.6	139.7	128.7	90.1	69.6	100.4	77	3164734
1942	59.4	52.3	51.7	86.8	161.7	140.7	154.0	152.1	163.1	159.3	103.6	75.8	115.5	89	3641406
1943	64.0	55.9	53.7	170.2	210.8	167.5	169.4	160.7	173.7	151.5	95.7	73.7	129.6	100	4086567
1944	59.3	52.6	51.8	82.4	232.3	82.3	121.9	156.5	176.3	157.5	102.6	76.7	111.4	86	3522425
1945	62.7	55.1	53.2	64.6	157.0	179.8	137.6	109.6	119.7	109.6	80.3	64.6	103.2	80	3253037
1946	56.2	50.0	50.3	96.6	194.5	155.6	153.5	139.6	136.1	128.6	88.7	66.7	110.0	85	3469500
1947	55.2	48.4	48.9	127.9	258.8	220.3	179.2	125.9	163.2	152.7	100.5	74.9	130.5	101	4114945
1948	64.4	56.0	53.8	132.1	372.8	332.6	246.9	132.1	205.9	183.3	113.4	83.9	164.8	127	5212814
1949	66.7	57.9	54.9	102.6	187.5	171.1	135.0	106.8	145.3	136.9	93.3	69.6	111.0	85	3500164
1950	56.2	50.0	50.3	88.0	231.7	200.9	174.5	150.5	149.5	132.7	94.0	67.5	121.4	94	3828940
1951	55.3	49.4	48.9	90.4	295.1	250.3	191.4	154.9	162.9	146.8	97.1	71.6	135.4	104	4271155
1952	59.8	52.6	51.9	155.1	209.0	161.6	166.9	160.0	161.4	144.1	96.6	73.2	124.4	96	3934600
1953	59.2	52.9	51.9	85.5	263.4	220.6	192.1	122.2	190.5	182.2	112.6	81.5	135 1	104	4259213
1954	65.4	57.4	54.5	63.2	311.4	212.9	226.0	137.5	187.5	205.2	122.9	84.5	144.7	112	4564526
1955	76.0	64.8	56.4	126.6	250.6	196.7	190.6	166.7	169.5	148.8	95.3	71.6	135.6	105	4275317
1956	56.1	50.0	50.3	163.7	256.1	208.4	175.2	134.4	153.5	142.3	96.6	72.7	130.4	101	4122612
1957	56.6	52.4	51.6	97.4	265.9	226.6	166.0	114.9	66.0	89.8	80.7	73.0	112.7	87	3553088
1958	54.2	47.3	48.8	311.4	265.6	128.9	76.3	71.4	98.8	122.4	85.9	65.7	115.2	89	3631545
1959	51.1	46.1	46.8	79.6	204.5	211.6	128.1	109.1	229.6	237.0	134.2	96.5	131.5	101	4148109
1960	78.2	65.9	59.7	158.6	348.4	353.9	316.8	348.5	430.0	211.6	126.5	83.0	215.2	166	6804348
1961	80.8	73.1	70.6	98.3	306.1	167.5	162.5	103.8	76.4	68.9	60.3	43.4	109.7	85	3459445
1962	39.3	34.6	41.3	49.9	345.8	478.0	467.4	194.7	151.6	145.5	111.5	89.2	180.1	139	5678200
1963	72.9	60.5	57.0	186.0	290.4	152.2	94.5	80.1	88.9	83.7	71.4	49.6	107.5	83	3389352
1964	43.9	46.1	47.3	80.1	252.9	162 8	99.2	113.7	106.7	106.9	73.6	55.6	95.3	77	3139631
1965	51.9	43.5	43.6	87.4	228 4	203.4	177.6	156.6	187.5	148.8	98.7	74.4	125.7	97	3963735
1966	59.2	47.1	42.4	124.0	209.4	259.4	167.1	180.1	135.7	126.9	75.2	64.9	127.1	98	4008746
1967	69.5	64.9	57.6	68.3	347.8	208.5	147.7	129.9	83.1	79.3	69.9	60.1	116.0	90	3659473
1968	34.3	33 4	44.5	82.9	131.1	119.8	106.4	82.8	125.0	169.2	116.6	61.6	92.4	71	2922375
1969	63.3	53.6	56.5	252.9	239.8	151.5	63.0	68.3	111 7	138.2	74.9	67.7	113.6	88	3581467
1970	50.0	44.6	39.6	157.0	212.3	197.5	414.4	189.8	208.8	193.0	118.4	78.1	159.4	123	5027819
1971	63.0	55.5	55.9	209.9	217.8	129.5	242.1	118.9	80.7	73.3	56.0	48.9	113.0	87	3564395
1972	41.9	36 4	44.1	72.0	364.9	145.5	107.6	74.6	65.4	95.5	74.1	56.6	98.7	76	3119569
1973	48.5	49.7	49.4	124.3	155.5	275.0	200.9	336.1	242.8	247.4	151.7	95.9	165.3	128	5213934
1974	75.9	63.7	57.3	307.8	487.8	310.1	272.2	194 7	158.6	137.8	105.1	84.7	188.6	146	5949015
1975	73.2	68.1	61.5	122.1	296.7	234.7	326.6	267.2	274.2	224.9	135.2	87.8	181.8	140	5734123
1976	80.1	66.4	54.4	184.4	150.8	148.1	198.8	175.5	270.9	189.0	101.9	69.2	140.9	109	4455602
1977	71.8	65.6	61.9	146.1	195 8	244.9	214.0	156.6	132.5	129.3	84.0	72.4	131.6	102	4149000
1978	60.7	57.2	56.9	123.3	236.0	178.4	107.2	110.9	224.5	219.3	110.8	82.0	131.0	101	4130166
1979	69.5	59.4	54.0	68.2	330.3	273.9	208.3	156.9	207.5	173.0	129.7	119.6	155.0	120	4887103
1980	72.4	56.9	51.5	148.4	109.4	100.8	75.9	230.7	200.2	156.4	99.0	58.7	113.2	87	3581135
MIN	34.3	33 4	39.6	49.9	109.4	82.3	75.9	68.3	65.4	68.9	56.0	43.4	92.4		
MAX	80.8	73 1	70.6	311 4	487 8	478 0	467.4	348.5	430.0	247.4	151.7	119.6	215.2		
MEAN	60.9	53.6	52.3	120.8	249 6	202.5	180.4	150.2	163.2	149.0	98.3	72.8	129.6	100	4090215

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : CLEARWATER RIVER ABOVE CHRISTINA RIVER C7C D05

PRIORITY 1

	INTERCEPT	INDEPENDENT VARIABLES					R=Coefl. of corr.	Se=Std. error of est.
		LAG1	C7CD01					
JAN.	0.6841	0.3658	0.2145				0.889	0.038
FEB.								
MAR.	-0.0321		0.9845				0.744	0.031
APR.	-1.7759	1.2800	0.7520				0.979	0.043
MAY.	0.2593	-0.0358	0.8433				0.990	0.032
JUN.	0.5878	0.3626	0.2985				0.750	0.081
JUL.	0.0003	0.5736	0.3735				0.905	0.064
AUG.	0.2461	0.5077	0.3179				0.908	0.059
SEP.	0.4657	0.3002	0.4186				0.850	0.076
OCT.	0.2096	0.5946	0.2743				0.941	0.045
NOV.								
DEC.								

PRIORITY 2

			C7CD01					
JAN.	0.7171		0.5588				0.835	0.044
FEB.								
MAR.								
APR.								
MAY.								
JUN.								
JUL.								
AUG.								
SEP.								
OCT.								
NOV.								
DEC.								

PRIORITY 3

JAN.								
FEB.								
MAR.								
APR.								
MAY.								
JUN.								
JUL.								
AUG.								
SEP.								
OCT.								
NOV.								
DEC.								

SAME EQUATION USED FOR JAN, FEB, NOV, DEC
BASED ON COMBINED DATA FOR THESE MONTHS

CLEARWATER RIVER ABOVE CHRISTINA RIVER
NATURAL MEAN MONTHLY FLOW (CMS)

C7C D05

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	[illegible]	47.9	45.5	77.4	173.4	126.7	116.3	100.4	112.0	112.8	75.4	60.5	91.8	108	2903763
1913	53.5	49.7	48.4	107.5	142.5	104.6	96.3	86.0	101.0	103.2	71.9	58.6	84.6	100	2668132
1914	52.0	48.4	46.3	55.6	130.9	89.4	83.7	84.5	81.6	81.2	66.6	56.1	74.9	88	2362477
1915	50.5	47.3	44.7	82.2	131.1	101.0	94.4	93.7	107.9	108.3	73.5	58.3	83.1	98	2620745
1916	52.4	48.7	46.6	68.2	133.0	106.2	97.1	91.9	98.4	98.6	69.6	57.7	80.9	95	2557146
1917	51.5	48.0	45.6	65.9	196.8	138.7	124.8	101.2	91.4	88.9	65.1	55.0	90.0	106	2838784
1918	49.6	46.5	43.6	74.7	135.6	105.2	96.8	88.1	90.6	90.6	66.3	55.7	78.9	93	2488403
1919	50.1	46.9	44.3	58.4	114.3	86.3	85.4	76.8	78.9	83.9	64.5	55.2	71.5	84	2254437
1920	50.2	47.3	44.9	52.3	206.0	143.4	131.8	107.7	109.9	108.1	73.1	59.3	94.8	112	2996314
1921	52.4	48.7	46.9	92.9	173.9	126.8	114.0	94.6	96.9	96.6	68.4	56.9	89.3	105	2816965
1922	51.4	48.2	46.4	57.0	150.6	113.7	99.8	82.3	84.2	85.6	64.6	55.3	78.7	93	2482856
1923	50.1	47.0	44.5	56.6	129.4	107.8	99.3	89.9	96.7	97.6	68.1	57.1	78.8	94	2517336
1924	52.0	48.9	47.6	52.7	173.2	126.8	110.7	87.0	91.6	95.3	69.2	58.0	84.6	100	2674818
1925	52.6	49.2	47.9	138.1	165.4	122.9	108.8	84.4	91.6	95.1	69.1	57.3	90.3	106	2849029
1926	51.5	48.1	45.9	102.9	143.2	111.8	98.4	85.4	70.6	72.6	58.1	52.6	78.7	93	2481822
1927	49.6	47.3	45.5	83.0	171.4	125.0	115.7	103.6	104.7	104.1	71.8	58.6	90.3	106	2848033
1928	52.2	48.6	46.6	84.6	167.7	122.1	113.5	101.4	102.3	101.1	70.4	57.2	89.1	105	2818738
1929	51.4	48.0	45.9	70.0	161.3	121.0	105.5	87.6	86.4	85.6	64.1	54.9	82.1	97	2587538
1930	50.2	47.4	45.3	77.0	160.9	118.7	108.9	95.1	95.8	96.5	68.6	56.3	85.3	100	2690282
1931	49.5	45.4	42.9	57.4	140.7	110.2	99.9	90.1	94.2	95.2	68.4	56.8	79.5	94	2506221
1932	50.7	47.2	44.4	80.3	171.7	123.5	113.2	95.5	99.2	100.1	70.4	57.8	88.0	104	2782015
1933	51.8	48.3	46.2	83.6	186.8	133.7	120.2	99.4	98.2	98.6	69.8	57.5	91.5	108	2884910
1934	51.4	47.8	45.7	85.4	171.4	125.9	112.8	94.7	95.1	95.0	68.0	56.3	87.7	103	2766605
1935	50.8	47.5	45.2	87.0	176.3	127.6	117.9	105.3	116.2	116.2	76.2	60.6	94.3	111	2973213
1936	53.3	49.3	47.5	128.3	190.8	135.6	122.3	99.8	99.3	99.2	69.7	57.4	96.2	113	3040698
1937	51.5	48.0	45.9	60.9	155.1	117.8	106.4	93.9	95.1	96.7	68.4	56.7	83.2	98	2624195
1938	51.2	48.0	45.9	63.4	131.0	104.9	93.8	82.9	84.8	88.0	66.0	55.7	76.5	90	2412283
1939	50.2	47.1	44.6	64.9	137.1	108.7	94.7	84.0	83.9	82.7	62.6	53.5	76.4	90	2408500
1940	48.0	46.3	43.6	86.4	184.8	132.6	116.9	98.4	89.7	89.4	66.9	55.6	88.4	104	2795007
1941	50.3	47.3	44.9	52.2	103.1	90.5	81.6	77.9	85.4	86.4	64.9	55.3	70.1	83	2211564
1942	50.4	47.4	45.1	63.0	125.9	97.8	91.0	88.0	93.9	96.9	69.7	57.8	77.3	91	2437208
1943	52.0	48.6	46.9	109.8	139.9	107.1	99.3	91.5	98.2	98.2	69.6	57.4	85.0	100	2681775
1944	51.0	47.7	45.3	60.8	155.1	82.7	75.8	79.1	94.6	97.1	69.6	57.9	76.5	90	2419987
1945	51.8	48.4	46.5	52.4	135.7	108.2	92.4	78.1	80.1	78.6	61.5	53.3	74.2	87	2340000
1946	49.1	46.5	43.9	66.0	133.1	102.9	93.6	84.9	86.1	86.9	64.9	54.8	76.3	90	2404960
1947	49.4	46.5	43.6	80.6	168.2	124.2	110.4	90.0	95.2	96.6	69.2	57.5	86.2	101	2718897
1948	52.0	48.6	46.9	90.9	227.6	156.8	142.3	103.2	109.3	110.3	74.5	60.2	102.1	120	3229431
1949	53.3	49.4	47.9	77.8	126.3	104.4	90.4	76.6	85.9	88.2	65.9	55.6	77.1	91	2432398
1950	49.9	46.7	43.9	61.6	154.7	117.2	105.8	92.5	92.5	92.5	67.1	55.6	81.9	96	2583400
1951	49.7	46.6	43.6	62.3	191.8	135.3	118.9	98.9	97.9	97.2	68.8	56.6	89.3	105	2816503
1952	50.9	47.6	45.3	98.1	136.9	105.6	98.0	90.7	95.0	95.0	68.1	56.9	82.6	97	2612248
1953	50.9	47.7	45.4	62.8	172.3	125.4	113.9	89.9	101.5	105.4	73.2	59.7	87.6	103	2763153
1954	52.9	49.2	47.6	53.2	199.5	130.8	124.1	97.5	103.3	110.0	75.7	61.0	92.4	109	2915005
1955	55.1	51.2	50.9	97.9	162.6	119.0	110.2	97.6	99.1	98.3	69.4	57.0	89.2	105	2814459
1956	50.3	46.9	43.9	98.2	165.6	121.5	108.8	90.5	92.9	93.4	67.8	56.7	86.5	102	2735407
1957	50.7	47.5	45.1	68.7	173.1	126.6	109.0	86.2	85.1	85.7	57.6	53.4	79.4	93	2503701
1958	48.8	45.8	42.8	153.2	170.1	106.3	73.4	60.6	65.5	74.8	60.5	53.3	80.0	94	2521635
1959	48.1	45.4	40.9	52.2	140.1	114.9	93.1	78.3	105.3	115.8	78.6	63.6	81.6	96	2572683
1960	55.9	51.7	52.0	119.0	213.1	155.9	155.6	147.0	165.4	146.8	84.7	63.3	117.8	139	3723924
1961	56.5	53.1	51.4	102.7	182.1	120.1	104.4	81.7	67.3	63.2	53.1	48.4	83.7	99	2640052
1962	43.2	41.0	38.2	31.3	222.1	173.1	191.1	135.6	104.4	100.8	71.8	60.5	101.5	119	3200580
1963	54.4	50.3	49.7	126.6	182.4	114.6	83.0	66.9	67.5	66.8	56.2	48.8	80.7	95	2545756
1964	45.1	44.3	41.4	53.1	167.4	113.3	84.0	75.3	75.5	76.4	59.4	51.0	74.0	87	2339620
1965	47.5	44.6	38.2	51.2	153.6	117.4	106.6	94.1	102.2	100.1	69.9	57.6	82.2	97	2592409
1966	51.1	48.6	37.1	64.3	141.8	122.6	108.8	98.4	115.6	103.1	66.6	54.9	84.3	99	2658231
1967	52.0	50.2	50.2	60.4	218.0	130.5	108.5	91.1	67.9	67.5	56.1	50.8	83.9	99	2646599
1968	43.4	40.8	39.0	50.5	106.0	102.4	85.1	65.1	90.8	116.2	74.8	56.7	72.7	86	2297895
1969	51.5	48.0	49.3	157.8	122.3	91.0	60.7	56.1	74.3	84.1	57.3	52.5	75.4	89	2378327
1970	47.6	44.9	34.7	70.4	143.0	123.2	113.9	84.9	87.5	98.0	72.0	58.8	81.8	96	2579883
1971	52.2	48.6	48.8	135.3	116.1	88.8	105.7	74.0	61.7	58.5	50.8	46.8	74.0	87	2334683
1972	44.0	41.7	38.6	44.6	229.5	86.5	76.9	63.6	58.4	63.6	55.6	49.9	71.5	84	2261885
1973	46.5	45.5	43.2	78.1	114.7	95.5	111.3	138.9	93.4	106.5	76.3	63.4	84.9	100	2677678
1974	55.8	51.3	50.0	186.1	203.4	147.4	142.4	129.4	111.5	107.4	72.6	60.0	110.0	129	3470052
1975	54.3	51.5	53.6	101.6	187.2	122.1	170.4	148.0	154.3	150.2	91.9	61.4	112.7	133	3552534
1976	60.9	50.4	51.4	137.6	110.0	105.1	99.4	104.5	141.4	110.8	64.2	62.3	91.5	108	2893014
1977	59.8	56.6	55.2	117.0	125.5	152.8	153.2	114.9	103.7	100.9	73.5	60.7	98.0	115	3090651
1978	54.8	51.9	45.4	75.6	149.0	110.4	79.3	92.3	136.7	138.2	82.1	69.1	90.6	107	2856907
1979	56.1	51.0	47.4	58.0	217.6	135.3	109.9	88.4	104.0	98.9	72.7	65.9	92.4	109	2915236
1980	54.8	46.4	44.2	94.7	80.8	65.8	57.3	69.3	77.0	75.8	55.5	41.6	63.6	75	2011075
MIN	43.2	40.8	34.7	31.3	80.8	65.8	57.3	56.1	58.4	58.5	50.8	41.6	63.6		
MAX	60.9	56.6	61.4	186.1	229.5	173.1	191.1	148.0	165.4	150.2	91.9	69.1	117.8		
MEAN	51.3	47.9	45.7	81.7	159.3	117.2	106.3	92.1	95.2	95.6	68.1	56.7	85.0	100	2681625

