Report to

THE INTERNATIONAL JOINT COMMISSION

on

THE DIVISION OF THE WATERS OF

THE ST. MARY AND MILK RIVERS

1994

Cover photo:

Flow Measurement Circa 1920's.
Photograph provided by Brian Van Iderstein, Monitoring and Operations Branch, Calgary.

Report to
THE INTERNATIONAL JOINT COMMISSION
on
THE DIVISION OF THE WATERS OF
THE ST. MARY AND MILK RIVERS

1994

by

Philip Cohen
representing the United States

and

R.A. Halliday
representing Canada

March 1995

International Joint Commission
Ottawa, Ontario and Washington, D.C.

Commissioners;

In compliance with the provisions of Article VI of the Boundary Waters Treaty of 1909 and Clause VIII (c) of your order of October 4, 1921, directing the division of the waters of the St. Mary and Milk Rivers between the United States and Canada, we are transmitting herewith a report on the operations during the irrigation season ended October 31, 1994.

Respectfully submitted,

Robert M. Hirsch
Accredited Officer of the United States

R.A. Halliday
Accredited Officer of Her Majesty

SYNOPSIS

During the 1994 irrigation season, the natural flow of the St. Mary and Milk rivers was 75 percent and 136 percent, respectively, of the long-term average.

The natural flow of the St. Mary River at the International Boundary during the irrigation season, April 1 to October 31, 1994, was 534 000 cubic decametres (dam^3) (433,000 acre-feet). Under the terms of the Boundary Waters Treaty, the Canadian share was 332 000 dam^3 (269,000 acre-feet). The total flow recorded at the International Boundary during the irrigation season was 112 percent of the Canadian allotment.

The natural flow of the Milk River at the eastern crossing of the International Boundary from March 1 to October 31, 1994, was 188 000 dam^3 (152,000 acre-feet). Under the terms of the Treaty, the United States' allotment was 115 000 dam^3 (93,200 acre-feet). The United States received 164 percent of its allotment at Eastern Crossing, in addition to its share of St. Mary River water diverted into the Milk River by the St. Mary Canal.

The March to October natural flows of the three apportioned tributaries of the Milk River; Lodge Creek, Battle Creek, and Frenchman River; were 86 percent, 114 percent, and 123 percent respectively of the long term averages.

The annual meeting of the Field Representatives was held in Cypress Hills Provincial Park, Saskatchewan on January 31, 1995. Mutual problems, future plans, and changes in computational procedures were discussed and a schedule of field operations for 1995 was adopted. Streamflow records and natural flow computations collected jointly by the United States and Canada were reviewed and approved at the meeting and through correspondence after the meeting.

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INTRODUCTION

The apportionment of the waters of the St. Mary and Milk rivers is governed by Article VI of the Boundary Waters Treaty of 1909 between Great Britain and the United States. The terms of the Treaty were further clarified by the 1921 Order of the International Joint Commission. Copies of Article VI and the 1921 Order are contained in Annex A of this report.

To comply with this Treaty, Field Representatives of the United States and Canada collected and compiled hydrometric data at 41 international gauging stations on a co-operative basis. An additional 27 gauging stations were operated independently by the United States or Canada to obtain data on diversions, reservoir contents, return flows and index runoff. Most of this additional information was used to improve the accuracy of natural flow computations.

This report summarizes the 1994 natural flow computations, apportionment of the natural flow, unusual occurrences during the year and procedural modifications designed to increase the accuracy of the natural flow computations. Summary natural flow tables are included. Detailed natural flow computations are included in Appendix A. Daily discharge and other related data are included in Appendix B. Appendices A and B are submitted with this report under separate cover.

In accordance with the International System of Units (SI) conversion schedule established by the International Joint Commission, this report uses SI units first, followed by inch-pound units in parentheses. Data in tables are shown in SI units first, followed by the respective inch-pound units (for example, Tables 1 and 1A). The format for Appendices A and B of the report is SI units only. All Canadian data are collected, computed and published in SI units. The United States' data, which are collected and computed in inch-pound units, were converted to SI units using the appropriate conversions. A summary of the conversion factors is contained in Annex B.

Mr. R.A. Halliday, as Accredited Officer of Her Majesty, was represented in the field by Mr. R.G. Boals, Chief, Monitoring and Operations Division, Prairie and Northern Region. Mr. Philip Cohen, Chief Hydrologist, United States Geological Survey, as Accredited

Officer of the United States, was represented in the field by Mr. J.A. Moreland, District Chief, United States Geological Survey, Helena, Montana. This report was prepared jointly by personnel of Environment Canada, Monitoring and Operations Division and the United States Geological Survey, under the supervision of Messrs. Boals and Moreland.

The annual meeting of the Field Representatives was held in the Cypress Hills, Saskatchewan, on January 31, 1995. Mutual problems, future plans, and changes in computational procedures were discussed and a schedule of field operations for 1995 was adopted.

Streamflow records and natural flow computations collected jointly by the United States and Canada were reviewed and approved at the meeting and through correspondence after the meeting.

ST. MARY RIVER

During the irrigation season, April 1 to October 31, Canada's share of the natural flow of the St. Mary River at the International Boundary, as stipulated by the 1921 Order, is three-fourths of the natural flow when that flow is 666 cubic feet per second (18.86 cubic metres per second) or less. Flow in excess of that quantity is divided equally between Canada and the United States. During the non-irrigation season, November 1 to March 31, the flow is divided equally between the two countries.

To comply with the above Order, representatives of both countries make twice-monthly computations of the daily natural flow of the St. Mary River during the irrigation season. If use by the United States is in excess of its share, then a delivery of an equivalent quantity of water is normally made to Canada at the earliest opportunity. Regular interim reports of these computations are sent to all agencies involved in the water use and management of the flow of the St. Mary River. The interim reports keep these agencies informed as to the quantity of water that is available and the status of apportionment.

Tentative computations and interim reports are not made during the non-irrigation season when use by the United States is limited to storage in Lake Sherburne. The flow into Lake Sherburne is considerably less than 50 per cent of the natural flow. Occasionally, water is diverted into the St. Mary Canal during the non-irrigation season, necessitating additional computations.

Lake Sherburne, the only storage reservoir within the St. Mary River basin in the United States, is used to store part of the United States' share of flow for later diversion to the Milk River. This water, which passes through Canada, is used by the United States for irrigation in the eastern portion of the Milk River basin.

Storage in Lake Sherburne (station 05AE036) was 32 100 dam^3 (26,000 acre-feet) on October 31, 1993 and increased to 48 900 dam^3 (39,600 acre-feet) on March 31, 1994, just prior to the commencement of the irrigation season. Maximum storage was 83 500 dam^3 (67,700 acre-feet) on June 24, 1994 and storage decreased to 11 900 dam^3 (9,650 acre-feet) by the end of the irrigation season on October 31, 1994.

Water was diverted from the St. Mary River into the Milk River via the St. Mary Canal from April 24 to September 21, 1994. The total flow recorded at the gauging station on the St. Mary Canal at St. Mary Crossing (station 05AE029) was 201 000 dam^3 (163,000 acre-feet). Any seepage from the canal between the point of diversion and the crossing of the St. Mary River is assumed to return to the river and eventually become available to Canada.

The computed natural flow of the St. Mary River at the International Boundary from November 1, 1993 to October 31, 1994 was 614 000 dam^3 (498,000 acre-feet) of which 534 000 dam^3 (433,000 acre-feet) occurred during the irrigation season, April 1 to October 31, 1994. For the irrigation season, Canada's and the United States' shares were 332 000 dam^3 (269,000 acre-feet) and 202 000 dam^3 (164,000 acre-feet) respectively. A total discharge of 371 000 dam^3 (301,000 acre-feet) was recorded at the International Boundary, which was 112 per cent of the Canadian share. The computed natural flow during the irrigation season was 75 per cent of the average of the previous 91 years of record.

Deficit deliveries were recorded in 3 of the 14 division periods during the 1994 irrigation season. A small deficit of 84 dam^3 (68 acre-feet) occurred during the last division period. This deficit was due to a storm which resulted in a sudden storage increase in Lake Sherburne in late October.

The division of St. Mary River natural flow is summarized in Tables 1 and 1A and Figure 1 which follow. The detailed computation of the natural flow is given in Table 6 and the historical summary is given in Table 7 of Appendix A.

