

Accredited Officers of St. Mary and Milk Rivers
Notification of Anticipated 2025 Milk River Conditions
September 23, 2024

Summary:

The 2024 failure of the St. Mary siphon is expected to create a unique situation for Milk River water users in 2025. Without flow from the St. Mary Canal, water availability will depend entirely on natural flow generated in the basin. For the Milk River to support normal irrigation amounts, flows will have to be well above normal. In 2025, water users may want to plan for conditions that do not support normal irrigation use by being prepared to use water when it has been historically available (April – June). The Accredited Officers will be working with technical experts, governments, and interested parties to plan for water apportionment during the 2025 irrigation period, without the St. Mary Canal flows.

Anticipated 2025 Milk River Conditions:

Over the last 100 years, the Accredited Officers (AOs) have developed administrative procedures used to apportion water in the St. Mary and Milk Rivers with the nearly continuous operation of the St. Mary Canal. The June 2024 failure of St. Mary Canal leaves both American and Canadian Milk River water users dependent on natural streamflow generated within the watershed until the canal is repaired, which is anticipated to be in the fall 2025.

The AOs, their Field Representatives, and members of the St. Mary and Milk Rivers Technical Working Group (TWG) are working to develop and implement temporary modified procedures to address apportionment of Milk River flows for the 2025 irrigation season during this unique situation. As part of this, the AOs would like to provide the following information for consideration by irrigators and Governments to support planning for an expected change in water availability for irrigation use on the Milk River in 2025.

The TWG co-chairs have conducted a historical analysis of natural flow in the Milk River to provide information that may be of use when planning for the 2025 irrigation season. Natural flows for a recent 30-year period (1991–2020) were calculated and presented in quartiles (Figure 1). A conservative planning scenario is to plan for below average conditions such as streamflow that falls between the 25th and 50th percentile. Flow in this quartile range has occurred 13 times in the last 30 years.

The distribution of the Canadian share of natural flow over the irrigation season for 75th, 50th (median), and 25th percentiles, as well as current irrigation water use estimates on Milk River in Alberta (Paterson 2017), are presented in Figure 2. The range of Canadian share is also presented in Table 1 below.

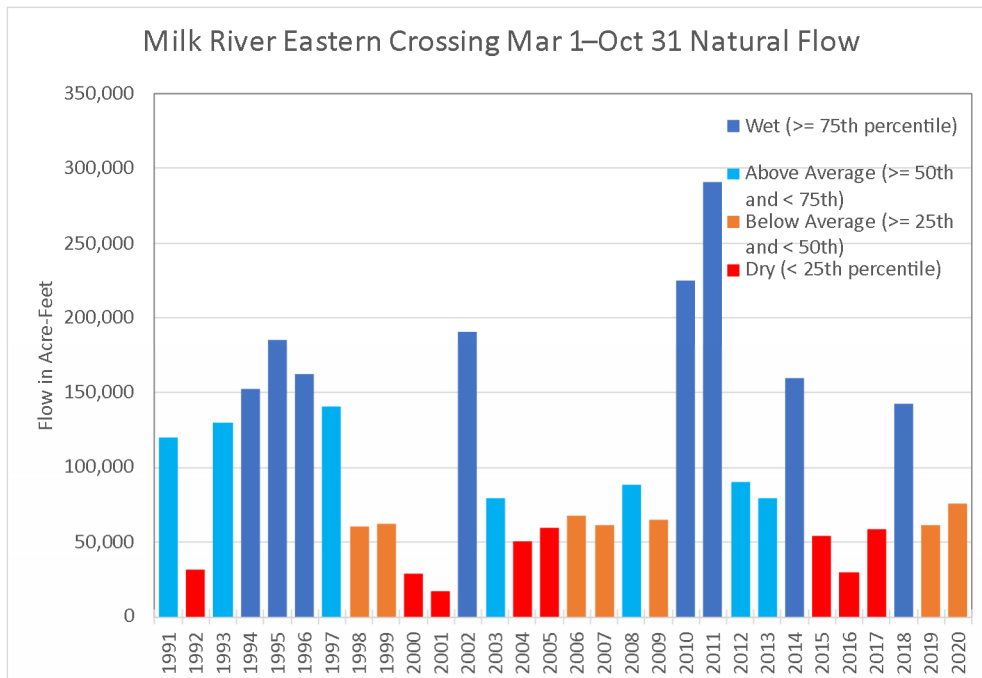


Figure 1: March 1–October 31 natural flow conditions from 1991–2020. [1 acre-foot = 1.2334 dam³]

Paterson (2017) estimates that on average 3,760 acres of land are irrigated in the Canadian portion of the Milk River watershed on a given year. As seen in Figure 2 and Table 1, under median flow conditions the Canadian share will not support normal irrigation use in July and August. If flow conditions are at the 75th percentile, the Canadian share is still slightly below normal use for August.

