



International Souris River Board
Souris, Manitoba, Canada
June 15, 2022

Final Minutes

Board Members in attendance: Nicole Armstrong, Andrea Travnicek, Bruce Davison, John-Mark Davies, Shelly Wepler, Debbie McMechan, Gregg Wiche, Jeff Woodward, David Pattyson, David Glatt, Col. Karl Jansen, Russell Boals, Tom Pabian, Joe Goodwill, David Ashley (virtual), Scott Gangl (virtual), Lorinda Haman (virtual), Mark Lee (virtual)

Board Member Regrets: None

IJC Commissioners: Robert Sisson, Pierre Beland

IJC Advisors: Mark Gabriel, Rob Caldwell, Mark Colosimo, Catherine Lee-Johnston

Support Staff and Participants: Paul Klawunn (ECCC/Canada co-chair AEHC), Curtis Hallborg (WSA/Canada co-chair FFLC), Tim Ma (ECCC), Kyle Flanery (USFWS), Scott Jutila (USACE), Katrina Euteneier (WSA), Rochelle Nustad (USGS), Ken Bottle (USFWS/U.S. co-chair COH), Rebecca Seal-Soileau (USACE) Chris Korkowski (NDDWR), Felicia Minotti (GAC), Gary Williams (USFWS), Allen Schlag (USNWS), Laura Ackerman (NDDWR/ISRB U.S. co-secretary), Richard Aisaican (Cowessess First Nation), Brian Caruso (USFWS), Bryan Koontz (U.S. Consulate Winnipeg), Douglas Walker (U.S. Dept. of State), Brent Hanson (USGS), Peter Wax (NDDEQ), Girma Sahlu (ECCC/ISRB Canada co-secretary), Wendy Wells (USACE), Rachel Weller (WSA), Diana Fred (ECCC), Steven Fuller (USGS), John Paczkowski (NDDWR), Phoenix Combe (Manitoba Metis Federation), Morgan Berquist (MHA Nation), Dan Selinger (ECCC), Laura Diamond (USNWS), Larissa Paseschnikoff (ECCC), Dean Brooker (Souris River Watershed District), Lisa Lone Fight (MHA Nation), Joel Wessman (GAC), Dan Jonasson (City of Minot), Theresa Gaines-Gant (USACE)

1. Introduction, Opening Remarks, and Round Table

Nicole Armstrong (Canadian Co-Chair) opened the meeting at 9:00 a.m. CST on June 15th. Once the meeting was opened, Pierre Beland (IJC Canadian Section Chair) read an official statement regarding the ISRB governance review.

A splendid study of the watershed has just been completed. Let's keep it alive. Let's not put aside the knowledge gained, and the results obtained through that great effort. We can use the Report as a guide for future work.

There are a number of recommendations in there, addressed to governments, and addressed to the IJC. They need to be acted upon. The unknown and the uncertain need to be researched, and where needed, discussions, consultation, work meetings, and whatever else that will bring the various interests together must happen. If we are to manage the water resource in terms of quantity and quality, in ways that are factually possible and for the common benefit, we need to reach agreements that are beneficial to all, and to the contentment of most. Another achievable goal, and a very important one, is to complete the appointment of Indigenous members to the Board.

We all need to take the time to create, where needed, and to take advantage of the already established relationships, to consult all interests, and strive toward reaching consensus, starting with what we agree on as foundations on which to build further.

I see that Canadians and Americans are dispersed throughout the room. If this were a standard meeting between two nations, there would be two delegations. A line would be visible right down the middle of this room. National delegations would be separated, each sitting on one side of the line. We are not like that. There is trust among us, we have much in common, there is more that brings us together than takes us apart.

Fortunately, though there is always some measure of urgency so as to be prepared for possible flood or drought, there is no crisis now in the basin. Time is in our hands.

The Souris River Study was a milestone and a remarkable achievement. After the Report was submitted, the Commission thought it wise, as it does from time to time in other watersheds, to review the governance of the Souris Board.

Board members on both sides had noted areas where improvements would benefit the process. An incredible effort has been carried out over the last year by IJC staff to examine and propose a new structure. Commissioners welcomed that proposal. No structure is perfect, and there are always ways to do better as we adapt to changing conditions.

During that process, many comments and sometimes opposing views have been heard. I will not attempt to review them here, but simply make general comments in reference to the 1989 Agreement.

The IJC is not a party to that agreement. But of course, there is only one watershed, one water resource, and that is where the IJC Board and the signatories of the Agreement meet. The responsibilities intermesh, and so do members of the Board and those who represent our two nations, the two provinces and the one state, all signatories to the Agreement.

We have been made aware that there are uncertainties, and differing viewpoints regarding the interpretation of the Agreement. Of course, they cannot be overlooked in the context of the Souris Board. In particular is the issue of equal division or fairness, regarding ownership of water at any given time, if I may call it that way. Conciliating viewpoints is fundamental to binational agreements on transboundary waters, and they need to be sorted out through meetings and discussion between the signatories, as it is their Agreement, not the IJC's.

Over the last two months, I, as other Commissioners, have received numerous e-mails from Board members commenting on the genesis, the travail, and the proposed new structure for the Board. Most were received during the last stretch - as in the last kilometers of a marathon, when typically, runners are getting exhausted and are tempted to give up. While some members were ready to accept the new structure, others were not. We have also been made aware that the Canadian signatories to the 1989 agreement wanted more time to review.

This demonstrates again that all those involved take this issue at heart.

In view of all the above, the Commission is in ongoing dialogue and deliberation on the matter of the new governance structure, and we will get back to you when we have completed that process.

As I said earlier, there is no emergency and we can take the time to consider further, to understand all points of views, in order to arrive at a result that will make us all more efficient, more engaged, and which we all view as the best possible for this day and age.

There is no ideal governance, no ideal Board structure. But in any shape and form, structure should follow function.

We have a common goal: doing what is best for the watershed and its people. You who are assembled here have the expertise and the knowhow. You are engaged and you have established good relationships over the years. I fear not, and I have no doubt that we can achieve our common goal.

N. Armstrong also reminded participants that the meeting will be recorded. That was followed by self-introduction of Board members and Co-Secretaries.

2. Approval of Agenda

The agenda was approved as circulated.

Motion: Shelly Wepler moved to accept the agenda as presented. Russell Boals seconded the motion. Carried.

3. Approval of Minutes

a. March 9 and 10, 2022 Virtual Meeting Minutes

Motion: Gregg Wiche moved to accept the minutes as presented. Col. Karl Jansen seconded the motion. Carried.

b. March 24, 2022 Virtual Meeting Minutes

Motion: R. Boals moved to accept the minutes as presented. Col. K. Jansen seconded the motion. Carried.

4. Review of Action Items

N. Armstrong suggested keeping the action items separate from the meeting minutes. The group briefly reviewed the action items and discussed how most of the items were on the agenda.

Action Item: Co-secretaries work with the ISRB co-chairs to resolve organization of action items.

5. Review of 2022 Hydrology Conditions and Operations

a. Saskatchewan

Katrina Euteneier gave a presentation that included a review of the pre-freshet conditions, evaluation of 2022 forecasts, spring precipitation, observed runoff, current conditions, and the operating plan for the remainder of 2022 (Attachment 1). Precipitation received in the Saskatchewan portion of the basin during the 2021 growing season was below normal, only 60 to 80 percent of normal. Subsurface deficits remained and wetland storage during the period was low.