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : ATHABASCA RIVER BELOW MCMURRAY C7D A01

PRIORITY 1

	INTERCEPT	INDEPENDENT VARIABLES					R=Coeff. of corr.	Se=Std. error of est.
		LAG1	C7BE01					
JAN.	0.4126	0.4924	0.3605				0.890	0.043
FEB.	0.2720	0.7341	0.1442				0.947	0.029
MAR.	0.3180	0.6371	0.2492				0.910	0.034
APR.	0.1123	0.3950	0.6786				0.866	0.094
MAY.	0.7349		0.8148				0.919	0.059
JUN.	0.5425	0.1872	0.6740				0.900	0.050
JUL.	0.4894	0.0972	0.7826				0.823	0.074
AUG.	0.5199	0.2315	0.6155				0.800	0.058
SEP.	-0.1528	0.5703	0.5058				0.775	0.090
OCT.	0.4306	0.5035	0.3547				0.897	0.050
NOV.	0.6647	0.5101	0.2030				0.774	0.060
DEC.	0.0599	0.7100	0.2218				0.798	0.063

PRIORITY 2

			C7BE01					
JAN.	1.0384		0.6183				0.778	0.060
FEB.								
MAR.								
APR.								
MAY.								
JUN.								
JUL.								
AUG.								
SEP.								
OCT.								
NOV.								
DEC.								

PRIORITY 3

JAN.								
FEB.								
MAR.								
APR.								
MAY.								
JUN.								
JUL.								
AUG.								
SEP.								
OCT.								
NOV.								
DEC.								

ATHABASCA RIVER BELOW MCMURRAY
NATURAL MEAN MONTHLY FLOW (CMS)

C7D A01

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	195.1	166.6	167.6	440.6	1257.4	1412.0	1609.7	1318.0	1106.3	765.2	402.7	237.7	775.1	119	24509711
1913	200.8	176.3	174.2	540.1	691.1	1204.3	1415.9	1160.9	883.4	563.3	330.3	199.0	640.7	98	20205416
1914	177.9	158.4	160.7	262.6	578.6	1701.0	1800.1	885.5	690.9	582.6	335.4	193.5	621.3	95	19593267
1915	184.2	165.1	175.4	508.7	673.9	1362.0	2058.0	1213.3	861.1	576.3	329.0	192.9	695.2	106	21923301
1916	163.5	146.0	145.7	347.9	699.5	1063.1	1635.9	993.2	781.3	573.0	332.1	188.6	591.1	91	18690883
1917	165.6	145.1	138.5	343.8	1821.0	1617.0	1222.1	777.5	603.9	520.6	318.4	189.0	658.7	101	20772133
1918	165.4	165.1	164.2	454.2	721.6	1295.4	1350.7	827.4	611.7	495.4	279.6	186.6	558.6	86	17616504
1919	149.1	134.9	129.6	305.7	513.6	910.5	945.4	810.6	774.2	531.3	313.0	188.6	477.3	73	15051047
1920	188.8	163.1	152.4	252.3	2042.1	1759.0	1647.8	1188.0	826.6	700.4	372.9	214.1	799.8	122	25291294
1921	198.7	182.6	190.0	547.5	1285.3	1448.6	1231.3	861.8	742.8	569.2	353.7	207.7	661.0	101	20845831
1922	168.8	151.9	152.4	270.3	914.0	994.7	809.7	788.1	656.7	506.3	301.3	183.6	500.4	77	15780301
1923	136.4	121.2	118.2	289.9	770.0	1285.8	1402.8	1002.3	832.7	631.5	378.4	233.7	603.2	92	19021421
1924	171.9	156.0	155.3	228.7	1271.4	1105.4	1101.8	1066.4	1067.1	757.4	411.2	223.3	645.0	99	20396982
1925	155.3	136.2	143.8	949.8	1116.8	1301.0	1057.0	1072.1	1038.8	758.3	406.8	257.8	701.7	107	22128453
1926	245.4	214.4	215.7	663.8	809.3	1026.4	1016.4	725.3	606.8	582.3	401.5	243.9	589.2	90	18579945
1927	206.6	182.9	188.4	491.0	1219.9	1514.6	1828.7	1076.0	831.5	689.5	381.6	225.4	749.2	115	23627081
1928	204.9	178.9	188.7	381.1	1160.5	1605.6	1686.8	1001.3	788.6	565.1	329.4	212.9	700.6	107	22155236
1929	182.1	160.1	166.5	373.9	1061.5	1172.2	979.5	789.3	636.9	553.2	335.4	190.0	552.3	85	17417465
1930	150.3	136.0	139.8	441.9	1052.2	1519.9	1374.5	932.2	788.8	544.0	341.3	223.7	638.1	98	20124006
1931	207.2	185.1	194.4	316.0	782.0	1089.3	1358.1	935.7	774.2	572.1	337.4	209.1	582.6	89	18372665
1932	204.5	175.0	166.6	489.2	1221.6	1695.9	1351.1	1034.8	884.6	638.4	364.6	224.6	705.5	108	22308788
1933	204.8	180.4	179.5	480.1	1520.6	1451.6	1335.7	973.1	827.8	677.3	333.8	203.0	692.3	106	21832724
1934	185.9	166.0	173.1	506.5	1220.4	1316.2	1247.8	831.6	772.7	606.1	359.9	229.2	646.1	99	20373870
1935	215.8	190.7	189.0	532.6	1304.9	1543.8	2166.2	1342.5	1117.7	763.3	420.3	254.4	841.4	129	26532897
1936	235.5	206.1	196.0	262.2	1602.4	1559.1	1321.4	985.5	836.3	626.8	367.4	225.6	754.3	116	23853823
1937	208.6	183.7	180.0	304.0	973.7	1171.6	1367.4	933.8	792.1	582.9	355.0	219.6	611.5	94	19284747
1938	196.2	172.8	174.7	323.7	877.9	1085.6	1055.4	837.7	765.4	482.6	289.7	180.0	522.8	80	16486781
1939	163.0	147.4	152.9	352.5	742.2	820.2	1048.1	727.2	478.6	417.1	274.6	173.2	460.4	70	14517952
1940	149.4	134.9	136.1	585.4	1482.7	1303.8	1163.1	790.9	651.6	498.3	298.4	172.4	613.8	94	19409891
1941	139.5	125.9	124.8	252.4	422.4	778.4	1132.6	832.3	676.8	567.8	336.5	198.9	468.2	72	14765765
1942	175.7	157.3	152.5	330.4	824.0	1328.4	1433.7	1009.9	825.7	631.7	350.5	209.6	613.2	94	19339440
1943	169.5	149.1	148.0	702.3	771.9	1372.6	1496.3	991.6	698.7	487.6	289.1	167.0	622.4	95	19628738
1944	140.4	127.2	128.5	311.6	972.2	2297.4	1595.7	1028.7	826.6	601.3	340.1	186.4	713.8	109	22571101
1945	141.8	125.2	125.0	237.5	732.8	922.4	795.0	710.4	505.2	456.3	292.3	174.6	436.8	67	13775491
1946	141.3	126.9	127.3	372.6	696.7	1335.3	1142.1	770.0	570.6	400.9	249.7	156.6	509.3	78	16060653
1947	136.0	123.9	125.9	510.3	1159.6	1284.4	1151.7	1010.6	874.2	654.2	368.5	218.9	637.7	98	20109979
1948	175.3	152.3	147.4	529.1	3188.4	1933.1	1398.9	1276.3	1086.6	733.3	386.6	220.3	939.6	144	29711398
1949	187.5	164.4	161.5	403.7	650.6	830.8	892.9	873.5	644.4	444.6	273.1	165.7	476.2	73	15018141
1950	155.4	140.8	141.9	335.8	982.6	1235.3	1273.7	853.2	622.5	423.4	260.8	169.8	551.1	84	17377924
1951	161.3	147.4	148.9	346.0	1630.8	1136.4	1332.3	934.0	693.5	493.1	302.8	183.8	630.1	96	19871076
1952	159.5	144.1	143.5	633.0	758.2	1411.0	1453.9	918.1	685.2	513.1	305.9	168.4	608.7	93	19249272
1953	141.1	130.3	138.4	325.0	1241.4	1530.5	1315.8	1229.9	1122.7	685.6	370.1	207.3	706.4	108	22277156
1954	179.3	161.4	162.4	231.6	1864.3	2615.3	1766.5	1524.5	1788.1	1060.9	505.5	309.9	1018.2	156	32108724
1955	221.0	184.2	170.7	505.4	1088.9	1613.6	1610.3	958.1	688.1	493.5	277.2	171.4	659.5	101	20797667
1956	170.2	154.9	154.7	672.4	1114.0	1510.4	1113.4	905.5	698.7	515.0	288.8	162.9	622.4	95	19682752
1957	135.6	125.9	139.3	375.9	1252.4	1072.7	983.7	941.2	802.7	532.0	437.9	286.5	593.4	91	18713926
1958	215.2	178.7	181.7	1026.9	1171.8	1068.0	1088.6	577.8	488.5	400.3	232.7	150.6	566.7	87	17872063
1959	124.1	111.3	123.7	300.0	664.6	1254.8	1134.1	652.8	818.4	622.0	296.6	235.9	530.1	81	16717060
1960	172.4	156.2	145.9	475.0	1064.6	1534.6	1882.5	1059.8	1110.4	654.9	439.4	224.0	744.9	114	23555999
1961	208.8	180.1	183.9	366.1	850.1	1124.1	1180.7	782.7	434.7	400.3	266.0	151.6	513.1	79	16180205
1962	142.3	121.8	121.3	521.1	1632.5	1800.0	1689.0	1047.5	740.4	509.2	370.1	244.0	748.8	115	23614691
1963	200.0	191.9	188.8	808.0	1475.8	1185.5	912.6	691.8	587.7	456.5	289.2	185.7	599.8	92	18915758
1964	168.9	153.4	125.4	213.2	956.2	1143.8	1054.0	995.3	835.1	863.9	360.6	175.3	588.9	90	18622350
1965	206.5	174.4	182.3	413.9	1617.7	1759.3	2289.3	1160.9	1195.5	853.7	421.0	271.4	883.9	135	27873502
1966	214.3	208.4	206.1	389.2	1167.6	1480.7	1289.4	1191.0	1032.7	572.3	349.4	246.7	698.4	107	22023756
1967	215.7	187.6	155.9	320.0	1354.1	1457.3	1078.1	859.1	531.1	371.1	245.1	134.7	578.3	89	18237959
1968	115.8	121.4	161.3	284.5	551.1	965.0	1088.3	882.0	654.3	513.0	308.4	161.4	485.1	74	15340017
1969	147.1	122.3	117.6	482.1	1017.8	992.5	919.5	1153.3	836.1	743.3	386.4	231.3	599.6	92	18909666
1970	148.3	150.7	152.1	590.1	908.5	1208.7	1891.9	918.5	712.4	564.8	284.0	178.4	645.8	99	20365610
1971	154.0	144.7	144.0	690.1	1072.3	1745.6	2737.0	1097.1	646.9	553.1	285.7	178.2	792.1	121	24978869
1972	195.2	171.6	194.8	527.5	1705.8	1863.6	1468.9	914.2	602.8	587.8	332.0	185.2	731.0	112	23117381
1973	191.3	171.3	170.6	444.5	1116.2	1886.3	1339.6	1221.4	784.5	790.4	447.4	292.7	741.0	113	23368226
1974	238.5	213.0	188.3	936.8	2084.1	1516.3	1790.3	1057.0	824.4	640.5	337.4	267.5	845.7	130	26671177
1975	213.1	187.6	204.3	382.5	985.2	976.1	1730.6	1023.6	1071.6	673.3	448.5	253.5	682.8	105	21531345
1976	225.9	194.0	179.6	850.7	706.2	825.1	1311.6	1381.9	1230.2	705.4	330.9	194.0	679.0	104	21471574
1977	208.6	208.2	223.5	749.5	1382.5	1710.0	1394.5	1085.5	918.0	731.0	347.0	221.1	767.7	118	24210341
1978	224.6	190.0	198.4	554.7	1122.6	1588.3	1337.0	935.3	1508.2	859.3	450.3	277.4	772.5	118	24361135
1979	213.9	167.7	173.4	392.6	1560.9	1715.0	1788.3	954.0	804.4	581.1	360.2	224.5	748.6	115	23607995
1980	242.0	204.6	206.1	613.7	687.5	1812.6	1261.5	1208.4	990.0	726.6	462.9	196.0	717.7	110	22695594
MIN	115.8	111.3	117.6	213.2	422.4	778.4	795.0	577.8	434.7	371.1	232.7	134.7	436.8		
MAX	245.4	214.4	223.5	1026.9	3188.4	2615.3	2737.0	1524.5	1788.1	1060.9	505.5	309.9	1018.2		
MEAN	181.1	161.2	162.0	470.5	1119.4	1379.2	1379.2	981.1	821.2	600.1	344.1	207.0	653.0	100	20608656

