



Report to

THE INTERNATIONAL JOINT COMMISSION

On

THE DIVISION OF THE WATERS OF

THE ST. MARY AND MILK RIVERS

FOR THE YEAR 2020

Cover Photo:

Newly constructed St. Mary Canal Drop #5, Montana

Photograph by Milk River Joint Board of Control Staff, October 10, 2020

REPORT TO
THE INTERNATIONAL JOINT COMMISSION
ON
THE DIVISION OF THE WATERS OF
THE ST. MARY AND MILK RIVERS
FOR THE YEAR 2020

Submitted By

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Representing Canada

And

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Representing the United States

April 1, 2022

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 ending October 31, 2020.

Respectfully submitted,



Dr. Alain Pietroniro
Accredited Officer of Her Majesty

Mr. John M. Kilpatrick
Accredited Officer of the United States

SYNOPSIS

The natural flow of the St. Mary River at the International Boundary during the irrigation season, April 1 to October 31, 2020, was 753 900 cubic decameters (dam³) (611,200 acre-feet). This was 106% of the long-term average. Under the terms of the Boundary Waters Treaty, the Canadian allotment was 441 800 dam³ (358,200 acre-feet). The total flow recorded at the International Boundary during the irrigation season was 159% of the Canadian allotment.

On May 17, 2020 Drop Structure 5 on the St. Mary Canal failed and the canal was shut down. It was determined by the stakeholders that the structure would be replaced during the summer and fall of 2020. A joint effort was made by all parties involved to plan and execute the replacements. The canal was returned into service on October 8, 2020.

The natural flow of the Milk River at the Eastern Crossing of the International Boundary during the irrigation season, March 1 to October 31, 2020, was 93 350 dam³ (75,680 acre-feet). This was 69% of the long-term average. Under terms of the Treaty, the United States' allotment was 66 590 dam³ (53,980 acre-feet). The United States received 136% of its allotment at Eastern Crossing, in addition to its share of St. Mary River water diverted into the Milk River through the St. Mary Canal.

Due to the canal failure and the limited prospect for Milk River natural flows during August and September, the Accredited Officers issued a decision that irrigation on the Milk River cease by midnight on July 24, 2020.

The March to October natural flows of the three apportioned tributaries of the Milk River were 191% of the long-term average for Lodge Creek at the International Boundary, 169% for Battle Creek at the International Boundary, and 137% for Frenchman River at the International Boundary. The total flow recorded at the International Boundary during the irrigation season for Lodge Creek, Battle Creek, and Frenchman River was 144%, 141%, and 172%, respectively, of the United States allotment.

The global COVID-19 pandemic, border closure, and local travel restrictions disrupted data collection by the United States Geological Survey and Environment and Climate Change Canada. These challenges were overcome through cooperation and communication throughout the 2020 field season.

The annual meeting of the Field Representatives was held virtually due to the COVID-19 pandemic, on February 11, 2021. Mutual issues, gauge network operations, natural flow records

and technical work projects were discussed and a schedule of field operations for 2021 was adopted.

TABLE OF CONTENTS

SYNOPSIS	i
INTRODUCTION	5
BASIN OVERVIEW.....	7
ST. MARY RIVER.....	10
MILK RIVER	15
SOUTHERN TRIBUTARIES OF THE MILK RIVER.....	21
EASTERN TRIBUTARIES OF THE MILK RIVER.....	22
LODGE CREEK	30
BATTLE CREEK	34
FRENCHMAN RIVER.....	38

LIST OF TABLES

Table 1: Summary of St. Mary River Division for 2020	12
Table 2: Summary of Milk River Division for 2020	18
Table 3: Summary of Lodge Creek Division for 2020.....	31
Table 4: Summary of Battle Creek Division for 2020	35
Table 5: Summary of Frenchman River Division for 2020	39

TABLE OF CONTENTS (CONTINUED)

LIST OF FIGURES

Figure 1.	St. Mary River Division for 2020	14
Figure 2.	Milk River Division for 2020	20
Figure 3.	Reservoirs in Lodge Creek, Battle Creek, and Frenchman River Basins Month-End Contents: 2019, 2020, and 2010-2019 Mean	25
Figure 4.	Lodge Creek Division for 2020	33
Figure 5.	Battle Creek Division for 2020	37
Figure 6.	Frenchman River Division for 2020	41

LIST OF ANNEXES

A.	1921 Order of the International Joint Commission Respecting the St. Mary-Milk Rivers	42
B.	Letter of Intent to Better Utilize the Waters of the St. Mary and Milk Rivers	48
C.	Letter of Intent to Better Utilize the Waters of the Eastern Tributaries of the Milk River	52
D.	Conversion Factors	57
E.	List of Gauging Stations	59

MAP

	Map of St. Mary and Milk River Drainage Basins	62
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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. In addition, two letters of intent were mutually agreed upon by the Accredited Officers: the 2001 Letter of Intent to Better Utilize the Waters of the St. Mary and Milk Rivers, and the 2007 Letter of Intent to Better Utilize the Waters of the Eastern Tributaries of the Milk River. These are contained in Annexes B and C, respectively.

To comply with this Treaty, staff of the United States Geological Survey and Environment and Climate Change Canada, National Hydrological Services-Water Survey of Canada (NHS-WSC) collected, compiled, verified, and tabulated hydrometric data at 35 international gauging stations on a cooperative basis, under the direction of the Field Representatives of the United States and Canada. An additional 72 gauging stations were operated independently by the United States and Canada in the St. Mary and Milk River basins. Several of these stations were operated to obtain data on diversions, reservoir contents, return flows and index runoff which was used to improve the accuracy of natural flow computations.

This report summarizes the year 2020 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 in this report. Detailed natural flow computations are included in Appendix A. Daily discharge and other related data are included in Appendix B.

In accordance with the International System of Units (SI) conversion schedule adopted 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 conversion factors. A summary of the conversion factors is contained in Annex D.

Dr. Alain Pietroniro, the Accredited Officer of Her Majesty, was represented in the field by Mr. Malcolm Conly. Mr. John M. Kilpatrick, the Accredited Officer of the United States, was represented in the field by Ms. Joanna Thamke. This report was prepared jointly by personnel of Environment and Climate Change Canada (NHS-WSC) and the United States Geological Survey, under the supervision of Mr. Conly and Ms. Thamke.

The annual meeting of the Field Representatives hosted by the United States was held virtually due to the COVID-19 pandemic, on February 11, 2021. The following items were included in meeting discussions: stream gauge and hydrometric network operation issues and future plans; natural flow and apportionment records; St. Mary and Milk Rivers Technical Working Group activities; International Watersheds Initiative remote sensing consumptive use project; non-apportioned basins review of Eastern Tributaries report; 2020-2025 International Watersheds Initiative Plan; and a schedule of field operations for 2021 was adopted.

BASIN OVERVIEW

On May 17, 2020, the St. Mary Canal failed and the canal was shut down. Foundation erosion underneath the chute slab of Drop Structure 5, undermined the structural support of the chute causing sections to collapse. Drop Structure 5 was recommended to be replaced in 2000 and had exceeded its life expectancy.

The United States Bureau of Reclamation and the Milk River Joint Board of Control made the decision to replace Drop Structure 5 as well as Drop Structure 2 which was known to have structural issues. The decision to pursue the structure replacements meant that water would not flow through the canal until the replacements were complete. A joint effort was made by all parties involved to plan and execute the replacements during the summer and fall of 2020. The canal was returned to service on October 8, 2020.

The Field Representatives and Accredited Officers of the United States and Canada increased the frequency of stakeholder communication meetings with five Letter of Intent calls and five St. Mary Canal repair update meetings. These meetings were frequent (approximately every two weeks) to better communicate challenges, impacts and updates surrounding the canal closure from mid-May to early-October.

Canadian consumptive use began to exceed Canada's share of the Milk River beginning on July 16, 2020 resulting in Canada accumulating a deficit during the July 16-30 division period. The Accredited Officers of the United States and Canada issued a decision letter that irrigation on the Milk River in Canada cease at midnight on July 24, 2020. The decision was based on the failure of the canal, lack of ability to build a deficit within the Letter of Intent and the limited prospect for natural flow to return in the Milk River during August and September.

On October 1, 2020 Alberta Environment and Parks provided the Accredited Officers with a request from the Milk River Water Users Association to rescind the cessation of irrigation. The Accredited Officers granted this request on October 7, allowing Canada to access its share of natural flow in the Milk River. Weather conditions from October 7-31 prevented irrigators from utilizing that water once it was granted.

The global COVID-19 pandemic, international border closure and local travel restrictions all challenged the ability of the United States Geological Survey (USGS) and Environment and Climate Change Canada (ECCC) to collect data. Despite these challenges, ECCC and the USGS were able to successfully fulfill the mission to provide high quality data to comply with the Treaty.

Data collection requirements to support the apportionment of the St. Mary and Milk Rivers were adapted from normal procedures by:

USGS conducted 20 visits to jointly operated international stream gauges that ECCC would normally have visited in the United States:

- North Fork Milk River above St. Mary Canal – 4 visits
- Lake Sherburne – 4 visits
- Milk River at Eastern Crossing at international Boundary – 8 visits
- Frenchman River at International Boundary- 4 visit

ECCC conducted 18 visits to jointly operated international stream gauges that the USGS would normally have visited in Canada:

- St. Mary River at International Boundary - 4 visits
- Milk River at Milk River - 6 visits
- North Milk River near International Boundary - 4 visits
- Milk River at Western Crossing of International Boundary - 4 visits

2020 Chronology of Events:

DATE	EVENT
March 21	Canada U.S. border closes due to Covid-19.
May 17	St. Mary Canal Drop Structure #5 fails.
May 29	U.S. and Canada Accredited Officers (AOs) communicate with the International Joint Commission (IJC) to inform of current status and activities of the AOs.
June 4	Decision made to replace Drop Structure #5. Previously planned reconstruction of Drop Structure #2 will also occur.
June 24	The IJC contacts AOs seeking input to impacts to the Boundary Water Treaty or the Order of 1921 and indicate willingness to consider the possibility of an emergency order.
July 15	U.S. and Canada AOs and Field Representatives (FRs) notify Alberta Environment and Parks (AEP) that a requirement to cease irrigation operations is anticipated.
July 20	U.S. and Canada AOs reply to the IJC letter of June 24 th to indicate that, despite the impact to the canal, the Treaty and Order are respected with respect to apportionment and communication is ongoing with agencies, stakeholders and jurisdictions.
July 21	U.S. and Canada FRs issue formal decision letter to AEP requiring cessation of irrigation operations when Milk River deficit balanced with St. Mary deficit.

July 24	Milk River deficit balanced by St. Mary deficit. AOs issue decision to AEP requiring Alberta irrigation to cease by end of day.
Oct 1	AEP provides the U.S. and Canada AOs and FRs with a request received from Milk River Water Users Association (MRWUA, Canada) to rescind irrigation cessation order and use the Canadian share of Milk River natural flow for remainder of irrigation season (to Oct 31).
Oct 7	U.S. and Canada AOs establish conditions for rescinding cessation order and approve of MRWUA request. AEP provides notice to Alberta <i>Water Act</i> licensees that water is available, to assess continued interest and confirm distribution of available water amongst interested licensees.
Oct 8	Diversions into St. Mary Canal begin.
Oct 9	Construction of Drop Structures completed.
Oct 18	Diversion arrives at Milk River at Eastern Crossing International Boundary
Oct 26	AEP confirms with irrigators that due to a snow event, Canadian share approved to Oct 31 will not be used.

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 to determine flow apportionment during the irrigation season. These 15 to 16 day periods are termed 'division periods' and serve to provide an opportunity to respond to varying use and flow conditions. For example, if use by the United States is in excess of its share during a division period, then a surplus delivery (an amount in excess of its share in the subsequent division period) of an equivalent quantity of water is normally made to Canada at the earliest opportunity, except where provided for in the Letter of Intent (Annex B). 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.

Interim computations and 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% 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 (05015500) was 17 270 dam³ (14,000 acre-feet) on October 31, 2019. Storage increased to 34 850 dam³ (28,250 acre-feet) by March 31, 2020, when the 2020 irrigation season began. Maximum storage was 77 870 dam³ (63,130 acre-feet) on July 2, 2020 and storage had decreased to 47 080 dam³ (38,170 acre-feet) by the end of irrigation releases on October 31, 2020.

Water was diverted from the St. Mary River into the Milk River via the St. Mary Canal beginning on March 30, 2020 and continued through May 17, 2020, when the canal was shut down due to

the failure of Drop Structure 5. Flow in the canal resumed on October 8 through October 31, 2020. The total flow recorded at the gauging station on the St. Mary Canal at St. Mary Crossing (5018500) was 41 370 dam³ (33,530 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 (05AE027) from November 1, 2019 to October 31, 2020 was 840 000 dam³ (681,000 acre-feet) of which 753 900 dam³ (611,200 acre-feet) occurred during the irrigation season, April 1 to October 31, 2020. For the irrigation season, Canada's share was 441 800 dam³ (358,200 acre-feet) and the United States' share was 312 100 dam³ (253,000 acre-feet). During the irrigation season, a total discharge of 702 200 dam³ (569,200 acre-feet) was recorded at the International Boundary, which was 159% of the Canadian share. The computed natural flow during the irrigation season was 106% of the average of the previous 117 years of record.