Prior to the melt, WSA's snow water equivalent observations ranged from 40 to 80 mm (1.6 to 3.1 in) across the Saskatchewan portion of the basin and snowpack was slightly above normal. Based on conditions during the March 15th forecast, near to below normal runoff was expected throughout the basin, non-flood operations were expected, and apportionment was recommended to be a 50/50 split as natural flows at Sherwood were expected to be less than 50,000 dam³ (40,536 ac-ft).

Additional spring precipitation was much higher than the previous forecasts, which brought the total volume received to nearly 140-175 percent of normal. The additional precipitation occurred in four large events over the spring period, two of which were snow events in April and two being rainfall events in May. The total spring precipitation around the three Canadian reservoirs ranged from 170 to 210 mm (6.7 to 8.3 inches), which is approximately 200 percent of normal.

The additional precipitation resulted in Rafferty Reservoir being 1.5m (5ft) below its Full Supply Level (FSL). Boundary Reservoir at the time of the meeting was approximately at its FSL, with the plan to keep it approximately 12 inches below its FSL to have a buffer for summer rain.

At Grant Devine, the first peak occurred on March 30th and the second peak occurred in late April. A release of 10 cms (350 cfs) was initiated to meet the apportionment deficit and keep the reservoir below FSL. North Dakota requested a delay in release and WSA reduced the releases out of Grant Devine to 1 cms (35 cfs). Grant Devine was filled above FSL and the lake at the time of the meeting was expected to hit FSL by the end of the week.

Peak flow at Sherwood was about 29.5 cms (1,042 cfs) in mid-May. The unregulated peak flow at Sherwood was estimated to be about 56.5 cms (1,995 cfs), which provides for a 48 percent reduction in peak flow due to dam operation.

Current conditions are much wetter than normal across the basin. The operating plan for the remainder of 2022 is to pass additional inflows from Boundary to Rafferty through the diversion channel, bring Grant Devine down to FSL without exceeding the Sherwood flow targets, release any deficit volume owed to North Dakota from Grant Devine, and drawdown operations to meet the February 1st reservoir levels by freeze up.

R. Boals asked what type of rainfall events could cause Rafferty Reservoir to fill. K. Euteneier responded that it would take approximately 1.3 times the total runoff from the year to fill Rafferty Reservoir.

b. North Dakota

Brent Hanson presented on the total amount of flows that passed by Long Creek near Noonan, Souris River near Sherwood, and Souris River near Westhope (Attachment 2). According to B. Hanson's report, the total volume of flow past the Long Creek near Noonan gage was 15,300 ac-ft (18,872 dam³). Flows for 2022 range from normal to much above normal. The peak flow for the period was 767 cfs (21.2 cms) on May 14th, which ranks 31st out of 62 years of record.

The total volume of flow past the Souris River near Sherwood gage for 2022 was 33,600 ac-ft (41,445 dam³). Flows for 2022, based on the last 91 years of record, lie at 73 percent of median flow. The peak discharge for the period was 1,090 cfs (30.9 cms), which ranks 47th in 91 years of record. Daily flows dropped below 4 cfs from January 1st-March 21st.

The total volume of flow past the Souris River near Westhope gage for the first part of the 2022 calendar year was 134,000 ac-ft (165,287 dam³). Total flow for the first half of the 2022 calendar year is about 111% of the median flow for the last 92 years. The peak discharge for the period was 3,260 cfs (92.3 cms), which ranks 19th in 92 years of record.

Allen Schlag provided the NWS perspective from 2022 and into the future (Attachment 2). A. Schlag showed a map of the 60-day percent precipitation on June 13, 2022, which showed much above normal precipitation for all of North Dakota. A. Schlag noted that the latest U.S. drought monitor outputs will show for the first time in two years that North Dakota will no longer have any counties in drought. Future temperature and precipitation outlooks show above normal temperatures and normal or near normal precipitation. A. Schlag also mentioned that soil moisture is high and that it should benefit the growing season.

R. Boals asked if there have been any noted trends showing climate change causing wetter, cooler, and later springs. A. Schlag noted that he is not aware of any peer-reviewed or published studies that show this, but said there are hints that the precipitation patterns over the last few years could be leaning towards less precipitation over the growing season and more over the fall and early spring periods.

c. US Fish and Wildlife Service (USFWS)

Tom Pabian presented a summary of refuge operations and flows for 2022 (Attachment 3). T. Pabian stated the USFWS operates three National Wildlife Refuges (NWR) located on the Souris River in North Dakota. Upper Souris National Wildlife Refuge is located near Foxholm, North Dakota, upstream of the City of Minot. J. Clark Salyer National Wildlife Refuge is located near Upham, North Dakota, downstream of the City of Towner. Des Lacs National Wildlife Refuge is located on the Des Lacs River (a tributary of the Souris River) near Kenmare, North Dakota.

All of the major storage facilities in the Souris River Basin in North Dakota are located on National Wildlife Refuges and operated by the Fish and Wildlife Service under water right permits issued by the State of North Dakota.

Summary of Refuge Operations and Flows for 2022

Upper Souris NWR - Total inflow for the first five months at Sherwood was 33,093 ac-ft (40,820 dam³). This was 42% of the historic average inflow for the period. Total yearly outflow measured at the Souris River near the Foxholm gauge on the south end of the refuge was 6,678 ac-ft (8,237 dam³). This was 10% of the historic average annual outflow. Lake Darling's pool volume increased an estimated 41,672 ac-ft (51,401 dam³) during the first five months of the year and its pool elevation increased 4.5 ft (1.37 m) from January 1st to May 31st resulting in a water surface elevation of 1597.0 ft (486.77 m).

J. Clark Salyer NWR - Total inflow at Bantry was 74,335 ac-ft (91,692 dam³) or 71% of the historic flow for the period. Total outflow measured at Westhope was 132,208 ac-ft (163,078 dam³) in the first five months of the year. Total pool volume on January 1st was 12,666 ac-ft (15,624 dam³) and increased to 75,723 ac-ft (93,404 dam³) by May 31st.

The planned operations for the refuges are to maintain pools at their summer operating levels and provide at least 20 cfs (0.566 cms) to Manitoba from June 1st through October 31st.

Robert Sisson asked if there was any annual flushing for water quality conducted at the refuges. T. Pabian stated that it depends on the year and that the only required drawdowns are designated in the 1989 Agreement.

R. Boals then asked if there was a scenario where rainfall caused flows to go above 500 cfs at Minot, would that indicate a flood year type operation? T. Pabian said that flood operations are determined by snowmelt events, according to the 1989 Agreement. Even though that situation would not officially be flood operations, the USFWS would reach out to the USACE to help manage that event. Chris Korkowski said the portion of the 1989 Agreement on significant spring and summer rainfall states that if the flow target cannot be maintained, the operations are supposed to go back to the Reservoir Regulation Manuals, highlighting their importance.

d. Manitoba

Mark Lee presented a summary of the hydrologic conditions for the Souris River in Manitoba (Attachment 4). Since the summer of 2020 the basin had been accumulating a significant moisture deficit. The Manitoba portion of the basin had received the record low precipitation from July to September 2021 when compared to the rest of the record which dates back to 1950. The Canadian Drought Monitor classified the Manitoba portion of the basin as extreme or exceptional drought conditions. Flows at Wawanesa were reduced to almost zero, which resulted in restrictions from irrigation pumping from the river from July 30th to August 18th, 2021. Irrigation was allowed to resume after significant rainfall later that August. Additional precipitation in the fall of 2021 brought soil moisture to near normal conditions.

