

Nov 22, 2019

Dr. Pierre Béland  
Canadian Section Chair  
International Joint Commission  
234 Laurier Ave. West, 22nd Floor  
Ottawa, Ontario K1P 6K6

Ms. Jane Corwin  
U.S. Section Chair  
International Joint Commission  
1717 H St. NW, Suite 801  
Washington, DC 20006

Dear Dr. Béland and Ms. Corwin:

In 2017, the Accredited Officers for the St. Mary and Milk Rivers (AOs) began a review of their administrative procedures with the goal of recommending changes that would improve access to each country's apportioned share of the water. In a letter from the Commission dated February 2, 2018, the Commission officially directed the AOs to conduct a review of their apportionment procedures, work with the Montana-Alberta Water Management Initiative to facilitate the completion of their work, and report back to the Commission with recommendations in the Spring of 2019.

As per the Commission's direction, the AOs conducted a thorough review of previous studies and options for amending the administrative procedures and evaluated many structural options that would result in improvements. In this analysis, the AOs limited their review to the options that had been previously modeled. The AOs shared an options summary document with various agencies in Canada and the United States involved in water management in these basins, seeking their perspectives on what options their agencies and the constituencies they represent believe show promise with respect to optimizing the sharing of waters between the two countries. The responses received from the agencies contributed to the AOs final recommendations report transmitted to the Commission on June 20, 2019. In addition, the AOs recognized vulnerabilities and the need for resiliency with any of the options considered, given the climate is changing and has changed since the 1921 Order was issued.

Given the complexities and interdependence of these options considered, coupled with climate vulnerabilities and the desire to achieve long-term resiliency in these shared waters, the AOs noted in their report to the Commission that further detailed investigations were necessary to identify and implement the best options. The AOs also noted the required modelling and time needed to conduct meaningful public and stakeholder engagement will exceed the resources of the AOs. The AOs asked the Commission to help the AOs obtain the resources needed to conduct recommended studies and associated stakeholder engagement. The AOs provided general costs for a proposed study to identify a combination of options of greatest mutual benefit and requested the opportunity to provide updated costs should the Commission decide to seek funding for all or parts of the proposed study. In our appearance before the Commission in October 2019, the Commission requested the AOs provide more detailed and updated costs for the proposed study as well as the addition of indigenous engagement and socioeconomic analysis components to the study.

As requested, enclosed for your consideration is a more detailed study plan that includes updated costs for the previously included study components as well as indigenous engagement and socio-economic analysis.

We appreciate the Commission's help and direction in moving forward in our efforts to improve access to each country's apportioned share of the water. We also look forward to the opportunity of hosting the Commissioners on a tour of the basins in May 2020.

Sincerely,



Dr. Alain Pietroniro  
Canadian Accredited Officer for the  
St. Mary and Milk Rivers

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

c.c.: Camille Mageau, Secretary, Canadian Section/IJC  
Charles Lawson, Secretary, U.S. Section/IJC  
Wayne Jenkinson, Senior Engineering Advisor, Canadian Section/IJC  
Mark Colosimo, Senior Engineering Advisor, U.S. Section/IJC  
Malcolm Conly, Canadian Field Representative  
Jill Frankforter, U.S. Field Representative

## **St. Mary and Milk River**

### **Apportionment Procedures Review – Project Considerations**

The Accredited Officers (AOs) of the St. Mary and Milk Rivers were tasked with identifying options to improve access to entitlements by Canada and the United States. To this end, the AOs have reviewed the results as of August 2018 of the Joint Initiative (JI) between Alberta and Montana. From this the AOs prepared a summary and shared it with the various agencies in Canada and the United States to seek their perspectives on what options their agencies and the constituents they represent, believe show promise with respect to optimizing the sharing of waters between the two countries. The responses formed the basis of the recommendations submitted to the International Joint Commission in the spring of 2019.

Almost all of the options and recommendations submitted to the IJC by the AOs require further consideration and study. Several of the options are complex and interdependent, requiring additional study to identify what combination of options would be of greatest mutual benefit. These additional investigations also need to be applied in the context of maximizing climate resiliency within the watershed – a factor now significant in the context of a more variable climate.

Beyond identification, operationalizing the identified combination will require significant interaction with stakeholders and development of new/revised procedures for administration. In addition to stakeholder engagement, which must include cultural considerations including engagement with indigenous communities within the watershed, the IJC also requested that AOs consider social, economic and political aspects as part of optimizing the options. The required modeling and time needed to conduct meaningful public and stakeholder engagement as well as socio-economic and political analysis will exceed the resources of the AOs.

#### **Governance:**

With appropriate funding and concurrence of the IJC, the AOs recommend the study be led by a bi-national, unbiased study board consisting of the AOs as Co-chairs, technical leads and independent experts from each country as appointed by the IJC. The bi-national Study Board would be responsible for overseeing all study components, allocating funding for each component on a bi-national basis, and striving to make consensus-based recommendations to the Commission. Further, it is recommended each AO have an Alternate Co-Chair to assist with workload and ensure appropriate representation at meetings for which the Co-Chair could not attend. The AOs recommend the Board be supported by dedicated Study Co-Managers who will ensure consistent and ongoing engagement with the various agency and public stakeholder groups, lead the execution of contracts as directed by the Study Board, develop meeting agenda and logistics, and manage the administrative record transparently in addition to other duties. The AOs propose the IJC Communications Specialists lead public engagement with stakeholders,

including Indigenous groups, in collaboration with the Study Board and with the support of the Study Co-Managers. Not including the direct support from the IJC (e.g., Communication Specialists) and estimate to support the governance of this study would be as follows:

<b>Work Description</b>	<b>Cost Estimate</b>
Administration - including Study Managers	\$440,000
Travel & Incidentals	\$48,000
<b>Total</b>	<b>\$488,000</b>

### **Modelling:**

Modeling efforts will be initiated using similar models as were used during the Montana-Alberta Joint Initiative. The data sets will need to be extended, however, and there will be a need to adapt or develop additional models to address the various combination of options that are being considered including options and considerations for additional infrastructure (storage and conveyance). Efforts will also be required to assemble climate data sets that can be used to evaluate various options under varying climate conditions. It will also be informative to undertake a retrospective analysis of current administrative options within the context of various climate scenarios. Throughout the process, there will be a need for stakeholder engagement, likely via workshops, to ensure adequate input for the models as well as understanding of the model output. Estimates for the modeling component of this investigation would be as follows:

<b>Work Description</b>	<b>Cost Estimate</b>
Model Identification & Validation of existing hydrological model	\$140,000
Validation/development of streamflow/reservoir routing	\$112,000
Climate Change scenarios and simulations	\$140,000
Modification of code to simulate infrastructure changes/options	\$168,000
Evaluate coupled options scenarios to optimize mutually beneficial flows	\$560,000
Hydraulic modeling at key reaches sensitive to erosion or significant morphologic channel adjustments	\$110,000
Stakeholder Engagement - workshops	\$350,000
Report Review & response of model outputs	\$105,000
<b>Total</b>	<b>\$1,685,000</b>

### **Indigenous Engagement:**

Indigenous engagement will be an important consideration in any options related to the sharing of the waters of the St. Mary and Milk Rivers. It is anticipated that there will be a need for dedicated meetings and facilitated workshops to ensure input from Indigenous communities is appropriately captured. It will be equally important to have opportunities to discuss the outcomes of the investigation so that there is a clear understanding of the implications. While the engagement would necessarily occur through the period of this investigation, it is highly likely that there will be periods of more intensive engagement, such as at the initiation of the investigation and again in sharing outcomes of the investigation. Throughout this process it is understood that the IJC would provide support for the engagement (e.g., via Communication specialists, Advisors, etc.) as would the Study Managers (as identified for the Project Governance). Aside from this, internal support and taking into considerations recent experience with respect to indigenous engagement on other IJC Studies (e.g., Souris River Plan of Study), estimates for indigenous engagement are as follows:

<b>Work Description</b>	<b>Cost Estimates</b>
Contractor	\$100,000
Travel support for participants	\$60,000
Facilitated Workshops	\$20,000
<b>Total</b>	<b>\$200,000</b>

### **Socio-Economic Analysis:**

Further to the direction provided to the AOs by the IJC to include an evaluation of the social, economic and political vulnerabilities associated with the investigations of options for the St. Mary/Milk River several steps have been included. Taking into consideration approaches adopted by other study boards (e.g., Lac Champlain–Richelieu River – LCRR) the AOs recommend undertaking a historical analysis of water availability, apportionment, irrigation within the watershed. This would be done in the context of the Boundary Waters Treaty and the 1921 Order related to the St. Mary and Milk Rivers with particular emphasis on how this has shaped irrigation development, water rights legislation and allocation within the jurisdictions. The historic review would include examination of the responses and mitigation measures adopted by water users during periods of drought or limited water availability. Coupled with this could be a review on how communities and water users reacted to these situations.

Over the years, there have been a number of studies undertaken and reports commissioned related to flow apportionment, water supply and storage within the St. Mary and Milk River Watersheds. Some of these reports have been initiated by the IJC, some by the jurisdictions and others have been a result of third party interests. While some of these studies may have been technical at their core, many have included socio-economic perspectives and it would be instructive to review these within the current socio-political and economic context. This analysis could potentially inform some of the various options considered for the hydrological modeling.

Based on the historical review and with input from stakeholders and jurisdiction it would allow for an analysis of current vulnerabilities and resiliency to climate change in the basins. The resiliency analysis would also provide a context for model evaluations of various climate scenarios and the administrative and structural options that can be considered to help mitigate the impacts. It would also be useful information in developing appropriate social, political, and economic indicators that would have specific linkages back to stakeholders and water-rights holders. The culmination of this information would inform an overall benefits analysis as well as a mitigation options relative to the cost of wither. Some of the other components of this investigation include stakeholder engagement, and there will be occasions to leverage those opportunities to gather input to support the SPE component. There will be need, however, to have some dedicated outreach/engagement sessions that may engage with non-traditional stakeholders (e.g., municipalities, processing plants, etc.) who indirectly benefit from the agricultural industry that has evolved in the context of current water availability for the St. Mary/Milk Rivers.

<b>Work Description/Activity</b>	<b>Cost Estimate</b>
Contract - Economist	\$120,000
An historical analysis of water availability, apportionment, irrigation.	\$50,000
Press review of past droughts and impacts from water availability	\$10,000
A review of existing / past studies on the St. Mary/Milk rivers	\$15,000
Resilience Analysis on water availability	\$75,000
Social-Political-Economics (SPE) Indicator Development	\$80,000
Cost-Benefit Analysis	\$100,000
Outreach	\$30,000
<b>Total</b>	<b>\$480,000</b>

**Combined Costs:**

Based on the four components outlined for this investigation; Governance, Modeling, Indigenous engagement, and Social-Political and Economic Analysis, the total cost for this initiative would be \$2,853,000. The AOs believe that it would take a minimum of four years to undertake the full breadth of this investigation. This would amount to approximately \$600,000 - 900,000 per year (average over 4 years is \$713,250), depending on the year and the staging of the various activities within this proposal.