A deficit delivery was recorded in 1 of the 16 division periods during the 2020 irrigation season. In accordance with the 2001 Letter of Intent (LOI) To Better Utilize the Waters of the St. Mary and Milk Rivers (a copy is available in Annex B of this report), the United States is allowed to accumulate deficits on the St. Mary River of up to 4,000 cfs-days (9 800 dam³) (7,940 acre-feet) between March 1 and May 31 of each year. At the discretion of the United States, the deficits may be reduced to no less than 2,000 cfs-days (4 900 dam³) (3,970 acre-feet) between June 1 and July 15 of each year with surplus deliveries of St. Mary River water. The remaining deficits incurred by the United States on the St. Mary River may be offset by deficits incurred by Canada on the Milk River from June 1 through September 15. Any outstanding deficits remaining on September 15 are to be equalized by October 31 of each year.

The outstanding United States deficit within the LOI on the St. Mary River as of September 15, 2020 was 154 dam³ (125 acre-feet). The Field Representatives agreed during the September 16, 2020 LOI meeting that the St. Mary deficit would offset the Milk River deficit of 91 dam³ (74 acre-feet) at midnight on September 15.

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: Summary of St. Mary River Division for 2020*

Quantities in Cubic Decametres

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	NATURAL FLOW	CANADA'S SHARE	RECEIVED BY CANADA	RECEIVED BY CANADA	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 15	5 060	2 530	3 886	1 356	
MAR 16 - MAR 31	6 089	3 045	4 677	1 632	
APR 1 - APR 15	8 915	6 684	6 530		154
APR 16 - APR 30	31 420	20 814	26 469	5 655	
MAY 1 - MAY 15	68 458	40 347	48 401	8 054	
MAY 16 - MAY 31	115 443	64 247	102 829	38 582	
JUNE 1 - JUNE 15	142 448	77 341	130 895	53 554	
JUNE 16 - JUNE 30	130 845	71 538	125 291	53 753	
JULY 1 - JULY 15	119 572	65 903	118 978	53 075	
JULY 16 - JULY 31	53 621	33 335	52 734	19 399	
AUG 1 - AUG 15	25 916	18 623	26 224	7 601	
AUG 16 - AUG 31	15 779	11 833	15 138	3 305	
SEP 1 - SEP 15	10 132	7 599	10 174	2 575	
SEP 16 - SEP 30	8 587	6 441	8 795	2 354	
OCT 1 - OCT 15	8 464	6 348	11 061	4 713	
OCT 16 - OCT 31	14 311	10 732	18 636	7 904	
TOTAL	765 060	447 360	710 718		

* This is a summary of data from Table 6, Appendix A.

Note:

Canadian. share of St. Mary River waters deficit outstanding:
as of May 31, 2020: 154 dam³ (125 acre-feet) (63 cfs-days)
as of July 15, 2020: 154 dam³ (125 acre-feet) (63 cfs-days)
as of Sept 15, 2020: 154 dam³ (125 acre-feet) (63 cfs-days)

U.S.A. share of Milk River waters outstanding as of September 15, 2020: 91 dam³ (74 acre-feet) (37 cfs-days)

Allowable deficit carryovers, as per 2001 Letter of Intent respecting St. Mary-Milk Rivers streamflow transfers, are:
as of May 31, 2020: 9 800 dam³ (7,940 acre-feet) (4,000 cfs-days)
as of July 15, 2020: 4 900 dam³ (3,970 acre-feet) (2,000 cfs-days).

Any deficits outstanding as of September 15 are to be equalized by October 31 of each year.

Table 1A: Summary of St. Mary River Division for 2020*
Quantities in Acre-Feet

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	NATURAL FLOW	CANADA'S SHARE	RECEIVED BY CANADA	RECEIVED BY CANADA	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 15	4,102	2,051	3,150	1,099	
MAR 16 - MAR 31	4,936	2,469	3,792	1,323	
APR 1 - APR 15	7,227	5,419	5,294		125
APR 16 - APR 30	25,472	16,874	21,458	4,585	
MAY 1 - MAY 15	55,499	32,709	39,239	6,529	
MAY 16 - MAY 31	93,590	52,085	83,363	31,278	
JUNE 1 - JUNE 15	115,483	62,700	106,117	43,416	
JUNE 16 - JUNE 30	106,076	57,996	101,573	43,578	
JULY 1 - JULY 15	96,937	53,428	96,455	43,028	
JULY 16 - JULY 31	43,471	27,025	42,751	15,727	
AUG 1 - AUG 15	21,010	15,098	21,260	6,162	
AUG 16 - AUG 31	12,792	9,593	12,272	2,679	
SEP 1 - SEP 15	8,214	6,161	8,248	2,088	
SEP 16 - SEP 30	6,961	5,222	7,130	1,908	
OCT 1 - OCT 15	6,862	5,146	8,967	3,821	
OCT 16 - OCT 31	11,602	8,700	15,108	6,408	
TOTAL	620,234	362,675	576,179		

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

Note:

Canadian share of St. Mary River waters deficit outstanding:

as of May 31, 2020: 154 dam³ (125 acre-feet) (63 cfs-days)

as of July 15, 2020: 154 dam³ (125 acre-feet) (63 cfs-days)

as of Sept 15, 2020: 154 dam³ (125 acre-feet) (63 cfs-days)

U.S.A. share of Milk River waters outstanding as of September 15, 2020: 91 dam³ (74 acre-feet) (37 cfs-days)

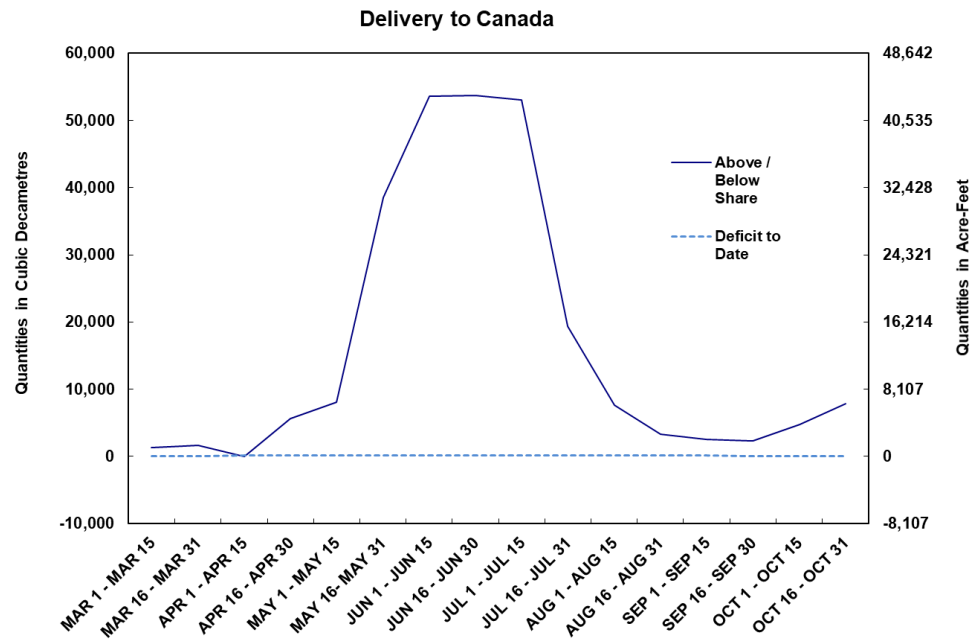
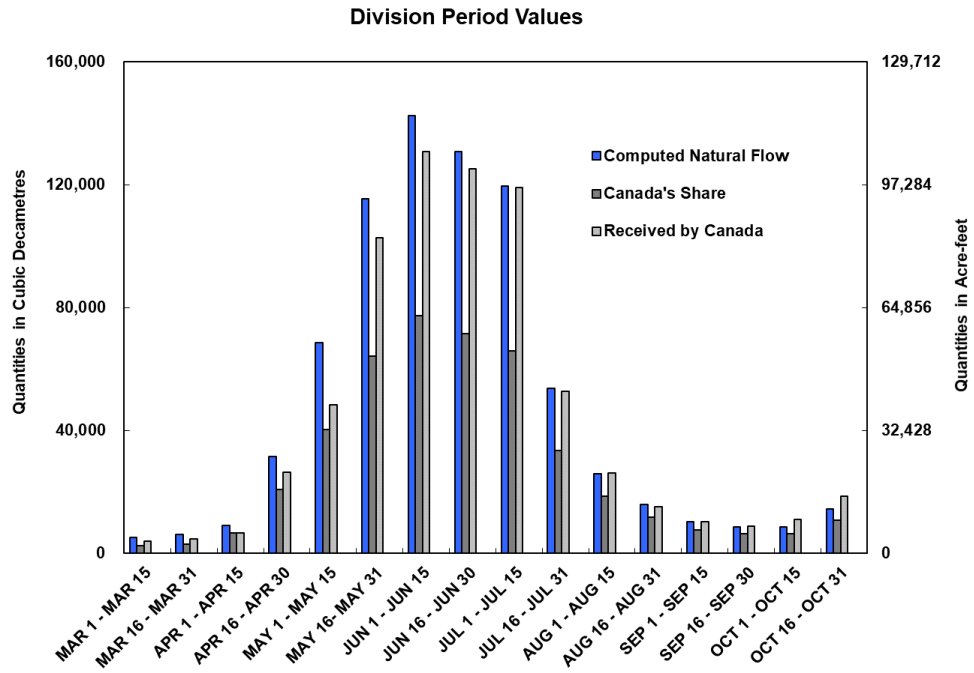
Allowable deficit carryovers, as per 2001 Letter of Intent respecting St. Mary-Milk Rivers streamflow transfers, are:

as of May 31, 2020: 9 800 dam³ (7,940 acre-feet) (4,000 cfs-days)

as of July 15, 2020: 4 900 dam³ (3,970 acre-feet) (2,000 cfs-days).

Any deficits outstanding as of September 15 are to be equalized by October 31 of each year.

Figure 1. St. Mary River Division, 2020



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 metres 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 flow is divided equally between the two countries.

On May 17, 2020 Drop Structure 5 on the St. Mary Canal failed and the canal was shut down until replacements were completed on October 8, 2020.

Canadian consumptive use began to exceed Canada's share of the Milk River on July 16, 2020, resulting in Canada accumulating a deficit during the July 16-30 division period. The Accredited Offices of the United States and Canada issued a decision that irrigation on the Milk River in Canada cease at midnight on July 24, 2020, due to the canal closure and the limited prospect for natural flow to return in the Milk River during August and September.

Prior to the mid 1970s, uses of the natural flow of the Milk River by Canada and the United States upstream from Eastern Crossing 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 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 inter-basin 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.

Data required for Morton's model is resource intensive. The equipment used to collect the data is highly specialized, subject to failure and located in a remote area. Data collected at the evapotranspiration monitoring site near Milk River, Alberta needed frequent supplementation from the Onefour, Alberta pan evaporation site due to equipment malfunction. This coupled with the fact that the analysis program required extensive re-writing to port it from the obsolete DEC-VMS computer operating system suggested that an alternative needed to be investigated.

Data from the results of Morton's model were found to have a strong linear correlation with the Onefour, Alberta Class A evaporation pan results and therefore evapotranspiration was estimated using the Onefour pan evaporation data as an index of Morton's model results.

The method for estimating evapotranspiration losses has undergone another transition, moving from the Onefour, Alberta Class A pan derived method to a modified Penman application. Since 2013, a modified Penman equation has been used to estimate evaporative losses for interim and final natural flow computations for Milk River. Data for use in the modified Penman method have been collected from a weather station located at the Milk River at the Eastern Crossing of the International Boundary.

Consumptive use estimates from the *Milk River Consumptive Water Use Study* (Paterson 2017) were used for natural flow calculations during 2020. The United States' estimated consumptive use was 1 640 dam³ (1,330 acre-feet). Canadian irrigation in 2020 ceased at midnight on July 24 as required by the Accredited Officers. Apportionment calculations did not include Canadian consumptive use from July 25 through the end of the irrigation season. Canada's estimated consumptive use was 2 640 dam³ (2,140 acre-feet) for 2020.

The computed natural flow of the Milk River at the Eastern Crossing of the International Boundary (6135000) from March 1 to October 31, 2020 was 93 350 dam³ (75,680 acre-feet). This flow was 69% of the average computed natural flow of the previous 108 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 flow values of previous years. The 2020 flow volume was 79% of the average computed natural flow of the previous 35 years (1985-2019) since consumptive use was accounted for in calculations.

