

International
Souris River
Study Board
Progress
Report

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Background

The Souris River originates in Saskatchewan, crosses the International Boundary into the United States and passes through North Dakota, and then again crosses the International Boundary into Manitoba before joining the Assiniboine River. Major reservoirs have been constructed in both Canada and the United States, including Boundary, Rafferty and Grant Devine Reservoirs in Saskatchewan, and Lake Darling in North Dakota. The basin also includes a number of wildlife refuges and small impoundments along the North Dakota portion of the river.

The International Souris River Board (ISRB) operates under the 2002 directive and was formed through the integration of 2 existing boards – the Souris River Board of Control and the Souris River aspects of the International Souris-Red Rivers Engineering Board. The ISRB is responsible for ensuring compliance for flow apportionment and low-flow measures. In addition, the ISRB ensures the terms of the 1989 International Agreement for Water Supply and Flood Control in the Souris River Basin are met.

Unprecedented flooding in the Souris River Basin in 2011 focused attention on review of the Operating Plan contained in Annex A to the 1989 International Agreement. Public as well as government agencies involved in flood protection, particularly in North Dakota, requested that additional flood protection measures be evaluated, above and beyond what is currently provided under the International Agreement, and that the Operating Plan contained in Annex A of the Agreement also be reviewed. In light of these factors, the IJC's International Souris River Board established the Souris River Basin Task Force in February 2012 to conduct a review of the Annex A Operating Plan for presentation to the Governments of Canada and the United States. The Task Force completed a Plan of Study in 2013 that describes the detailed studies that would be needed to review the existing Annex A Operating Plan for the reservoirs described in the 1989 Agreement in Saskatchewan and North Dakota and to evaluate alternatives to maximize flood control and water supply benefits. In June 2013, the IJC submitted the Plan of Study to governments.

On July 5, 2017, the governments of Canada and the United States issued a reference for the IJC to undertake the Plan of Study. In this reference, the governments of Canada and the United States requested that the IJC examine and report on flooding and water supply in the Souris River Basin, and coordinate the completion of the full scope of the 2013 Plan of Study.

On September 5, 2017, the IJC issued a directive to establish and direct the International Souris River Study Board (Study Board) to examine and report to the IJC on matters raised by the Governments of Canada and the United States in the 2017 reference.

As outlined in the Directive, the IJC directed the Study Board to develop a Work Plan; this was submitted to the IJC in February 2017. The purpose of the Work Plan is to describe all studies needed to assist the IJC in fulfilling the terms of the July 5, 2017 reference. Each element of the Governments' joint reference is addressed in the Work Plan through a number of tasks that are grouped under four broad activities:

- a. Operating Rules Review

- b. Data Collection and Management
- c. Hydrology and Hydraulics
- d. Plan Formulation

During the study several data and task reports will be completed and submitted to the IJC throughout 2019. A final report describing the best set of alternatives developed using information gathered on past flood events and dry period operation, input gained from the public, tribal representatives, and agencies will be submitted to the IJC in February 2020.

Study Progress

1. Study Governance

A Study Board comprised of four members from Canada and four members from the United States has been established and is responsible for providing oversight to the study. One member of the board resigned and was replaced by the IJC with consideration to the new guidelines on diversity. The Study Board members come from Federal, Provincial, and State Agencies in addition to two members representing the public. Two study managers, one from Canada and one from the United States, were selected, and are responsible for assisting the Study Board on delivering on its mandate.

2. Advisory Groups

A **Resource Agency and Advisory Group** (RAAG) has been established to act as a conduit for Federal, Provincial, State and municipal agency input and industry input on interests to study processes and for dissemination of study outputs. The first meeting was held on June 25, 2018 in Estevan, SK. At this meeting, the Study Board outlined the Work Plan, the role and expectations of the RAAG were discussed, and a draft Terms of Reference was discussed and modified. As of October 2018, the RAAG is in the process of soliciting feedback from agencies through a request for information (RFI); this information will then be used in models to evaluate alternatives for the study. The RAAG is working hard to ensure that information is obtained from all necessary agencies in order to gain the best possible results for the modelling.