SUMMARY OF REGRESSION ANALYSIS

Dependent Variable : ATHABASCA RIVER AT EMBARRAS AIRPORT C7D D01

		INTERCEPT	INDEPENDENT VARIABLES					R=Coefl. of corr.	Se=Std. error of est.
			LAG1	C7DA01					
PRIORITY 1	JAN.	-0.1813	0.0482	1.0385				0.963	0.055
	FEB.								
	MAR.								
	APR.								
	MAY.	0.0147		1.0106				0.980	0.030
	JUN.	0.1371	0.0570	0.9062				0.970	0.034
	JUL.	0.2653	-0.0173	0.9443				0.973	0.027
	AUG.	0.1323	0.0406	0.9232				0.941	0.023
	SEP.	-0.9638	0.0943	1.2388				0.990	0.025
	OCT.	-0.9237	0.2701	1.0525				0.947	0.038
	NOV.								
	DEC.								

				C7DA01					
PRIORITY 2	JAN.	-0.0029		1.0127				0.964	0.056
	FEB.								
	MAR.								
	APR.								
	MAY.								
	JUN.								
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC.								

PRIORITY 3	JAN.								
	FEB.								
	MAR.								
	APR.								
	MAY.								
	JUN.								
	JUL.								
	AUG.								
	SEP.								
	OCT.								
	NOV.								
	DEC								

SAME EQUATION USED FOR JAN, FEB, MAR, APR, NOV, DEC
BASED ON COMBINED DATA FOR THESE MONTHS

ATHABASCA RIVER AT EMBARRAS AIRPORT
NATURAL MEAN MONTHLY FLOW (CMS)

C7D D01

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	197.4	172.4	172.5	470.3	1403.5	1482.3	1934.8	1399.5	1269.8	896.3	483.8	259.9	846.3	121	26763610
1913	212.0	183.5	179.9	894.4	766.5	1239.8	1539.4	1233.3	949.4	622.6	370.9	213.7	686.5	98	21648770
1914	185.2	163.1	164.5	274.2	752.5	1693.5	1718.5	984.8	684.2	565.8	375.2	207.7	648.8	93	20459906
1915	191.9	170.6	180.6	547.2	747.2	1384.0	2187.1	1303.0	924.6	610.3	369.1	206.9	739.1	106	23307148
1916	189.5	149.3	148.0	364.6	775.9	1108.0	1767.7	1073.9	804.9	584.2	371.8	202.2	628.9	90	19886711
1917	171.5	146.3	140.4	359.9	2040.5	1712.1	1332.2	846.8	672.0	481.4	362.6	202.1	700.6	100	22094086
1918	192.9	170.6	168.6	484.8	800.6	1328.8	1470.6	900.5	684.6	420.7	306.2	176.1	586.1	84	18484429
1919	152.7	136.8	130.5	317.5	566.0	945.9	1056.2	871.9	780.3	535.0	348.2	201.6	505.7	72	15947815
1920	176.0	157.0	155.5	262.2	2291.1	1880.1	1764.0	1248.1	1008.4	767.1	424.8	232.1	865.8	124	27377916
1921	209.7	185.5	197.3	993.1	1412.3	1518.4	1344.4	1031.0	753.1	569.8	386.5	224.2	706.3	101	22272701
1922	177.1	155.8	155.4	281.8	1016.6	1059.5	1016.6	848.2	633.5	480.7	333.0	173.5	530.1	76	16718513
1923	139.2	121.8	117.9	298.9	855.0	1323.8	1524.3	1078.5	871.2	661.6	428.6	264.3	642.7	92	20267168
1924	180.3	160.4	158.7	237.0	1419.2	1788.1	1215.8	1129.5	1168.9	871.3	473.2	243.8	707.9	101	22383977
1925	163.0	138.6	145.9	1035.4	1244.9	1366.9	1168.1	1133.1	1151.2	864.6	467.8	282.6	765.8	109	24149783
1926	262.3	227.1	227.0	729.3	899.1	1082.4	1128.3	788.8	813.6	704.1	467.0	266.8	633.9	91	19992165
1927	218.7	190.9	195.6	529.5	1361.2	1576.6	1951.9	1180.9	1008.2	766.1	435.2	246.1	807.4	115	25463597
1928	216.0	187.5	195.7	518.4	1294.2	1657.6	1817.1	1083.1	778.0	570.5	368.3	229.2	745.0	106	23560219
1929	190.5	165.2	170.8	396.4	1182.7	1240.0	1087.0	851.8	810.1	622.3	373.6	203.8	585.5	84	18463793
1930	155.2	138.0	141.3	467.2	1172.2	1568.4	1490.8	1005.8	785.4	549.6	381.6	241.7	677.8	97	21374354
1931	218.5	193.3	202.1	335.6	868.5	1140.0	1480.0	1009.0	781.2	580.6	377.8	225.2	621.5	89	19600036
1932	214.8	182.2	172.0	524.2	1363.2	1747.0	1464.0	1108.8	941.3	683.0	412.8	243.6	756.0	108	23908065
1933	215.8	188.1	185.9	516.0	1700.9	1536.6	1452.6	1045.4	862.1	599.8	374.4	218.3	745.0	106	23493564
1934	194.1	171.7	178.3	544.3	1361.6	1391.3	1363.3	1001.5	788.8	616.6	405.4	248.6	692.0	99	21822771
1935	228.1	199.8	196.6	576.2	1457.1	1610.6	2289.6	1433.3	1268.9	837.6	484.8	278.4	916.8	131	28913107
1936	252.2	217.6	205.1	952.3	1793.1	1644.3	1435.2	1067.1	877.7	656.3	415.3	244.9	814.9	116	25770103
1937	220.0	191.8	186.6	321.1	1083.8	1233.4	1510.2	1008.0	813.6	607.5	396.3	237.6	654.4	93	20637643
1938	206.2	178.4	180.3	342.1	751.6	1127.3	1168.2	802.4	771.9	492.6	320.0	191.2	554.9	79	17499138
1939	168.3	150.6	155.6	371.1	823.8	878.9	1165.6	791.8	426.2	352.0	297.8	183.1	483.0	69	15231109
1940	153.4	136.8	137.3	624.8	1635.2	1391.0	1275.9	858.8	625.7	471.9	329.3	183.1	654.1	93	20663446
1941	142.9	126.9	124.8	259.6	466.1	811.4	1256.0	900.6	665.0	548.5	375.9	219.8	492.6	71	15566842
1942	183.9	161.9	155.8	347.1	691.3	1347.1	1555.4	1084.9	954.0	685.6	396.3	226.9	655.2	94	20661947
1943	176.7	152.9	148.5	757.7	857.1	1404.7	1818.2	1068.5	700.5	474.6	318.8	176.9	657.2	94	20724640
1944	143.6	128.3	128.9	323.6	1082.2	2270.2	1706.4	1107.7	865.6	626.9	382.5	199.9	748.2	107	23659988
1945	145.8	126.3	125.2	243.8	813.2	976.9	896.2	766.7	454.3	392.7	319.6	185.3	456.1	65	14384255
1946	144.8	128.0	127.7	389.4	772.8	1362.0	1254.7	837.3	632.9	358.7	270.1	164.1	530.6	76	16734004
1947	138.4	124.6	126.1	539.6	1293.1	1354.1	1264.7	1076.4	925.3	697.5	417.9	237.3	686.1	98	21637398
1948	183.4	156.5	150.1	564.9	3594.2	2078.8	1508.4	1344.9	1237.4	851.1	445.8	239.7	1033.8	148	32691144
1949	196.7	170.1	165.7	428.6	721.0	882.4	1001.6	832.1	625.6	417.6	298.6	174.9	503.4	72	15874153
1950	159.5	143.3	143.7	351.6	1071.3	1293.0	1391.9	924.3	606.1	393.0	283.9	178.9	581.4	83	18334588
1951	166.0	150.6	151.5	363.6	1825.2	1238.8	1453.4	1006.6	690.1	478.2	334.7	195.9	675.7	97	21307615
1952	164.7	147.0	145.8	678.5	841.8	1435.8	1574.3	994.0	679.2	498.7	338.8	179.0	641.1	92	20272098
1953	144.4	131.5	139.5	339.3	1385.3	1593.3	1430.2	1296.9	1283.8	801.0	422.5	224.4	769.6	110	24271647
1954	187.2	168.4	166.5	240.7	2089.5	2650.7	1872.3	1598.6	2330.5	1490.3	601.8	348.6	1149.7	164	36257847
1955	237.5	193.1	178.8	542.8	1213.4	1656.0	1627.5	1035.3	665.4	475.0	305.3	181.3	697.6	100	22000377
1956	175.6	159.0	157.9	726.3	1241.8	1564.6	1221.9	971.4	854.3	601.7	379.3	177.4	659.7	94	20862795
1957	138.3	126.6	140.1	394.6	1397.8	1166.2	1092.8	1002.1	826.9	544.3	483.9	316.4	639.1	91	20153608
1958	230.1	188.6	188.2	1137.1	1306.9	1146.2	1202.6	641.1	426.5	337.6	250.3	157.0	602.9	86	19013640
1959	125.6	111.0	123.1	310.4	736.8	1283.9	1247.6	718.7	820.6	640.3	332.1	253.7	560.9	80	17689734
1960	180.8	180.8	148.7	504.8	1186.1	1583.2	2006.9	1148.0	1251.7	757.9	503.6	245.3	808.1	115	25553197
1961	220.3	187.9	190.6	389.9	844.6	1178.7	1297.9	851.1	380.9	327.0	287.2	159.2	537.2	77	16940979
1962	144.9	122.7	121.2	550.4	1827.2	1875.0	1808.4	1128.9	756.6	507.4	413.3	265.5	787.6	114	25151675
1963	211.4	200.3	196.5	882.3	1650.0	1276.8	1016.3	752.0	546.9	414.2	316.8	197.4	641.2	92	20221486
1964	174.8	157.3	127.0	216.0	1064.1	1205.5	1166.5	1057.9	872.9	920.0	414.0	188.4	632.5	90	20001964
1965	215.0	181.5	188.5	442.6	1810.4	1836.6	2406.8	1255.8	1383.5	1029.4	488.9	299.0	967.0	138	30495352
1966	228.4	218.1	216.1	417.8	1302.2	1640.8	1403.9	1258.1	1154.3	643.4	353.8	268.0	756.9	108	23869081
1967	225.8	196.4	180.9	336.2	1512.6	1531.8	1185.7	824.2	491.8	323.7	263.6	140.2	610.9	87	19264065
1968	118.2	121.0	182.8	297.8	609.7	1001.1	1206.1	947.5	638.5	486.4	341.4	171.3	509.9	73	16122803
1969	150.5	123.4	117.4	517.8	1133.6	1063.9	1026.7	1205.9	885.0	788.3	441.5	252.0	645.5	92	20355849
1970	154.8	153.5	155.0	633.7	1010.5	1263.6	2023.3	1004.6	713.4	556.9	315.4	189.3	684.9	98	21599858
1971	158.5	147.4	146.1	745.4	1197.0	1698.4	2789.0	1175.9	653.9	536.4	324.8	199.0	819.3	117	25836564
1972	142.6	134.4	212.1	450.3	1969.7	1766.6	1632.4	927.5	549.6	576.3	401.2	196.5	749.4	107	23699406
1973	237.0	200.0	180.6	551.3	1226.7	2063.6	1499.3	1362.6	812.6	790.4	469.8	321.7	812.9	116	25634230
1974	269.4	239.8	219.7	1041.4	2336.7	1627.6	1912.1	1114.7	826.2	584.3	378.1	257.1	905.5	129	28555562
1975	229.0	198.5	216.1	436.0	1234.7	1145.0	2059.8	1132.4	1312.5	737.4	431.2	274.7	788.5	113	24866527
1976	243.5	219.6	182.5	1050.8	807.0	823.2	1382.1	1356.0	1375.8	794.7	376.0	208.3	735.9	105	23271774
1977	218.3	218.4	235.1	718.9	1419.7	1880.9	1546.4	1193.4	1004.8	793.3	391.3	235.1	824.6	118	26005338
1978	237.3	199.4	206.6	497.3	1236.0	1637.3	1387.5	998.0	1756.5	1212.3	590.7	306.6	858.1	123	27061862
1979	228.4	174.8	176.7	417.9	1746.2	1783.9	1804.9	1073.5	884.7	662.9	407.1	243.4	804.9	115	25382324
1980	255.6	218.1	216.0	670.7	711.1	1768.3	1336.6	1294.5	1101.9	859.2	534.9	214.1	765.2	109	24196464
MIN	116.2	111.0	117.4	216.0	466.1	811.4	896.2	641.1	380.9	323.7	250.3	140.2	456.1		
MAX	269.4	239.8	235.1	1137.1	3594.2	2650.7	2789.0	1598.6	2330.5	1490.3	601.8	348.6	1149.7		
MEAN	189.3	166.7	166.8	502.7	1249.0	1436.3	1495.5	1052.8	866.2	630.8	387.1	223.0	700.0	100	22092096