For the period March 1 to October 31, 2020, the United States' share was 66 590 dam³ (53,980 acre-feet) and Canada's share was 26 760 dam³ (21,700 acre-feet). The United States received 136% of its allotment at the Eastern Crossing, in addition to its share of St. Mary River water diverted into the Milk River through the St. Mary Canal.

There was 1 deficit delivery recorded in the 16 division periods during the irrigation season on the Milk River. Natural flow did not reach zero flow in 2020, although average flow for several days from September 1 to 6 was less than 0.028 cms (1 cfs). At present, Canada does not have facilities to store and release water in the Milk River basin. Deficits are made up by transfer of Canada's share of St. Mary River water as allowed by the 2001 Letter of Intent (Annex B) whereby the U.S. is allowed to accumulate a deficit on the St. Mary River and Canada is allowed to accumulate a deficit on the Milk River of up to 2,000 cfs-days (4 900 dam³) (3,970 acre-feet) between June 1 and September 15 of each year. The incurred deficits on the St. Mary and Milk Rivers may be offset and the outstanding deficits as of September 15 are to be equalized by October 31 of each year.

A Canadian deficit of 91 dam³ (74 acre-feet) remained on the Milk River until September 15, 2020. At midnight September 15, the incurred deficit on the Milk River was offset, at the direction of the Field Representatives for the United States and Canada, by a deficit of near-equal volume on the St. Mary River within the LOI. The division of Milk River natural flow is summarized in Table 2 and 2A and Figure 2, which follow. The detailed computation of the natural flow is given in Table 8 and the historical summary is given in Table 9 of Appendix A.

**Table 2: Summary of Milk River Division for 2020*
Quantities in Cubic Decametres**

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 15	4 091	2 046	4 085	2 039	
MAR 16 - MAR 31	8 250	4 125	8 243	4 118	
APR 1 - APR 15	13 586	10 190	13 579	3 389	
APR 16 - APR 30	17 715	12 946	17 705	4 759	
MAY 1 - MAY 15	13 465	10 098	13 333	3 234	
MAY 16 - MAY 31	13 612	10 208	13 351	3 142	
JUNE 1 - JUNE 15	5 950	4 463	5 647	1 185	
JUNE 16 - JUNE 30	3 861	2 896	3 501	605	
JULY 1 - JULY 15	7 977	5 983	7 097	1 114	
JULY 16 - JULY 31	2 316	1 737	1 646		91
AUG 1 - AUG 15	429	322	429	107	
AUG 16 - AUG 31	94	70	94	24	
SEP 1 - SEP 15	147	110	147	37	
SEP 16 - SEP 30	630	473	630	157	
OCT 1 - OCT 15	288	216	288	72	
OCT 16 - OCT 31	939	704	939	235	
TOTAL	93 350	66 587	90 713		

* This is a summary of data from Table 8, Appendix A.

Note:

Canadian share of St. Mary River waters deficit outstanding:
as of May 31, 2020: 154 dam³ (125 acre-feet) (63 cfs-days)
as of July 15, 2020: 154 dam³ (125 acre-feet) (63 cfs-days)
as of Sept 15, 2020: 154 dam³ (125 acre-feet) (63 cfs-days)

U.S.A. share of Milk River waters outstanding as of September 15, 2020: 91 dam³ (74 acre-feet) (37 cfs-days)

Allowable deficit carryovers, as per 2001 Letter of Intent respecting St. Mary-Milk Rivers streamflow transfers, are:
as of May 31, 2020: 9 800 dam³ (7,940 acre-feet) (4,000 cfs-days)
as of July 15, 2020: 4 900 dam³ (3,970 acre-feet) (2,000 cfs-days).

Any deficits outstanding as of September 15 are to be equalized by October 31 of each year.

Table 2A: Summary of Milk River Division for 2020*
Quantities in Acre-Feet

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 15	3,317	1,658	3,312	1,653	
MAR 16 - MAR 31	6,688	3,344	6,683	3,339	
APR 1 - APR 15	11,014	8,261	11,008	2,747	
APR 16 - APR 30	14,362	10,495	14,353	3,858	
MAY 1 - MAY 15	10,916	8,187	10,809	2,622	
MAY 16 - MAY 31	11,035	8,276	10,824	2,548	
JUNE 1 - JUNE 15	4,824	3,618	4,578	960	
JUNE 16 - JUNE 30	3,130	2,348	2,839	491	
JULY 1 - JULY 15	6,467	4,850	5,753	903	
JULY 16 - JULY 31	1,877	1,408	1,335		74
AUG 1 - AUG 15	348	261	348	87	
AUG 16 - AUG 31	76	57	76	19	
SEP 1 - SEP 15	119	89	119	30	
SEP 16 - SEP 30	511	383	511	128	
OCT 1 - OCT 15	234	175	234	58	
OCT 16 - OCT 31	761	571	761	190	
TOTAL	75,679	53,982	73,541		

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

Note:

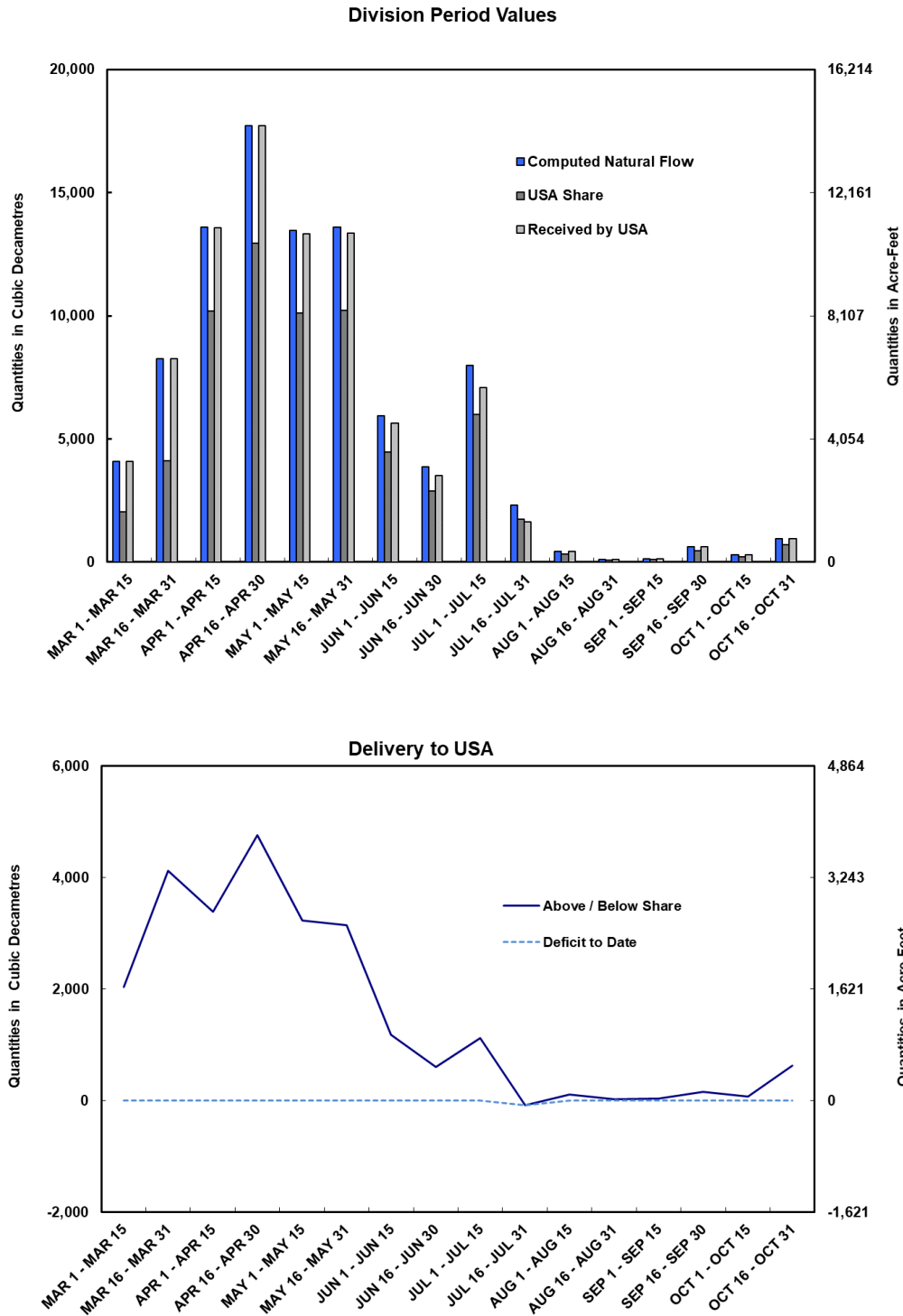
Canadian. share of St. Mary River waters deficit outstanding:
as of May 31, 2020: 154 dam³ (125 acre-feet) (63 cfs-days)
as of July 15, 2020: 154 dam³ (125 acre-feet) (63 cfs-days)
as of Sept 15, 2020: 154 dam³ (125 acre-feet) (63 cfs-days)

U.S.A. share of Milk River waters outstanding as of September 15, 2020: 91 dam³ (74 acre-feet) (37 cfs-days)

Allowable deficit carryovers, as per 2001 Letter of Intent respecting St. Mary-Milk Rivers streamflow transfers, are:
as of May 31, 2020: 9 800 dam³ (7,940 acre-feet) (4,000 cfs-days)
as of July 15, 2020: 4 900 dam³ (3,970 acre-feet) (2,000 cfs-days).

Any deficits outstanding as of September 15 are to be equalized by October 31 of each year.

Figure 2. Milk River Division, 2020



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 composed 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 and Milk Rivers.

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-water use were being satisfied with wells and dugouts. Solutions to water-utilization problems were limited because 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 1994. At its executive session on September 21, 1994, the Commission agreed that the task force should be terminated as recommended. The Commission also agreed not to act at that time on the three recommendations related to the adjudication process, but requested that the Accredited Officers continue to monitor the situation and report annually, or more frequently if appropriate, on such matters as complaints by Canadian ranchers and changes in the status of basin adjudication.

No Canadian complaints or changes in the Montana adjudication process were noted in 2020.

Flows for March through October 2020 for the southern tributaries were as follows:

- o Bear Creek near International Boundary (11AA028): 2 200 dam³ (1,790 acre-feet)
- o Miners Coulee near International Boundary (11AA029): 1 816 dam³ (1,472 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 daily basis; however, the physical limitation due to transit time in the flow system was recognized to be an impediment to the most beneficial use of the water if a daily apportionment were adopted. Further analysis showed that the minimum practical time frame for compilation of the natural flows at the International Boundary was every ten days. In 1994 the time frame was increased to twice monthly to reduce lag-time anomalies, reduce costs, and conform to St. Mary and Milk Rivers computation periods.

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 (Water Survey of Canada station number 11AC055), Huff Lake (11AC063), and Newton Lake (11AC056) which necessitated an operational division of flow of this tributary by 1937. In 1938, dams were constructed at both ends of Cypress Lake (11AC037) near the Battle Creek-Frenchman River divide to allow inter-basin 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 the flow on this tributary necessary by 1957. In 1960, construction of Altawan Reservoir (11AB089) and Spangler Irrigation Project (11AB060) on Lodge Creek made an operational division of flow on this tributary necessary by 1961. There are also several small reservoirs located in Alberta which are included in the natural flow computations.

During the period March 1 to October 31, twice-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 beneficial 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. Additional computations may be made to account for significant usages before October 31. Generally, no division of flow is made during winter as flow and use are low and streamflow records are impractical to obtain.

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 Security Agency, and by Alberta Environment and Parks for the Lodge Creek and Battle Creek basins located in Alberta. Lists of reported diversions are contained in Appendix B.

Lyons Creek at International Boundary (11AB075) is monitored by Canada, but does not have sufficient use in Canada at this time to warrant an operational division of flow. Total flow from March to October of 7 560 dam³ (6,130 acre-feet) was recorded on Lyons Creek for the year 2020.

The major reservoirs in the Lodge Creek, Battle Creek, and Frenchman River basins were near full storage by the end of April 2020. Altawan Reservoir in the Lodge Creek basin recorded a storage of 7 300 dam³ (5,920 acre-feet) by the end of April, which is 109% of full storage capacity. In the Battle Creek basin, Cypress Lake was at 128 200 dam³ (104,000 acre-feet) by the end of April, 100% of full storage capacity. In the Frenchman River basin, Huff and Newton Lakes were at or near full storage by the end of April. Eastend Reservoir was 137% of full storage by the end of April.

Net reservoir evaporation computations in the eastern tributaries of the Milk River were made using a modified Penman equation. The meteorological data required for input into the Penman equation are collected from two weather stations: the Val Marie Evaporation Station (11ACM01), located near Huff Lake Reservoir, collects data to estimate reservoir evaporation in the Frenchman basin; the Altawan Evaporation Station (11ABM01), located near Altawan Reservoir, collects data to estimate reservoir evaporation in the Lodge and Battle basins). Reservoir evaporation is used as component of the natural flow computation in the Eastern Tributaries.

