



International Souris River Board

Days Inn, 1305 9th Street
Estevan, Saskatchewan
Phone: 306-634-6456
June 19, 2015

Final Minutes

Board Members:

Russell Boals, Todd Sando, Megan Estep, Mark Lee, Jeff Woodward, John Fahlman, Gregg Wiche, John-Mark Davies.

Via conference call –Scott Gangl

Regrets - Colonel Daniel Koprowski, Nicole Armstrong, David Glatt

Attendees:

Mark Gabriel, Wayne Jenkinson, IJC (via conference call), Scott Jutila, Bob White, Ken Bottle, Dave Helfrick, Jim Olson – KXMC TV Station, Minot; Heather Husband, Frank Durbian, Tim Fay, Kristina Farmer, Cliff Hanretty, Lee Staab, Dan Jonasson, Teresa Walker, Karen Ryberg, Brent Hanson, Ryan Ackerman, David Pattysen, Dave Ashely, and Girma Sahlu.

1. Introduction and Opening Remarks.

Russell Boals opened the meeting at 8:10 a.m. and welcomed Board members to the meeting. Russell Boals also extended his welcome to all attendees including those on the conference call and then invited Board members and other participants to introduce themselves. Todd Sando extended similar welcome remarks to all meeting participants.

2. Approval of Agenda.

The agenda was approved with one minor addition - the IJC letter to be discussed under 11c.

Motion: John Fahlman motioned to accept the agenda as modified. Gregg Wiche seconded the motion. Carried.

3. Approval of Minutes:

The minutes from the February 26, 2015 Board meeting were approved as circulated.

Motion: Mark Lee motioned to accept the minutes as circulated. Megan Estep seconded the motion. Carried.

4. Public Meeting Review (Board members)

The following is a summary of observations made by Board members at the Public Meeting held the night before on June 18, 2015.

Jeff Woodward – the message from the people in the Lower Souris (US portion) is about continued damages from flooding – an understanding of this problem and how we could alleviate it through our reservoir operations procedures. Maybe, the Plan of Study (POS) might have some solutions to the ongoing flooding problems and the accompanying challenges.

Mark Lee – Similar to Jeff Woodward’s comments. Some education might be necessary to inform people how and why the reservoir are operated the way they are. John Fahlman’s graph that shows regulated vs. unregulated flows could be a good example to explain floods originating mainly from low-lying meadows are the problem; and not so much the releases from reservoirs upstream.

Megan Estep – The reservoirs are not designed for summer rainfall events in addition to capturing spring snowmelt.

John Fahlman – Complimented Mark Lee’s comment. Some education about reservoir operation and the Agreement is needed. Clarity on what benefits are to be achieved is also necessary. Need an all-basin approach to solve the problem. There is lots of drainage area below the border that is aggravating the flooding problem.

Gregg Wiche – A field tour to the affected area(s) is a good idea. A report on the damages would also be good.

Scott Jutila (on behalf of Col. Koprowski) – The POS was meant to answer these types of questions with input from the public. Get the POS funded and move the project forward.

Heather Husband – Timing is more important; so is communication. H. Husband mentioned she could provide flooding information of the County of Towner, if needed.

Cliff Hanretty – Suggest a tour of the affected areas as well.

Mark Gabriel – Better communication is needed especially with downstream communities.

Lee Staab - work closely with folks in the basin.

Todd Sando – A basin-wide approach like the one by the Souris River Joint Board (SRJB) could provide some solutions to the flooding problem.

David Ashley – Work with a basin-wide approach for the benefit of all in the basin.

Todd Sando – there are in-between events that we have to struggle with. These could be addressed in the POS.