Snowmelt started in mid to late March of 2022. The first peak at Wawanesa occurred on April 5th at a flow of 71 cms (2,500 cfs). The second peak, which occurred on May 22nd, was 115 cms (4,050 cfs). Rain that occurred since the writeup caused flow at Wawanesa to increase from 71 cms (2,500 cfs) to 204 cms (7,200 cfs). M. Lee mentioned that it has been a good year to observe how the land reacts when it is saturated. Parts of the basin received 3 inches of rain recently, which increased flow at Wawanesa by three times.

M. Lee also commented on the great communication this year between Manitoba and the United State Fish and Wildlife Service. M. Lee also thanked Joe Goodwill and Debbie McMechan for being eyes and ears on the ground.

Rebecca Seal-Soileau started that she is trying to better understand what affects runoff in the prairie pothole region. R. Seal-Soileau asked if there were any resources available to help us understand the connectivity of runoff. M. Lee stated that the HH3 study group investigated this issue and mentioned the Ducks Unlimited review that was completed. The Ducks Unlimited group looked at the historic versus current conditions in aerial photography, which the HH3 group used to look at the effective drainage area. Manitoba then used LiDAR to identify the drains and calculated the drainage area on the Oak River. Curtis Hallborg commented on what a huge asset LiDAR is to assess the impacts of drainage and improve forecasts and mentioned a culvert inventory might also help.

C. Korkowski stated that the NDDWR has been working on putting PRESENS units in the basin. The PRESENS units can monitor stage, temperature, and precipitation. Recently the NDDWR placed PRESENS units on the five pools at J Clark Salyer National Wildlife Refuge. In addition, NDDWR staff is looking to put sensors on sites indicated in the study's HH10 report on the Des Lacs River. In support of some of the comments previously mentioned about LiDAR, it was also mentioned that the NDDWR is looking at gathering QL2 LiDAR for the entire state.

R. Boals stated that there was collaboration with the Canadian Space Agency to look at refining algorithms for mapping soil moisture. R. Boals stated these may be useful data to help understand the change in wetness over a number of seasons.

Jeff Woodward mentioned that the fill and spill technology continues to be an area of research for WSA. As the MESH models are refined and get better, it is something they will continue to look at. WSA also completed installation of 12 climate stations across southern Saskatchewan, three of which are in the Souris River Basin. WSA is also looking to add tipping bucket rain gages at existing hydrometric stations.

D. McMechan asked if there was an objective to obtain LiDAR for the entire basin and if it could be patched together. This request led to an action item for the COH to catalog available LiDAR and other hydrologic products within the basin.

Action Item: COH catalog LiDAR and other hydrologic/climatological products in the Souris River Basin.

6. Compilation of Souris River flows to May 31, 2022

N. Armstrong thanked ECCC on the interim apportionment calculation in March. Dan Selinger presented the determination of natural flow on the Souris River at Sherwood from January 1st to May 31st, 2022 (Attachment 5). Grant Devine Reservoir's elevation was at FSL on May 31st. Rafferty Reservoir's elevation on May 31st was 548.99 m (1801.2 ft), about 1.5 m (4.9 ft) below FSL. Recorded flow at Sherwood was 41,446 dam³ (33,600 ac-ft) and natural flow at Sherwood was 108,213 dam³ (87,729 ac-ft), exceeding the 50,000 dam³ (40,535 ac-ft) criteria in the agreement. Under the 60/40 apportionment split scenario, North Dakota received a surplus of 1,235 dam³ (1,001 ac-ft). At Long Creek's eastern crossing, there was a surplus of 7,550 dam³ (6,121 ac-ft).

After D. Selinger's presentation, Tim Ma presented on the 50/50 and 60/40 split (Attachment 5). Saskatchewan will deliver 50 percent of the natural flow at the Sherwood Crossing in every year except in years when Conditions 1 or 2 apply. In those years, Saskatchewan will deliver a minimum of 40 percent of the natural flow volume at the Sherwood Crossing. The 2000 Interim

Measures as Modified provide that the lesser amount (40 percent) is in recognition of Saskatchewan's operation of Rafferty and Grant Devine Dams for flood control and of increased evaporation loss from the reservoirs as a result of the flood control.

T. Ma then presented on Conditions 1 and 2, either of which can trigger the 60/40 split. Condition 1 contains the following:

1. Annual natural flow volume at the Sherwood Crossing is greater than 50,000 dam³ (40,535 ac-ft)
2. Elevation of Lake Darling on June 1st of the current year is greater than 486.095 m (1594.8 ft)

Condition 2 contains the following:

1. Annual natural flow volume at the Sherwood Crossing is greater than 50,000 dam³ (40,535 ac-ft)
2. Elevation of Lake Darling on June 1st of the current year is greater than 486.095 m (1594.8 ft)
3. Since the last time the elevation of Lake Darling was over 486.095 m (1594.8 ft) on June 1st, the June 1st elevation of Lake Darling has not been less than 485.79 m (1593.8 ft).

T. Ma stated that based on these criteria, a 60/40 split could be invoked if approved by the Board.

Col K. Jansen asked for clarification on Conditions 1 and 2, making sure they were what T. Ma presented on in his slides, which T. Ma confirmed. C. Korkowski commented that item b of the 2000 amendments to the 1989 Agreement was not included in the presentation. The section that was not included was that 50 percent of the first 50,000 dam³ (40,535 ac-ft) is to be delivered to North Dakota by June 1st. Bruce Davison mentioned that North Dakota has received 50 percent of the first 50,000 dam³ (40,535 ac-ft) and that the recommendation he has is for a 60/40 apportionment split.

Mark Colosimo reminded the Board that there was concern about others being able to validate and verify the natural flow calculation. M. Colosimo also mentioned that sufficient time is needed to verify the computations.

S. Wepler asked for clarification regarding the 50 percent apportionment volumes. B. Davison clarified that North Dakota did receive 50 percent of the first 50,000 dam³ (40,535 ac-ft).

John Paczkowski asked for clarification on whether switching from a 50/50 to 60/40 split requires approval by the Board. J. Paczkowski also asked who completes the natural flow computations and what the verification process is. N. Armstrong said that her assumption is that since we made a motion on it this spring, we would need a motion to change it. B. Davison said that ECCC completes the natural flow computations and is open to making the calculation more open and transparent. B. Davison wants to switch from the spreadsheet to a python-based approach so that everyone can verify the script. N. Armstrong also urged that there should be more opportunity for the committees to review these types of numbers before the meetings. B. Davison described the timing process and the difficulties in preparing for the meeting.

R. Boals felt that the annual number should go through a more rigorous verification process. R. Boals described the process for verification on international gages from the USGS and the time commitment that takes.