APPENDIX II

THE G FILES

G - FILE

INDEX OF POINTS OF INTEREST ON RIVERS IN ORDER OF CODE NUMBER

NAME	CODE	LOCATION	D.A.*	PAGE
ATHABASCA - OLDMAN DAM SITE	G7 AA	23-55-22-W5M	11246	56
MCLEOD VALLEY DAM SITE	G7 AB	03-55-14-W5M	7962	57
BERLAND RIVER AT THE MOUTH	G7 AC	12-58-20-W5M	5611	58
PEMBINA DAM SITE	G7 BA	17-53-07-W5M	4411	59
MOOSE PORTAGE DAM SITE	G7 BB	17-72-25-W4M	72170	60
CHRISTINA RIVER AT THE MOUTH	G7 CA	28-88-07-W4M	13025	61

* D.A. = DRAINAGE AREA IN SQUARE KILOMETERS.

ATHABASCA - OLDMAN DAM SITE
NATURAL MEAN MONTHLY FLOW (CMS)

G7 AA

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	35.0	32.3	30.4	46.8	181.8	470.7	555.8	556.9	319.1	155.7	71.3	47.6	209.4	110	6621162
1913	37.8	33.5	31.5	66.8	168.1	583.1	510.1	471.2	282.9	134.4	65.0	43.1	203.2	106	6406973
1914	35.7	32.4	31.5	48.2	191.1	625.2	605.4	382.2	225.6	152.9	62.3	38.2	203.6	107	6419231
1915	33.4	30.8	32.2	68.9	210.3	483.0	607.1	524.8	213.1	96.1	69.6	36.7	201.8	106	6363930
1916	27.7	28.4	32.9	48.6	115.7	540.3	649.6	436.5	279.9	154.4	69.2	41.6	202.7	106	6408501
1917	37.2	30.3	31.1	43.7	207.1	482.7	664.7	340.7	252.3	205.5	67.1	56.1	202.8	106	6397059
1918	49.9	39.4	48.9	67.0	173.2	703.3	677.3	423.1	267.5	115.6	52.9	33.3	221.9	116	6996771
1919	32.4	31.6	34.2	45.6	157.7	393.7	473.2	419.9	311.6	120.2	55.9	38.1	177.1	93	5584928
1920	29.6	32.3	30.2	38.1	120.9	388.8	901.8	547.6	228.7	148.1	55.3	41.1	214.9	113	6796547
1921	38.6	44.9	36.3	58.3	217.6	550.6	461.7	393.6	186.7	129.5	91.1	47.3	188.8	99	5954850
1922	35.1	31.8	30.4	37.8	189.2	498.5	452.7	417.3	244.9	106.7	56.4	36.0	178.9	94	5643022
1923	30.6	27.8	27.0	48.3	139.5	545.9	510.1	443.3	288.2	123.8	69.5	46.4	192.5	101	6072090
1924	31.1	31.1	36.4	38.9	260.6	482.1	565.5	464.3	359.6	154.7	58.5	31.1	210.2	110	6646840
1925	25.6	28.2	37.5	106.4	332.1	570.5	533.8	525.9	332.2	134.5	64.5	55.3	230.1	120	7255948
1926	35.0	36.1	42.9	96.4	215.9	373.2	483.3	321.2	272.5	143.4	71.2	38.1	178.3	93	5622887
1927	30.3	30.4	37.5	51.8	106.9	555.3	545.5	417.0	265.8	159.9	50.1	32.8	191.2	100	6028236
1928	42.1	31.3	44.1	52.9	328.0	609.3	631.6	386.0	226.4	92.7	52.7	34.3	211.7	111	6693290
1929	32.3	29.0	34.9	45.4	154.6	578.1	407.1	346.0	207.4	128.6	68.1	44.4	173.6	91	5474598
1930	30.1	29.4	31.7	67.5	183.4	608.5	609.3	431.8	277.7	104.2	64.0	40.9	207.5	109	6542289
1931	40.2	30.9	34.1	39.7	210.9	515.4	561.4	331.1	246.0	141.0	61.1	31.2	187.9	98	5924778
1932	27.6	31.1	28.4	66.3	195.5	648.5	456.6	424.4	214.2	90.2	44.3	29.3	188.3	99	5953623
1933	25.6	23.3	23.9	45.5	176.6	555.0	586.1	467.5	333.7	160.1	96.6	61.8	214.0	112	6749769
1934	30.2	25.8	34.1	135.7	392.6	524.4	476.6	353.7	191.8	155.2	76.1	43.3	204.4	107	6447155
1935	37.9	46.9	36.0	65.2	149.1	530.7	731.0	405.3	285.3	101.3	52.4	46.4	208.3	109	6569691
1936	31.5	15.9	18.1	83.9	306.9	561.6	381.2	343.5	167.0	142.6	70.9	45.2	181.1	95	5728111
1937	22.3	17.0	32.8	28.0	166.8	450.7	536.3	333.7	233.6	83.3	59.3	50.0	168.8	88	5322190
1938	40.4	27.2	21.9	36.2	215.0	675.7	569.4	315.7	286.5	120.9	64.1	57.8	203.3	106	6411777
1939	33.3	22.9	47.8	45.4	266.7	357.2	481.2	358.5	199.6	129.5	69.0	56.2	173.5	91	5473068
1940	37.9	31.6	30.1	62.0	264.0	487.8	469.0	324.9	241.0	130.2	61.5	42.4	182.4	95	5766444
1941	33.8	30.5	29.9	50.8	152.0	405.9	432.5	315.2	200.0	123.2	60.5	42.1	157.2	82	4956073
1942	35.5	31.6	29.2	45.5	180.9	483.7	552.2	417.4	264.6	132.3	63.8	45.6	191.2	100	6030730
1943	38.4	34.1	32.2	90.6	152.0	428.1	620.7	394.1	197.6	107.8	55.1	38.8	183.6	96	5791577
1944	33.0	30.8	29.7	44.3	192.2	610.1	435.9	383.9	250.6	134.3	65.1	42.5	188.0	98	5943673
1945	34.7	31.7	31.0	36.5	138.5	396.8	417.4	300.3	179.7	113.0	61.0	43.3	149.4	78	4711605
1946	36.4	33.5	32.4	54.8	238.2	539.3	457.0	319.5	225.6	109.4	55.2	42.7	179.4	94	5657748
1947	36.7	33.8	33.0	72.3	258.4	528.0	490.2	361.9	255.4	162.7	75.5	49.4	197.4	103	6224659
1948	39.3	35.0	33.6	62.6	325.8	649.2	471.6	450.5	264.4	126.4	60.2	40.3	213.7	112	6757746
1949	33.9	31.2	30.9	49.1	216.3	342.6	348.4	299.8	188.3	95.0	53.7	36.4	144.6	76	4558825
1950	31.7	30.4	29.2	45.0	123.2	564.1	556.5	350.6	203.2	96.1	52.1	41.1	177.7	93	5604191
1951	34.9	30.9	28.8	50.7	256.5	447.9	618.9	394.8	217.1	117.7	55.7	38.6	192.3	101	6065347
1952	31.7	29.6	28.2	78.2	234.2	535.7	525.1	369.5	198.6	112.1	56.6	37.6	187.0	98	5911851
1953	32.6	31.7	32.2	42.6	164.8	549.1	543.9	435.9	277.7	133.4	64.0	42.5	197.1	103	6216609
1954	36.5	35.2	34.1	40.8	195.1	660.1	707.1	608.2	436.3	176.8	75.6	52.1	256.1	134	8076347
1955	38.2	32.5	30.2	49.5	133.3	620.8	628.8	348.8	199.1	87.4	38.9	35.8	187.8	98	5921188
1956	34.6	31.6	30.9	68.4	273.2	579.1	462.1	329.6	204.6	121.6	56.2	32.3	185.7	97	5873210
1957	28.8	36.5	36.0	43.5	392.3	442.8	365.4	274.7	225.6	114.4	71.9	39.3	173.5	91	5469969
1958	35.6	32.1	30.3	53.2	325.9	568.8	450.1	316.1	202.4	118.3	55.1	37.7	186.3	98	5876601
1959	32.0	24.4	36.0	47.1	191.4	606.7	570.9	336.9	280.2	134.7	56.8	56.3	198.7	104	6264841
1960	40.2	41.2	36.6	46.2	139.6	514.1	711.0	375.3	214.0	132.2	63.5	55.2	198.1	104	6265684
1961	29.5	25.2	31.0	39.5	229.6	591.2	416.4	346.9	175.8	181.8	70.9	35.6	182.0	95	5738601
1962	29.1	23.7	22.5	72.3	183.9	486.9	487.3	364.8	213.4	103.7	70.2	54.4	176.9	93	5578225
1963	73.2	48.2	20.4	68.6	179.8	513.7	476.0	335.3	241.8	123.6	60.6	41.6	182.6	96	5757694
1964	33.1	34.1	24.9	39.9	118.0	627.8	519.2	310.9	239.4	177.0	78.5	43.7	187.4	98	5926533
1965	29.6	30.6	33.5	65.6	179.3	619.2	695.6	478.7	274.2	186.6	106.2	93.9	234.0	123	7380728
1966	37.3	37.1	25.4	59.6	282.1	456.2	578.6	448.0	257.2	161.4	76.0	51.3	207.2	108	6533166
1967	46.9	43.7	36.4	47.0	139.9	694.3	542.5	394.0	261.0	123.6	65.4	49.3	204.3	107	6442573
1968	43.6	36.5	44.6	41.0	175.8	509.9	630.7	399.9	260.7	111.3	57.4	40.4	196.6	103	6217379
1969	35.8	34.2	36.6	54.4	219.5	516.0	395.9	474.2	208.4	108.6	61.9	38.8	182.9	96	5768457
1970	33.1	36.6	30.2	40.0	125.5	536.6	392.8	289.9	135.4	73.4	37.7	32.8	147.5	77	4650222
1971	25.9	32.4	29.4	53.3	225.0	624.7	555.2	406.6	224.1	123.4	53.0	35.1	199.9	105	6305486
1972	36.5	31.8	45.5	44.0	243.7	791.4	473.1	365.0	210.5	133.4	59.7	41.0	206.5	108	6529872
1973	36.2	36.0	38.5	52.0	233.4	479.4	398.4	322.9	160.6	110.9	49.2	48.0	164.6	86	5190684
1974	38.5	33.9	32.4	65.4	158.0	579.3	545.8	377.6	241.6	136.9	66.3	54.7	195.0	102	6150768
1975	36.4	31.9	33.7	43.0	117.6	360.7	526.6	281.8	161.3	94.8	83.7	44.0	152.1	80	4798042
1976	33.4	35.4	31.4	56.1	220.2	337.4	530.2	498.3	278.2	126.4	54.5	42.2	187.9	98	5940531
1977	37.3	35.9	33.4	49.3	205.4	495.4	449.9	391.4	231.7	108.6	47.6	43.1	178.3	93	5621790
1978	37.2	34.7	37.4	56.0	155.2	538.4	580.1	338.5	376.9	175.9	65.6	47.4	204.4	107	6445537
1979	37.5	34.9	37.4	43.8	141.7	435.4	463.8	309.8	191.9	101.5	38.2	27.8	156.1	82	4921230
1980	25.5	28.4	29.9	68.8	278.5	576.9	376.8	284.0	196.8	143.2	61.5	51.3	177.1	93	5600003
MIN	22.3	15.9	18.1	28.0	106.9	337.4	348.4	274.7	135.4	73.4	37.7	27.8	144.6		
MAX	73.2	48.2	48.9	135.7	392.6	791.4	901.8	608.2	436.3	205.5	106.2	93.9	256.1		
MEAN	34.9	32.1	32.7	55.3	204.3	530.4	528.9	387.1	241.5	128.6	62.8	43.6	191.0	100	6028239