The Lodge Creek, Battle Creek, and Frenchman River basins received water for irrigation during the 2020 season. In the Lodge Creek basin, water was received for irrigation on the Spangler Project during May, June and August with a total flow of 1 820 dam³ (1,470 acre-feet) diverted down the Spangler Ditch. In the Battle Creek basin, Gaff Ditch was operated mainly from early May through to the first week of June. The Vidora project irrigated in May and early June and the Richardson and McKinnon projects irrigated during division periods in May. The Nashlyn Project received water in the March to early June division periods for the spring backflood irrigators. In the

Frenchman River basin, the Eastend, Newton, and Huff Lake Projects irrigated from approximately late April to early June.

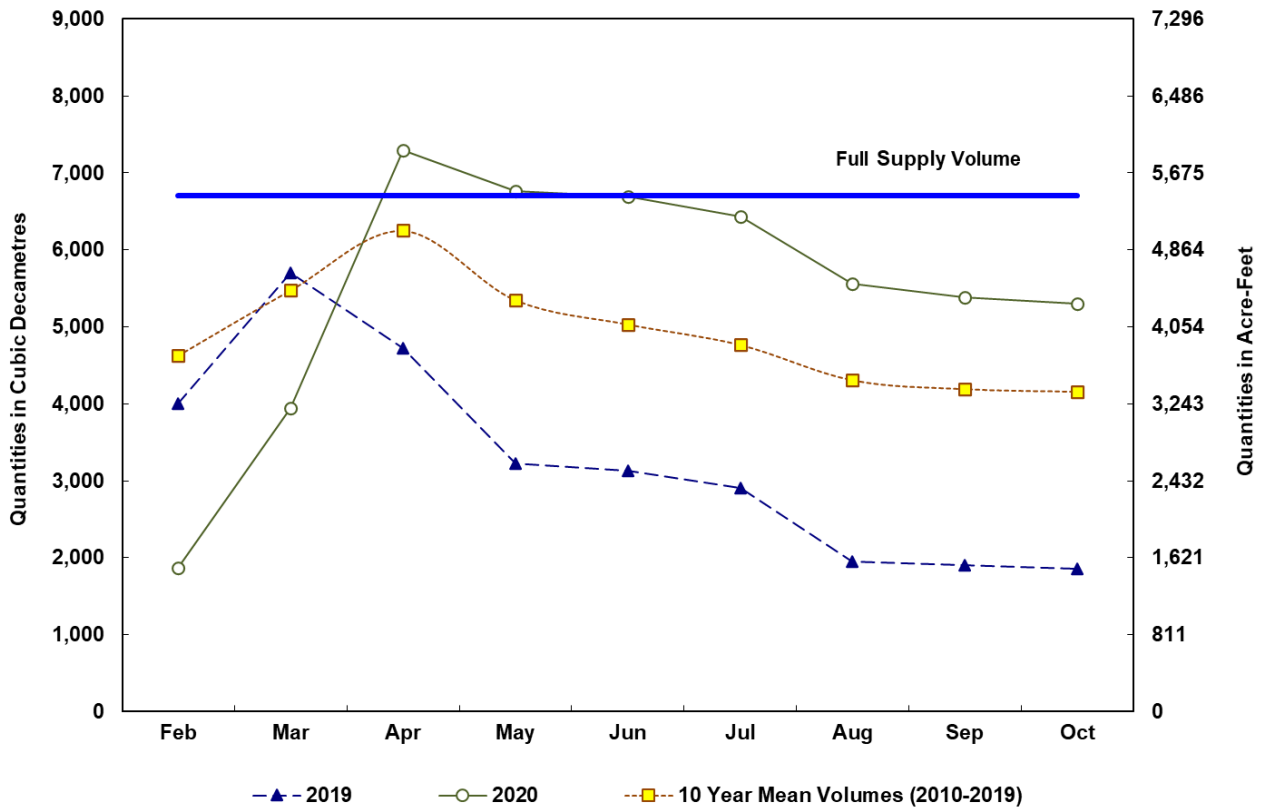
In the Lodge Creek basin there was a 3 dam³ year-end deficit for the 2020 irrigation season. The natural flow was negligible on Lodge Creek from early July to the end of October. The Battle Creek basin finished the 2020 irrigation season with no year-end deficits.

Montana Department of Natural Resources and Conservation was conducting repair work on the Frenchman Reservoir in the fall and requested that outflows from Newton Reservoir be kept low to facilitate the repairs. As a result, a final deficit of 79 dam³ was incurred in 2020. Under these circumstances, during the Letter of Intent call held on November 10, 2020, the Accredited Officer for the United States agreed that the deficit would not require repayment.

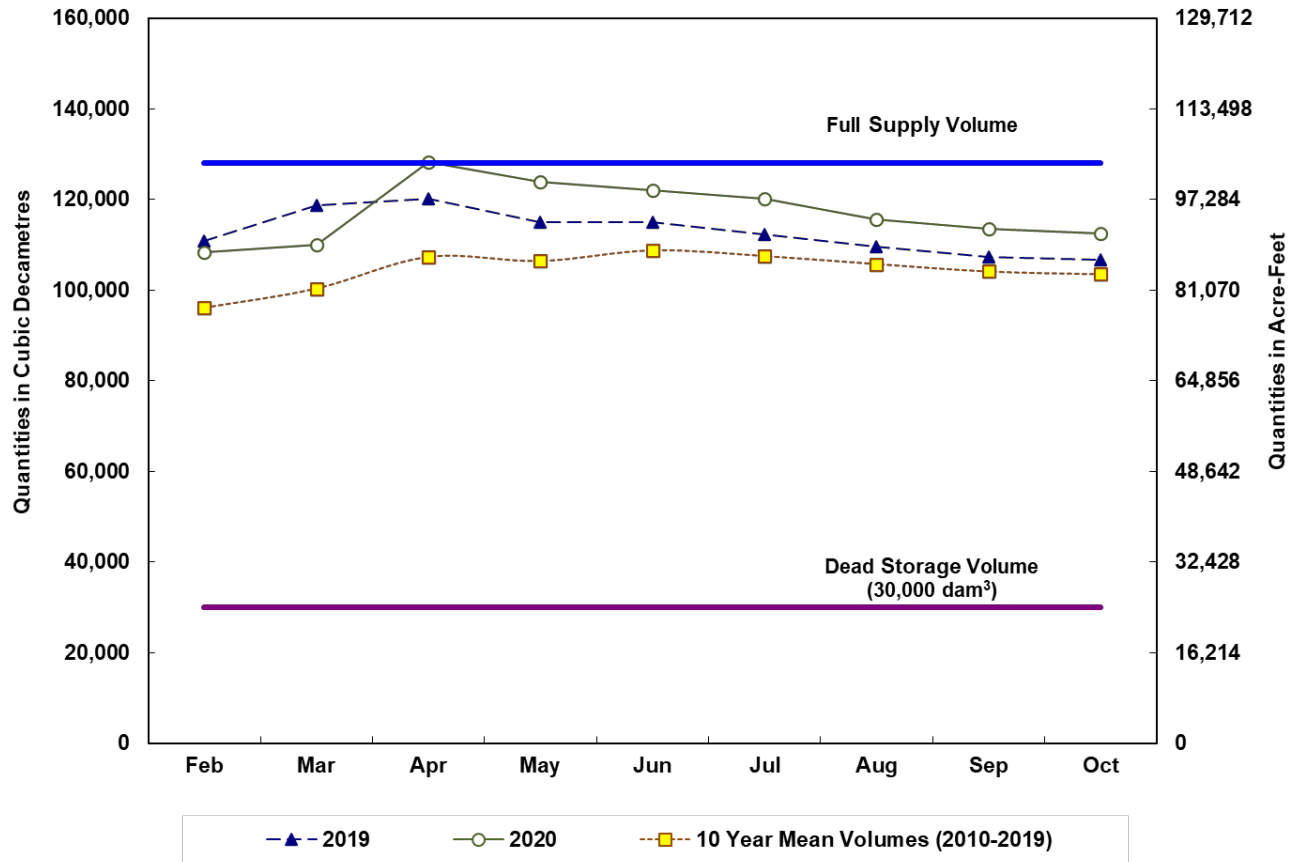
Figures 3a to 3e show month-end and mean contents of major reservoirs in Lodge Creek, Battle Creek, and Frenchman River basins.

**Figure 3. Reservoirs in Lodge Creek, Battle Creek, and Frenchman River Basins
Month-End Contents: 2019, 2020, and 2010-2019 Mean**