T. Pabian wanted clarification that if we are at a 60/40 split, does that mean that future inflow into Lake Darling will be based on whether Grant Devine goes over FSL. C. Hallborg stated that water would be stored unless it was owed or if reservoirs met their FSL and required a release. It was reiterated that the reservoirs need to be to their respective drawdown levels by February 1st.

J. Woodward mentioned that determining the apportionment split is a key piece of what the Board does with the 1989 Agreement. As operators they are always tracking apportionment.

C. Korkowski mentioned that if we are approaching the trigger, it would be desirable for the Board to meet virtually to approve the apportionment computation.

R. Sisson asked if the rule says June 1st, how are decisions made prior to June 1st. J. Woodward says it is something that is always tracked and being managed, but the Board needs to make the approvals on the split.

Action Item: ECCC share natural flow/apportionment calculation for Sherwood with COH as soon as possible for review in advance of Board meetings.

Motion: B. Davison moved to declare this year a 60/40 apportionment split at the Sherwood Crossing. D. McMechan seconded the motion. **Carried.**

Motion: B. Davison moved to approve the natural flow/apportionment calculations from January 1st to May 31st, 2022. J. Woodward seconded the motion. **Carried.**

7. Water Quantity Monitoring

a. Report on water quantity monitoring plans for 2022, highlighting any changes from 2021

D. Selinger informed the Board that ECCC currently does not have technical staff for the Souris, but they are looking to fill those positions. ECCC and USGS are looking at doing joint measurements at Sherwood and Noonan international sites in August or September. Joint measurements have not been completed in two years due to Covid related reasons. ECCC did install a camera on the Long Creek western crossing this year. D. Selinger also mentioned that the USGS installed a camera on the Sherwood site as well.

B. Hanson mentioned that the USGS has secured the materials to fix the Sherwood weir. The higher flows have been an issue to make the repairs and plan on waiting for lower flows. In addition to the Sherwood camera, the USGS plans to install a camera on Westhope and Long Creek near Noonan. The plan is to install the Westhope camera this week and hope to install the Long Creek at Noonan camera this fall.

8. Committee Updates

Update from the Flow Forecasting Liaison Committee (FFLC)

a. Update on terms of reference, membership, and activities

C. Hallborg updated the Board on the FFLC (Attachment 6). The FFLC issued four forecasts this spring on February 1st, February 15th, March 1st, and March 15th. The forecasts were developed in collaboration with the U.S. National Weather Service and circulated to the committee via email and made available on WSA's website. With the expectation of below normal snowmelt above

Lake Darling in 2022 and no operational decisions to discuss, the FFLC did not host conference calls to discuss these forecasts.

Snowmelt runoff was generally well below normal across the basin and was not sufficient to fill any reservoirs on the system, hence discussions around forecasts and operations were not required. Additional precipitation later in the season resulted in the FFLC becoming more active. Close coordination was required to discuss flooding on the lower Souris River and late season inflows in the upper portions of the basin. The FFLC met virtually on April 29 and May 2, 12, 18, and 31 to discuss conditions and operations.

Following the snowmelt runoff, it was questioned whether there was a deficit at Sherwood. A request was made for an interim assessment of the apportionment balance, which ECCC provided on May 12. The interim request included data up to and including May 9, 2022, which projected a 50/50 split to the apportionment year. The interim assessment estimated the natural flow at Sherwood exceeded the 50,000 dam³ (40,535 ac-ft) threshold, which would suggest a 60/40 split to the apportionment. The interim assessment showed a deficit of 7,571 dam³ (6,138 ac-ft) from Saskatchewan to North Dakota at the Sherwood Crossing. On May 12, WSA began to deliver its apportionment obligations and to prevent surcharge at Grant Devine Lake. On May 19, North Dakota requested a delay in release, which WSA provided.

There have been no changes to FFLC membership since February 2022. The only additional item that was updated to the Board outside of the forecast discussion was the flow chart for delayed releases and requests for interim apportionment requests. K. Euteneier and Laura Ackerman took the lead on development of the flow charts and a draft was shared amongst the FFLC, which was provided to the Board ahead of the meeting.

M. Colosimo mentioned that during the governance review interviews one item that kept coming up was concerns about lack of transparency regarding the natural flow computations. C. Hallborg believes the procedures for developing the natural flow computation falls within the COH. C. Hallborg also stated that it is important for operators to understand the status of apportionment to avoid over-delivering or situations where it would be difficult to fulfill a deficit. C. Hallborg voiced his support of a python script for computing apportionment, which was also supported by C. Korkowski.

J. Woodward stated that he believes the importance of the FFLC is maintaining the communication between the countries on conditions and operations, noting the distinction between those efforts and determining apportionment. M. Colosimo reiterated the need that was expressed earlier for more transparency on apportionment. B. Davison stated that the way J. Woodward described apportionment and the FFLC is how it is currently unfolding.

Action Item: FFLC review ToR, and propose changes if needed, to address concerns related to transparency of apportionment calculations.

M. Colosimo mentioned that IJC staff had drafted Terms of References for different committees, which may help the FFLC co-chairs in their review.

b. Update on apportionment flow charts

L. Ackerman presented on the apportionment flow charts developed by the FFLC (Attachment 6). Questions were raised at the Board meeting in the summer of 2020 regarding the process for requesting interim apportionment determinations at the Sherwood Crossing and the process for North Dakota to request a delayed release and request the release of the delayed water. The

Board created an Apportionment Reporting Ad Hoc Group to investigate these questions and report back. At the summer 2021 Board meeting, the Ad Hoc Group provided guidance for these processes and recommended that the FFLC create flow charts for the processes. The paper developed by the Ad Hoc Group was provided to the Board and the flow chart was developed using the processes laid out in the paper. The flow charts were then presented to the Board for discussion.

The first flow chart presented to the Board was for requesting an interim apportionment determination at Sherwood. N. Armstrong commented that the Board underwent this process this year and admitted that the request was only sent to ECCC, but not the USGS. N. Armstrong also noted that there is no touch point for the Board. S. Weppler agreed that sharing the information back with the Board is crucial for awareness. A. Travnicek seconded S. Weppler's thoughts saying that awareness and promoting active information sharing is important for the Board. R. Seal-Soileau commented that the Board and committee co-chairs could be included on the request for awareness. N. Armstrong then asked who can make a request and which group should be worked through to complete the request. L. Ackerman said it was intentionally left out because ultimately this is the responsibility of the Board and that from the group's understanding anyone could bring this request up to the Board for consideration. R. Boals agreed that who can make the request should not be limited and that it is appropriate as shown in the flow chart. The group commented that the delayed release language on the Interim Apportionment Determination flow chart could be removed. J. Woodward asked what conditions could limit the FFLC in reaching consensus on the request. B. Davison commented that if ECCC cannot complete the request, that there may not be consensus. J. Woodward then asked if removing the FFLC from this flowchart was required. N. Armstrong thought that having the request go through the FFLC made sense, which A. Travnicek concurred with. Col K. Jansen wondered if it was worthwhile to add a note referencing the IJC memorandum for consensus to the consensus box on the flow chart. Rob Caldwell noted that the flow charts are all based on "yes" responses and noted that maybe considerations should be given for "no" responses for clarity purposes. N. Armstrong suggested changing the word "need" to "request" in the orange box.