The **Climate Advisory Group** (CAG) will be established once the Study Board is satisfied that the integrated modelling system to be used for plan formulation is mature enough to accept climate change inputs. The CAG will help the Study Board identify future climate states (precipitation, temperature, and evapotranspiration) that will be used to estimate future hydrologic conditions in the Souris River Basin. CAG members will be from Government and Academia and will represent the disciplines of water resources, hydrology, climatology and atmospheric science.

3. Public Engagement

The IJC, working with the Study Board, established a **Public Advisory Group** (PAG) and held the first PAG Workshop in February 2018 in coordination with the ISRB winter meeting in Minot, ND. The PAG plays a significant role in public engagement and is helping to bring

information from the public to the Board. They are crucial in ensuring the public concerns are heard as part of the study. PAG members represent a variety of public interest including: agriculture, small businesses, local government, etc. Due to the significant level of work and participation that the study requires from the volunteer PAG, the IJC is working to expand the group with more members and doing so in accordance with the guidelines on diversity. While taking some extra time to accomplish, this expansion will be helpful in the overall study. The PAG has prepared and released a [questionnaire](#) to the public (available online until November 12, 2018) in order to solicit feedback on how various interests were affected by the 2011 flooding and how changing flows might potentially affect public lives and communities. The PAG and those working on the study are working hard to ensure that the public is able to provide their input for this important step in the study. The results of the questionnaire will be utilized to develop inputs to various models that will contribute to selecting an operating plan or plan(s).

4. Indigenous Engagement

The Study Board is working with the PAG and IJC to contact First Nation and Tribes who may be interested in various aspects of the Work Plan or who may have been affected by the 2011 event. A workshop focused on Aboriginal engagement with First Nations in Canada was held in June 2018 in order to provide further background on the process as well as recommendations. Engagement with these groups is in its early stages but may happen through different channels in each country due to different existing relationships and structuring of groups. In both countries, the goal is to establish engagement meetings to have meaningful dialogue with the Nations regarding the impact of flooding and water supply. In the United States, Study Board committee members have met with the Executive Director of the North Dakota Indian Affairs Commission to seek guidance on Tribal interest and the consultation process. The Study Board will send out a letter in October 2018 to all Tribal contacts the Executive Director has provided to establish the Tribes interest in the Work Plan. In Canada, a consultant has been contracted to assist the ISRSB to set up meetings with the Indigenous groups in the basin to discuss the study with them, gauge their interest in the study and its outcomes, obtain their feedback on how they may have been affected by the 2011 flood, and establish potential long-term relationships. As of October 2018, two meetings have been planned and others are in the planning stages.

5. Technical Tasks

Nineteen tasks placed in four broad groups are shown in Table 1 below. Each task has been assigned a technical lead, in addition to a technical team. The technical teams are comprised of scientists and engineers from several Provincial, State, and Federal Agencies as well as Consultants. Currently, the technical teams are working on sub-task assignments as outlined in the Work Plan.

Old No.	New No.	Name	Group	Canada Costs (CND)	USA Costs (USD)
1a, 1b, 2	OR1	1989 Agreement Language Review	Operating Rules Review	6	0
				6	0
3	DW1	Summarize POS Projects and Report Progress since 2013	Data Collection and Management	3	0
4	DW2	Lidar and Bathymetry for Reservoirs		75	0
5	DW3	Review of Hydrometeorological Network Report		15	0
6	DW4	Data Collection for PRM		0	85
				93	85
7	HH1	Regional Hydrology	Hydrology & Hydraulics	44	25
8	HH2	Stochastic Water Supplies		6	185
9	HH3	Artificial Drainage Impacts Review		43	0
10	HH4	Flow Simulation Tools Development (MESH)		76	0
11, A4	HH5	ECCC Climate Change Supplies		47	5
12	HH6	Reservoir Flow Release Planning (RES-SIM)		64	65
13	HH7	Reservoir Flow Release Planning (HEC-RAS)		3	16
new	HH8	Develop PRM Model		4	72
new	HH9	Model System Integration		28	0
new	HH10	Forecasting Assessment		175	0
				490	368
14, A1, A3, A5, A	PF1	Workshops and Engagment	Plan Formulation	209	175
15, 16, 17	PF2	Run and Evaluate Alternatives		173	238
new	PF3	Dam Safety		3	75
new	PF4	Roadmap for apport., water quality, and aquatic eco. health		0	0
				385	488
	A1	Administration - Independent Review Group		47	33
	A2	Administration - Study Manager (Canada)		165	0
	A3	Administration - Study Manager (U.S.)		0	106
				212	139
Total				1186	1080