TABLE 1
SUMMARIES OF ST. MARY RIVER DIVISION FOR 1994[1]
QUANTITIES IN CUBIC DECAMETRES

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	COMPUTED NATURAL FLOW	CANADA'S SHARE	RECEIVED BY CANADA	RECEIVED BY CANADA	
				ABOVE SHARE	BELOW SHARE
APR 1 - APR 15	17 314	12 985	13 667	682	
APR 16 - APR 30	51 159	31 648	39 690	8 042	
MAY 1 - MAY 15	68 726	40 470	46 845	6 375	
MAY 16 - MAY 31	101 770	57 402	66 815	9 413	
JUN 1 - JUN 15	81 710	46 964	53 653	6 689	
JUN 16 - JUN 30	65 723	38 972	42 071	3 099	
JUL 1 - JUL 15	45 490	28 854	29 180	326	
JUL 16 - JUL 31	34 194	23 611	23 607		4
AUG 1 - AUG 15	19 918	14 935	14 770		165
AUG 16 - AUG 31	13 064	9 798	9 816	18	
SEP 1 - SEP 15	8 176	6 130	6 549	419	
SEP 16 - SEP 30	8 648	6 486	10 020	3 534	
OCT 1 - OCT 15	8 686	6 514	6 852	338	
OCT 16 - OCT 31	9 879	7 408	7 324		84
TOTAL	534 457	332 177	370 859		

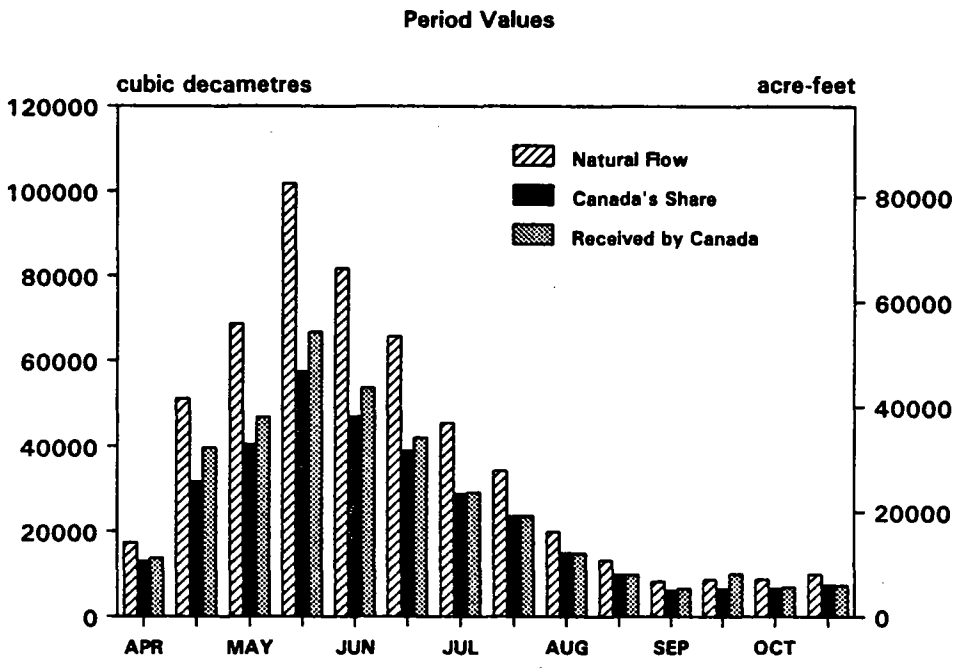
[1] This is a summary of data from Table 6, Appendix A.

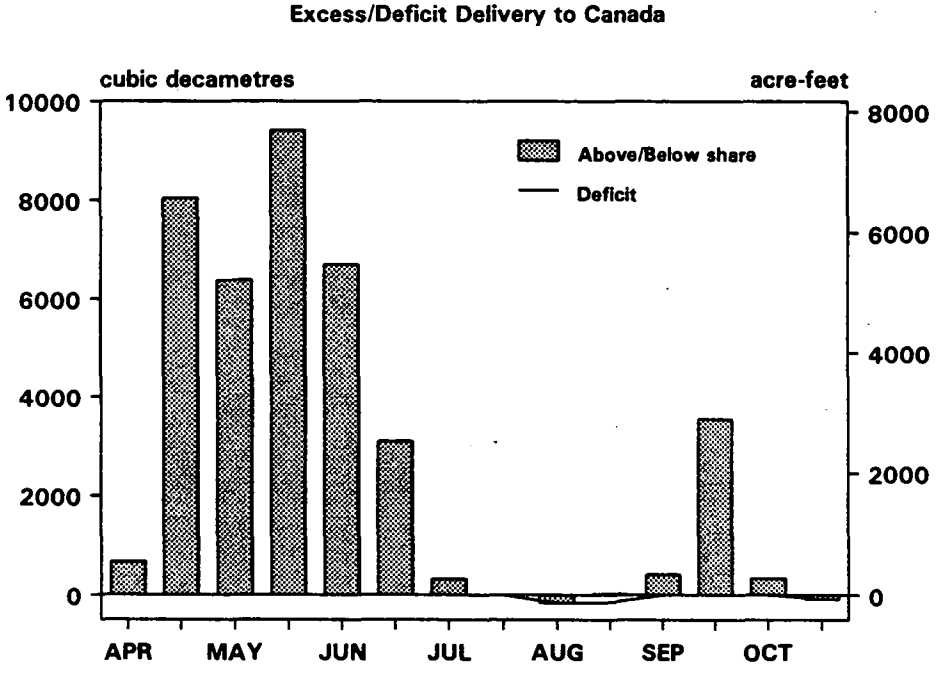
TABLE 1A
SUMMARIES OF ST. MARY RIVER DIVISION FOR 1994[1]
QUANTITIES IN ACRE-FEET

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	COMPUTED NATURAL FLOW	CANADA'S SHARE	RECEIVED BY CANADA	RECEIVED BY CANADA	
				ABOVE SHARE	BELOW SHARE
APR 1 - APR 15	14,036	10,527	11,080	553	
APR 16 - APR 30	41,475	25,657	32,177	6,520	
MAY 1 - MAY 15	55,716	32,809	37 ,977	5,168	
MAY 16 - MAY 31	82,505	46,536	54,167	7,631	
JUN 1 - JUN 15	66,242	38,074	43,496	5,423	
JUN 16 - JUN 30	53,282	31,595	34,107	2 ,512	
JUL 1 - JUL 15	36,879	23,392	23,656	264	
JUL 16 - JUL 31	27,721	19,141	19,138		3
AUG 1 - AUG 15	16,148	12,108	11,974		134
AUG 16 - AUG. 31	10,591	7,943	7,958	15	
SEP 1 - SEP 15	6,628	4,970	5,309	340	
SEP 16 - SEP 30	7,011	5,258	8,123	2,865	
OCT 1 - OCT 15	7,042	5,281	5,555	274	
OCT 16 - OCT 31	8,009	6,006	5,938		68
TOTAL	433,284	269,296	300,655		

[1] All values are conversions of data from Table 1. Totals and shares may not add or subtract exactly as a result of rounding.

FIGURE 1
ST.MARY RIVER DIVERSION, 1994





MILK RIVER

During the irrigation season, April 1 to October 31, the United States' share of the natural flow of the Milk River at the eastern crossing of the International Boundary, as stipulated by the 1921 Order, is three-fourths of the natural flow when that flow is 666 cubic feet per second (18.86 cubic meters per second) or less. Flows in excess of that quantity are divided equally between the United States and Canada. During the non-irrigation season, November 1 to March 31, the entire flow is divided equally between the two countries.

Prior to the mid 1970's, uses of the natural flow of the Milk River by Canada and the United States were assumed to be less than their respective shares and no formal apportionment was made. By 1977, it became apparent that the increasing numbers of sprinkler irrigation systems were capable of using all of the natural flow for long periods of time. Consequently, a more comprehensive natural flow computation and water division procedure was developed and has been used since 1985. The revised computation procedure includes an approximate accounting of irrigation consumptive uses in both countries, and the interbasin transfer of water in Canada. An additional refinement was made in 1988 when F. I. Morton's evapotranspiration model replaced the adjusted pan evaporation method in the natural flow computations. During 1994, the United States' and Canada's respective estimated consumptive uses were 5 050 dam^3 (4,090 acre-feet) and 5 160 dam^3 (4,180 acre-feet) respectively. An interbasin transfer of 6 340 dam^3 (5,140 acre-feet) from Verdigris Coulee near the Mouth (station 11AA038) was credited to the Canadian consumptive use.

The computed natural flow of the Milk River at the Eastern Crossing of the International Boundary from March 1 to October 31, 1994 was 188 000 dam^3 (152,000 acre-feet). This flow was 136 percent of the average computed natural flow of the previous 82 years of record. It is important to note, however, that natural flow computations prior to 1985 did not account for consumptive use. Consequently, natural flow values after 1985 are not directly comparable with natural flows of previous years. The respective shares of the United States and Canada were 115 000 dam^3 (93,200 acre-feet) and 72 600 dam^3 (58,900 acre-feet).

TABLE 2
SUMMARY OF MILK RIVER DIVISION FOR 1994[1]
QUANTITIES IN CUBIC DECAMETRES

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	COMPUTED NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 15	86 897	43 448	87 356	43 908	
MAR 16 - MAR 31	14 798	7 399	16 035	8 636	
APR 1 - APR 15	8 888	6 667	10 033	3 366	
APR 16 - APR 30	12 204	9 154	13 220	4 066	
MAY 1 - MAY 15	11 288	8 466	12 162	3 696	
MAY 16 - MAY 31	16 272	12 027	16 044	4 017	
JUN 1 - JUN 15	10 602	7 952	10 103	2 151	
JUN 16 - JUN 30	6 475	4 855	6 244	1 389	
JUL 1 - JUL 15	4409	3308	3 777	469	
JUL 16 - JUL 31	504	377	0		555
AUG 1 - AUG 15	630	474	175		299
AUG 16 - AUG 31	201	151	0		491
SEP 1 - SEP 15	1 948	1 463	1 600	137	
SEP 16 - SEP 30	2 979	2 234	2 989	755	
OCT 1 - OCT 15	4 288	3 217	4 308	1 091	
OCT 16 - OCT 31	5 589	4 193	5 624	1 431	
TOTAL	187 972	115 385	189 670		