The second flow chart presented was on the management of delayed releases at Sherwood. N. Armstrong recommended a couple of touchpoints for the Board be added, including when the items go to the co-chairs and committee co-chairs. R. Caldwell noted that there is no discussion item when certain actions are happening and if the footnotes describe what is happening in each section. L. Ackerman noted that the footnotes reference specific parts of the agreement so that the reader can see where the language/authority is coming from. M. Colosimo noted that item 2 refers to the Board not the Board co-chairs. N. Armstrong noted that was what she suggested in her initial comments. C. Korkowski pointed out that when we went through the delayed process in 2020, he was told to include the Board co-chairs when informing Saskatchewan, and that they would forward that correspondence to the Board. C. Hallborg mentioned that the benefit/detriment decision is not that black and white, suggesting that maybe alternative language might be better. C. Hallborg thanked L. Ackerman and K. Euteneier for the great work on the flow chart. L. Ackerman responded that she would look into alternative language. David Pattyson asked that if confirmation is given by WSA to delay the release, is there the ability through the flow chart to cycle back and revise the decision if conditions change. J. Woodward commented that looking after all the combinations of what could happen would be extremely difficult for the flow chart and in his opinion most of the collaboration is in the first box. J. Woodward also stated that the flow chart is trying to capture the major pieces and thinks the flow

chart captures most of it. D. Pattyson agreed with that explanation and highlighted that the relationships are the most important part in working through the flow chart. N. Armstrong recommended adding a caveat at the end about bringing the FFLC, Board, and parties together to discuss changing conditions.

Action Item: FFLC make changes to apportionment flow charts based on comments from 6/15/22 Board meeting. Submit updated flow charts to Board for further consideration.

c. Confirmation on declaration of non-flood or flood

N. Armstrong mentioned that there was likely not much discussion or decisions to be had on this topic and asked the operators if they agreed. The group agreed that no discussion or decisions were required at the meeting.

Update from the Hydrology Committee (COH)

a. Update on terms of reference, membership, and activities

Ken Bottle updated the Board on the terms of reference, membership, and activities of the COH (Attachment 7). There were no changes to the membership of the committee since the last meeting. The committee held two calls since the special discussion on the Severe Drought Criteria on March 24, 2022.

b. Update on action items, including Severe Drought Criteria and Apportionment Procedures Manual.

K. Bottle went over the ongoing work regarding the Severe Drought Criteria. The COH reviewed the historic aspects and current issues of the Severe Drought Criteria, especially in relation to the dry conditions last fall. A reference to the Severe Drought Criteria was added to the draft Apportionment Procedures Manual. In addition to the discussion on the criteria, the committee also created a sub-group to investigate current Severe Drought Criteria issues, develop objectives, and a related work plan. The subgroup includes M. Lee, L. Ackerman, and K. Bottle. The group met before the meeting and made some progress on a draft work plan.

K. Bottle also went over progress on the draft Apportionment Procedures Manual. The committee members were given the opportunity to review and comment on an updated draft of the Apportionment Procedures Manual. Comments from the committee were addressed by ECCC staff, and the draft manual was updated again. The current draft Apportionment Procedures Manual was presented to the Board. The manual has the current methodology for analyzing, calculating, and presenting the apportionment of the water in the Upper Souris Basin between Canada and the United States of America. Bruce Davison displayed a brief power point presentation (Attachment 7) documenting the background of the Apportionment Procedures Manual. The presentation also included a motion that the ISRB approve the draft as the current Apportionment Procedures Manual with the understanding that the Hydrology Committee will identify and prioritize changes needed to the current apportionment procedures and develop a work plan to address the required changes, to be presented to the ISRB at their next Board meeting. M. Colosimo questioned the caveat to the motion. K. Bottle explained that the manual documents the current way it is done, and the Hydrology Committee would work through the difficult changes to the proposal. J. Woodward agreed that these are the procedures as they are now and that any additional changes would be addressed in a work plan. J. Woodward believes

the manual is a living document and it is important to move it ahead. N. Armstrong commented that it was great to see it summarized and has comments that could be implemented in the next draft, providing a brief example of things that could be documented and added in the future. K. Bottle stated that there is a list of things that could be added. A. Travnicek asked for clarification that there is time to add additional items.

Motion: B. Davison moved that the ISRB approve the draft as the current Apportionment Procedures Manual with the understanding that the Hydrology Committee will identify and prioritize changes needed to the current apportionment procedures and develop a work plan to address the required changes, to be presented to the ISRB at their next Board meeting. D. McMechan seconded the motion. **Carried.**

Following the motion, K. Bottle went over the action items that the Hydrology Committee is still investigating which includes follow-up items in the apportionment procedures, apportionment rounding, and the Severe Drought Criteria. K. Bottle stated that the subgroup on the Severe Drought Criteria is looking for a win-win solution. Stating that solutions might change, but for the betterment of everyone. A. Travnicek commented that the Severe Drought Criteria has come up for decades and is looking forward to seeing what the work plan will include. N. Armstrong wondered if two Canadians and two U.S. members should be added to the Severe Drought Criteria subgroup for IJC parity. B. Davison volunteered to fill the additional Canadian role on the subgroup.

Update from the Aquatic Ecosystem Health Committee (AEHC)

a. Update on terms of reference, membership, and activities

Paul Klawunn provided the update on the terms of reference, membership, and activities of the AEHC. P. Klawunn informed the Board that Heather Husband has changed jobs and that he plans on vacating his position soon, which would require two new co-chairs to fill their roles. P. Klawunn nominated an individual to help fill his role if the Board deemed it to be appropriate. P. Klawunn suggested that the new co-chairs could review the terms of reference since it has not been done to date. Additionally, the AEHC did not meet within the last six months, but water quality sampling was conducted during that time. A. Travnicek suggested that if anyone was interested in nominating co-chairs for the AEHC that they should be provided to the Board co-chairs for consideration.

b. Update on water quality conditions with respect to the binational objectives established for the Souris River at Sherwood and Souris River at Westhope.

P. Klawunn presented an update on water quality results for 2021 (Attachment 8).

At the Sherwood site, there were eight samples collected by the USGS between January and October of 2021. Results of the samples were compared to the ISRB objectives. Seven samples were included in the presentation from January to August 2021. Exceedances of the objectives occurred in Total Phosphorus, Sodium, Iron, Sulphate, Total Dissolved Solids, pH, Chloride, Dissolved Oxygen, and Total Suspended Solids. Additional parameters reported on during the presentation can be reviewed in Attachment 8.

At the Westhope site four samples were collected by the USGS between January and August 2021. Only sets of data collected between January and July 2021 were used for the presentation.

Exceedances of the objectives occurred in Total Phosphorus, Sodium, Iron, Sulphate, Total Dissolved Solids, pH, and Total Suspended Solids. Additional parameters reported on during the presentation can be reviewed in Attachment 8.

For 2022, monitoring at the Sherwood site will continue as normal. Five samples were collected at Coulter in place of Westhope in 2021 and ECCC resumed monitoring Westhope in April of 2022. The USGS conducted monitoring at Westhope in 2021 and will for the remainder of 2022, which will allow lab comparisons between the USGS and ECCC collections.