MCLEOD VALLEY DAM SITE G7 AB
NATURAL MEAN MONTHLY FLOW (CMS)

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	3.8	3.5	4.7	35.6	124.0	97.3	146.8	115.9	90.8	56.0	27.1	11.0	60.0	138	1896690
1913	6.4	5.9	6.1	58.2	58.4	98.9	84.9	83.9	41.6	22.1	10.9	5.8	40.4	93	1274815
1914	3.7	2.9	3.8	19.3	55.2	237.0	70.8	21.0	23.8	18.2	9.7	4.3	39.1	90	1231949
1915	2.4	2.1	3.8	17.9	37.4	228.6	309.9	58.6	34.2	33.9	14.4	3.7	62.6	144	1974566
1916	1.8	1.3	6.6	34.1	48.0	99.5	112.2	51.5	32.8	32.5	16.3	6.4	37.0	85	1170625
1917	3.9	2.1	2.5	27.1	230.5	135.0	54.7	33.7	42.3	33.4	18.6	12.1	50.0	115	1576011
1918	12.7	10.4	6.6	65.4	91.8	98.0	78.5	30.7	22.0	14.4	5.1	4.4	36.8	84	1159259
1919	3.4	2.2	2.3	18.2	23.1	37.6	21.4	23.2	84.6	25.4	11.1	5.4	21.5	49	677049
1920	6.0	3.0	4.2	12.4	211.8	138.5	67.7	44.4	35.9	24.0	9.4	3.6	47.0	108	1484697
1921	1.9	1.7	4.3	67.3	166.5	69.7	35.8	29.1	20.7	14.6	7.6	3.1	35.4	81	1116490
1922	1.1	0.6	1.1	40.6	127.2	33.8	32.0	22.3	14.3	10.3	4.1	1.3	24.3	56	765197
1923	0.6	0.3	0.7	23.4	33.2	139.6	107.1	71.8	33.4	27.8	12.7	7.4	38.3	88	1208707
1924	4.4	3.9	4.5	19.2	125.0	95.9	45.8	75.0	57.5	40.4	18.4	7.5	41.6	95	1315450
1925	4.8	3.0	7.1	94.9	48.1	124.8	39.4	149.8	154.0	80.4	35.9	14.4	63.1	145	1990120
1926	7.9	8.7	17.4	65.6	30.3	53.3	33.9	44.0	220.4	123.7	64.0	19.6	57.3	132	1807484
1927	11.3	10.7	5.0	52.9	125.0	145.7	141.7	62.4	66.7	39.9	18.2	7.5	57.5	132	1812388
1928	5.1	4.3	9.6	37.9	95.3	182.6	154.7	51.7	28.2	23.5	11.3	7.2	51.0	117	1614107
1929	4.3	3.5	12.2	34.6	86.6	66.1	40.7	19.6	25.4	37.4	15.0	6.3	29.5	68	928738
1930	4.1	3.0	4.7	80.1	106.4	98.9	61.2	25.7	20.7	19.2	12.4	5.1	36.9	85	1163908
1931	1.8	1.7	3.1	17.2	47.8	64.6	69.9	37.6	34.9	26.8	12.6	6.2	27.2	62	856917
1932	3.9	3.5	3.7	41.2	113.7	167.3	63.2	45.0	35.4	28.6	13.1	6.5	44.1	101	1394487
1933	4.2	3.8	4.4	37.8	175.4	92.2	58.3	37.2	36.8	24.8	10.2	5.6	41.2	94	1297994
1934	3.6	3.2	7.2	41.8	99.3	72.8	34.4	24.4	18.4	17.2	8.1	4.6	28.0	64	884363
1935	2.7	2.4	3.0	41.4	97.6	98.3	121.8	61.6	40.0	28.2	15.6	7.5	43.6	100	1376069
1936	4.5	4.1	3.7	80.5	156.5	95.6	40.5	31.8	25.8	20.8	9.9	5.5	40.0	92	1264648
1937	3.0	2.4	2.9	19.8	67.8	80.5	58.4	30.4	29.2	23.8	12.9	6.4	26.6	61	839034
1938	4.0	3.3	4.0	22.4	46.9	86.2	55.4	37.9	55.4	21.9	10.9	5.7	29.6	68	932350
1939	3.6	3.2	6.1	28.4	55.5	41.5	50.8	23.4	11.6	15.2	8.7	4.8	21.2	49	668398
1940	2.9	2.5	3.3	62.1	141.6	63.9	46.1	24.4	30.6	22.6	9.8	5.3	34.7	80	1096990
1941	3.2	2.8	3.7	20.9	26.3	46.6	49.4	32.2	26.8	28.2	11.9	6.2	21.6	50	681676
1942	3.8	3.3	3.3	26.1	47.0	128.6	100.1	58.7	70.8	37.5	18.3	8.1	42.3	97	1332927
1943	5.1	4.6	5.3	76.4	55.5	119.4	88.5	47.4	22.9	16.3	7.1	4.3	37.8	87	1191951
1944	2.7	2.4	3.7	27.1	81.4	444.0	95.0	63.9	47.4	33.4	15.7	7.6	68.3	157	2161370
1945	4.6	4.1	5.1	19.2	63.4	50.7	26.6	25.0	14.2	21.9	11.2	5.7	21.1	48	665036
1946	3.7	3.5	5.1	35.5	58.2	147.2	48.2	24.1	19.6	12.2	5.3	3.3	30.5	70	960770
1947	2.3	2.2	4.6	54.8	109.2	87.9	55.9	52.5	51.6	39.6	20.9	9.0	41.0	94	1294389
1948	5.6	5.1	6.2	50.4	575.3	140.8	69.4	116.9	67.9	38.5	16.2	7.9	92.4	212	2921764
1949	4.7	4.2	4.7	32.8	45.0	32.1	35.1	39.1	19.2	11.6	6.1	3.9	20.0	46	629500
1950	2.4	2.1	2.9	27.7	69.0	92.6	68.8	30.4	19.5	10.3	4.7	3.1	27.9	64	880404
1951	2.0	1.8	2.6	27.6	189.9	48.0	84.5	37.7	26.8	17.3	9.5	4.2	38.1	87	1200448
1952	3.1	2.4	3.8	66.9	57.8	179.2	92.1	39.6	24.8	19.6	9.6	4.5	41.9	96	1323447
1953	3.0	2.8	4.5	26.7	126.5	147.8	69.7	103.4	84.0	32.1	15.6	6.7	52.1	120	1644042
1954	4.1	4.3	5.3	17.7	232.7	388.6	103.1	211.9	451.3	123.0	63.3	20.0	135.5	311	4272888
1955	12.1	8.6	6.9	44.3	110.3	140.9	74.0	29.8	17.6	12.2	4.6	3.1	38.8	89	1223258
1956	2.0	2.0	3.2	61.4	90.9	113.5	40.2	35.2	21.5	15.6	6.3	2.9	32.9	75	1038114
1957	2.1	1.5	2.9	31.4	131.7	49.2	27.1	38.1	35.1	41.3	30.1	18.4	34.2	79	1079164
1958	9.3	9.3	10.2	55.6	120.9	113.4	157.8	29.4	18.1	10.9	4.6	2.3	45.2	104	1426282
1959	2.8	3.1	5.8	32.8	74.2	160.7	60.4	24.9	37.8	47.6	26.4	12.8	40.8	94	1286587
1960	7.0	5.9	7.5	27.6	113.7	147.6	102.7	24.9	20.0	19.0	8.4	5.6	40.9	94	1293245
1961	4.6	3.3	5.4	21.8	66.4	35.6	52.4	41.4	16.1	42.5	43.2	10.6	28.8	66	908573
1962	4.4	6.9	6.5	77.2	116.0	67.3	76.8	48.7	53.4	29.6	24.4	7.6	43.4	100	1368388
1963	3.6	2.8	3.4	96.1	109.2	54.8	36.8	16.3	18.9	13.3	7.9	3.1	30.6	70	964866
1964	1.8	2.3	3.5	10.6	128.7	139.1	54.2	45.8	137.6	61.2	15.8	8.7	51.1	117	1615504
1965	5.1	4.7	8.1	31.1	156.6	227.8	266.8	55.5	124.6	54.6	18.4	11.4	80.8	185	2547601
1966	5.3	4.6	5.8	53.7	150.6	70.2	133.9	150.4	69.3	45.8	25.8	9.2	60.9	140	1920434
1967	4.9	7.6	6.7	15.7	105.2	151.3	41.7	28.9	10.8	11.2	6.2	2.9	32.8	75	1035062
1968	2.9	4.2	19.0	39.2	74.2	66.9	61.2	77.2	34.8	19.9	11.9	9.6	35.2	81	1113218
1969	5.4	3.7	4.1	40.7	62.2	37.4	118.8	198.3	50.7	37.9	17.3	10.8	49.4	114	1559292
1970	6.7	6.0	8.0	24.3	90.8	89.9	40.3	23.7	13.2	9.9	3.5	3.8	26.8	61	843930
1971	3.0	3.7	5.9	77.8	97.6	243.5	265.6	36.3	27.4	36.7	18.3	9.1	69.2	159	2182177
1972	5.4	4.8	5.3	25.9	169.8	234.4	95.5	39.9	42.2	74.0	27.9	14.7	61.7	142	1952192
1973	8.1	8.4	10.3	72.5	164.1	87.3	39.7	37.3	21.7	27.8	12.7	8.2	41.7	96	1315095
1974	5.6	5.6	7.3	93.2	196.7	73.9	69.1	34.1	30.9	22.0	7.6	5.7	46.2	106	1458240
1975	3.6	2.8	3.6	18.0	66.1	56.2	56.2	17.5	14.1	10.0	4.2	4.2	21.5	49	678421
1976	4.2	3.5	5.0	51.8	49.3	44.8	37.1	82.2	31.3	17.4	7.5	4.5	28.3	65	894601
1977	3.1	4.2	6.2	26.6	227.8	116.8	80.4	90.4	125.2	61.3	10.1	5.3	63.9	147	2016616
1978	6.1	4.2	10.6	51.4	118.9	160.3	105.0	43.6	92.0	41.5	15.9	10.1	55.1	127	1738044
1979	3.3	3.9	12.2	31.2	95.6	88.3	75.9	31.0	14.2	15.4	4.4	4.6	31.9	73	1005465
1980	4.1	3.9	5.6	65.0	69.4	425.7	145.5	64.3	84.3	39.1	16.6	13.0	77.7	178	2456296
MIN	0.6	0.3	0.7	10.6	23.1	32.1	21.4	16.3	10.8	9.9	3.5	1.3	20.0		
MAX	12.7	10.7	19.0	96.1	575.3	444.0	309.9	211.9	451.3	123.7	64.0	20.0	135.5		
MEAN	4.4	3.9	5.6	41.8	109.0	119.9	80.3	52.1	50.4	31.4	15.0	7.1	43.6	100	1374801

BERLAND RIVER AT THE MOUTH
NATURAL MEAN MONTHLY FLOW (CMS)