5. Determination of Natural Flow of the Souris River at Sherwood to May 31, 2015

Dave Helfrick, Water Survey of Canada, presented the results of the natural flow computations to May 31, 2015 completed by Water Survey of Canada. The total diversion in the Souris Rivers basin was 78,675 dam³. Recorded flow at Sherwood was 178,796 dam³. The natural flow computed at

Sherwood was 202,173 dam³. According to these computations, the US share at 40% was 80,870 dam³. The flow received by the US was 180,219 dam³ and constitutes a surplus delivery of 99,349 dam³. The annual flow requirement for Long Creek has also been met with a surplus of 1,388 dam³. The flow was determined to be a 1:5 event this year.

Motion: Megan Estep moved to accept the Natural Flow Computation to May 31, 2015. Jeff Woodward seconded. **Carried.**

6. Update from the Committee on Hydrology (COH)

a. Report on activities of the Hydrology Committee

Ken Bottle reported the current focus of the committee is to complete the Draft Procedures Manual for Canada and the United States using Randy House's 2007 draft. There has been some progress; and expect to have the manual vetted through the committee soon. Ken Bottle and Rob Kirkness are the leads.

b. Report on any changes to the current water quantity monitoring

Gregg Wiche reported no changes are expected to be made to the current water quantity monitoring program for North Dakota. No changes are expected on the Canadian side, as well.

Brent Hanson, USGS, made a presentation on the Sherwood Gauge which showed the effects of erosion and its impact on the station and particularly the damages resulting from the 2011 historic flood event in the basin. The current options are:

- Rip-rapping cost \$130,00 (materials alone),
- Soft armouring 500 ft of channel work,
- Move the gauge 2 miles further downstream for a better control, or
- Do-nothing (will continue to erode).

Jeff Woodward noted moving the station downstream would be disadvantageous. We want the period of record to continue. Losing 85 years of data is not acceptable. Gregg Wiche added the move would cost lots of money. Brent Hanson mentioned the USGS has contacted firms in Colorado and Montana regarding the repair work.

Ken Bottle mentioned US FWS would help out with the search for designers and contractors. Heather Husband added there are lots of contractors who have moved to the area from down east and finding one should not be a problem. (Stephen Gluck joined via phone at this point).

7. Review of the 2015 Hydrologic Conditions and Operations and summer Hydrologic Forecast and Planned Operations

a. Saskatchewan

John Fahlman reported the fall precipitation in Saskatchewan varied from near average in the western portion of the basin to below average in the east. Point snowfall data indicated cumulative winter precipitation was in general near average across the Saskatchewan portion of the Souris River basin. The snow water equivalent (SWE) in the exiting snowpack, estimated via satellite, was also showing near average.

Regarding the 2015 spring runoff forecast, near median runoff was projected based on conditions as of March 1, 2015, assuming average precipitation going forward for March and April, and a normal rate of melt.

Since the forecasted volumes at the Sherwood Crossing did not exceed a 1:10 year event (216,110 dam³, unregulated, 37,000 dam³ local), non-flood operations were in effect. Therefore no pre-runoff drawdowns, beyond the normal February 1st target elevations, were required.

Based on the projected runoff volumes, the apportionment split was projected to be 60/40 according to Annex B of the 1989 International Agreement and the maximum target flow at Sherwood was 40 m³/s.

J. Fahlman also mentioned there was a significant warmup in January, which decreased the snowpack and produced some runoff in western portion of the basin. 2015 spring runoff commenced on March 7th, approximately 1 month ahead of the median. Rafferty and Alameda reservoirs were drawn down approximately one meter below FSL prior to spring runoff pursuant to non-flood operations. Early March saw a warm-up in the basin and above normal temperature persisted. The result was a relatively quick, sustained melt and high basin yield. Boundary, Rafferty and Alameda absorbed the peaks easily and water above FSL was discharged according to unregulated recession. Peak flows at Sherwood were reduced from 150 m³/s in the unregulated state to approximately 50 m³/s actual, with the duration of flows at or above 50 m³/s for regulated and unregulated cases approximately equal at about 20 days. Since spring runoff is essentially in a pass inflow operation mode, and with the basin drying considerably and without significant rain events above the reservoirs, operations are moving more to a water conservation approach. Rafferty and Boundary outflows are near nil, while outflows from Alameda reservoir are moving to minimal outflow.