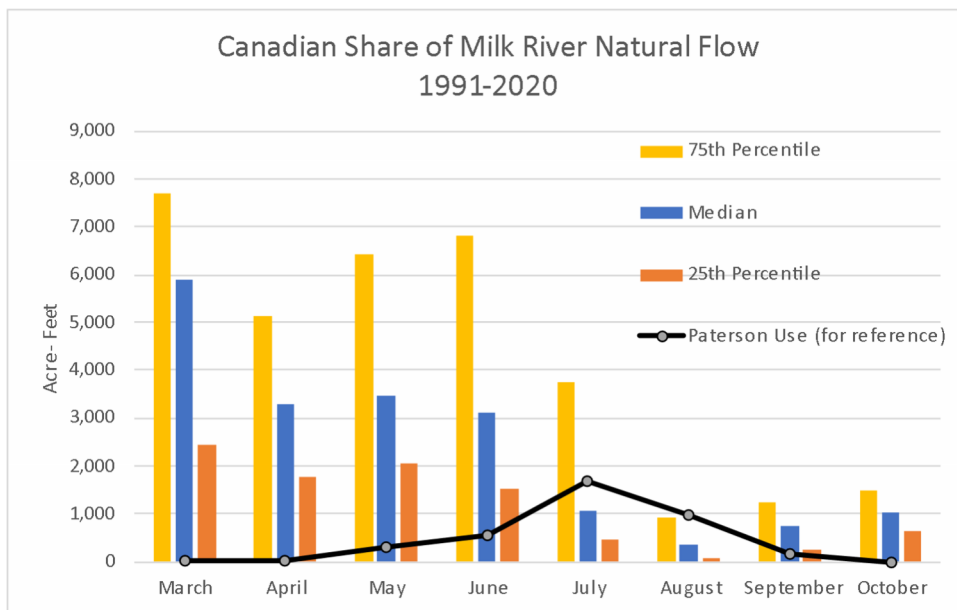


Figure 2: Monthly median, 75th, and 25th percentile natural flow values from 1991-2020, as well as Canadian use estimates (Paterson 2017).

Month	Range of Canadian Share						Paterson Numbers	
	Percentile (dam3)			Percentile (acre-feet)				
	25th	50th	75th	25th	50th	75th	(dam3)	Acre-feet
March	3,015	7,285	9,483	2,444	5,906	7,687	14	11
April	2,192	4,050	6,303	1,777	3,283	5,110	20	16
May	2,514	4,256	7,933	2,038	3,450	6,431	392	318
June	1,889	3,842	8,431	1,532	3,115	6,835	664	538
July	564	1,336	4,618	457	1,083	3,744	2,070	1,678
August	84	455	1,137	68	369	922	1,205	977
September	301	924	1,534	244	749	1,244	220	178
October	794	1,270	1,825	643	1,029	1,479	0	0

Table 1: 75th, Median, and 25th percentile Canadian share of the Milk River based in 1991-2020 period.

Based on this information, Milk River basin irrigators in Alberta may want to modify their irrigation practices in 2025 by planning to utilize available water in the Milk River during April, May, and June when water supplies are most likely to be available. In the coming months, the AOs will be working with the TWG, Governments, and interested parties to plan for water apportionment during the unique conditions in 2025.

We remain hopeful for a plentiful water year in 2025 and will continue to work to provide solutions to allow for flexibility to address this unique situation.

Sincerely,



Dr. Wayne Jenkinson
Canadian Accredited Officer for the
St. Mary and Milk Rivers



John Kilpatrick
U.S. Accredited Officer for the
St. Mary and Milk Rivers

Reference:

Paterson, 2017. Milk River Consumptive Water Use Study, Paterson Earth & Water Consulting Ltd. Lethbridge, Alberta.