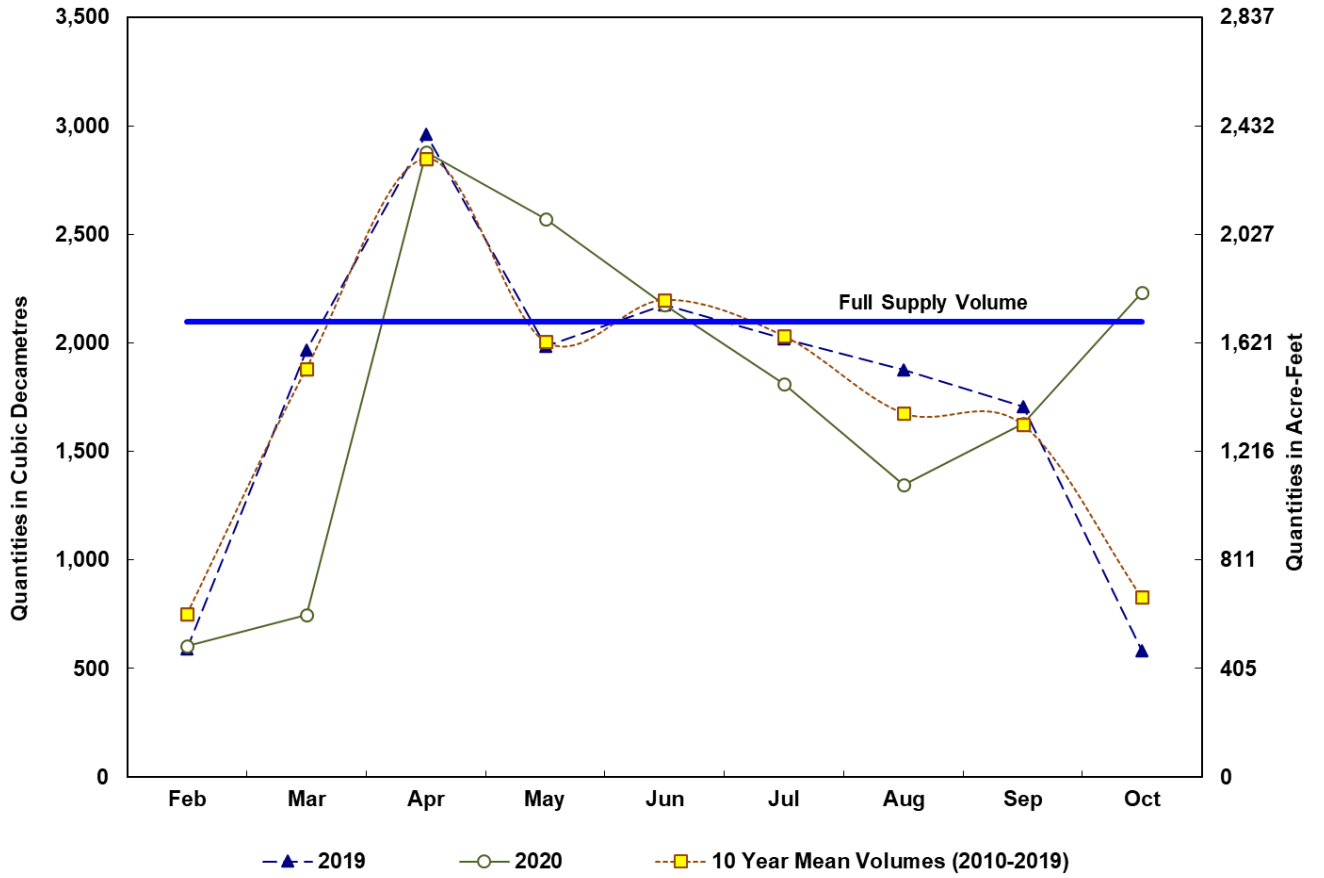
Figure 3a. Altawan Reservoir



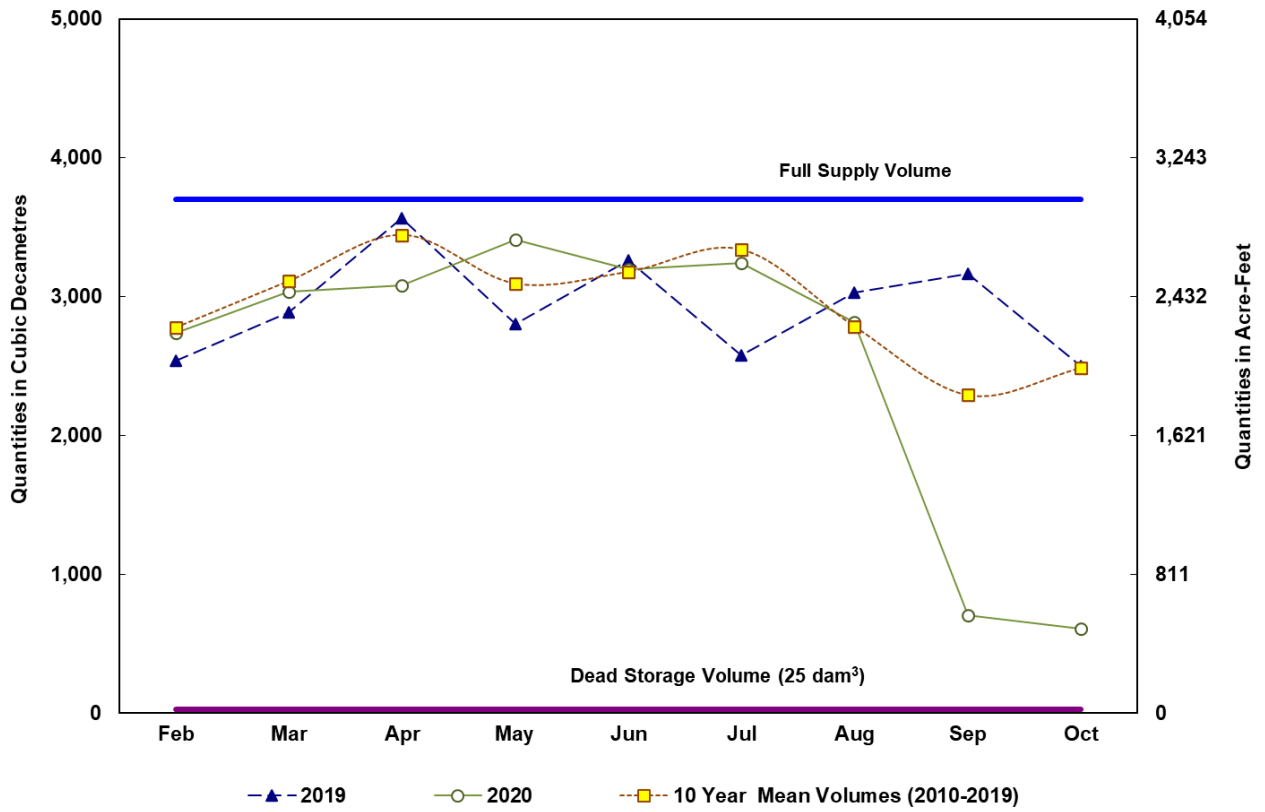
**Figure 3b. Cypress Lake
Month-End Contents: 2019, 2020, and 2010-2019 Mean**



**Figure 3c. Eastend Reservoir
Month-End Contents: 2019, 2020, and 2010-2019 Mean**

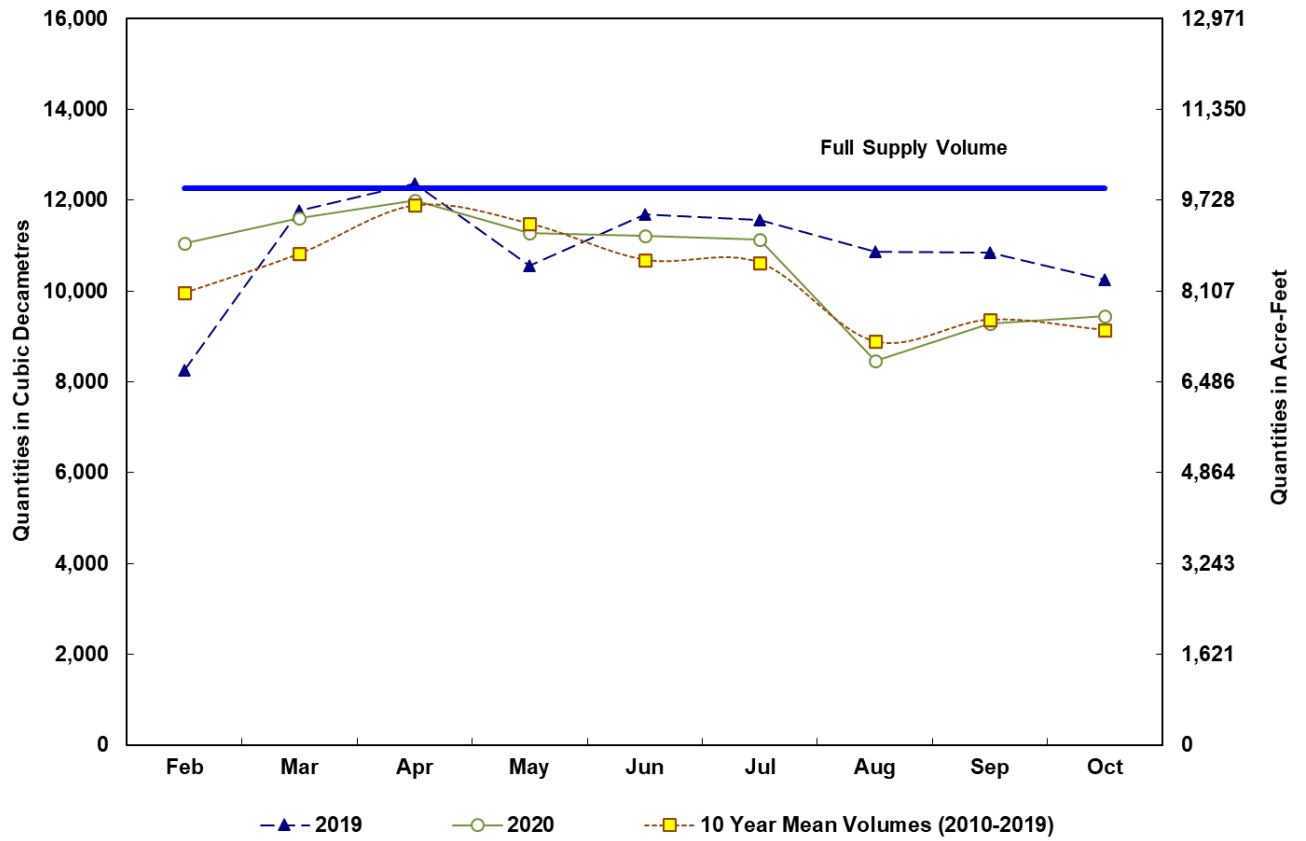


**Figure 3d. Huff Lake
Month-End Contents: 2019, 2020, and 2010-2019 Mean**



Huff Lake stage-storage table was revised in 2004, increasing the dead storage and decreasing the full supply storage volumes from previous years.

**Figure 3e. Newton Lake
Month-End Contents: 2019, 2020, and 2010-2019 Mean**



LODGE CREEK

The computed natural flow of Lodge Creek at the International Boundary from March 1 to October 31, 2020 was 53 000 dam³ (42,500 acre-feet). This volume is 190% of the average natural flow of the previous 70 years of record. Each country is entitled to 50% of the natural flow, or 26 500 dam³ (21,500 acre-feet) for the irrigation season. A total flow of 38 180 dam³ (31,000 acre-feet) was recorded at Lodge Creek below McRae Creek at the International Boundary (11AB083) from March 1 to October 31. This volume was 144% of the United States allotment.

There was one deficit delivery in the May 16 to May 31 period during the 2020 irrigation season. The deficit was reduced to 3 dam³ (2.4 acre-feet) during the next three division periods. An outstanding deficit of 3 dam³ remained at the end of October.

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

**Table 3: Summary of Lodge Creek Division for 2020*
Quantities in Cubic Decametres**

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 15	2	1	2	1	
MAR 16 - MAR 31	1 158	579	1236	657	
APR 1 - APR 15	27 289	13 644	20 909	7 265	
APR 16 - APR 30	19 130	9 565	12 787	3 222	
MAY 1 - MAY 15	3 664	1 832	2 376	544	
MAY 16 - MAY 31	1 542	771	730		41
JUNE 1 - JUNE 15	185	92	118	26	
JUNE 16 - JUNE 30	24	12	23	11	
JULY 1 - JULY 15	3	2	3	1	
JULY 16 - JULY 31	0	0	0		
AUG 1 - AUG 15	0	0	0		
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	52 996	26 498	38 183		

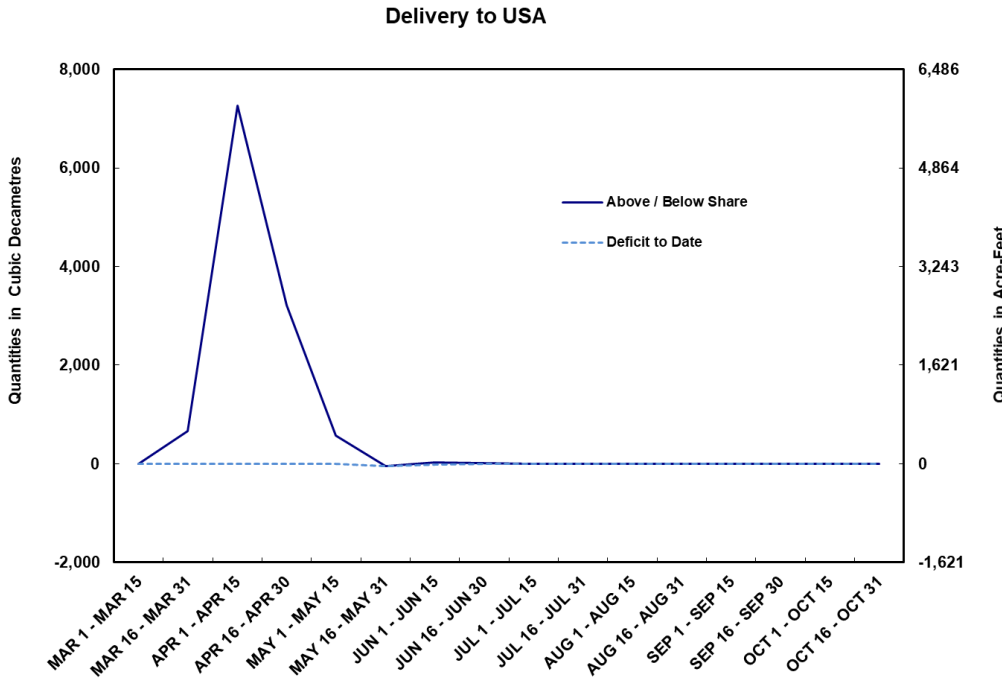
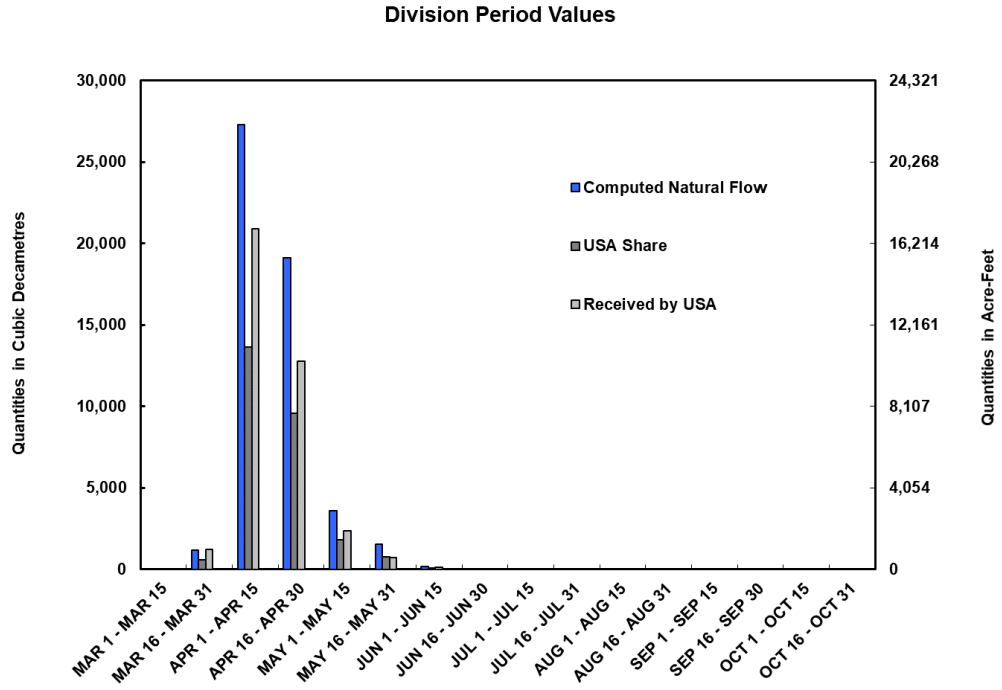
* This is a summary of data from Table 10, Appendix A. Totals and shares may not add or subtract exactly as a result of rounding.