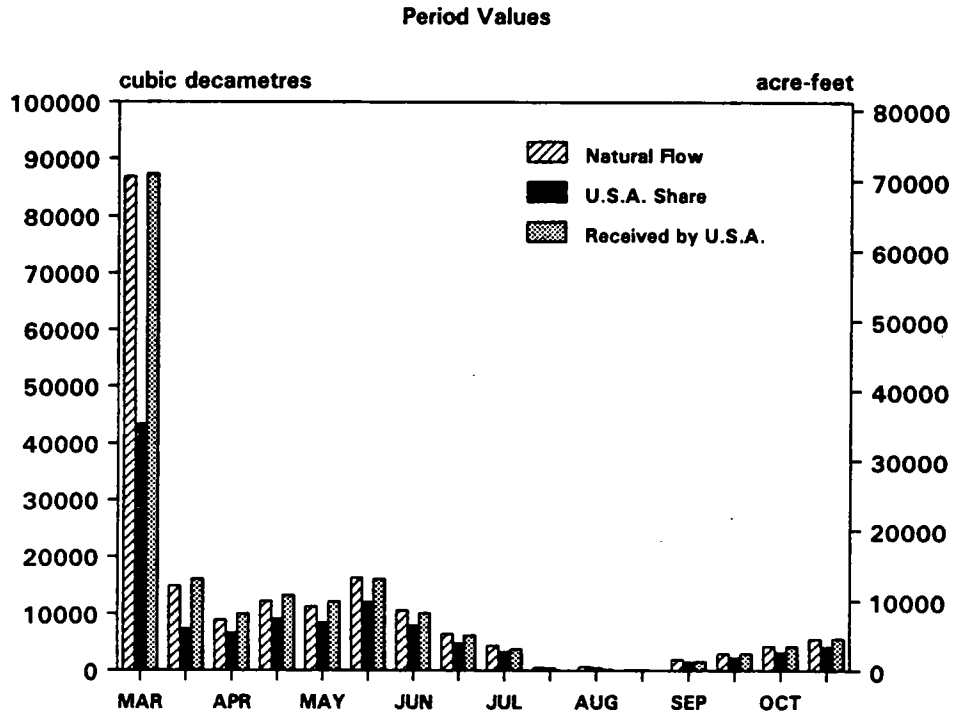
[1] This is a summary of data from Table 8, Appendix A.

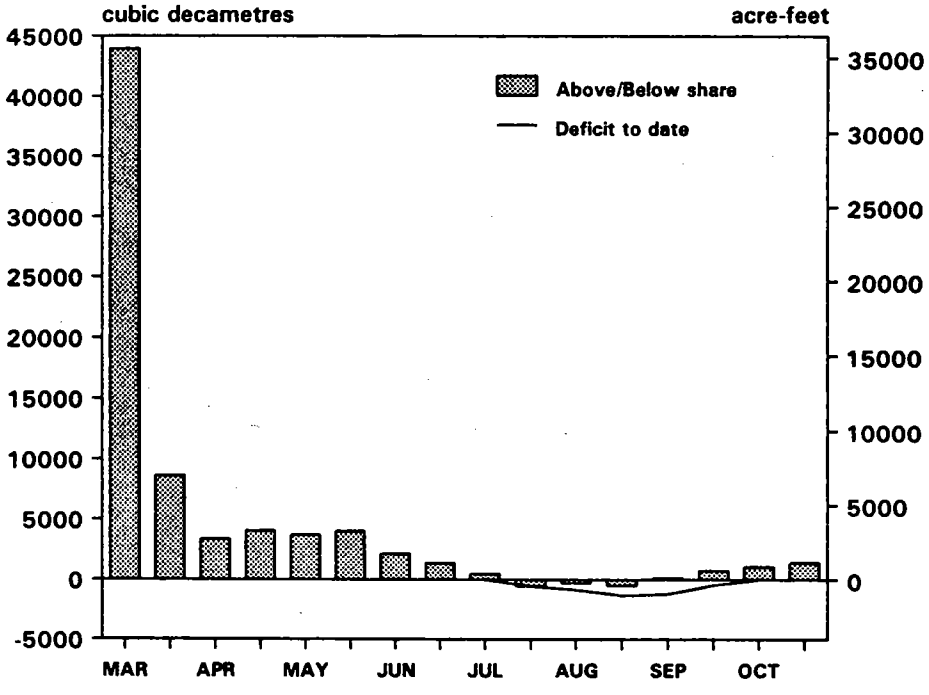
TABLE 2A
SUMMARY OF MILK RIVER DIVISION FOR 1994[1]
QUANTITIES IN ACRE-FEET

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	COMPUTED NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 15	70,447	35,223	70,820	35,596	
MAR 16 - MAR 31	11,997	5,998	13,000	7,001	
APR 1 - APR 15	7,206	5,405	8,134	2,729	
APR 16 - APR 30	9,894	7,421	10,717	3,296	
MAY 1 - MAY 15	9,151	6,863	9,860	2,996	
MAY 16 - MAY 31	13,192	9,750	13,007	3,257	
JUN 1 - JUN 15	8,595	6,447	8,191	1,744	
JUN 16 - JUN 30	5,249	3,936	5,062	1,126	
JUL 1 - JUL 15	3,574	2,682	3,062	380	
JUL 16 - JUL 31	409	306	0		450
AUG 1 - AUG 15	511	384	142		242
AUG 16 - AUG 31	163	122	0		398
SEP 1 - SEP 15	1,579	1,186	1,297	111	
SEP 16 - SEP 30	2,415	1,811	2,423	612	
OCT 1 - OCT 15	3,476	2,608	3,492	884	
OCT 16 - OCT 31	4,531	3,399	4,559	1,160	
TOTAL	152,389	93,543	153,765		

[1] All values are conversions of data from Table 2. Totals and shares may not add or subtract exactly as a result of rounding.

FIGURE 2
MILK RIVER DIVISION, 1994





SOUTHERN TRIBUTARIES OF THE MILK RIVER

Responding to concerns expressed by Canadian water users, the International Joint Commission at its executive session on December 8, 1986 agreed, in principle, that the issue of utilization of the southern tributaries should be addressed in an informal, pragmatic manner. The Commission instructed the Accredited Officers to proceed with discussions to resolve Canadian concerns. To assist them in implementing the Commission's instructions, the Accredited Officers established a four-member ad hoc task force comprised of officials from the State of Montana and the Province of Alberta water management agencies and the United States and Canadian field representatives for the St. Mary-Milk River Treaty.

The task force met with United States and Canadian water users, conducted public meetings, toured water-use projects, compiled information on water availability and use, investigated ground-water supplies, and considered various options for resolving issues. The task force determined that United States water users were reluctant to participate in options that might limit their use of water and jeopardize their water claims in future adjudication of water rights. They also determined that basic Canadian water user needs for domestic and stock-watering use were being satisfied with wells and dugouts. Solutions to water utilization problems were limited because cost of storage facilities, pumpage from the Milk River, and formal apportionment of southern tributary waters would not be cost effective.

In September, 1991, the Montana Department of Natural Resources and Conservation, in response to requests from the task force and others, issued an Order to close the southern tributaries to issuance of additional water permits.

The final report was forwarded to the International Joint Commission in May 10, 1994. At its Executive session on September 21, 1994 the Commission agreed that the task force should be terminated as recommended but requested that the Accredited Officers continue to monitor the situation and report annually or more frequently when appropriate, on such matters as complaints by Canadian ranchers and the Montana adjudication process. The Commission agreed not to act at this time on the three

recommendations related to the adjudication process. A copy of the report has been forwarded to both governments for their information.

Flows during 1994 for the Southern Tributaries were as follows:

- Breed Creek near International Boundary - 4440 dam^3 (3600 acre-feet)
- Bear Creek near International Boundary - 3630 dam^3 (2940 acre-feet)
- Miners Coulee near International Boundary - 2570 dam^3 (2080 acre-feet)

EASTERN TRIBUTARIES OF THE MILK RIVER

The waters of the eastern tributaries of the Milk River are divided in accordance with the 1921 Order of the International Joint Commission, which stipulates under Rule III that "The natural flow of the eastern (otherwise known as the Saskatchewan or northern) tributaries of the Milk River at the points where they cross the International Boundary shall be divided equally between the two countries." This order might well be interpreted as requiring that the division of water be made on a continuing basis, however, the physical limitation due to transit time in the flow system was recognized. Further analysis showed that the minimum practical time frame for compilation of the natural flows at the International Boundary was every 10 days. In 1994 the time frame was increased to bi-monthly. This change was made possible by using real-time stream flow stations in the area.

Prior to 1937, Canadian use along the eastern tributaries consisted of domestic projects, and the Canadian share of the natural flow was not fully used. In the late 1930s, the Government of Canada constructed three dams on the Frenchman River creating Eastend Reservoir (station 11AC055), Huff Lake (station 11AC063), and Newton Lake (station 11AC056) and subsequently an operational division of flow on this tributary became necessary by 1937. In 1938, dams were constructed at both ends of Cypress Lake (station 11AC037) near the Battle Creek-Frenchman River divide to allow interbasin storage and transfers of water. In the early 1950s the redevelopment of several private irrigation projects and the construction of the Vidora Irrigation Project resulted in increased use of Battle Creek water in Canada and made an operational division of flow on this tributary necessary by 1957. In 1960, construction of Altawan Reservoir (station 11AB089) and the Spangler Irrigation Project on Lodge Creek (station 11AB060) made an operational division of flow on this tributary necessary by 1961.

During the period March 1 to October 31, bi-monthly computations of the natural flow of Lodge Creek, Battle Creek and the Frenchman River are made to determine each country's share. If use by Canada is in excess of its share, then a delivery of an equivalent quantity of water is made to the United States at the earliest opportunity. When mutually agreed to, the United States or Canada may request that deficit deliveries be delayed to allow for more efficient use of the water.

Regular interim reports on the progress of the division of the natural flows of Lodge Creek, Battle Creek, and Frenchman River at the International Boundary are distributed to interested agencies during the irrigation season. Extra division periods may be added to account for significant usages beyond the October 31 ending date. Generally, no division of flow is made during the winter as flow and use are low and streamflow records are impractical to obtain.