GP AC

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	11.5	10.4	10.3	31.3	84.8	128.0	132.4	66.1	45.2	41.9	12.4	10.9	48.9	125	1547231
1913	10.0	9.7	9.6	38.1	64.7	39.4	83.0	65.6	12.5	10.6	3.8	8.3	29.8	76	941179
1914	8.5	8.3	8.3	8.0	21.5	195.3	43.7	54.0	1.4	14.1	6.7	8.4	31.5	80	992465
1915	8.6	8.2	8.7	23.0	35.9	110.3	156.2	75.1	46.9	24.5	5.4	13.5	43.3	110	1364400
1916	12.8	10.1	7.2	22.8	45.4	56.0	112.1	43.5	31.3	29.5	8.0	10.8	32.6	83	1030995
1917	8.7	9.5	7.8	27.6	135.7	112.1	43.2	14.7	5.9	25.3	9.5	4.5	33.9	86	1067844
1918	4.9	8.1	1.8	22.5	48.2	86.2	77.0	7.8	6.6	18.1	9.5	12.6	25.4	65	799775
1919	9.3	8.2	5.6	22.9	26.4	55.9	23.3	7.2	36.1	22.1	11.7	11.8	20.0	51	630983
1920	11.8	8.6	8.9	16.0	117.6	118.0	73.6	70.9	54.2	37.9	9.5	8.6	44.8	114	1415884
1921	7.8	3.5	7.9	30.5	94.3	97.3	61.4	44.6	35.1	27.5	5.4	9.9	35.6	91	1122989
1922	8.9	8.4	8.2	17.7	42.7	38.4	22.4	2.3	23.3	25.5	9.3	8.9	18.0	46	568261
1923	7.9	7.2	6.8	19.5	52.5	92.3	86.0	50.1	42.2	41.2	25.8	16.6	37.5	96	1182789
1924	13.5	10.9	6.9	13.7	101.4	57.8	42.9	91.5	86.1	54.2	30.6	19.5	44.2	113	1398576
1925	12.4	8.4	4.9	46.9	79.7	82.2	37.4	79.0	85.0	54.2	23.2	12.0	43.9	112	1384825
1926	16.3	12.1	7.8	17.4	53.6	62.3	30.3	7.1	51.6	53.3	26.8	20.4	30.0	76	944672
1927	15.4	12.6	8.6	32.4	77.2	106.4	126.5	46.4	46.9	39.0	22.2	16.7	46.1	118	1452377
1928	6.8	9.2	2.6	26.9	80.9	123.0	115.9	49.9	30.3	25.3	16.9	17.1	42.4	108	1341450
1929	11.7	10.8	8.2	26.4	75.3	55.4	38.2	18.1	22.1	35.3	12.4	10.1	27.1	69	854817
1930	10.4	8.8	7.6	22.2	76.0	108.5	67.7	18.2	22.9	20.4	16.1	15.5	33.0	84	1039172
1931	9.9	12.6	10.2	17.8	49.7	61.4	76.3	55.4	32.7	28.0	14.2	18.1	32.4	83	1020241
1932	14.3	9.8	10.0	24.1	89.7	129.9	76.4	52.6	52.6	31.3	24.0	18.1	44.4	113	1405483
1933	14.7	13.3	11.8	33.7	109.3	89.8	67.4	31.1	29.7	21.9	14.0	11.0	37.5	96	1181424
1934	13.3	12.7	8.4	29.0	79.3	79.2	55.8	25.5	28.1	22.4	14.0	9.8	32.0	82	1009103
1935	8.8	2.0	6.5	23.1	83.9	97.4	152.1	95.0	43.9	31.2	24.3	10.4	48.6	124	1532669
1936	13.0	16.4	13.0	42.8	124.9	99.2	67.6	48.1	42.4	22.5	3.8	7.4	41.7	106	1317765
1937	15.4	14.8	6.0	20.6	64.9	66.9	74.9	46.2	34.2	30.1	20.0	10.2	33.8	86	1066117
1938	9.1	12.5	13.1	21.6	34.8	47.1	38.5	47.0	33.5	15.7	1.5	0.9	23.0	59	725160
1939	10.8	13.6	0.3	25.3	40.4	39.0	40.5	1.6	40.0	19.5	4.1	3.6	19.9	51	626174
1940	7.8	9.1	9.1	43.5	59.9	77.4	60.2	20.4	2.3	14.8	10.3	9.5	27.1	69	855894
1941	8.6	8.8	8.4	13.5	33.8	51.2	95.6	50.6	36.5	40.5	17.3	12.3	31.7	81	998231
1942	10.3	10.1	9.9	22.8	37.4	170.8	62.9	44.6	56.0	36.6	13.6	11.2	40.5	103	1277218
1943	8.3	8.1	8.3	34.6	92.3	195.9	32.7	50.8	33.5	20.6	9.3	9.6	42.0	107	1324346
1944	8.7	8.6	8.9	24.9	57.5	357.0	151.6	69.8	35.8	33.4	14.0	10.7	64.9	166	2052834
1945	8.3	7.7	7.8	20.7	68.3	72.3	14.6	21.9	5.7	25.2	14.8	11.1	23.3	59	733729
1946	8.0	7.3	7.4	26.5	12.4	126.6	60.5	18.9	40.0	3.3	4.4	7.1	26.9	69	846823
1947	6.5	6.7	7.0	31.1	42.7	65.5	43.5	94.3	48.7	27.0	11.4	10.3	33.0	84	1041936
1948	8.4	7.8	7.5	34.7	80.6	67.8	91.0	138.8	85.2	55.7	17.6	12.8	50.9	130	1609258
1949	11.2	10.4	9.4	27.4	19.6	76.0	84.8	85.2	29.5	15.5	5.2	9.2	32.1	82	1012172
1950	9.8	9.4	9.5	24.8	100.5	40.7	25.1	15.1	8.3	8.3	1.5	6.6	21.9	56	689667
1951	8.3	9.6	10.1	20.6	47.9	37.4	1.2	17.3	10.0	5.6	6.8	8.2	15.3	39	481168
1952	7.7	7.4	7.3	34.5	30.3	136.7	78.6	22.4	21.6	19.5	12.7	10.2	32.3	83	1022675
1953	8.7	8.6	8.7	25.9	85.0	118.9	33.2	126.8	90.0	33.0	14.6	11.3	47.7	122	1504857
1954	10.1	9.5	9.2	10.8	79.9	313.5	76.0	127.0	159.7	78.2	23.1	15.7	76.0	194	2395471
1955	11.2	9.3	8.2	35.9	73.0	121.4	90.3	47.7	19.8	16.6	4.9	6.9	37.3	95	1174718
1956	8.2	9.5	9.1	43.8	80.3	110.6	45.9	48.3	23.2	17.0	14.0	7.4	34.8	89	1099417
1957	6.7	2.8	5.3	29.8	89.3	53.3	38.7	71.0	35.4	35.5	30.9	21.5	35.3	90	1114181
1958	14.4	13.2	12.6	51.2	82.9	62.6	72.6	54.0	5.8	10.8	0.9	5.8	32.4	83	1022197
1959	7.6	10.9	5.4	21.0	43.8	74.5	62.0	10.6	24.8	34.2	7.6	3.3	25.5	65	805277
1960	8.0	5.0	6.6	26.6	70.9	125.7	66.1	21.9	9.2	8.4	5.7	16.8	30.9	79	978239
1961	23.5	21.2	15.6	29.1	56.6	65.2	55.8	34.1	20.2	35.9	36.8	15.9	34.2	87	1079146
1962	25.4	19.4	13.5	55.5	114.2	82.7	91.9	55.0	52.1	30.1	26.3	53.1	51.8	132	1634516
1963	18.9	6.1	13.3	66.8	90.4	78.4	44.7	24.4	31.9	25.4	15.6	2.5	35.0	89	1102319
1964	10.4	13.1	2.1	11.8	83.9	97.0	84.0	108.2	91.9	52.0	16.1	13.3	49.6	127	1569045
1965	6.0	7.1	7.0	68.1	134.7	209.8	297.2	151.2	136.8	86.7	29.2	11.0	95.9	245	3025837
1966	13.9	18.3	15.8	42.3	185.7	108.9	119.7	149.9	84.5	66.6	36.9	17.1	72.4	185	2284516
1967	0.4	3.8	0.9	29.0	75.2	127.3	82.9	54.1	20.4	17.9	18.1	2.8	36.2	92	1141349
1968	10.0	10.0	14.6	27.3	57.2	64.0	58.2	65.6	29.9	25.7	11.4	14.4	32.5	83	1027257
1969	2.6	7.7	5.5	14.7	29.8	46.6	56.6	124.7	52.3	33.6	14.0	1.4	32.7	83	1030164
1970	9.5	10.8	13.0	34.1	66.8	74.1	49.1	18.8	14.8	17.1	12.7	10.3	27.7	71	872384
1971	6.9	3.5	6.7	49.0	54.1	202.8	254.8	60.0	38.3	34.7	17.1	20.7	62.7	160	1977581
1972	11.4	7.0	16.0	28.0	109.4	188.0	67.3	54.9	49.2	64.5	27.4	19.9	53.6	137	1695455
1973	13.4	11.9	12.6	51.6	136.1	104.7	65.7	54.4	31.7	44.0	11.2	9.9	45.8	117	1445255
1974	7.6	9.1	9.5	64.4	141.7	79.4	70.4	39.2	34.2	26.5	15.9	7.7	42.3	108	1334611
1975	8.1	8.8	4.2	18.9	66.7	61.2	70.7	20.9	21.3	18.9	12.5	4.2	26.5	68	835111
1976	9.7	12.2	7.5	46.8	59.6	74.5	79.3	128.6	62.8	34.8	19.9	13.3	45.9	117	1450590
1977	10.6	10.8	11.5	26.5	166.1	138.9	146.5	117.5	102.3	70.3	30.0	12.5	70.8	181	2231417
1978	13.1	12.3	9.5	47.1	77.7	114.1	109.1	65.4	82.1	45.6	13.5	11.1	50.2	128	1583026
1979	10.6	9.2	14.9	31.9	86.8	83.4	100.4	43.1	29.5	25.3	10.9	10.8	38.3	98	1207601
1980	11.6	8.9	8.9	43.4	55.1	237.3	111.0	69.9	66.4	43.2	21.9	11.3	57.3	146	1811826
MIN	0.4	2.0	0.3	8.0	13.4	37.4	1.2	1.6	1.4	3.3	0.9	0.9	15.3		
MAX	25.4	21.2	16.0	68.1	185.7	357.0	297.2	151.2	159.7	86.7	36.9	53.1	95.9		
MEAN	10.4	9.7	8.6	30.4	74.4	103.3	77.2	55.3	41.4	31.5	14.8	11.7	39.2	100	1236866

PEMBINA DAM SITE G7 BA
NATURAL MEAN MONTHLY FLOW (CMS)