**Table 3A: Summary of Lodge Creek Division for 2020*
Quantities in Acre-Feet**

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 15	1	1	1	1	
MAR 16 - MAR 31	938	469	1,002	532	
APR 1 - APR 15	22,123	11,061	16,951	5,890	
APR 16 - APR 30	15,509	7,754	10,367	2,612	
MAY 1 - MAY 15	2,970	1,485	1,926	441	
MAY 16 - MAY 31	1,250	625	592		33
JUNE 1 - JUNE 15	150	75	95	21	
JUNE 16 - JUNE 30	20	10	18	9	
JULY 1 - JULY 15	3	2	3	1	
JULY 16 - JULY 31	0	0	0		
AUG 1 - AUG 15	0	0	0		
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	42,965	21,482	30,955		

* 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, 2020



BATTLE CREEK

The computed natural flow of Battle Creek at the International Boundary from March 1 to October 31, 2020 was 50 610 dam³ (41,000 acre-feet). This volume is 169% of the average natural flow of the previous 80 years of record. Each country is entitled to 50% of the natural flow or 25 300 dam³ (20,500 acre-feet) for the irrigation season. A total flow volume of 35 760 dam³ (29,000 acre-feet) was recorded at Battle Creek at International Boundary (11AB027) from March 1 to October 31, 2020. This volume was 141% of the United States allotment.

There were 4 deficit deliveries recorded in the 16 division periods during the irrigation season. These deficits were balanced by natural flow by the end of September 2020.

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

**Table 4: Summary of Battle Creek Division for 2020*
Quantities in Cubic Decametres**

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 25	1 147	574	667	93	
MAR 26 - APR 9	16 302	8 151	14 947	6 796	
APR 10 - APR 24	13 078	6 539	8 424	1885	
APR 25 - MAY 9	11 315	5 658	4 942		716
MAY 10 - MAY 25	3 265	1 633	3 240	1 607	
MAY 26 - JUNE 9	1 975	988	1 460	472	
JUNE 10 - JUNE 24	1 212	606	594		12
JUNE 25 - JULY 9	764	382	409	27	
JULY 10 - JULY 25	553	276	192		84
JULY 26 - AUG 9	89	45	29		16
AUG 10 - AUG 25	25	12	25	13	
AUG 26 - SEP 9	3	1	3	2	
SEP 10 - SEP 24	45	23	45	22	
SEP 25 - OCT 9	253	127	253	126	
OCT 10 - OCT 25	359	180	359	179	
OCT 26 - OCT 31	225	112	175	63	
TOTAL	50 610	25 307	35 764		

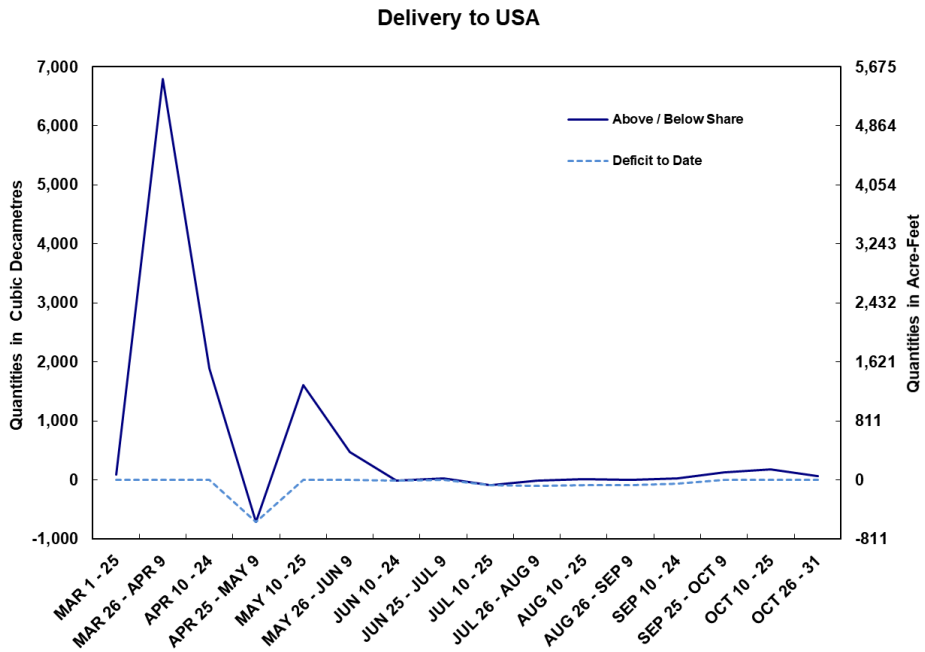
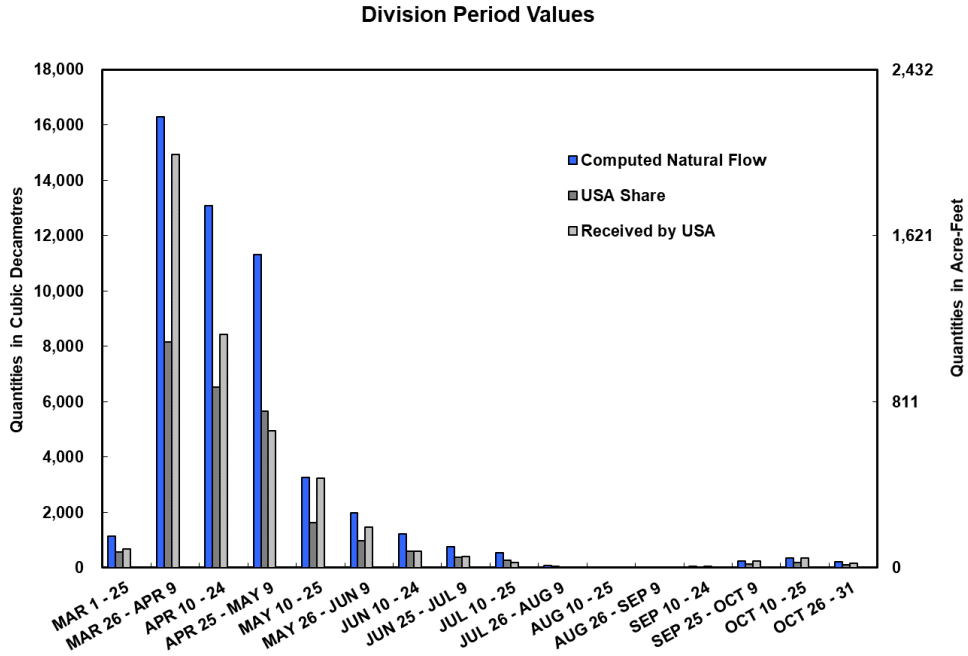
* This is a summary of data from Table 12, Appendix A. Totals and shares may not add or subtract exactly as a result of rounding.

Table 4A: Summary of Battle Creek Division for 2020*
Quantities in Acre-Feet

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 – MAR 25	930	465	541	75	
MAR 26 – APR 9	13,216	6,608	12,118	5,510	
APR 10 - APR 24	10,602	5,301	6,829	1,528	
APR 25 – MAY 9	9,173	4,587	4,007		580
MAY 10 - MAY 25	2,647	1,324	2,627	1,303	
MAY 26 - JUNE 9	1,601	801	1,184	383	
JUNE 10 - JUNE 24	982	491	481		10
JUNE 25 - JULY 9	619	310	331	22	
JULY 10 - JULY 25	448	224	155		68
JULY 26 - AUG 9	73	36	24		13
AUG 10 – AUG 25	20	10	20	10	
AUG 26 - SEP 9	2	1	2	2	
SEP 10 - SEP 24	37	19	37	18	
SEP 25 - OCT 9	205	103	205	102	
OCT 10 - OCT 25	291	146	291	145	
OCT 26 - OCT 31	182	91	141	51	
TOTAL	41,030	20,516	28,994		

* All values are conversions of data from Table 4. Totals and shares may not add or subtract exactly as a result of rounding.

Figure 5. Battle Creek Division, 2020



FRENCHMAN RIVER

The computed natural flow of the Frenchman River at the International Boundary from March 1 to October 31, 2020 was 108 500 dam³ (87,970 acre-feet). This volume of natural flow is 137% of the average natural flow of the previous 80 years of record. Each country is entitled to 50% of the natural flow, or 54 260 dam³ (43,990 acre-feet) for the irrigation season. A total flow of 93 540 dam³ (75,840 acre-feet) was recorded at Frenchman River at International Boundary (11AC041) from March 1 to October 31. This volume was 172% of the United States allotment.

Deficit deliveries were recorded in 5 of the 16 division periods during the irrigation season. Montana Department of Natural Resources and Conservation was conducting repair work on the Frenchman Reservoir in the fall and requested that outflows from Newton Reservoir be kept low to facilitate the repairs. As a result, a final deficit of 79 dam³ was incurred in 2020. Under these circumstances, during the Letter of Intent call held on November 10, 2020, the Accredited Officer for the United States agreed that the deficit would not require repayment.

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

**Table 5: Summary of Frenchman River Division for 2020*
Quantities in Cubic Decametres**

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 15	10 768	5 384	10 454	5 070	
MAR 16 - MAR 31	15 120	7 560	15 120	7 560	
APR 1 - APR 15	31 795	15 898	31 795	15 897	
APR 16 - APR 30	24 053	12 027	21 082	9 055	
MAY 1 - MAY 15	11 978	5 989	6 368	379	
MAY 16 - MAY 31	5 997	2 999	2 048		951
JUNE 1 - JUNE 15	2 985	1 493	1 331		162
JUNE 16 - JUNE 30	2 484	1 242	2 652	1 410	
JULY 1 - JULY 15	1 065	533	1 028	495	
JULY 16 - JULY 31	661	330	411	81	
AUG 1 - AUG 15	194	97	133	36	
AUG 16 - AUG 31	113	57	113	56	
SEP 1 - SEP 15	873	436	873	437	
SEP 16 - SEP 30	130	65	53		12
OCT 1 - OCT 15	60	30	2		28
OCT 16 - OCT 31	239	119	80		39
TOTAL	108 517	54 259	93 543		

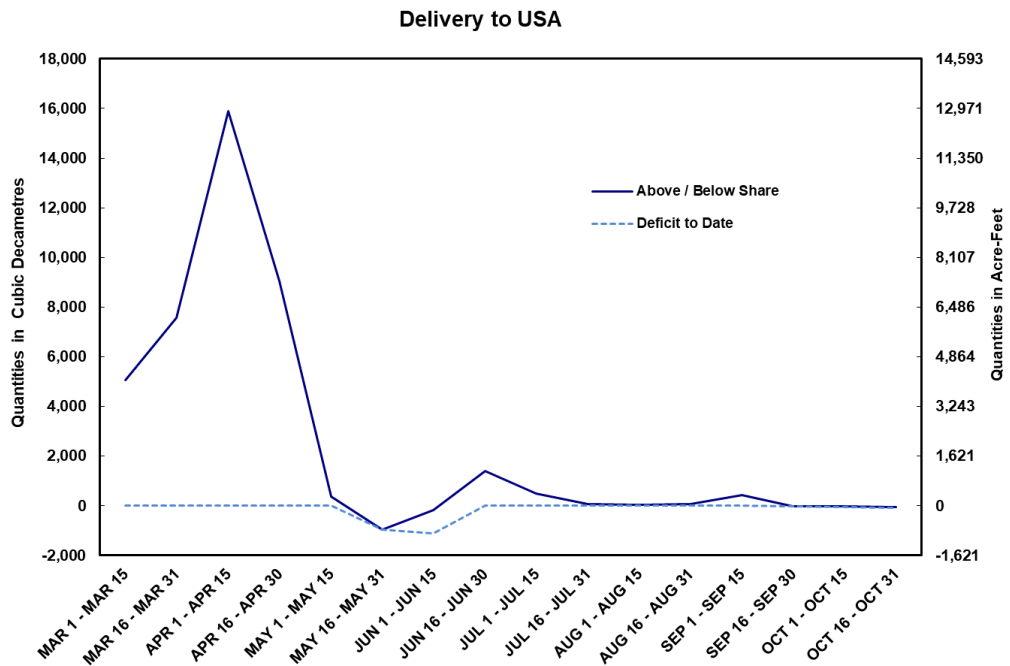
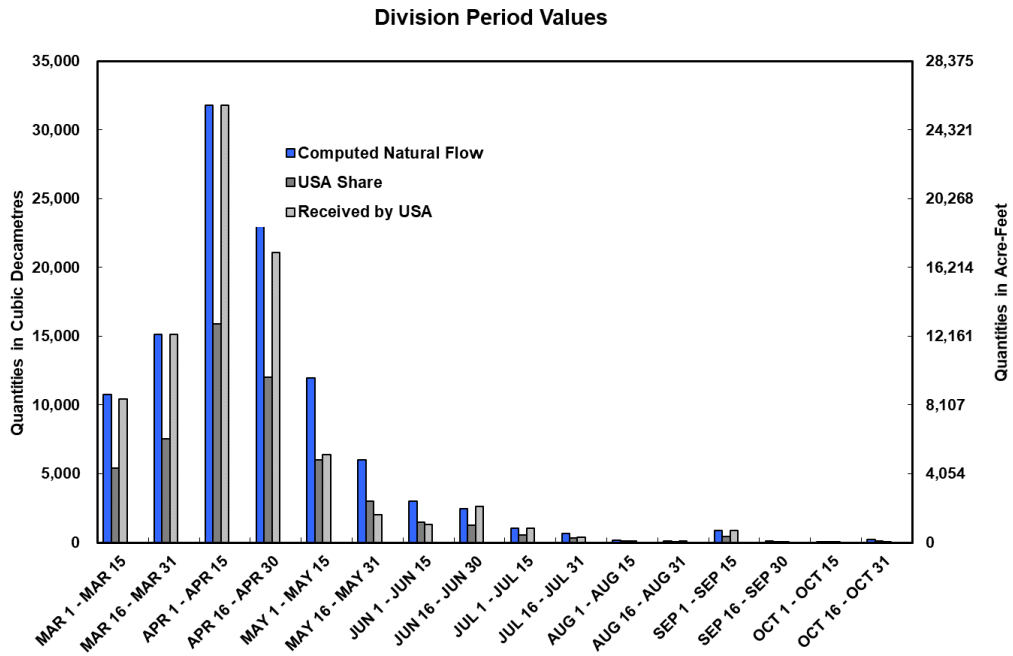
* This is a summary of data from Table 14, Appendix A. Totals and shares may not add or subtract exactly as a result of rounding.