Lyons Creek is monitored but does not have sufficient use in Canada at this time to warrant an operational division of flow. A total of 1 030 dam^3 was recorded on Lyons Creek in 1994.

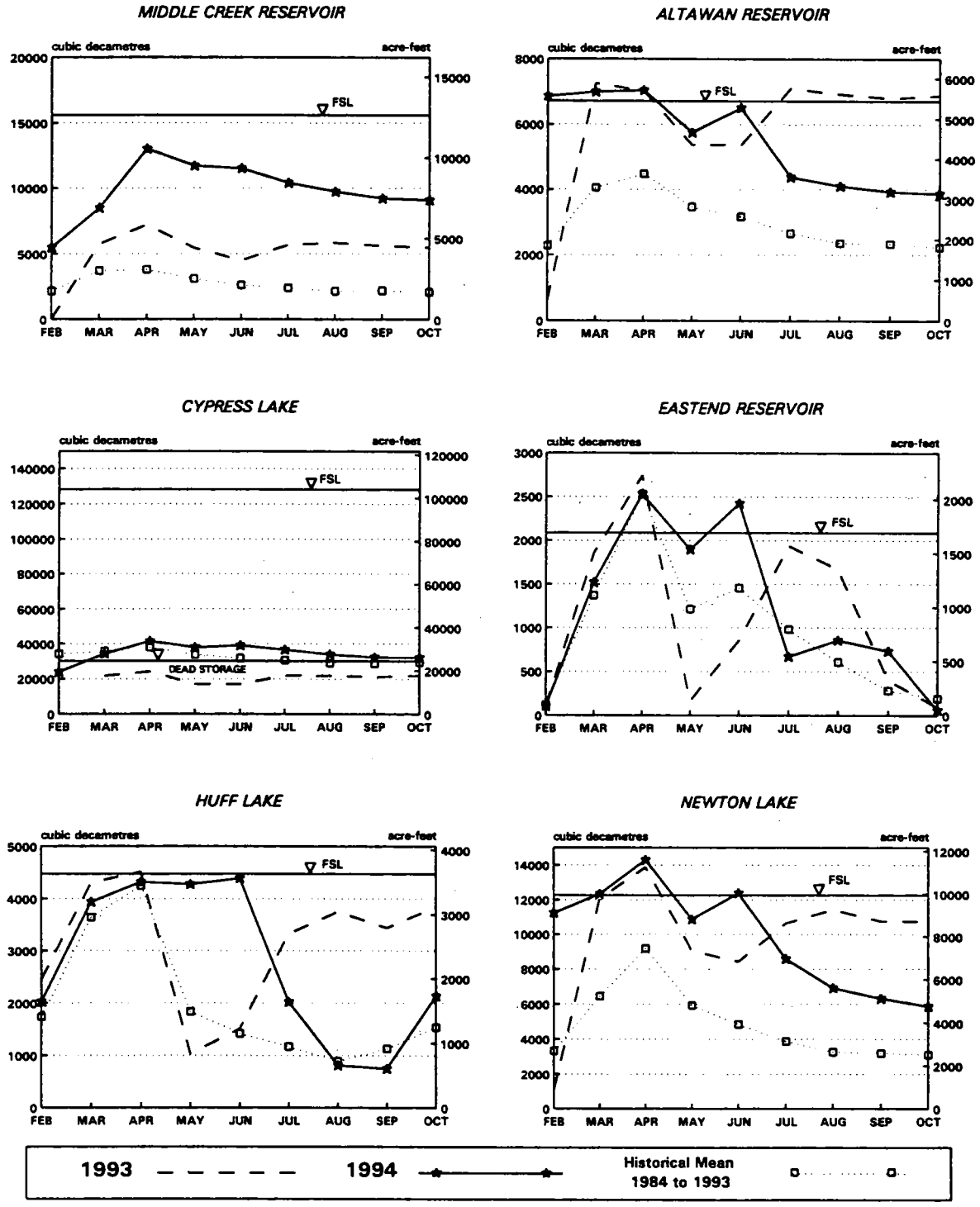
Volumes for unmeasured diversions to private irrigation projects in the Lodge Creek, Battle Creek, and Frenchman River basins in Saskatchewan were based on year-end reports provided by the Saskatchewan Water Corporation, and for the Lodge Creek and Battle Creek basins in Alberta, by Alberta Environmental Protection. These reports are compiled from reports received from operators of irrigation projects and from on-site inspections. An additional adjustment is made for domestic projects in the Battle Creek and Frenchman River basins based on the results of studies conducted by Canada on domestic use.

Concerning the interim reports prepared at the end of division periods, estimates of minor diversions were made based on a field conditions and historical usages. At mid-year and at year-end, estimates of minor diversions were updated based on usage reports received from Alberta Environmental Protection and the Saskatchewan Water Corporation. Consequently, some discrepancy exists between interim and final division computations. Lists of reported diversions are contained in Appendix B.

The more normal flows in 1993 and 1994 have substantially increased the volume of water stored in Cypress Lake. For the first time since 1989, lake levels have risen above the dead storage level of 30 000 dam^3 (24,300 acre-feet). At the end of October, 1994, the lake contained 32 100 dam^3 (26,000 acre-feet). This is an increase of 10 100 dam^3 (8,200 acre-feet) from February, 1993.

At the end of February, the combined usable storage of Middle Creek Reservoir, Altawan Reservoir, Eastend Reservoir, Huff Lake, and Newton Lake was 25 700 dam^3 (20,800 acre-feet), or 62 percent of the total usable storage of 41 100 dam^3 (33 300 acre-feet). By the end of April, runoff had increased the combined storage to the yearly maximum of 41 300 dam^3 (33,500 acre-feet) or 100 percent of the total usable storage. By the end of September, irrigation usage, evaporation, and releases from the reservoirs depleted the combined usable storage to 21 000 dam^3 (17,000 acre-feet) or 51 percent of the total live storage. Further details on storage in the major Canadian reservoirs are provided in Figure 3, and in Table 16 of Appendix B.

FIGURE 3
RESERVOIRS IN LODGE, BATTLE AND FRENCHMAN BASINS
MONTH END CONTENTS



LODGE CREEK

The computed natural flow of Lodge Creek at the International Boundary from March 1 to October 31, 1994, was 28 200 dam^3 (22,900 acre-feet). This represents 86 percent of the average natural flow of the last 44 years of record. Each country is entitled to 50 percent of the natural flow or 14 100 dam^3 (11,400 acre-feet). A total of 18 200 dam^3 (14,800 acre-feet) was recorded at Lodge Creek below McRae Creek at the International Boundary (station 11AB083), from March 1 to October 31.

Deficit deliveries were recorded in 5 of the 16 division periods during the season. No deficit remained at the end of October.

The division of the Lodge Creek natural flow is summarized in Tables 3 and 3A and Figure 4 which follow. The detailed computation of the natural flow is given in Table 10 and the historical summary is given in Table 11 of Appendix A.

TABLE 3
SUMMARY OF LODGE CREEK DIVISION FOR 1994[1]
QUANTITIES IN CUBIC DECAMETRES

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	COMPUTED NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 15	614	307	500	193	
MAR 16 - MAR 31	12 940	6 470	8 775	2 305	
APR 1 - APR 15	7 094	3 547	3 449		98
APR 16 - APR 30	5 313	2 657	3 818	1 161	
MAY 1 - MAY 15	826	413	841	428	
MAY 16 - MAY 31	407	203	137		66
JUNE 1 - JUNE 15	736	368	354		14
JUNE 16 - JUNE 30	250	125	4		121
JULY 1 - JULY 15	0	0	51	51	
JULY 16 - JULY 31	0	0	251	251	
AUG 1 - AUG 15	18	9	9		
AUG 16 - AUG 31	0	0	0		
SEP 1 - SEP 15	0	0	0		
SEP 16 - SEP 30	0	0	0		
OCT 1 - OCT 15	0	0	0		
OCT 16 - OCT 31	0	0	0		
TOTAL	28 197	14 098	18 190		

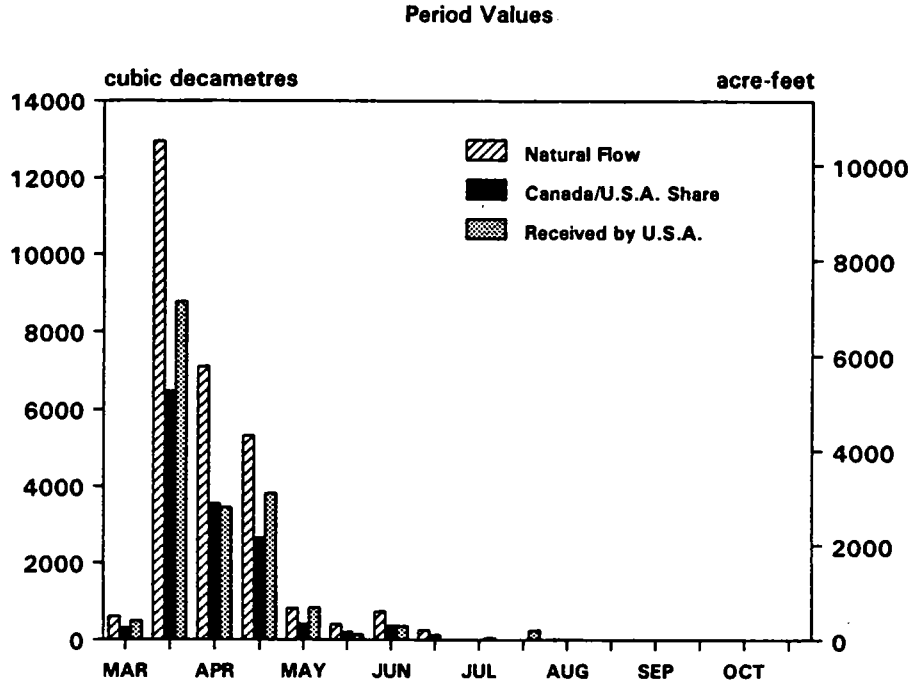
[1] This is a summary of data from Table 10, Appendix A. Totals and shares may not add or subtract exactly as a result of rounding.