Table 1. Canadian and U.S. costs, and activities required to meet the IJC September 5, 2017 Directive to the International Souris River Study Board

6. Work Plan

One of the main tasks of the Study Board during 2018 has been to modify and produce the final Work Plan delivered to the IJC in October 2018. The Study Board has modified the Work Plan based on comments received online, from the Internal Review Group, and from presentations made at ISRSB public meetings in Minot, ND in February 2018 and in Estevan, SK in June 2018. The high level feedback coming from these meetings was that the public has a variety of concerns specific to their homes, ranch operations and have been affected differently depending on their situation. There was also feedback on the impacts to local transportation infrastructure

The modified Work Plan has 19 projects grouped into the four broad categories listed above to enable the IJC to address the issues identified in the terms of the Reference. One of the major improvements in the modified Work Plan has been to clearly identify the technical lead for each task, outline the sub-tasks to be completed, provide a timeline, and estimated cost for each task.

Significant modifications to the tasks include separating the original HH4 task between forecasting development and forecasting assessment and adding task PF4 to look at water quality and ecosystem health. The addition of task PF4 will help the IJC address comments made in the Reference related to water quality and ecosystem health. In addition, several tasks have been reorganized. These have mainly been moved to task PF1 – “workshops and engagement”; engagement with various groups remains an important tenet of the Work Plan.

Budget

The budget for this study shown in Table 1 is on track. At this time, budgets are being committed and study managers are examining and seeking ways to cover resource shortfalls as they arise. Detailed budgets for each task can be found in the updated Work Plan.

Summary of Emerging Issues/Challenges

The Study Board has the resources to effectively address flooding and water supply issues, as well as to examine the impacts of alternative operating plans on apportionment. However, full understanding the impacts of alternative operation plans on water quality and aquatic ecosystem health are beyond the resources that have been made available to the Study Board. The Study Board will provide a road map in task PF4 to provide guidance on how to address water quality and aquatic ecosystem health concerns

The timelines in the Work Plan represent the current optimistic estimates for completing work within the original time frame of the study. However, we would like to acknowledge that they are based on the study components progressing without any surprises in the results, extensions in public and agency input periods, or difficulties in execution that might call for significant changes in the Work Plan approach. The team is utilizing the best available data and methods from both countries and integrating some of them for the first time through this effort. The complexities of integrating the nineteen tasks and our commitment to effective public engagement in developing and selecting alternatives introduce some unknowns into the Work Plan and Schedule.

Next Steps

The study is approximately midway through its lifespan, with the majority of tasks underway. As of October 2018, there are a number of upcoming meetings and events:

- Canadian Indigenous engagement meetings – first meeting scheduled for October 29th with more to follow in November
- US Indigenous Engagement
 - Introductory letter of engagement will be sent in October to the Tribal Historic Preservation Officers in North Dakota
 - US study manager and US RAAG co-chair will be delivering a presentation on the IJC, River Board and Study Board to the United Tribes of North Dakota either in November or December
- HH task team calls are scheduled on an approximate bimonthly basis
 - Next technical call – October 18th 2018
 - Call for technical teams for HH and DW tasks to update on progress
- RAAG Workshop – scheduled for February 2019
- DW4 working meetings with PAG and RAAG – December 2018
- Study managers and other involved in study administration and planning participate in weekly calls

Technical tasks continue through various stages of the study. They are at differing stages of completion and are outlined in detail in the Work Plan.

Issues Requiring IJC direction

There are currently no issues requiring IJC direction