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	1.9	1.9	2.1	17.7	61.1	37.3	69.8	38.9	36.4	22.3	10.0	5.1	25.5	128	806870
1913	2.4	2.3	2.5	39.2	26.6	36.0	37.0	33.7	14.0	10.5	5.8	3.2	17.8	89	562311
1914	2.0	1.9	1.9	9.6	24.7	131.8	44.0	8.8	9.0	7.9	4.2	1.7	20.6	103	648730
1915	1.1	0.8	1.9	14.4	11.8	133.4	138.2	25.5	12.1	13.4	6.2	2.2	30.2	151	952707
1916	1.3	1.2	1.9	12.5	28.5	30.3	67.2	26.5	22.9	17.9	10.7	3.6	18.8	94	594854
1917	2.4	2.0	1.7	11.3	176.9	72.1	30.7	11.9	11.6	11.8	8.1	3.4	28.9	145	911697
1918	3.6	2.4	2.3	34.0	35.7	28.9	24.0	10.6	7.6	7.6	4.2	2.3	13.6	68	429672
1919	1.2	0.4	0.4	10.3	11.9	14.7	4.9	7.1	48.8	9.9	7.5	4.1	10.1	50	317543
1920	2.8	1.8	1.1	5.5	193.7	55.4	17.6	18.5	10.1	9.4	3.9	1.0	26.9	135	852185
1921	1.9	3.5	3.8	34.9	84.1	31.3	16.1	14.3	8.7	6.9	4.7	3.3	17.9	90	564189
1922	1.4	0.1	0.0	11.5	40.6	9.2	12.4	7.6	5.3	4.3	3.6	0.8	8.1	41	256726
1923	0.3	0.1	0.7	11.1	18.2	54.9	47.4	30.9	15.3	11.7	6.3	3.3	16.8	84	528504
1924	2.1	2.0	1.9	6.7	70.8	33.1	16.4	32.6	29.6	16.3	7.4	4.0	19.0	95	600299
1925	2.3	2.1	2.8	81.1	27.3	47.4	16.0	68.7	72.8	37.2	12.9	6.2	31.4	157	990152
1926	2.7	2.5	5.3	38.1	16.3	18.8	12.2	17.2	75.0	42.0	16.6	8.0	21.2	106	668116
1927	3.0	2.7	3.7	25.4	60.4	60.1	70.1	26.5	26.8	16.6	7.7	4.0	25.7	129	811045
1928	2.0	2.2	5.3	22.6	44.7	76.5	80.3	21.6	11.2	9.0	5.2	2.9	23.7	119	748773
1929	1.9	1.9	3.3	15.8	43.4	24.3	14.5	7.3	8.3	10.4	5.0	2.8	11.6	58	367355
1930	1.9	1.9	2.2	31.6	46.4	42.3	26.3	9.9	7.8	6.7	4.6	2.6	15.4	77	486025
1931	2.0	2.4	2.9	7.4	20.7	22.0	27.7	15.0	13.2	10.0	5.5	3.0	11.0	55	348017
1932	1.9	1.9	1.6	22.5	57.2	68.9	27.9	17.4	15.0	10.6	5.6	3.1	19.5	98	615646
1933	1.9	1.9	1.9	19.6	94.9	36.3	24.2	14.8	13.9	8.8	4.5	2.6	18.9	95	595946
1934	1.8	1.8	3.4	23.0	48.6	26.6	12.6	10.0	6.6	6.3	4.0	2.3	12.3	62	387889
1935	1.8	1.8	1.5	22.6	47.5	37.3	56.1	23.6	15.7	10.5	6.7	3.6	19.2	96	605085
1936	2.1	2.1	1.6	66.1	101.1	38.8	16.1	12.6	9.5	7.5	4.6	2.6	22.1	111	697997
1937	2.0	1.8	1.4	6.9	25.0	20.1	22.2	12.5	10.9	8.9	5.8	3.1	10.1	51	318485
1938	2.0	1.8	1.7	8.4	19.5	30.0	21.8	13.6	21.3	14.5	7.0	3.7	12.1	61	382807
1939	2.1	2.0	3.1	12.3	23.6	13.0	18.5	8.0	3.5	4.8	4.0	2.3	8.2	41	257193
1940	1.8	1.7	1.5	43.5	71.8	23.7	17.1	9.4	11.6	9.5	4.9	2.7	16.6	83	525644
1941	1.9	1.9	1.8	7.5	8.0	13.9	18.0	12.4	10.8	6.7	4.7	2.6	7.7	39	243012
1942	1.9	1.8	1.4	10.8	19.7	48.1	46.1	21.8	29.2	17.1	8.2	4.2	17.6	88	554364
1943	2.2	2.1	2.3	60.7	23.2	44.8	39.5	18.8	8.0	6.9	3.8	2.3	17.9	90	564097
1944	1.8	1.8	1.9	11.4	37.1	212.9	48.1	22.7	17.5	12.5	6.5	3.6	31.3	157	989527
1945	2.1	2.0	2.3	6.6	28.6	16.7	8.6	9.4	4.7	6.9	4.7	2.6	8.0	40	250889
1946	1.8	1.9	2.3	17.6	25.6	57.1	19.3	9.1	6.8	6.4	3.5	2.0	12.8	64	402455
1947	1.6	1.7	2.4	35.5	53.5	33.3	22.1	23.9	21.2	14.4	8.0	4.1	18.5	93	584706
1948	2.2	2.1	2.6	31.0	417.2	66.9	29.8	50.9	27.8	14.4	6.5	3.6	55.1	276	1742771
1949	2.1	2.0	2.0	15.5	18.4	9.5	11.5	16.9	6.9	5.9	3.9	2.4	8.1	41	256686
1950	1.8	1.8	1.5	11.8	29.6	33.9	28.5	11.2	6.6	6.0	3.4	2.0	11.6	58	364668
1951	1.6	1.7	1.4	11.8	106.6	17.3	34.5	14.4	8.5	8.8	5.9	3.2	18.2	91	573756
1952	1.9	2.0	2.8	53.1	25.2	71.4	42.9	13.5	8.2	8.1	4.9	2.8	19.7	98	621692
1953	1.9	1.9	2.2	10.4	65.0	61.5	30.1	45.6	36.1	16.6	7.8	4.1	23.7	119	748364
1954	2.2	2.2	2.2	8.6	136.4	201.0	52.5	85.6	205.7	62.4	15.5	6.6	65.1	326	2053958
1955	2.2	2.7	3.4	27.8	86.7	40.3	16.8	9.5	4.5	5.2	1.9	1.1	17.1	86	539665
1956	1.2	2.9	2.7	27.1	26.0	27.3	12.5	12.3	8.9	4.8	3.7	2.2	10.9	55	345623
1957	1.8	1.7	1.3	15.4	38.6	17.6	13.4	14.6	14.1	12.5	10.9	6.9	12.9	65	407780
1958	2.1	3.6	7.3	33.2	43.5	39.9	38.5	6.9	4.4	3.4	2.3	1.8	15.6	78	492564
1959	1.1	0.5	1.9	8.4	19.5	54.2	24.7	9.4	13.8	13.4	6.2	4.2	13.1	66	413695
1960	2.7	2.7	8.4	18.7	56.2	36.2	50.1	7.2	6.4	6.3	3.2	1.4	16.7	84	528303
1961	1.1	1.6	1.2	5.9	25.5	10.8	13.0	16.4	2.5	4.7	4.5	1.9	7.5	37	235842
1962	1.9	1.5	1.8	38.1	48.6	29.3	29.8	29.1	26.9	11.8	9.5	7.6	19.7	99	622107
1963	2.2	1.8	2.6	58.0	67.4	23.3	13.1	5.7	5.7	4.9	2.7	1.4	15.8	79	497775
1964	1.6	2.1	1.8	7.1	64.7	39.3	39.3	22.0	65.4	38.8	10.2	3.7	24.7	124	781767
1965	1.0	2.1	2.3	49.3	80.3	132.0	172.9	14.5	27.7	14.1	6.2	3.8	42.4	212	1336692
1966	2.2	3.0	4.4	17.7	45.7	24.9	46.5	80.8	27.1	13.9	3.9	5.8	23.2	116	731842
1967	3.2	2.4	3.9	12.6	52.6	45.9	10.5	8.5	4.0	4.4	3.6	1.2	12.8	64	403184
1968	1.0	0.9	1.7	12.4	35.1	24.8	22.0	38.7	18.7	10.9	5.3	3.0	14.6	73	462229
1969	1.6	1.0	1.1	34.5	30.5	17.8	70.6	88.6	34.9	27.1	11.1	6.1	27.5	138	866721
1970	2.5	2.0	3.1	14.4	34.1	37.6	15.2	8.9	5.5	5.3	2.3	2.0	11.1	56	350120
1971	1.9	2.3	2.6	45.7	38.4	90.3	145.2	13.8	7.6	10.5	6.5	3.2	30.8	154	972166
1972	2.0	1.8	2.5	22.9	66.8	120.9	52.8	20.0	13.9	24.4	10.5	6.9	28.8	144	910616
1973	4.4	3.6	4.0	39.4	82.4	34.3	24.8	25.9	12.2	10.8	6.7	4.0	21.2	106	667071
1974	3.1	3.4	3.6	79.8	125.3	35.0	49.8	15.8	11.8	10.1	5.4	2.8	29.0	145	914534
1975	2.5	2.8	2.5	9.7	35.9	22.8	35.2	9.3	7.9	4.7	2.3	2.0	11.5	58	364078
1976	2.5	2.4	2.5	26.4	20.7	16.4	18.5	29.1	12.4	6.3	3.6	3.2	12.2	61	384677
1977	2.5	2.2	2.1	12.6	112.2	61.2	26.8	28.4	39.9	20.2	5.0	4.1	26.6	133	838899
1978	3.2	2.8	5.0	19.3	49.2	81.3	56.3	17.8	45.4	21.0	10.1	5.9	26.5	133	835900
1979	2.9	2.2	7.4	27.1	51.9	33.4	24.5	11.9	5.5	7.0	3.9	3.1	15.1	76	477416
1980	2.7	2.4	2.4	38.2	38.9	210.0	88.8	36.0	41.9	20.1	8.7	5.1	41.1	206	1299810
MIN	0.3	0.1	0.0	5.5	8.0	9.2	4.9	5.7	2.5	3.4	1.9	0.8	7.5		
MAX	4.4	3.6	8.4	81.1	417.2	212.9	172.9	88.6	205.7	62.4	16.6	8.1	65.1		
MEAN	2.1	2.0	2.6	24.1	56.6	50.0	36.8	21.6	20.6	12.7	6.2	3.4	20.0	100	629917

MOOSE PORTAGE DAM SITE
NATURAL MEAN MONTHLY FLOW (CMS)

G7 BB

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	97.9	93.0	93.6	273.0	797.9	1017.9	1400.6	998.6	634.8	393.8	205.3	127.0	513.2	120	16227043
1913	99.4	93.2	94.1	463.0	382.8	949.2	1044.0	891.0	469.4	252.2	152.9	107.5	418.2	98	13188452
1914	90.6	82.1	89.5	130.6	374.3	1592.5	1169.3	548.1	391.8	356.1	165.5	90.1	424.6	99	13389303
1915	103.8	91.5	114.5	328.7	371.1	1147.4	1658.0	831.7	424.6	252.8	154.6	94.5	467.0	109	14725963
1916	74.9	71.6	74.5	208.6	388.5	786.2	1275.1	655.0	439.0	285.5	164.3	82.9	376.9	88	11918689
1917	79.9	64.3	61.8	211.7	1257.0	1123.0	833.9	491.0	347.7	314.0	169.8	95.8	423.3	99	13348955
1918	109.1	88.5	87.9	289.0	403.6	1046.2	974.0	523.2	332.5	211.5	125.4	82.3	357.3	84	11267475
1919	70.7	66.3	57.0	185.1	266.0	680.7	645.1	578.7	542.1	233.7	148.4	100.3	298.7	70	9421219
1920	85.7	81.9	79.1	126.9	1446.8	1232.5	1209.0	851.2	511.8	394.7	175.4	101.4	527.3	123	16673298
1921	113.0	119.1	123.2	349.6	804.0	1056.4	853.4	691.8	411.9	301.0	227.7	104.8	431.3	101	13601951
1922	75.3	77.4	80.7	140.5	539.4	661.4	607.4	560.9	402.9	258.4	138.7	59.6	301.7	71	9513063
1923	56.7	49.4	51.8	180.6	437.1	1015.1	1023.4	704.3	492.9	343.6	244.5	143.4	397.1	93	12523290
1924	66.2	87.9	81.2	108.6	808.8	705.7	765.9	853.0	750.5	402.8	233.3	89.7	414.2	97	13097176
1925	54.1	55.6	84.4	925.7	689.8	931.6	711.7	874.0	707.3	419.8	220.7	176.6	488.9	114	15417059
1926	155.6	129.7	134.8	431.3	464.6	716.7	697.2	470.0	666.8	446.2	269.9	144.1	394.7	92	12446792
1927	103.9	103.8	117.4	299.3	768.8	1139.1	1407.0	715.4	567.9	390.3	197.3	118.6	496.7	116	15662401
1928	113.2	96.5	123.2	290.2	723.1	1259.4	1269.4	654.6	411.5	285.8	163.4	147.0	462.7	108	14630871
1929	88.2	78.5	100.4	215.3	648.2	809.4	654.1	546.8	378.6	346.4	188.2	83.1	346.4	81	10923223
1930	60.5	67.0	75.8	304.8	641.2	1193.0	976.5	630.8	458.0	251.9	214.1	164.0	421.4	99	13287861
1931	118.1	110.7	129.1	153.5	445.5	790.3	1000.3	637.9	461.2	288.0	178.2	125.6	371.7	87	11722168
1932	124.9	80.3	80.7	319.5	770.2	1346.5	942.4	752.3	535.7	324.8	198.3	135.1	468.2	109	14806192
1933	113.5	98.6	100.2	297.8	1007.6	1006.0	947.7	683.5	503.3	268.7	165.4	113.7	444.4	104	14015955
1934	99.7	90.8	107.2	329.0	769.1	927.9	878.1	653.4	461.8	339.8	212.1	154.3	420.6	98	13263857
1935	127.8	111.0	106.9	336.7	835.1	1150.1	1742.9	961.6	634.4	385.4	254.9	150.4	569.9	133	17971769
1936	142.7	119.3	101.5	670.6	1074.4	1102.3	925.6	712.4	503.2	331.3	216.5	134.7	503.7	118	15926710
1937	118.7	101.7	96.8	151.6	583.0	828.5	1020.7	630.4	483.6	308.3	209.3	133.0	390.8	91	12325743
1938	104.0	91.0	100.4	169.2	373.8	818.2	726.4	585.7	510.8	191.9	122.5	104.0	325.9	76	10276450
1939	81.6	77.5	88.2	207.4	417.8	526.3	745.5	466.6	236.8	233.8	142.9	104.0	279.0	65	8798131
1940	67.4	65.6	69.4	468.6	960.6	867.1	804.0	514.3	396.7	249.0	137.7	77.9	390.8	91	12357351
1941	56.2	57.4	58.1	142.8	209.2	569.5	828.6	565.4	405.2	339.8	179.3	101.0	294.3	69	9280938
1942	89.0	80.9	73.9	188.8	337.7	1129.5	1047.9	707.2	602.5	295.5	167.6	112.3	404.1	94	12742592
1943	73.9	68.9	71.2	588.2	438.4	1117.7	1102.2	675.6	352.6	212.3	124.4	74.7	409.6	96	12917929
1944	59.7	59.8	63.9	191.4	581.9	2251.0	1123.4	699.8	471.7	302.0	163.6	72.8	502.9	118	15904012
1945	52.8	51.0	59.6	130.3	411.3	628.7	516.1	498.5	270.5	278.9	155.2	88.1	263.1	62	8297613
1946	57.2	55.8	62.0	250.3	386.6	1103.9	783.2	495.8	314.5	162.8	98.9	89.4	322.6	75	10175030
1947	59.7	58.6	63.1	400.5	722.4	904.6	795.4	768.7	537.6	353.7	196.6	116.3	416.6	97	13139365
1948	76.4	67.3	70.0	385.4	2499.6	1252.7	969.3	1044.1	635.4	358.3	191.6	101.0	640.9	150	20268337
1949	91.2	81.3	83.0	245.3	355.4	556.4	606.5	667.6	346.7	183.5	118.5	86.5	286.5	67	9034812
1950	80.1	72.0	73.5	201.6	574.8	899.0	909.0	562.2	338.9	185.7	106.8	111.9	343.0	80	10817081
1951	85.9	81.8	79.4	204.9	1097.8	688.8	972.5	640.3	371.7	221.4	152.1	99.2	394.3	92	12433452
1952	74.6	74.2	72.5	509.8	428.9	1170.2	1058.9	602.6	370.1	251.9	144.6	64.8	402.1	94	12715748
1953	59.8	66.8	81.2	194.9	785.4	1151.2	922.7	1006.0	706.5	283.2	178.3	89.7	462.8	108	14594808
1954	87.6	89.6	89.1	107.8	1293.7	2277.0	1257.9	1276.5	1391.8	500.5	276.7	203.0	739.9	173	23333523
1955	90.3	77.4	77.5	330.8	668.7	1291.3	1093.3	636.6	355.7	224.4	98.1	96.0	421.7	99	13300251
1956	98.4	88.0	81.3	533.5	697.7	1163.3	746.6	651.4	390.7	247.7	107.8	67.1	405.5	95	12821517
1957	56.1	66.2	90.9	240.7	794.0	677.8	665.0	726.7	492.1	366.6	307.6	174.3	390.4	91	12310375
1958	137.1	131.2	125.9	514.3	746.1	840.4	937.2	438.2	322.2	214.4	106.3	88.9	384.9	90	12138456
1959	67.7	66.2	79.7	185.0	388.6	922.0	860.5	465.5	475.2	307.5	124.0	119.5	339.7	79	10713475
1960	78.9	67.8	72.8	218.5	520.0	961.7	1236.3	530.1	308.9	222.3	140.4	80.1	371.1	87	11733698
1961	75.5	69.7	81.2	185.6	407.2	826.6	768.5	571.0	288.9	298.6	176.5	102.7	322.5	75	10171465
1962	94.4	76.0	86.0	494.6	959.3	1018.5	954.5	703.7	467.1	270.8	178.0	109.5	451.5	106	14239427
1963	104.6	99.0	101.0	623.3	926.8	895.8	744.1	531.3	412.2	260.4	121.6	120.4	413.2	97	13029603
1964	86.2	85.5	89.9	133.7	606.7	986.9	918.0	782.7	678.4	560.4	243.4	164.1	444.2	104	14046868
1965	135.6	114.6	122.5	418.8	1101.4	1526.8	2013.8	933.3	782.3	511.8	271.3	164.1	678.5	159	21396293
1966	125.2	122.7	94.1	213.7	849.8	909.2	986.0	956.7	631.2	326.2	208.2	172.4	468.8	110	14785372
1967	126.3	99.7	96.7	214.4	697.3	1179.8	748.4	549.8	363.2	247.6	135.6	79.2	379.4	89	11965181
1968	60.4	69.4	94.3	129.5	380.3	762.3	848.7	686.1	418.6	245.0	121.4	70.9	324.9	76	10274972
1969	56.9	58.8	64.0	395.0	477.5	655.5	708.5	998.6	524.1	360.3	180.0	128.2	386.0	90	12173621
1970	89.1	78.4	80.5	359.8	515.9	878.5	817.5	493.1	292.1	209.7	128.6	86.7	337.1	79	10630025
1971	72.6	73.4	77.2	441.0	661.6	1538.6	2134.8	792.1	454.3	374.8	200.0	126.0	582.1	136	18358642
1972	103.7	89.3	100.8	370.9	1058.0	1640.7	1130.9	728.7	468.7	443.3	232.8	124.7	542.0	127	17139668
1973	134.1	133.4	116.0	377.1	866.6	1084.5	783.6	637.0	360.2	339.1	159.3	133.5	428.7	100	13519448
1974	110.1	112.8	104.0	972.5	1547.5	1009.7	1175.0	665.4	483.7	322.9	198.9	124.0	571.6	134	18024620
1975	109.0	101.8	105.4	234.8	529.4	672.9	1113.1	536.5	452.2	253.4	202.0	128.8	371.9	87	11728886
1976	125.4	119.5	97.3	425.8	483.0	598.3	889.0	1027.8	642.1	340.0	174.4	96.8	419.5	98	13266875
1977	118.8	137.3	129.1	360.6	1083.1	1355.6	1107.5	887.2	736.9	476.4	227.5	149.4	566.5	132	17863968
1978	122.4	104.3	134.2	369.2	695.6	1248.1	1162.1	679.4	997.4	511.3	209.4	140.9	532.8	125	16801887
1979	107.4	96.2	152.2	324.3	856.5	1114.4	1340.8	658.5	388.7	271.0	159.7	96.3	466.5	109	14711353
1980	105.3	92.3	107.5	409.6	490.1	1715.2	1044.6	648.8	580.4	398.4	225.3	141.6	496.2	116	15691708
MIN	52.8	49.4	51.8	107.8	209.2	526.3	516.1	438.2	236.8	162.8	98.1	59.6	263.1		
MAX	155.6	137.3	152.2	972.5	2499.6	2277.0	2134.8	1276.5	1391.8	560.4	307.6	203.0	739.9		
MEAN	92.6	86.1	90.3	315.7	703.9	1037.7	996.1	692.7	492.1	312.7	178.1	113.7	427.6	100	13495863