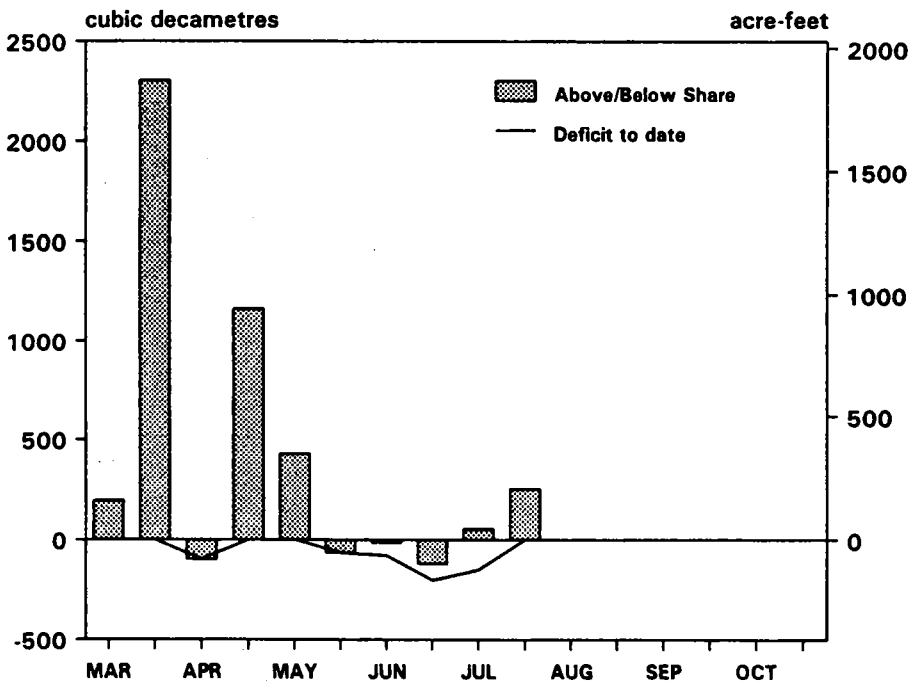
TABLE 3A
SUMMARY OF LODGE CREEK DIVISION FOR 1994[1]
QUANTITIES IN ACRE-FEET

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	COMPUTED NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 15	498	249	406	157	
MAR 16 - MAR 31	10 490	5 245	7 114	1869	
APR 1 - ARP 15	5 751	2 876	2 796		100
APR 16 - APR 30	4 307	2 154	3 095	941	
MAY 1 - MAY 15	669	335	682	347	
MAY 16 - MAY 31	330	165	111		54
JUNE 1 - JUNE 15	596	298	287		11
JUNE 16 - JUNE 30	203	101	3		98
JULY 1 - JULY 15	0	0	42	42	
JULY 16 - JULY 31	0	0	204	204	
AUG 1 - AUG 15	15	7	7		
AUG 16 - AUG 31	0	0	0		
SEP 1 - SEP 15	0	0	0		
SEP 16 - SEP 30	0	0	0		
OCT 1 - OCT 15	0	0	0		
OCT 16 - OCT 31	0	0	0		
TOTAL	22 859	11 429	14 747		

[1] All values are conversions of data from Table 3. Totals and shares may not add or subtract exactly as a result of rounding.

FIGURE 4
LODGE CREEK DIVISION, 1994





BATTLE CREEK

The computed natural flow of Battle Creek at the International Boundary from March 1 to October 31, 1994, was 34 400 dam^3 (27,900 acre-feet) or 112 percent of the average natural flow of the previous 54 years of record. Each country is entitled to 50 percent of the natural flow or 17 200 dam^3 (13,900 acre-feet). A total flow of 18 300 dam^3 (14,800 acre-feet) was recorded at Battle Creek at International Boundary (station 11AB027) during this period.

Apportionment on Battle Creek was extended beyond October 31, 1994 to account for water stored in Cypress Lake. In addition to the 16 regular apportionment divisions, a period from November 1 to November 30 was added to the calculations. To maintain consistency, flows during this period were not included in the totals reported. No deficit arose during this period.

Deficit deliveries were recorded in 7 of the 16 division periods during the season. No deficit remained at the end of October.

The division of the Battle Creek natural flow is summarized in Tables 4 and 4A and Figure 5 which follow. The detailed computation of the natural flow is given in Table 12 and the historical summary is given in Table 13 of Appendix A.

TABLE 4
SUMMARY OF BATTLE CREEK DIVISION FOR 1994[1]
QUANTITIES IN CUBIC DECAMETRES

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	COMPUTED NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 25	11 012	5 506	3 904		1 602
MAR 26 - APR 9	5 883	2 941	1 365		1 576
APR 10 - ARP 24	4 430	2 215	3 112	897	
APR 25 - MAY 9	3 181	1 590	2 551	961	
MAY 10 - MAY 25	2 626	1 313	1 509	196	
MAY 26 - JUN 9	1 861	930	1 845	915	
JUNE 10 - JUNE 24	1 954	977	1 347	370	
JUNE 25 - JULY 9	1 116	558	405		153
JULY 10 - JULY 25	505	253	505	252	
JULY 26 - AUG 9	243	122	243	121	
AUG 10 - AUG 25	193	96	193	97	
AUG 26 - SEP 9	101	50	101	51	
SEP 10 - SEP 24	179	90	179	89	
SEP 25 - OCT 9	253	127	253	126	
OCT 10 - OCT 25	656	328	565	237	
OCT 26 - OCT 31	237	118	182	64	
* NOV 1 - NOV 30	747	373	415	42	
TOTAL	34 429	17 215	18 258		

[1] This is a summary of data from Table 12, Appendix A. Totals and shares may not add or subtract exactly as a result of rounding.

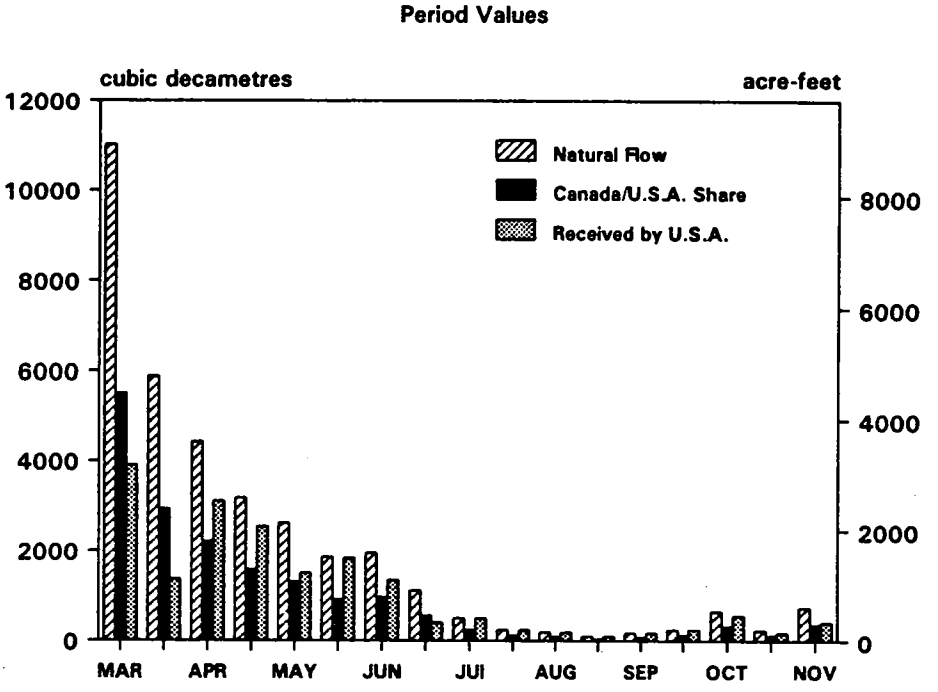
* Additional period to account for storage in Cypress Lake. Volumes not included in TOTAL.