D. McMechan asked if the Coulter and Westhope data will be available to view side by side. P. Klawunn stated that they will have that information and comparisons available on the ECCC site. D. McMechan asked if there are plans to investigate the differences between the sites. P. Klawunn stated that there are samples that ECCC could compare, but there isn't as many as he would like. D. McMechan was wondering if the plan is to continue to monitor the Coulter site to be able to continue these comparisons. P. Klawunn said that it would be difficult to continue to monitor the Coulter site and he believes there are significant differences. Col K. Jansen asked how we plan on reconciling the differences. P. Klawunn said there are a lot of differences in sediment and overland inputs between the sites, which could explain the differences and hopes to have a better explanation at a future Board meeting. D. McMechan asked for clarification on whether the differences in contributions between the sites are why there are differences. P. Klawunn suspects that is the case. Rochelle Nustad commented on how there was not enough data to do a trends analysis comparison between Westhope and Coulter, but stated it is not uncommon for there to be this type of difference between two sites. R. Nustad encouraged ECCC to continue to monitor at Westhope and not at Coulter. P. Klawunn said the plan is to continue to monitor at Westhope.

R. Boals asked P. Klawunn's opinion on what parameters should be investigated to get input on effects of tile drainage. P. Klawunn stated that he is not an expert in that field. Dave Glatt said that North Dakota has seen flooding in dry years due to tile drainage and that the parameter they see most often is sulphates to the point that operators must watch their discharge from those systems. It is creating a management issue and is a concern for North Dakota. D. McMechan mentioned sodium as well and provided an example of a salesperson pitching it as a benefit to tile drainage systems.

c. Update on IWI Studies – Trends Analysis and Continuous Dissolved Oxygen Study

R. Nustad provided a presentation on the Souris River Water Quality Trends and Dissolved Oxygen Monitoring Studies (Attachment 8).

Souris River Water Quality Trends Analysis

The Water Quality Trends Analysis is being conducted on 34 sites and is considering 23 constituents with data from 1970 to 2020. The report summarizing the analysis is currently in USGS colleague review and will be sent to the IJC and AEHC as soon as it is available.

For the trend analysis, three trend analysis groups were analyzed, which include stream sites for recent trends, reservoir trends, and historical stream trends. There were not enough data to do a statistical analysis of paired datasets at Westhope. At Sherwood, there were significant differences in chloride, total phosphorus, and iron. For the recent stream sites trends analysis there were significant increases in sulfate and total dissolved solids and significant decreases in

total phosphorus. For reservoir sites, there were small to moderate increases in sulfate, total dissolved solids, and sodium.

The trend analysis shows increasing sulfate and total dissolved solids, which was also seen in the analysis completed on the Red River and Heart River. The dissolution of sodium-sulfate evaporates may be a large source of increasing sulfate from 1988 to 2005. Ultimately, the study has provided some understanding on how the water quality conditions have changed across the basin and throughout the time period, which highlights the need for continued monitoring.

Mark Gabriel had a question regarding the dissolution of sulfates and evaporates wondering what is causing that. R. Nustad said the idea is that there is a lot of that particular mineral available, and that same mechanism appears to be occurring in multiple basins. R. Nustad says it may be due to the wetter climate, but it is difficult to say definitively.

Dissolved Oxygen (DO) Monitoring 2022

Three continuous DO monitors have been running at Sherwood, Minot, and Westhope. In the three years of monitoring completed, hydrologic conditions have varied causing different patterns in DO over time. Higher flow conditions in 2022 will provide insight on dissolved oxygen concentrations at different flow conditions than the previous two years. Data for the study are available on the USGS website.

A. Travnicek thanked R. Nustad for her work and asked the Board who would like to receive the report. N. Armstrong suggested sending the report to the AEHC first and sharing the final report with the Board.

Update from the Communications and Outreach Committee (C&OC)

R. Boals opened by thanking the IJC for the brave decision to carry on further consultation with the Board regarding the governance structure, because it affects the committee. R. Boals believes that now that continued consultation is occurring, the Board should look at getting additional members for the committee. R. Boals proposed working with the co-chairs to fill the C&OC with members. R. Boals also suggested reaching out to the IJC for support with the committee. It was suggested that the C&OC could help with a more concentrated review and comment period of the ISRB annual report. A. Travnicek agreed that his suggestions would be a good path forward, highlighting the importance of communication and transparency. N. Armstrong suggested including L. Ackerman and Girma Sahlu on the committee and that co-chairs could also assist. S. Wepler volunteered to be the U.S. co-chair.

9. Public Member Update

Joe Goodwill commented that it is good to see everyone again. He reported that a year ago the land was dry. Manitoba being 14-percent of the basin and that all the excess water flows through the province. He stated that it is important to take hats off when coming to Board meetings, because we have to work at this together. It was noted that Manitoba has no control structures, yet still receives all the excess precipitation. J. Goodwill is hopeful we can get back to a good rhythm now that the group is meeting in person.

David Pattyson commented on how extreme the year has been going from drought discussions to flood damage reduction. The tour the previous day highlighted the resilience that the region has. D. Pattyson commented that although we have an agreement to uphold, this group is about much more than that.

David Ashley seconded D. Pattyson's comments. One point that R. Boals brought up is that we are looking at a cooler, wetter, later spring scenario, commenting on how quickly things can change. Additionally, D. Ashley thinks that the group needs to think with a basin wide perspective and work to be more proactive rather than reactive. Noting that being reactive to water issues is not sufficient.

Debbie McMechan agreed with everyone's comments and appreciates being on the Board to hear how the technical issues are discussed. D. McMechan commented on being in local government and getting calls about the river frequently. The 2021 drought caused severe impacts to the agriculture industry. D. McMechan thanked the group for having public members and allowing her the opportunity to have a voice in the process.

Shelly Weppler commented that she is honored to serve on the Board. S. Weppler felt that the ability to shift and work together to discuss what is the best for all is key. S. Weppler felt we are in an exciting time and that when she began her time with the Board, getting the plan of study going was the main item of discussion. Now that we are at the end of the study, it is go time. It feels like we have been on pause waiting for the results of the study, but today it appears we are discussing actions and direction for the future.

A. Travnicek thanked the Public Members for their participation and input. A. Travnicek then commented that we were going to deviate from the schedule and get updates from Lisa Lone Fight and Richard Aisaican.

L. Lone Fight of MHA (Mandan, Hidatsa, Arikara) Nation spoke to the group about herself and the work of the IJC and Board. L. Lone Fight spoke about how she's a geospatial scientist and researcher. Chairman Fox of MHA Nation directed her to attend the Board meeting. L. Lone Fight recalled a meeting where the IJC and Study Board wanted Indigenous knowledge and comments, specifically Wayne Jenkinson's comments on inclusion of Indigenous knowledge and how inspiring it was. L. Lone Fight felt that the Board was a place where everyone could come together for the land and the water. L. Lone Fight spoke about how the Board is a power tool and that it's more than checks and balances for our work. L. Lone Fight felt like the example of collaboration displayed by the Study Board and Board were something that could be used as an example around the world. L. Lone Fight offered to help publish something regarding the collaborative efforts of the group with the National Congress of American Indians or a counterpart in Canada, feeling that this document was important for others to learn and grow.