CHRISTINA RIVER AT THE MOUTH
NATURAL MEAN MONTHLY FLOW (CMS)

GJ CA

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MEAN	%	CUBIC DAM
1912	8.5	5.1	6.4	33.9	92.0	97.2	81.3	65.0	107.5	73.8	39.0	21.0	52.6	120	1664643
1913	14.1	9.0	6.9	47.8	63.2	59.3	63.7	51.6	90.8	65.5	34.8	17.9	43.8	100	1382748
1914	10.1	6.2	6.5	14.4	56.8	9.5	56.2	77.8	62.4	42.0	25.7	15.0	32.1	73	1013876
1915	7.7	4.2	6.3	43.2	60.1	46.6	65.8	91.3	103.3	66.0	35.2	18.7	45.9	105	1447607
1916	10.7	6.7	6.6	21.9	59.9	65.3	62.9	74.9	73.4	53.9	30.3	17.1	40.4	92	1277669
1917	9.5	5.5	6.5	23.3	111.0	123.4	80.6	50.7	43.7	32.9	21.4	12.6	43.6	100	1376153
1918	6.0	2.7	6.1	39.5	62.5	57.2	64.0	63.4	53.9	42.7	25.3	13.5	36.6	84	1154134
1919	6.7	3.6	6.2	21.9	45.9	52.2	46.5	39.9	39.3	48.4	27.2	14.4	29.5	67	930433
1920	8.2	4.6	6.3	15.5	114.0	131.4	96.3	61.5	89.9	58.6	33.7	19.1	53.4	122	1687423
1921	10.4	7.0	6.6	42.1	94.4	97.2	73.1	47.3	65.5	48.7	26.4	15.4	44.7	102	1408739
1922	10.7	6.4	6.6	15.1	71.1	80.5	51.1	34.4	43.3	41.5	24.8	14.6	33.5	77	1055868
1923	7.4	3.9	6.3	20.0	62.9	62.9	66.2	60.8	70.9	53.7	28.6	15.4	38.4	88	1212133
1924	12.8	8.2	6.8	9.5	87.6	98.2	62.3	27.5	59.2	60.9	32.8	19.7	40.5	93	1281601
1925	13.7	8.6	6.8	82.4	91.7	91.4	63.7	23.0	62.7	59.9	32.8	16.2	46.1	105	1455086
1926	10.0	5.7	6.5	57.3	70.9	74.8	54.7	44.8	12.0	30.8	18.7	11.5	33.3	76	1049134
1927	10.5	5.6	6.4	39.5	91.1	92.2	83.2	80.1	78.5	57.2	32.4	18.1	49.8	114	1571198
1928	11.1	6.6	6.6	35.8	88.3	84.1	82.4	75.7	73.7	51.5	29.6	13.7	46.7	107	1477279
1929	10.0	5.7	6.5	26.2	81.3	88.7	58.2	38.6	44.5	34.5	21.7	13.5	35.9	82	1132738
1930	9.0	5.2	6.4	34.6	81.9	78.7	74.0	60.0	61.9	51.6	27.4	12.3	42.1	96	1328472
1931	4.0	6.0	6.0	25.3	64.0	71.1	62.9	60.0	63.1	51.2	28.7	14.9	38.3	87	1206692
1932	7.5	3.5	6.2	41.8	91.0	84.8	77.8	52.4	71.3	57.2	31.4	16.4	45.2	103	1429194
1933	10.4	6.1	6.5	36.6	103.9	111.1	78.7	52.9	63.8	54.2	30.4	16.0	47.7	109	1505844
1934	9.2	5.4	6.4	40.6	91.4	96.6	70.9	50.2	60.3	47.2	26.9	13.5	43.4	99	1368782
1935	8.7	4.7	6.4	44.7	95.6	97.2	84.8	86.9	114.1	75.6	38.3	20.3	56.7	130	1787212
1936	12.3	7.6	6.7	74.0	112.7	114.8	81.2	50.2	66.4	52.6	29.1	15.7	52.0	119	1643985
1937	9.9	5.6	6.5	19.1	75.1	83.2	67.9	60.7	61.2	50.4	27.9	14.8	40.4	92	1274053
1938	10.0	5.7	6.5	21.2	57.9	62.5	54.8	45.1	45.4	48.9	28.1	13.9	33.6	77	1056800
1939	7.5	4.1	6.3	26.3	62.4	70.0	49.8	47.1	41.6	30.2	19.2	9.8	31.3	72	988481
1940	6.1	2.9	6.1	54.7	102.9	108.8	70.1	48.4	43.8	40.5	24.7	14.0	43.6	100	1380290
1941	7.9	4.5	6.3	15.6	38.1	46.5	46.6	53.2	52.8	41.1	24.5	14.1	29.4	67	927449
1942	8.8	4.8	6.4	23.1	54.3	41.7	61.3	64.3	67.3	60.6	33.0	17.6	37.2	85	1171738
1943	11.7	7.1	6.6	58.7	69.0	58.8	68.2	67.3	73.5	51.9	29.4	15.9	43.3	99	1366857
1944	8.0	4.8	6.4	21.0	75.1	83.0	44.9	75.3	79.5	58.8	32.1	18.3	42.4	97	1339345
1945	10.6	6.5	6.6	11.9	59.7	69.7	44.0	30.6	38.5	29.1	18.8	10.9	28.2	64	888505
1946	6.9	3.4	6.2	29.8	59.7	51.5	58.3	53.3	46.6	40.6	24.1	11.6	32.8	75	1035813
1947	5.6	2.8	6.1	45.9	88.2	93.5	68.9	37.9	66.2	54.5	30.5	17.0	43.1	98	1358387
1948	12.1	7.1	6.6	40.1	141.1	171.2	101.8	28.1	94.0	71.0	37.9	21.1	61.0	139	1929816
1949	13.1	8.3	6.8	25.3	57.6	64.9	45.3	29.4	55.9	47.4	26.8	13.6	32.9	75	1038911
1950	6.1	2.1	6.2	25.8	74.9	81.3	66.9	54.4	55.4	44.9	26.2	11.6	38.4	88	1211917
1951	5.5	2.8	6.1	27.4	104.4	111.9	70.5	54.8	53.8	48.3	27.5	14.8	44.9	103	1415291
1952	6.4	5.0	6.4	55.4	87.2	54.4	67.0	67.4	64.6	47.8	27.6	16.9	46.7	93	1266596
1953	8.1	5.1	6.4	22.1	88.7	82.9	76.0	31.4	86.6	74.7	38.5	21.2	48.2	109	1455664
1954	12.1	6.0	6.8	5.7	108.8	79.9	99.2	35.9	81.9	92.6	45.9	25.2	50.9	116	1605020
1955	20.4	12.8	7.3	28.2	85.7	77.6	78.2	67.2	68.5	49.1	29.1	14.4	45.1	103	1421397
1956	5.6	3.0	6.2	63.7	88.1	84.6	67.6	42.7	56.9	47.5	28.2	15.6	42.7	98	1349831
1957	7.7	4.8	6.4	27.9	90.4	97.3	57.4	27.9	2.8	22.5	22.5	19.1	32.4	74	1021095
1958	5.3	1.4	6.0	153.9	96.8	22.0	2.8	10.5	29.5	46.3	24.3	13.0	34.2	78	1079911
1959	2.9	0.7	5.7	26.7	82.7	94.1	34.1	30.0	121.0	117.9	54.1	32.0	48.6	111	1532857
1960	19.7	13.8	7.5	36.5	131.7	192.6	156.8	198.0	257.4	83.1	40.7	19.2	94.8	217	2997281
1961	23.6	19.5	9.0	38.0	110.9	46.1	56.5	21.5	8.9	5.5	7.0	16.0	30.4	69	957204
1962	9.0	6.0	4.9	18.1	120.3	296.6	268.8	57.5	46.1	43.5	36.6	28.0	78.5	179	2474698
1963	18.0	10.0	7.1	57.8	105.1	36.6	11.2	12.8	20.8	16.4	14.9	0.9	26.0	59	820733
1964	9.0	1.8	5.8	26.3	83.2	48.2	14.8	37.4	30.4	29.7	13.8	4.5	25.5	58	805632
1965	4.3	6.0	5.3	35.3	72.5	83.6	69.1	60.9	83.0	47.4	26.9	16.3	42.9	98	1351423
1966	7.9	0.5	5.1	58.1	65.8	133.1	58.7	79.4	48.8	23.2	8.4	9.7	41.7	95	1314097
1967	17.0	14.3	7.2	7.7	126.3	75.9	38.1	37.7	14.8	11.5	13.4	9.0	31.2	71	985471
1968	9.0	6.0	5.4	31.5	24.4	17.0	20.6	17.3	33.3	51.5	40.8	4.7	21.8	50	688388
1969	11.4	5.4	7.0	92.6	114.3	58.9	21.7	11.8	36.4	52.6	17.1	14.6	37.1	85	1170646
1970	2.3	6.0	4.7	84.3	67.4	72.3	282.4	102.1	118.1	92.4	45.1	18.8	76.0	174	2396916
1971	10.6	6.7	6.9	72.6	98.9	39.6	132.7	43.7	18.5	14.4	5.1	2.1	37.9	87	1196473
1972	9.0	6.0	5.3	26.4	131.8	55.5	29.8	10.8	6.8	31.1	18.0	6.5	28.2	64	891959
1973	2.0	4.1	6.1	45.0	39.7	174.6	87.1	191.9	145.3	137.1	71.4	31.6	78.3	179	2467855
1974	19.5	12.0	7.1	118.5	276.7	158.3	126.3	63.5	45.8	29.6	31.6	24.0	76.5	175	2412055
1975	18.4	16.1	7.7	20.0	106.6	109.6	152.0	115.9	116.6	72.7	42.1	25.8	67.3	154	2122670
1976	18.7	15.5	3.0	45.6	39.7	42.9	95.8	69.1	126.0	76.1	36.7	8.7	48.1	110	1520384
1977	11.6	8.8	6.5	28.3	68.3	89.8	59.2	40.6	28.0	27.6	10.2	11.4	32.7	75	1029752
1978	5.7	5.1	11.2	46.5	84.6	67.1	27.2	18.1	85.4	78.9	27.9	12.6	39.3	90	1238913
1979	13.1	8.2	6.4	9.9	109.6	134.9	95.7	68.8	100.7	72.0	55.4	52.3	60.8	139	1918625
1980	17.1	10.2	7.1	50.2	27.8	34.1	18.1	157.1	119.9	78.4	42.3	16.6	48.3	110	1527710
MIN	2.0	0.5	3.0	7.7	24.4	9.5	2.8	10.5	2.8	5.5	5.1	0.9	21.8		
MAX	23.6	19.5	11.2	153.9	276.7	296.6	282.4	198.0	257.4	137.1	71.4	52.3	94.8		
MEAN	10.1	6.4	6.4	38.7	84.9	84.6	72.1	56.5	66.2	52.0	29.3	15.9	42.8	100	1380798