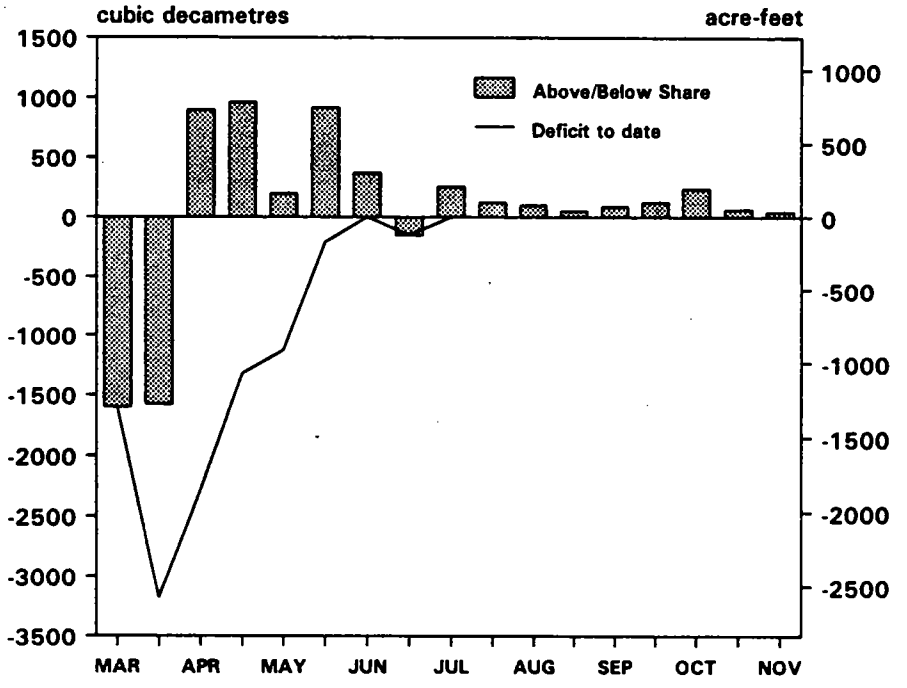
TABLE 4A
SUMMARY OF BATTLE CREEK DIVISION FOR 1994[1]
QUANTITIES IN ACRE-FEET

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	COMPUTED NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 25	8 927	4 464	3 165		1299
MAR 26 - APR 9	4 769	2 384	1 107		1278
APR 10 - ARP 24	3 592	1 796	2 523	727	
APR 25 - MAY 9	2 578	1 289	2 068	779	
MAY 10 - MAY 25	2 129	1 064	1 223	159	
MAY 26 - JUN 9	1 508	754	1 495	741	
JUNE 10 - JUNE 24	1 584	792	1 092	300	
JUNE 25 - JULY 9	905	452	329		124
JULY 10 - JULY 25	410	205	410	205	
JULY 26 - AUG 9	197	99	197	98	
AUG 10 - AUG 25	156	78	156	78	
AUG 26 - SEP 9	82	41	82	41	
SEP 10 - SEP 24	145	73	145	72	
SEP 25 - OCT 9	205	103	205	102	
OCT 10 - OCT 25	532	266	458	192	
OCT 26 - OCT 31	192	96	147	52	
* NOV 1 - NOV 30	606	302	336	34	
TOTAL	27 912	13 956	14 802		

[1] All values are conversions of data from Table 4. Totals and shares may not add or subtract exactly as a result of rounding.
* Additional period to account for storage in Cypress Lake. Volumes not included in TOTAL.

FIGURE 5
BATTLE CREEK DIVISION, 1994





FRENCHMAN RIVER

The computed natural flow of the Frenchman River at the International Boundary from March 1 to October 31, 1994, was 97 900 dam^3 (79,300 acre-feet) or 123 percent of the average natural flow of the previous 54 years of record. Each country is entitled to 50 percent of the natural flow or 48 950 dam^3 (39,700 acre-feet). A total flow of 76,400 dam^3 (61,900 acre-feet) was recorded at Frenchman River at International Boundary (station 11AC041) from March 1 to October 31.

Deficit deliveries were recorded in 7 of the 16 division periods during the season. A deficit of 274 dam^3 (222 acre-feet) remained at the end of October. A delivery of 130 dam^3 (105 acre-feet) was made to the United States between November 1 and November 10 in a late release that reached the International Boundary after the apportionment season ended.

The division of the Frenchman River natural flow is summarized in Tables 5 and 5A and Figure 6 which follow. The detailed computation of the natural flow is given in Table 14 and the historical summary is given in Table 15 of Appendix A.

TABLE 5
SUMMARY OF FRENCHMAN RIVER DIVISION FOR 1994[1]
QUANTITIES IN CUBIC DECAMETRES

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	COMPUTED NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 15	9 115	4 558	4 217		341
MAR 16 - MAR 31	45 146	22 573	43 649	21 076	
APR 1 - ARP 15	12 894	6 447	9 307	2 860	
APR 16 - APR 30	8 652	4 326	5 077	751	
MAY 1 - MAY 15	4 418	2 209	2 025		184
MAY 16 - MAY 31	4 312	2 156	1 893		263
JUNE 1 - JUNE 15	7 839	3 920	5 306	1 386	
JUNE 16 - JUNE 30	3 186	1 593	2 957	1 364	
JULY 1 - JULY 15	550	275	320	45	
JULY 16 - JULY 31	180	90	702	612	
AUG 1 - AUG 15	770	385	744	359	
AUG 16 - AUG 31	172	86	84		2
SEP 1 - SEP 15	-120	-60	27	87	
SEP 16 - SEP 30	56	28	6		22
OCT 1 - OCT 15	141	70	11		59
OCT 16 - OCT 31	547	273	80		193
TOTAL	97 859	48 930	76 405		

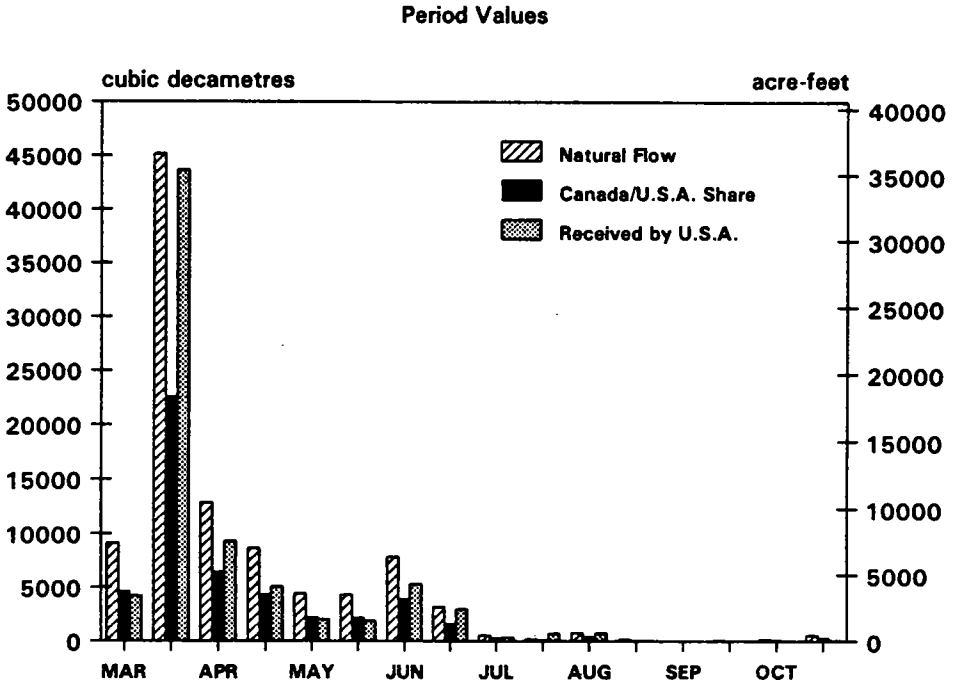
[1] This is a summary of data from Table 14, Appendix A. Totals and shares may not add or subtract exactly as a result of rounding.

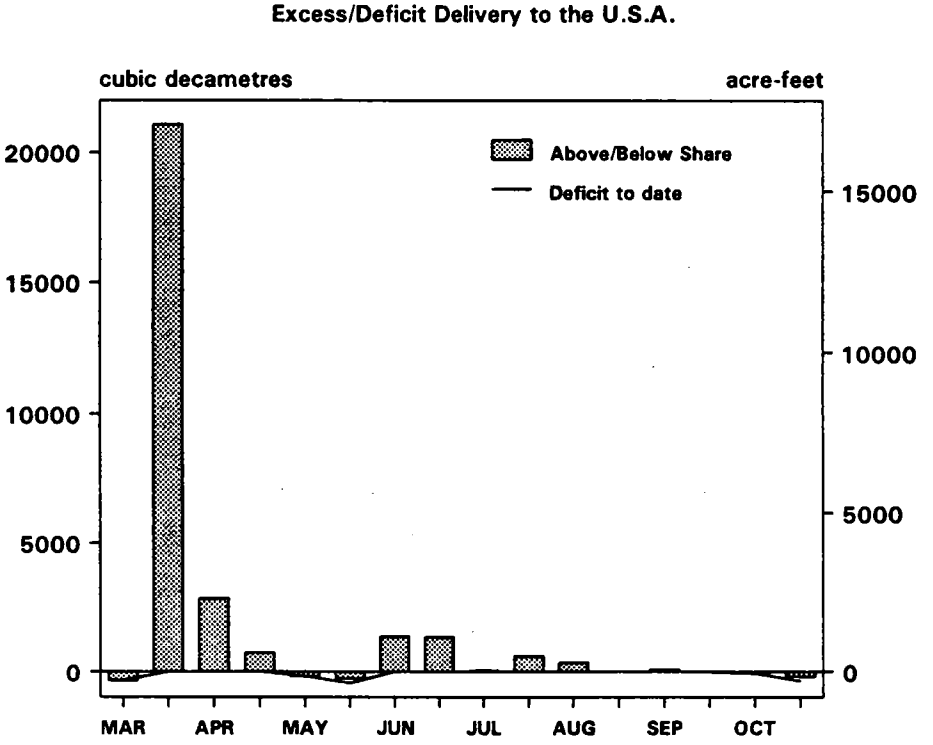
TABLE 5A
SUMMARY OF FRENCHMAN RIVER DIVISION FOR 1994[1]
QUANTITIES IN ACRE-FEET

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	COMPUTED NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 15	7 390	3 695	3 419		276
MAR 16 - MAR 31	36 600	18 300	35 387	17 087	
APR 1 - ARP 15	10 453	5 227	7 545	2 319	
APR 16 - APR 30	7 014	3 507	4 116	609	
MAY 1 - MAY 15	3 581	1 791	1 642		149
MAY 16 - MAY 31	3 495	1 748	1 534		214
JUNE 1 - JUNE 15	6 355	3 178	4 301	1 123	
JUNE 16 - JUNE 30	2 583	1 291	2 397	1 106	
JULY 1 - JULY 15	446	223	260	37	
JULY 16 - JULY 31	146	73	569	496	
AUG 1 - AUG 15	624	312	603	291	
AUG 16 - AUG 31	139	70	68		2
SEP 1 - SEP 15	-97	-49	22	70	
SEP 16 - SEP 30	45	23	5		18
OCT 1 - OCT 15	114	57	9		47
OCT 16 - OCT 31	443	221	65		157
TOTAL	79 334	39 667	61 941		

[1] All values are conversions of data from Table 5. Totals and shares may not add or subtract exactly as a result of rounding.