**Table 5A: Summary of Frenchman River Division for 2020*
Quantities in Acre-Feet**

DIVISION PERIOD AT INTERNATIONAL BOUNDARY	NATURAL FLOW	U.S.A. SHARE	RECEIVED BY U.S.A.	RECEIVED BY U.S.A.	
				ABOVE SHARE	BELOW SHARE
MAR 1 - MAR 15	8,730	4,365	8,475	4,111	
MAR 16 - MAR 31	12,258	6,129	12,258	6,129	
APR 1 - APR 15	25,776	12,889	25,776	12,888	
APR 16 - APR 30	19,500	9,750	17,091	7,341	
MAY 1 - MAY 15	9,710	4,855	5,162	307	
MAY 16 - MAY 31	4,862	2,431	1,660		771
JUNE 1 - JUNE 15	2,420	1,210	1,079		132
JUNE 16 - JUNE 30	2,014	1,007	2,150	1,143	
JULY 1 - JULY 15	864	432	834	401	
JULY 16 - JULY 31	536	268	333	66	
AUG 1 - AUG 15	158	79	108	29	
AUG 16 - AUG 31	92	46	92	46	
SEP 1 - SEP 15	707	353	707	354	
SEP 16 - SEP 30	105	53	43		10
OCT 1 - OCT 15	49	24	2		23
OCT 16 - OCT 31	194	96	65		32
TOTAL	87,974	43,988	75,835		

* 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, 2020



ANNEX A

1921 Order of the International Joint Commission
Respecting the St. Mary-Milk Rivers

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 of Great Britain and Ireland and of the British Dominions beyond the Seas, Emperor of India, signed at Washington on the 11th of January 1909, it is provided as follows:

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.

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 than 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 than 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 a 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. MAGRATH,
C.D. CLARK,
HENRY A. POWELL,
W.H. HEARST,
MARK A. SMITH.

ANNEX B

Letter of Intent to Better Utilize the Waters of the St. Mary and Milk Rivers

**LETTER OF INTENT
TO BETTER UTILIZE THE WATERS OF THE ST. MARY AND MILK RIVERS**

Whereas Article VI of the Boundary Waters Treaty of 1909 states that the St. Mary and Milk Rivers and their tributaries are to be treated as one for the purposes of irrigation and power;

And whereas, the Boundary Waters Treaty of 1909 and the International Joint Commission Order of 1921 authorizes the Reclamation and Irrigation Officers of the United States and Canada (currently designated as the Accredited Officers of the United States and Canada) to make the greatest beneficial use of the waters of the St. Mary and Milk Rivers;

And whereas, Canada finds it beneficial to use more than its share of the Milk River in the June-September period each year to supply water to Canadian Milk River irrigators;

And whereas, the United States finds it beneficial to use more than its share of the St. Mary River in the March-May period each year to supply water to United States Milk River irrigators;

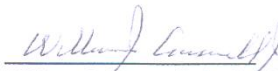
It is therefore ordered and directed by said Accredited Officers or their designates that the United States be allowed to accumulate a deficit on the St. Mary River of up to 4,000 cfs-days (9 800 dam³) between March 1 and May 31 of each year which, at the discretion of the United States, may be reduced to no less than 2,000 cfs-days (4 900 dam³) between June 1 and July 15 of each year with surplus deliveries of St. Mary River water, and that Canada be allowed to accumulate a deficit on the Milk River of up to 2,000 cfs-days (4 900 dam³) between June 1 and September 15 of each year. The incurred deficits on the St. Mary and Milk Rivers can be offsetting and the outstanding deficits as of September 15 will be equalized by October 31 of each year under administration by Field Representatives of the Accredited Officers. Detailed accounting procedures for the computation of deficit and surplus deliveries under this Letter Of Intent are outlined in Appendix A, "Procedures for the Computation of Deficit and Surplus Deliveries to Better Utilize Waters of the St. Mary and Milk Rivers".

In signing this letter, the parties recognize this agreement is within the 1921 Order of the International Joint Commission. Additionally, the parties recognize that this Letter of Intent and Appendix A will form part of the St. Mary - Milk River Procedural Manual.

Termination of this Letter Of Intent will be allowed upon request by either the United States or Canada notifying the other party in writing two months prior to the commencement of the irrigation season (April 1st as specified by the 1921 Order).



Tim Goos
Accredited Officer of Her Majesty
Dated this 8th day of February, 2001



William J. Carswell, Jr. for the
Accredited Officer of the United States
Dated this 8th day of February, 2001

**PROCEDURES FOR THE COMPUTATION OF DEFICIT AND SURPLUS DELIVERIES
TO BETTER UTILIZE WATERS OF THE ST. MARY AND MILK RIVERS**

ST. MARY RIVER

As of January 2001, the accounting procedures for the computation of deficit and surplus deliveries during March 1 through September 15 of each year on the St. Mary River are:

1. During March 1 through May 31 of each year, deficit deliveries from the United States to Canada at the end of each division period will carry over from one division period to another for the year, are cumulative for the year, and are allowed up to a cumulative total of 4,000 cfs-days (9 800 dam³). Deficit deliveries greater than the allowed cumulative total of 4,000 cfs-days (9 800 dam³) are to be refunded in the subsequent division period. Surplus deliveries at the end of a division period are not cumulative, cannot be used to reduce the accumulated deficit from previous division periods to below the allowed total deficit of 4,000 cfs-days (9 800 dam³), and cannot be used as a credit to make up future deficits. Exceptions to these procedures for this period are allowed only if agreed upon in writing by the Field Representative for Canada.
2. During June 1 through July 15 of each year, the United States, at its discretion, may reduce the deficit accumulated in the March 1 through May 31 period to 2,000 cfs-days (4 900 dam³) by making surplus deliveries of St. Mary River water. The remaining deficit is not refundable until after September 15 of that year unless agreed upon in writing by the Field Representative for Canada.
3. During June 1 through September 15 of each year, deficit deliveries from the United States to Canada at the end of each division are not to be incurred. However, if deficits are incurred, they are to be refunded by surplus deliveries in the subsequent division period or at a time agreed upon by both parties. Surplus deliveries do not carry over from one division period to another, are not cumulative, and cannot be used as a credit to make up future deficits.
4. On September 15 of each year, outstanding deficits are to be determined using the best available data, even though those data may be provisional. Any outstanding deficits as of September 15 are to be equalized by October 31 of each year. Deficit deliveries accumulated by Canada on the Milk River can be used to offset deficit deliveries accumulated by the United States on the St. Mary River.
5. The United States Bureau of Reclamation shall contact Canada (Environment Canada), the United States (U.S. Geological Survey), Montana (Montana Department of Natural Resources and Conservation), and Alberta (Alberta Environment) when they plan to begin deficit deliveries during the March 1 through May 31 period and when they plan to make surplus deliveries to reduce the accumulated deficits to 2,000 cfs-days (4 900 dam³) during June 1 through July 15. On or about July 1, and again by September 15 of each year, the parties shall participate in a conference call or meeting to discuss refund of remaining deficit deliveries.

MILK RIVER

As of January 2001, the accounting procedures for the computation of deficit and surplus deliveries during March 1 through September 15 of each year on the Milk River are:

1. During March 1 through May 31 of each year, deficit deliveries from Canada to the United States at the end of each division period are not to be incurred. However, if deficits are incurred, they are to be refunded by surplus deliveries in the subsequent division period or at a time agreed upon by both parties. Surplus deliveries do not carry over from one division period to another, are not cumulative, and cannot be used as a credit to make up future deficits.
2. During June 1 through September 15 of each year, deficit deliveries from Canada to the United States at the end of each division period will carry over from one division period to another for the year, are cumulative for the year, and are allowed up to a cumulative total of 2,000 cfs-days (4 900 dam³). Deficit deliveries greater than the allowed total of 2,000 cfs-days (4 900 dam³) are to be refunded in the subsequent division period. Surplus deliveries at the end of a division period cannot be used to reduce the deficit accumulated during the June 1 through September 15 period to below the lesser of the allowed total deficit of 2,000 cfs-days (4 900 dam³) or the outstanding United States' deficit accumulated on the St. Mary River in the March 1 through May 31 period, and cannot be used as credits to make up future deficits. The remaining deficit is not refundable until after September 15 of that year unless agreed upon in writing by the Field Representative for the United States.
3. On September 15 of each year, outstanding deficits are to be determined using the best available data, even though those data may be provisional. Any outstanding deficits as of September 15 are to be equalized by October 31 of each year. Deficit deliveries accumulated by Canada on the Milk River can be used to offset deficit deliveries accumulated by the United States on the St. Mary River.
4. Canada (Environment Canada), the United States (U.S. Bureau of Reclamation and U.S. Geological Survey), Alberta (Alberta Environment) and Montana (Montana Department of Natural Resources and Conservation) shall participate in a conference call or meeting on or about July 1, and again by September 15 of each year to decide on the approach to be used to reconcile outstanding deficit deliveries.

ANNEX C

Letter of Intent to Better Utilize the Waters of the Eastern Tributaries of the Milk
River

LETTER OF INTENT
TO
BETTER UTILIZE THE WATERS OF THE EASTERN TRIBUTARIES OF THE
MILK RIVER

Whereas, the Boundary Waters Treaty of 1909 and the International Joint Commission Order of 1921 authorize the Accredited Officers of the United States and Canada to make the greatest beneficial use of the waters of the St. Mary and Milk Rivers, and the Eastern Tributaries of the Milk River;

And, whereas the Order of 1921 identifies an equal-sharing arrangement as the basis for apportionment on the Eastern Tributaries;

And, whereas apportionment procedures have been developed and accepted identifying the manner in which the equal-sharing arrangement is to be met;

And whereas, Canada and the United States have identified that beneficial use of the respective shares of the waters of both countries may be improved by providing for increased flexibility in the application of the accepted procedures;

It is therefore ordered and directed by the Accredited Officers that:

1. Acceptable means by which to provide increased flexibility and benefit may include:

For all formally apportioned Eastern Tributaries


- a. Management of deficit deliveries to allow for prolonged periods of deficit storage in Canadian reservoirs in the Province of Saskatchewan, interim partial deficit discharge, and release rates coordinated with downstream Montana needs and uses where such operations would provide mutually determined and incidental benefits.

For the Frenchman River Tributary


- b. Notwithstanding that reasonable water-management operations will be made by Canada to balance outstanding deficits, residual season-end deficits of less than 300 dam³ (240 acre-feet) shall be allowed and forgiven if live-channel flow at the international boundary is anticipated to continue beyond the apportionment season.

For the Lodge/Middle Creek Tributary

- c. Notwithstanding that reasonable water-management operations will be made by Canada to balance outstanding deficits, small deficits on the order of 200 dam³ (160 acre-feet) which arise in the latter apportionment season shall be concluded by mutual agreement, giving due consideration to factors including, but not limited to, available Canadian storage in Saskatchewan reservoirs, existing channel conditions, and beneficial use of the deficit volume. Where it is concluded that a specified deficit volume cannot reasonably and beneficially be offset by a release from Canadian storage, the deficit volume shall be allowed and forgiven.
2. Mutual agreement for the extent and application of Clause 1 above shall be determined by designates of Montana Department of Natural Resources and Conservation (DNRC) and the Saskatchewan Watershed Authority. The intended actions determined by mutual agreement shall be communicated to the Field Representatives for the United States and Canada for approval.
3. Normally accepted calculations of deficit and surplus flows shall continue to determine the apportionment balance.
4. All apportionment balances within the general limits stated in Clause 1 shall be considered resolved at the end of the apportionment season and resulting deficits shall not be carried forward to the next apportionment season.
5. In the event operations arising from Clause 1 cannot be agreed upon between the Montana DNRC and the Saskatchewan Watershed Authority, the original terms of the procedures shall be the default position. Such default may be initiated by request of the Montana DNRC or the Saskatchewan Watershed Authority to the Field Representatives for the United States and Canada.
6. Environment Canada and the U.S. Geological Survey will provide apportionment information to all parties in a timely manner. A list of the parties is included as Annex A and will be updated annually, or more often as required.
7. Termination of this Letter of Intent will be allowed upon request by either the United States or Canada notifying the other party in writing by February 1 of the year of intended termination.