R. Aisaican of Cowessess First Nation spoke about his portfolio including land, air, and water. R. Aisaican commented on it being nice to be a part of this organization and that his nation has land in the Souris and Milk River basins. R. Aisaican wanted to make sure his people have access to good quality water for recreation and culture, noting how vital it is for the future. R. Aisaican started that being a partner with this group will allow him to learn, grow, and collaborate on issues within the system.

10. Update on Water Management Projects

a. Northwest Area Water Supply (NAWS)

L. Ackerman provided a summary of activities for the project and displayed a picture from May 18, 2022 of construction of the biota water treatment plant at Max, ND (Attachment 9). All the major pipeline contracts have been completed. One of the reservoir and pump stations at Lansford, ND is expected to be completed this month. Reservoir and pump stations at Bottineau and Souris, ND are close to completion on their designs. The Minot water treatment plant is expected to be commissioned soon. The biota water treatment plant is progressing but is unsure on the exact timeline of completion. The intake at the Snake Creek Pumping Station is currently waiting on permitting.

N. Armstrong noted that the last meeting of the adaptive management team for the NAWS project was just prior to the spring Board meeting. A draft report was sent to the U.S. Bureau of Reclamation and the group is waiting on comments. N. Armstrong also commented that it was exciting to see the progress on the biota water treatment plant. A. Travnicek agreed that it is exciting to see the progress and the collaboration that has taken place.

b. Canadian Dams Update

J. Woodward gave a brief update on the Canadian dams and changes with WSA. J. Woodward's division has changed to the Science and Knowledge Division, but ultimately does not think any of the changes will affect the Board or work with the IJC.

From a water projects perspective, WSA just completed a water supply study for Grant Devine and Rafferty. In general, WSA did not find more water and the basin is pretty much fully allocated unless they find a different way to manage risk. There are some changes that will be seen in the future with the decommissioning of the coal fire power plants, but that hasn't happened yet, so allocations are currently the same as they have been.

J. Woodward also provided an update on the trestle bridge downstream of Grant Devine Dam. The railroad trestle is immediately downstream of the dam and limits the outflow. Not much has changed since the last update, but they are still moving forward on trying to get federal funding for the project. The federal funding would give them the ability to start the project. WSA has begun negotiating with CP rail and the project still has the greenlight to proceed. The estimated completion is in the year 2026 and it is expected that the funding issues will be resolved quickly. Col K. Jansen asked if the funding request is for design or implementation. J. Woodward said it is for both. Col K. Jansen asked if IJC advocacy would help with funding. J. Woodward said he would play that card if it seemed there would be difficulty getting the federal funds.

c. Lake Darling update on PMF & IDF

Col. K. Jansen introduced Theresa Gant-Gaines to do the briefing. T. Gant-Gaines provided background on the Inflow Design Flood (IDF) study for Lake Darling Dam and the need to do future risk assessment (Attachment 10). IDF is the flood hydrograph used in the design or modification of a dam and its appurtenant works. All dams designed, constructed, and operated by the USACE must have an IDF study as specified in the Engineering Regulations (ER) which include:

- Wind wave analysis,
- Consequence assessment,

- Hydrologic assessment, and
- Hydraulic assessment (Risk assessment)

The IDF study is funded by the USFWS. The study is also coordinated with Sherwood and Westhope flow frequency analyses. The report is currently in the final stage of its internal review and after the results are received and addressed by the reviewer, the report will be final. The IDF report is scheduled to be sent to the USFWS for review in July of 2022.

Preliminary results include the following:

- Lake Darling inflow hydrograph peak equal to 270,000 cfs (7,646 cms) verses 82,300 cfs (2,330 cms) in the 1992 IDF study
- Lake Darling PMF elevation of 1,616.74 ft (NAVD88) verses 1,607.14 ft (NAVD88) in the 1992 study
- Lake Darling combined wind setup and wave runup was found to be 2.6 ft (0.79 m), which results in zero freeboard for Lake Darling

Future activities related to the IDF study include consequence modeling and assessment, hydrologic loading analysis, and a period risk assessment.

d. Other planned developments

Col K. Jansen gave a brief update on the Mouse River Enhanced Flood Protection Project in Minot. The federal project for the Maple Diversion was fully funded since the last meeting. The USACE is moving quickly with the project sponsor to have a construction contract about this time next year. A. Travnicek thanked Col K. Jansen and commented how the project receiving full funding is good news for the community and the state.

11. Work Plan including addressing IJC identified issues

A. Travnicek mentioned that the new work plan was included in the packet (Attachment 11). Since there was uncertainty with the governance review, the co-chairs put together a summary of the work that could continue to move forward. A. Travnicek mentioned that many of the items in the work plan address the comments about being proactive. A. Travnicek opened the work plan for discussion and thanked the IJC for the overview they provided earlier in the morning. N. Armstrong mentioned that this is a straw dog of some of the things the Board can do to address some concerns raised in the governance review, noting several of the items have already been discussed today. A. Travnicek and N. Armstrong plan on meeting with the co-chairs of all the committees to discuss their terms of references.

R. Boals thanked the co-chairs for putting the work plan together and appreciates the IJC's brave move to allow the current Board to continue. R. Boals commented that the Board could try and incorporate some kind of self-review process, noting it is something that could be part of the Communications and Outreach Committee.

B. Davison had a question on how we could move forward with Indigenous engagement, having concerns about the process taking too long. P. Beland stated that Indigenous participation is an IJC priority, and that staff is currently working on this, noting that whatever the structure of the Board is there will be Indigenous presence. S. Weppler expressed interest in the Board passing a motion or recommendation to add Indigenous members to the Board. R. Sisson added that regardless of governance, the Board could move forward with an ad hoc group to include Indigenous knowledge. R. Sisson also stated that most commissioners have a sense of urgency to

get this completed. The group then discussed how Indigenous members could be added to the Board. Catherine Lee-Johnston explained that IJC staff is preparing a briefing note that invites Indigenous people to participate in an Indigenous Advisory Committee. An action item was then proposed to have the ISRB work with the IJC to form an Indigenous Advisory Committee.

Action Item: ISRB work with the IJC to implement the Indigenous Advisory Committee.

R. Caldwell suggested renaming the Communications and Outreach Committee and suggested adding public members. M. Colosimo suggested adding timelines to the workplan would be helpful.

12. IJC Updates

R. Caldwell updated the group on the IWI studies. The studies are up-to-date and on track. M. Colosimo stated that the fiscal year ends on September 30th and that some funding could be allocated for adaptive management work that came out of the study. If there are any priorities that the Board has and we could put a scope of work together, that money could be utilized within the Board's mandate.

R. Caldwell welcomed B. Davison to the Board. Rob Caldwell also informed the Board that the IJC semi-annual meeting is the week of October 17th and more information will be available as the date gets closer.

R. Caldwell also updated the Board on Indigenous engagement. The IJC is pleased to have several Indigenous people attend the Board meeting and hopes to be in touch with them soon to make them an official part of the team.

R. Caldwell then asked the commissioners if there was anything they wanted to update the Board on regarding the governance review. P. Beland said that he thought his update this morning covered it all. Mentioning that there are additional conversations that need to be had with the federal governments and ongoing conversations with the co-chairs on how the Board will evolve. R. Sisson mentioned that the governance review is a form of adaptive management. If and when the IJC modifies the Board structure, it will try and be nimble and quick in addressing needs. A. Travnicek offered that the commissioners should feel free to reach out to the Board co-chairs for more feedback.