FIGURE 6
FRENCHMAN RIVER DIVISION, 1994





ANNEX A

TREATY BETWEEN THE UNITED STATES AND GREAT BRITAIN RELATING TO BOUNDARY WATERS, AND QUESTIONS ARISING BETWEEN THE UNITED STATES AND CANADA - ARTICLE VI

INTERNATIONAL JOINT COMMISSION 1921 ORDER

TREATY
BETWEEN THE UNITED STATES AND GREAT BRITAIN RELATING TO BOUNDARY WATERS, AND QUESTIONS ARISING BETWEEN THE UNITED STATES AND CANADA

ARTICLE VI

The High Contracting Parties agree that the St. Mary and Milk rivers and their tributaries (in the State of Montana and the Provinces of Alberta and Saskatchewan) are to be treated as one stream for the purposes of irrigation and power, and the waters thereof shall be apportioned equally between the two countries, but in making such equal apportionment more than half may be taken from one river and less than half from the other by either country so as to afford a more beneficial use to each. It is further agreed that in the division of such waters during the irrigation season, between the 1st of April and 31st of October, inclusive, annually, the United States is entitled to a prior appropriation of 500 cubic feet per second of the waters of the Milk River, or so much of such amount as constitutes three-fourths of its natural flow, and that Canada is entitled to a prior appropriation of 500 cubic feet per second of the flow of St. Mary River, or so much of such amount as constitutes three-fourths of its natural flow.

The Channel of the Milk River in Canada may be used at the convenience of the United States for the conveyance, while passing through Canadian territory, of waters diverted from the St. Mary River. The provisions of Article II of this treaty shall apply to any injury resulting to property in Canada from the conveyance of such waters through the Milk River.

The measurement and apportionment of the water to be used by each country shall from time to time be made jointly by the properly constituted reclamation officers of the United States and the properly constituted irrigation officers of His Majesty under the direction of the International Joint Commission.

INTERNATIONAL JOINT COMMISSION

ORDER

IN THE MATTER OF THE MEASUREMENT AND APPORTIONMENT OF THE WATERS OF THE ST. MARY AND MILK RIVERS AND THEIR TRIBUTARIES IN THE STATE OF MONTANA AND THE PROVINCES OF ALBERTA AND SASKATCHEWAN.

Whereas by Article VI of the Treaty entered into between the United States of America and His Majesty, the King of the United Kingdom Great Britain and Ireland and of the British Dominions beyond the Seas, Emperor of India, signed at Washington on the 11th of January, 1909;

And whereas, the said Reclamation and Irrigation Officers have been unable to agree as to the manner in which the waters mentioned in the said Article VI should be measured and apportioned;

And whereas, before giving directions as to the measurement and apportionment of the said waters, the International Joint Commission deemed it proper to hear such representations and suggestions thereon as the Governments of the United States and Canada, the Provinces of Alberta and Saskatchewan, and the State of Montana, and as corporations and persons interested might see fit to make, and for such purposes sittings of the Commission were held at the following times and places: At the city of St. Paul, in the State of Minnesota, on the 24th, 25th, 26th, 27th, and 28th days of May, 1915; at the city of Detroit, in the State of Michigan, on the 15th, 16th, and 17th days of May, 1917; at the city of Ottawa, in the Province of Ontario, on the 3rd, 4th, and 5th days of May, 1920; at the village of Chinook, in the State of Montana, on the 15th day of September, 1921; and at the city of Lethbridge, in the Province of Alberta, on the 17th day of September, 1921, when counsel and representatives of the said Governments, corporations, and persons appeared and presented their views;

And whereas, pending final decision as to the proper method of measuring and apportioning said waters, interim orders with reference thereto have been made by the

International Joint Commission from time to time, the last of such orders bearing the date of 5th day of April, 1921;

And whereas the members of the International Joint Commission have unanimously determined that the said Reclamation and Irrigation Officers should be guided in the measurement and apportionment of said waters by the directions and instructions hereinafter set forth;

IT IS THEREFORE ORDERED AND DIRECTED by the Commission in pursuance of the powers conferred by the said Article VI of the said Treaty that the Reclamation and Irrigation Officers of the United States and Canada shall, until this order is varied, modified, or withdrawn by the Commission, make jointly the measurement and apportionment of the water to be used by the United States and Canada in accordance with the following rules:

St. Mary River

I. (a) During the irrigation season when the natural flow of the St. Mary River at the point where it crosses the international boundary is six hundred and sixty-six (666) cubic feet per second or less Canada shall be entitled to three-fourths and the United States to one-fourth of such flow.

(b) During the irrigation season when the natural flow of the St. Mary River at the point where it crosses the international boundary is more then six hundred and sixty-six (666) cubic feet per second Canada shall be entitled to a prior appropriation of five hundred (500) cubic feet per second, and the excess over six hundred and sixty-six (666) cubic feet per second shall be divided equally between the two countries.

(c) During the non-irrigation season the natural flow of the St. Mary River at the point where it crosses the international boundary shall be divided equally between the two countries.

Milk River

II. (a) During the irrigation season when the natural flow of the Milk River at the point where it crosses the international boundary for the last time (commonly and hereafter called the Eastern Crossing) is six hundred and sixty-six (666) cubic feet per second or less, the United States shall be entitled to three-fourths and Canada to one-fourth of such natural flow.

(b) During the irrigation season when the natural flow of the Milk River at the Eastern Crossing is more then six hundred and sixty-six (666) cubic feet per second the United States shall be entitled to a prior appropriation of five hundred (500) cubic feet per second and the excess over six hundred and sixty-six (666) cubic feet per second shall be divided equally between the two countries.

(c) During the non-irrigation season the natural flow of the Milk River at the Eastern Crossing shall be divided equally between the two countries.

Eastern Tributaries of Milk River

III. The natural flow of the eastern (otherwise known as the Saskatchewan or northern) tributaries of the Milk River at the points where they cross the international boundary shall be divided equally between the two countries.

Waters not naturally crossing the boundary

IV. Each country shall be apportioned such waters of the said rivers and of any tributaries thereof as rise in that country but do not naturally flow across the international boundary.

V. For the purpose of carrying out the apportionment directed in Paragraphs I, II, and III hereof the said Reclamation and Irrigation Officers shall jointly take steps:

(a) To ascertain and keep daily record of the natural flow of the St. Mary River at the international boundary, of the Milk River at the Eastern Crossing, and of the eastern tributaries of the Milk River at the international boundary by measurement in each case:

(1) At the gauging station at the international boundary;

(2) At all places where any of the waters which would naturally flow across the international boundary at that particular point are diverted in either country prior to such crossing;

(3) At all places where any of the waters which would naturally flow across the international boundary at that particular point are stored, or the natural flow thereof increased or decreased prior to such crossing.

(b) To fix the amount of water to which each country is entitled in each case by applying the directions contained in paragraphs 1, 2, and 3 hereof to the total amount of the natural flow so ascertained in each case.

(c) To communicate the amount so fixed to all parties interested, so that the apportionment of the said waters may be fully carried out by both countries in accordance with the said directions.

VI. Each country may receive its share of the said waters as so fixed at such point or points as it may desire. A gauging station shall be established and maintained by the Reclamation or Irrigation Officers of the country in which any diversion, storage, increase or decrease of the natural flow shall be made at every point where such diversion, storage, increase, or decrease takes place.

VII. International gauging stations shall be maintained at the following points:

St. Mary River near international boundary; the north branch of Milk River near international boundary; the south branch of Milk River near international boundary; Milk River at Eastern Crossing; Lodge Creek, Battle Creek, and Frenchman River, near

international boundary; and gauging stations shall be established and maintained at such other points as the Commission may from time to time approve.

VIII. The said Reclamation and Irrigation Officers are hereby further authorized and directed:

(a) To make such additional measurements and to take such further and other steps as may be necessary or advisable in order to insure the apportionment of the said waters in accordance with the directions herein set forth.

(b) To operate the irrigation works of either country in such a manner as to facilitate the use by the other country of its share of the said waters and subject hereto to secure to the two countries the greatest beneficial use thereof.

(c) To report to the Commission the measurements made at all international and other gauging stations established pursuant to this order.

IX. In the event of any disagreement in respect to any matter or thing to be done under this order the said Reclamation and Irrigation Officers shall report to the Commission, setting forth fully the points of difference and the facts relating thereto.

X. The said order of the Commission, dated the 6th day of April 1921, is hereby withdrawn, except with respect to the report to be furnished to the Commission thereunder.

Dated at Ottawa, Canada, this 4th day of October, 1921.

O. GARDNER,
C.A. MACGRATH,
C.D. CLARK,
HENRY A. POWELL,
W.H. HEARST,
MARK A. SMITH.

ANNEX B

International System of Units

(SI) Conversions

WRB - USGS

INCH-POUND TO INTERNATIONAL SYSTEM OF UNITS (SI) CONVERSION

Since 1975, the Report to the International Joint Commission on the Division of the Waters of the St. Mary and Milk rivers has used dual units (SI and inch-pound).

The two inch-pound units that were used in previous reports were cfs-days and acre-feet.