Tim Goos
Accredited Officer of Her Majesty
Dated this 23 day of August, 2007



William J. Carswell Jr. for the
Accredited Officer of the United States
Dated this 11 day of September, 2007

CONTACT LIST REGARDING

LETTER OF INTENT –

TO BETTER UTILIZE THE WATERS OF THE EASTERN TRIBUTARIES OF THE MILK RIVER

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Matt Miles	DNRC	mmiles@mt.gov	(406) 265-5516

AAFC	Agriculture and Agri-Food Canada
AEP	Government of Alberta, Environment and Parks
A.O.	Accredited Officer
DNRC	Montana Department of Natural Resources and Conservation
ECCC	Environment and Climate Change Canada
F.R.	Field Representative
USBR	United State Bureau of Reclamation
USGS	United States Geological Survey
WSA	Saskatchewan Water Security Agency

ANNEX D
Conversion Factors

FACTORS FOR CONVERSION BETWEEN INCH-POUND UNITS AND INTERNATIONAL SYSTEM (SI) UNITS

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 for volume 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

INTERNATIONAL GAUGING STATIONS OPERATED JOINTLY
BY
THE UNITED STATES AND CANADA
ST. MARY AND MILK RIVER BASINS
2020

Stations listed in downstream order

Map Index	Station Name
<u>ST. MARY RIVER BASIN</u>	
5015500	Lake Sherburne at Sherburne, Montana
5018000	St. Mary Canal at St. Mary Crossing near Babb, Montana
05AE027	St. Mary River at International Boundary
<u>MILK RIVER BASIN</u>	
6133500	N. Fork Milk River above St. Mary Canal near Browning, Montana
11AA001	North Milk River near International Boundary
11AA025	Milk River at Western Crossing of International Boundary
11AA005	Milk River at Milk River, Alberta
11AA031	Milk River at Eastern Crossing of International Boundary
<u>LODGE CREEK TRIBUTARY BASIN</u>	
11AB089	Altawan Reservoir near Govenlock
11AB060	Spangler Ditch near Govenlock
11AB009	Middle Creek near Saskatchewan Boundary
11AB001	Middle Creek below Middle Creek Reservoir
11AB108	Middle Creek near Govenlock
11AB008	Middle Creek above Lodge Creek
11AB083	Lodge Creek below McRae Creek at International Boundary
<u>BATTLE CREEK TRIBUTARY BASIN</u>	
11AB102	Gaff Ditch near Merryflat
11AB078	Cypress Lake West Inflow Canal
11AB085	Cypress Lake West Inflow Canal Drain
11AB077	Cypress Lake West Outflow Canal
11AB084	Vidora Ditch near Consul
11AB058	Richardson Ditch near Consul
11AB044	McKinnon Ditch near Consul
11AB018	Nashlyn Canal near Consul
11AB027	Battle Creek at International Boundary
<u>FRENCHMAN RIVER TRIBUTARY BASIN</u>	
11AC064	Belanger Creek Diversion to Cypress Lake
11AC037	Cypress Lake
11AC060	Cypress Lake East Outflow Canal
11AC052	Eastend Canal near Eastend
11AC055	Eastend Reservoir
11AC063	Huff Lake
11AC066	Huff Lake Pumping Canal
11AC065	Huff Lake Gravity Canal
11AC056	Newton Lake
11AC054	Newton Lake Main Canal
11AC041	Frenchman River at International Boundary

GAUGING STATIONS OPERATED INDEPENDENTLY
BY EITHER
THE UNITED STATES OR CANADA
ST. MARY AND MILK RIVER BASINS
2020

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

**Station not operated in 2020

Map Index	Station Name	Operated by
<u>ST. MARY RIVER BASIN</u>		
5013900**	Grinnell Cr at Grinnell Glacier near Many Glacier, Montana	U.S.A.
5014300*	Swiftcurrent Creek above Swiftcurrent Lake, at Many Glacier, Montana	U.S.A.
5014500*	Swiftcurrent Creek at Many Glacier, Montana	U.S.A.
5017500*	St. Mary River near Babb, Montana	U.S.A.
5018000*	St. Mary Canal at intake, near Babb, Montana	U.S.A.
05AE043*	St. Mary River at Highway 501, near Kimball, Alberta	Canada
05AE005*	Rolph Creek near Kimball, Alberta	Canada
05AE002*	Lee Creek at Cardston, Alberta	Canada
05AE023*	St. Mary Reservoir near Spring Coulee, Alberta	Canada
05AE026*	Canadian St. Mary Canal near Spring Coulee, Alberta	Canada
05AE021*	MacGrath Irrigation District Canal near Spring Coulee, Alberta	Canada
<u>MILK RIVER BASIN</u>		
6132200**	South Fork Milk River near Babb, Montana	U.S.A.
11AA028*	Bear Creek near International Boundary	Canada
11AA029*	Miners Coulee near International Boundary	Canada
11AA038*	Verdigris Coulee near the Mouth	Canada
6137400**	Big Sandy Creek at reservation boundary, near Rocky Boy, Montana	U.S.A.
FRR*	Fresno Reservoir	U.S.A.
6139500*	Big Sandy Creek near Havre, Montana	U.S.A.
6140500*	Milk River at Havre, Montana	U.S.A.
6142400*	Clear Creek near Chinook, Montana	U.S.A.
FTBELKMT*	Fort Belknap Main Diversion Canal	U.S.A.
ALFVALMT*	Alfalfa Valley Diversion Canal	U.S.A.
ZURICHMT*	Zurich Main Diversion Canal	U.S.A.
PARDISMT*	Paradise Main Diversion Canal	U.S.A.
6151500*	Battle Creek near Chinook, Montana	U.S.A.
HARLEMMT*	Harlem Main Pump Diversion	U.S.A.
HSCM*	Harlem Secondary Pump Diversion	U.S.A.
6154100*	Milk River at Harlem, Montana	U.S.A.
FBCM*	BIA – Fort Belknap Main Diversion Canal	U.S.A.
6154400*	Peoples Creek near Hays, Montana	U.S.A.
6154410*	Little Peoples Creek near Hays, Montana	U.S.A.
6154550*	Peoples Creek below Kuhn Coulee, near Dodson, Montana	U.S.A.
DODM*	Dodson North Canal	U.S.A.
DSCM*	Dodson South Canal	U.S.A.
6155030*	Milk River near Dodson, Montana	U.S.A.
DPCM*	Dodson Pump Diversion	U.S.A.
6155900*	Milk River at Cree Crossing, near Saco, Montana	U.S.A.
NELFDRMT*	Nelson Reservoir Feeder Canal	U.S.A.
NELR*	Nelson Reservoir	U.S.A.
NSCM*	Nelson South Canal	U.S.A.
NNCM*	Nelson North Canal	U.S.A.
6164510*	Milk River at Juneburg Bridge, near Saco, Montana	U.S.A.
6166000*	Beaver Creek below Guston Coulee, near Saco, Montana	U.S.A.
BCHM*	Beaver Creek near Hinsdale, Montana	U.S.A.
GLASGOMT*	Glasgow Main Diversion Canal	U.S.A.
6172310*	Milk River at Tampico, Montana	U.S.A.
6174500*	Milk River at Nashua, Montana	U.S.A.

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	Butala 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
11AB075	Lyons Creek at International Boundary	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
6151500*	Battle Creek near Chinook, Montana	U.S.A.

FRENCHMAN RIVER TRIBUTARY BASIN

11AC025*	Denniel Creek near Val Marie	Canada
11AC062*	Frenchman River below Newton Lake	Canada
11AC068*	Val Marie Pump No. 1	Canada

ROCK CREEK TRIBUTARY BASIN

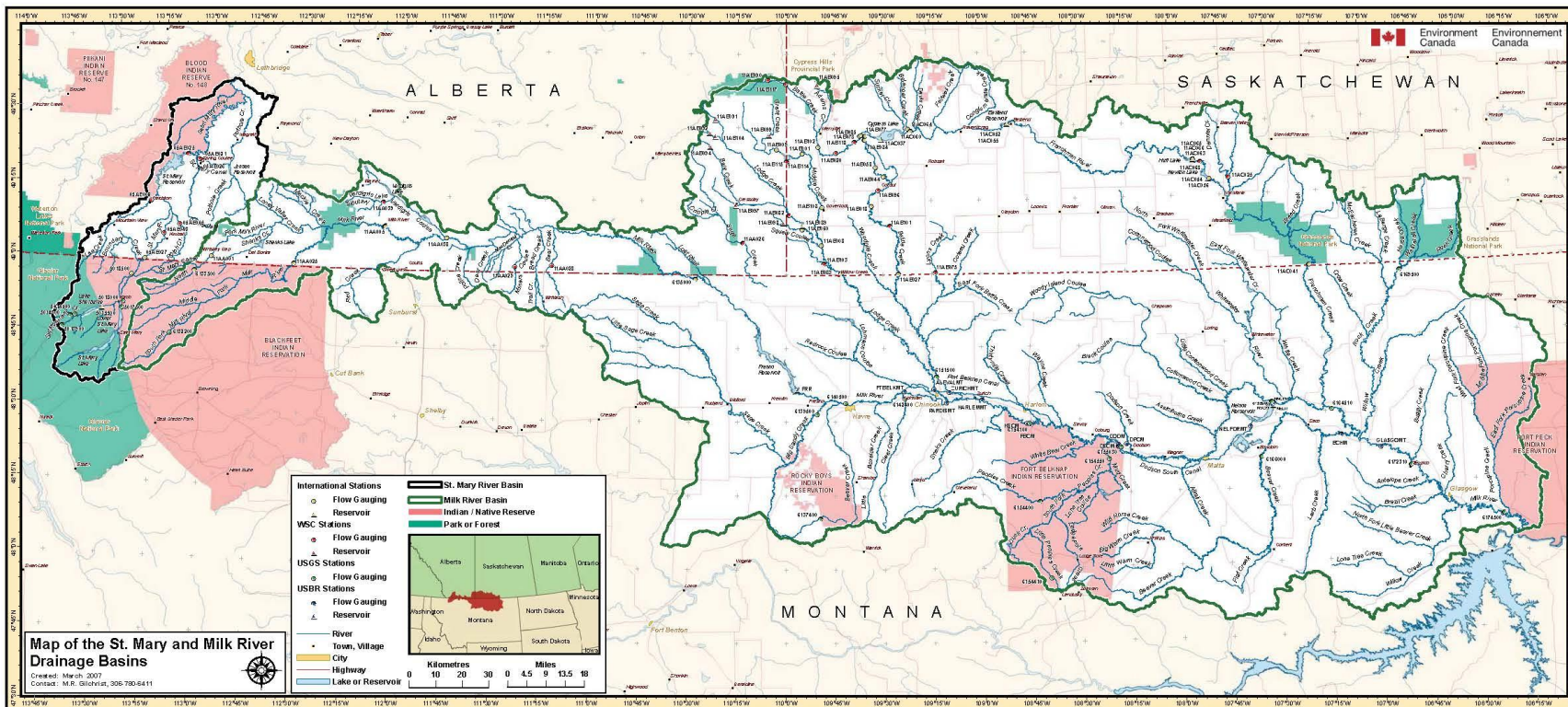
6169500*	Rock Creek below Horse Creek near International Boundary	U.S.A.
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SAGE CREEK TRIBUTARY BASIN

11AA026*	Sage Creek at Q Ranch near Wildhorse	Canada
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MAP

St. Mary and Milk River Basins



International Stations

- Flow Gauging
- △ Reservoir

WSC Stations

- Flow Gauging
- △ Reservoir

USGS Stations

- Flow Gauging
- △ Reservoir

USBR Stations

- Flow Gauging
- △ Reservoir

Legend

- River
- Town, Village
- City
- Highway
- Lake or Reservoir

Basins and Reserves

- St. Mary River Basin
- Milk River Basin
- Indian Native Reserve
- Park or Forest

Inset Map

Shows the location of the basins within the western United States and southern Canada, with labels for Alberta, Saskatchewan, Manitoba, Ontario, Washington, Idaho, Montana, Wyoming, North Dakota, and South Dakota.

Scale

0 10 20 30 0 4.5 9 13.5 18
Kilometres Miles

Map of the St. Mary and Milk River Drainage Basins
 Created: March 2007
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