13. Other Business

a. Annual Report

L. Ackerman told the Board that it is now time to begin preparing the annual report. Requests from L. Ackerman for data will be sent out in July at the latest. The report is due two weeks before the semi-annual, so the effort will begin shortly. There is also potential for the Communications and Outreach Committee to help with the report.

14. New Business

G. Wiche reported that there are currently 18 months left on the contract to host the International Souris River Study's Hydrovisualization Tool. Given all the new data being collected in the

basin, G. Wiche felt it would be beneficial to host all the information on the tool. G. Wiche felt that making a one stop shop for the technical data would be a great accomplishment for the Board. He was unsure if there needed to be an IWI for funding the project but thought it could be a possibility. A. Travnicek agreed that having all data in one spot is important and North Dakota is currently working on the same issues. A. Travnicek asked to keep this item on the agenda. G. Wiche offered to look into a plan on what it would take to link the data to the tool.

Action Item: B. Davison and G. Wiche investigate how to move the hydrovisualization tool forward.

A. Travnicek also thanked Col K. Jansen for his time on the Board given his time with USACE is coming to an end. Col K. Jansen stated that it was a privilege to serve the staff at USACE and be on the Board. He wished everyone well and hoped to cross paths with everyone again in the future.

15. 2023 Meeting Dates

Since there is a large gap between the regular summer meeting and subsequent winter meeting, the co-chairs suggested that the Board hold a fall meeting.

Action Item: ISRB co-secretaries conduct a doodle poll for a fall meeting.

There was additional discussion that it may be beneficial to continue holding the regular winter meeting in early March, as there was better attendance than usual when it was held at that time in 2022.

16. Adjournment

The meeting was adjourned at about 4:30 p.m. CST on June 15, 2022.

International Souris River Board
ACTION ITEMS – progress updated June 15, 2022

PERSONS OR COMMITTEE RESPONSIBLE	TOPIC	MINUTE	ACTION	STATUS AS OF June 15, 2022
COH and C&OC	Coordinate and determine infographics for the Souris	26-Jun-19 Updated 23-Jun-21	COH and COC coordinate and determine the necessity of generating a Souris Basin Hydrology Infographic and generate an IWI Proposal if deemed necessary.	Ongoing
USFWS	Monthly updates	22-Jun-21	USFWS provide monthly updates to the ISRB on ability to maintain 20 cfs (0.57 cms) to Manitoba.	Ongoing (added to work plan)
FFLC & Russell Boals	Review Terms of Reference	22-Jun-21 15-Jun-22	22-Jun-21: Review ToR to ensure the responsibility for assessing the need for additional determinations of natural flow and the status of apportionment, as well as responsibilities during non-flood operations, are clearly stated. 15-Jun-22: FFLC review ToR, and propose changes if needed, to address concerns related to transparency of apportionment calculations.	Ongoing
FFLC & Russell Boals	Develop flow chart	22-Jun-21	Develop a flow chart of the process for identifying and managing requests for determinations of natural flow, the status of apportionment, and management of delayed releases.	Ongoing - Make revisions from 6/15/22 meeting
COH & Russell Boals	Review Terms of Reference <i>Note: specified as priority for COH at 22-Jun-21 meeting</i>	22-Jun-21	Review and update ToR, considering the need for more frequent interim calculations of natural flow during low flow years. Also ensure that the ToR is consistent with that of the FFLC.	Ongoing

International Souris River Board
ACTION ITEMS – progress updated June 15, 2022

COH	Tasks related to development of automated apportionment <i>Note: specified as priority for COH at 22-Jun-21 meeting</i>	22-Jun-21	a. Develop estimation methodology for 3 rd party data b. Identify and conduct validation testing methods c. Investigate potential for IWI project and prepare proposal for development of a python script and user-friendly front end to calculate apportionment	Ongoing
COH	Tasks related to Natural Flow Procedure Manual <i>Note: specified as priority for COH at 22-Jun-21 meeting</i>	22-Jun-21	a. Update procedure manual documentation b. Evaluate natural flow determination procedures c. Develop concise documentation of the present procedures used in calculating apportionment	Ongoing - Board approved procedures manual on 6/15/22
COH	Rounding in natural flow calculation spreadsheet	22-Jun-21	Review rounding in the natural flow calculation spreadsheet that produces the U.S.'s share (Box 45).	Ongoing
COH	Severe Drought Criteria	22-Jun-21	Review the Severe Drought Criteria with respect to required border flows and make recommendations to the ISRB	Ongoing
COH	Estimates for diversions by minor projects	22-Jun-21	Review and recommend procedures for estimating diversions by minor projects	Ongoing
ISRB co-chairs	Membership list for Communications and Outreach Committee (COC)	23-Jun-21	Draft membership list for the COC to be considered at the Winter 2022 meeting	Complete
ISRB co-secretaries	Regular update on Canadian Dams	23-Jun-21	Add Canadian Dam update as a regular update under the Water Management Project agenda item	Ongoing (added to work plan)

International Souris River Board
ACTION ITEMS – progress updated June 15, 2022

ISRB co-secretaries	Compile drought-related documents	2-Sept-21	Compile relevant drought-related documents, including the 1989 proposal from the USFWS.	Complete
ISRB co-chairs	Follow up with COH on Severe Drought Criteria	2-Sept-21	Follow up with the Committee on Hydrology on their ability to accomplish a review of the Severe Drought Criteria.	Complete
ISRB Co-Secretaries	Schedule a call	10-Mar-22	Secretaries to schedule a call with the the Board to review the drought presentation.	Complete
Board members	Annual Work Plan	10-Mar-22	Board members review the annual Work Plan over the next couple weeks and submit comments	Complete
C. Hallborg	Installation of gauging stations	10-Mar-22	Consider presentation from C. Hallborg on the proposed installation of precipitation gauges in Saskatchewan at a future board meeting	Ongoing
ISRB Co-secretaries	Doodle Poll	10-Mar-22	Secretaries to send out doodle poll for scheduling the summer 2022 meeting.	Complete
N. Armstrong	June meeting location	10-Mar-22	N. Armstrong will explore potential locations with Canadian members and select a location.	Complete

International Souris River Board
ACTION ITEMS – progress updated June 15, 2022

Co-secretaries	Action Items	15-Jun-22	Co-secretaries work with the ISRB co-chairs to resolve organization of action items.	Ongoing
COH	LiDAR and other hydrologic/climatological products	15-Jun-22	COH catalog LiDAR and other hydrologic/climatological products in the Souris River Basin.	Ongoing
COH and ECCC	Natural flow/apportionment calculations	15-Jun-22	ECCC share natural flow/apportionment calculation for Sherwood with COH as soon as possible for review in advance of Board meetings.	Ongoing
ISRB and IJC	Indigenous Advisory Committee	15-Jun-22	ISRB work with the IJC to implement the Indigenous Advisory Committee.	Ongoing
Bruce Davison and Gregg Wiche	Hydrovisualization Tool	15-Jun-22	B. Davison and G. Wiche investigate how to move the hydrovisualization tool forward.	Ongoing
Co-secretaries	Schedule fall 2022 meeting	15-Jun-22	ISRB co-secretaries conduct a doodle poll for a fall meeting.	Ongoing