1 cfs-day = 86,400 cubic feet
1 acre-foot = 43,560 cubic feet
1 cfs-day = 1.9835 acre-feet

The SI unit replacing the inch-pound units is the cubic decametre (dam^3).

1 dam^3 = 1 000 cubic metres
1 cubic metre = 35.315 cubic feet
1 dam^3 = 35,315 cubic feet
1 acre-foot = 1.2335 dam^3
1 cfs-day = 2.4466 dam^3
1 dam^3 = 0.8107 acre-feet

ANNEX C

List of Gauging Stations

INTERNATIONAL GAUGING STATIONS OPERATED JOINTLY BY THE UNITED STATES AND CANADA ST. MARY AND MILK RIVER DRAINAGE BASINS 1994

Map Index	Station Name
	ST. MARY RIVER BASIN
05AE027	St. Mary River at International Boundary
05AE029	St. Mary Canal at St. Mary Crossing near Babb, Montana
05AE033	Swiftcurrent Creek at Sherburne, Montana
05AE036	Lake Sherburne at Sherburne, Montana
	MILK RIVER BASIN
11AA001	North Milk River near International Boundary
11AA005	Milk River at Milk River, Alberta
11AA025	Milk River at Western Crossing of International Boundary
11AA031	Milk River at Eastern Crossing of International Boundary
11AA032	N. Fork Milk River above St. Mary Canal near Browning, Montana.
11AA033	South Fork Milk River near Babb, Montana
11AA038	Verdigris Coulee near the Mouth
	LODGE CREEK TRIBUTARY BASIN
11AB008	Middle Creek above Lodge Creek
11AB001	Middle Creek below Middle Creek Reservoir
11AB108	Middle Creek near Govenlock
11AB009	Middle Creek near Saskatchewan Boundary
11AB060	Spangler Ditch near Govenlock
11AB080	Middle Creek Reservoir
11AB083	Lodge Creek below McRae Creek at International Boundary
11AB089	Altawan Reservoir near Govenlock

BATTLE CREEK TRIBUTARY BASIN

11AB018	Nashlyn Canal near Consul
11AB027	Battle Creek at International Boundary
11AB044	McKinnon Ditch near Consul
11AB058	Richardson Ditch near Consul
11AB075	Lyons Creek at International Boundary
11AB077	Cypress Lake West Outflow Canal
11AB078	Cypress Lake West Inflow Canal
11AB084	Vidora Ditch near Consul
11AB085	Cypress Lake West Inflow Canal Drain
11AB102	Gaff Ditch near Merryflat

FRENCHMAN RIVER TRIBUTARY BASIN

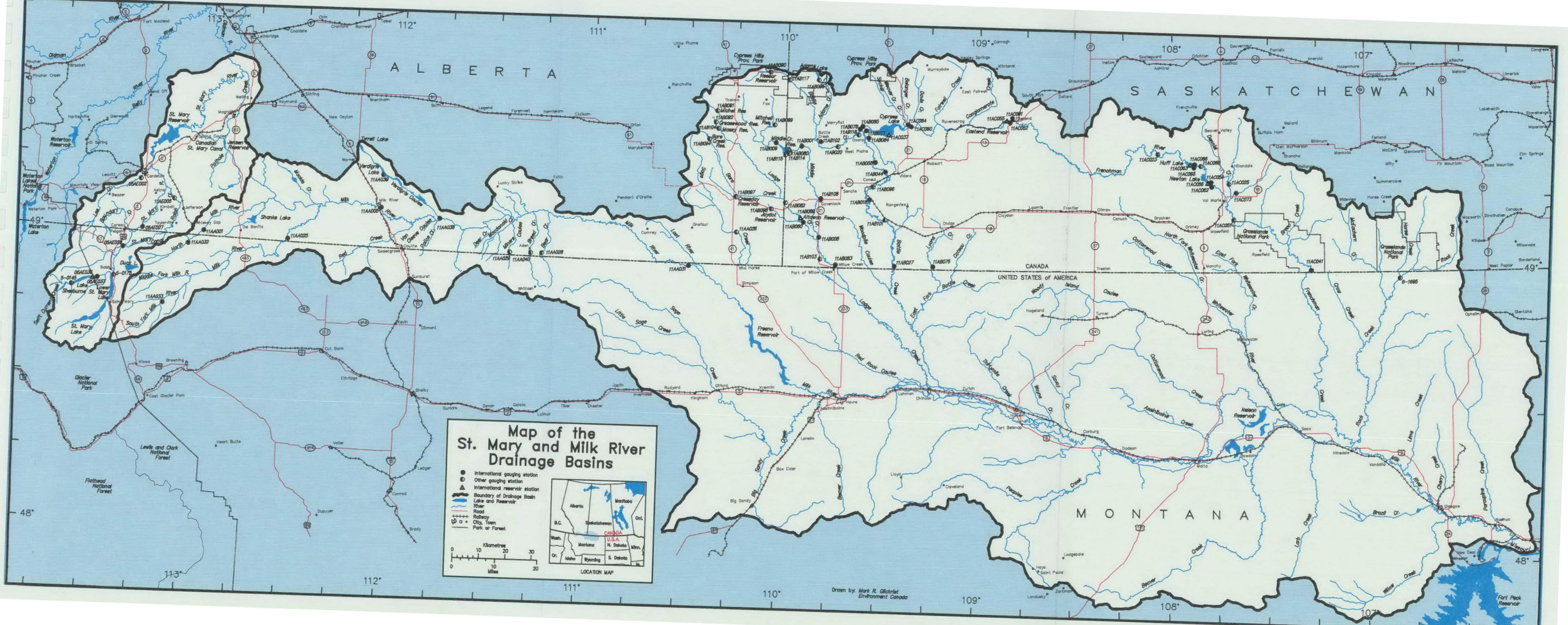
11AC037	Cypress Lake
11AC041	Frenchman River at International Boundary
11AC052	Eastend Canal near Eastend
11AC054	Newton Lake Main Canal
11AC055	Eastend Reservoir
11AC056	Newton Lake
11AC060	Cypress Lake East Outflow Canal
11AC062	Frenchman River below Newton Lake
11AC063	Huff Lake
11AC064	Belanger Creek Diversion to Cypress Lake
11AC065	Huff Lake Gravity Canal
11AC066	Huff Lake Pumping Canal

GAUGING STATIONS OPERATED INDEPENDENTLY BY EITHER THE UNITED STATES OR CANADA IN THE ST. MARY AND MILK RIVER DRAINAGE BASINS 1994

* Data of these stations are not included in this report or appendices

Map Index	Station Name	Operated by
	ST. MARY RIVER BASIN	
5-0145*	Swiftcurrent Creek at Many Glacier, Montana	U.S.A.
5-0175*	St. Mary River near Babb, Montana	U.S.A.
	MILK RIVER BASIN	
11AA028*	Bear Creek near International Boundary	Canada
11AA029*	Miners Coulee near International Boundary	Canada
11AA040*	Breed Creek near International Boundary	Canada
	LODGE CREEK TRIBUTARY BASIN	
11AB082*	Lodge Creek at Alberta Boundary	Canada
11AB091	Michel Reservoir near Elkwater	Canada
11AB092	Greasewood Reservoir near Elkwater	Canada
11AB094	Bare Creek Reservoir near Elkwater	Canada
11AB097	Cressday Reservoir near Cressday	Canada
11AB098	Jaydot Reservoir near Jaydot	Canada
11AB099	Mitchell Reservoir near Elkwater	Canada
11AB103	Squaw Coulee near Willow Creek	Canada
11AB104	Massy Reservoir near Elkwater	Canada
11AB114	Middle Creek Reservoir Bedford Outlet	Canada
11AB115	Middle Creek Reservoir Flood Spillway	Canada

	BATTLE CREEK TRIBUTARY BASIN	
11AB020*	Shepherd Ditch near Consul	Canada
11AB090	Reesor Reservoir near Elkwater	Canada
11AB095*	Adams Lake	Canada
11AB096*	Battle Creek near Consul	Canada
11AB101*	Battle Creek below Nashlyn Project	Canada
11AB117*	Battle Creek at Alberta Boundary	Canada
11AB118*	Battle Creek below Wilson's Weir	Canada
	FRENCHMAN RIVER TRIBUTARY BASIN	
11AC001*	Frenchman River Below Eastend Reservoir	Canada
11AC025*	Denniel Creek near Val Marie	Canada
11AC068*	Val Marie Pump No. 1	Canada
	ROCK CREEK TRIBUTARY BASIN	
6-1695*	Rock Creek below Horse Creek near International Boundary	U.S.A.



Map of the St. Mary and Milk River Drainage Basins
International gauging station
Other gauging station
International reservoir station
Boundary of Drainage Basin
Lake and Reservoir
River
Road
Railway
City, Town
Park or Forest
Kilometres
0
10
20
30
Miles
LOCATION MAP
Alberta
Manitoba
B.C.
Saskatchewan
Ont.
CANADA
U.S.A.
Wash.
Montana
N. Dakota
Minn.
Or.
Idaho
Wyoming
S. Dakota
ALBERTA
SASKATCHEWAN
MONTANA
CANADA
UNITED STATES of AMERICA
Waterton Lakes National Park
Glacier National Park
Lewis and Clark National Forest
Flathead National Forest
Cypress Hills Prov. Park
Grasslands National Park
St. Mary Reservoir
Fresno Reservoir
Nelson Reservoir
Fort Peck Reservoir
Lethbridge
Havre
Malta
Glasgow
Shelby
Chinook
Saco
Drawn by: Mark R. Gilchrist
Environment Canada

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1994

Report to the International Joint Commission on the division and use of the waters of the St. Mary and Milk Rivers...