The parties will continue to work together via the Flow Forecasting and Liaison Committee (FFLC) to meet minimum drawdown levels on the reservoirs in the most beneficial way.

b. North Dakota

Brent Hanson, USGS, provided a summary of the 2015 flow conditions for the US portion of the Souris Basin. According to B. Hanson's report, the total volume of flow past the Long Creek at Noonan gage through May 31, 2015 calendar year was 19,672 acre-ft (24,265 dam³). This volume is about 131% greater than the median flow for the last 56 years. Flows for the current year are in the near normal to above normal range. The peak discharge for the period January 1 to May 31, 2015 is 1,100 ft³/s which ranks 22 in 56 years of record.

B. Hanson also reported that the total volume of flow past the Souris River near Sherwood gage through May 31, 2015 calendar year was 144,950 acre-ft (178,796 dam³). This calendar year's total flow is approximately 302 % greater than the median flow for the last 85 years. Flows for the current year, based on the last 85 years of data are in the normal to much above normal range. The peak discharge for the period January 1 to May 31 was 1,870 cfs (53 m³/s).

Flows recorded at the Souris River near Westhope gage, according to B. Hanson, exceeded the long-term mean for most of the period. The minimum discharge for the period January 1 to May 31 was 9 ft³/s (0.25 m³/s) from February 15-18. The peak discharge for the period January 1st to May 31st was 2,120 cfs (60 m³/s) on April 9 and ranks 29th out of 86 years of record.

c. Manitoba

Mark Lee reported the Antecedent Precipitation Index (API) for Manitoba portion of the basin was normal to above normal. API is a comparison of precipitation from freeze-up to the historical record. Winter precipitation was below normal for the Manitoba portion of the basin. Souris River flows were at record levels in the early winter period and remained above the 90th percentile until February.

The 2015 spring runoff began in early to mid-March, slightly earlier than usual. The Souris River peaked at Wawanesa at 4,550 cfs (127.4 m³/s) on March 30th. This corresponds to a 1:4 year flood event. Manitoba tributaries began rising in mid-March. The melt was interrupted by a cool period and then resumed when temperatures rose near the end of March. This resulted in two spring peaks, the first in mid-March and the second in early April. The peaks were similar in magnitude and had return period in the range of 2-year and 5-year events.

M. Lee further added the flow at Wawanesa has been above normal since the spring freshet. The current flow at Wawanesa is approximately 3,400 cfs (96.3 m³/s). A typical flow for mid-June is 400 to 500 cfs. Throughout the early summer of 2015 precipitation event have generated temporary rises in the Manitoba tributaries. These flows have generally been similar to, or below, the spring peaks. Overall, precipitation has been above normal in the Manitoba portion of the basin.

Dugouts in the area are either close to or over capacity. With high base flows and adequate storage volumes going into summer, concern for water supply in the Manitoba portion of the basin is low.

d. US FWS

Frank Dubian presented a summary of refuge operations and flows for the period January 1 to May 31, 2015. The US FWS operates three national wildlife refuges within the US portion of the Souris River Basin which include:

- Upper Souris National Wildlife Refuge near Foxholm, North Dakota, upstream of the City of Minot,
- J. Clark Salyer National Wildlife Refuge located near Upham, North Dakota, downstream of the City of Towner, and
- Des Lacs National Wildlife Refuge on the Des Lacs River (a tributary of the Souris River) near Kenmare, North Dakota.

Upper Souris National Wildlife Refuge - The total provisional inflow measured at Sherwood for the first five months of the year was 144,224 ac-ft (177,900 dam³). This inflow was 171% of the historic January-May inflow, which was 84,284 ac-ft (103,964 dam³) for the period from 1938 through 2015. The total Upper Souris Refuge pool volume decreased an estimated 527 ac-ft (650 dam³) during the first five months. The total provisional outflow measured at Foxholm on the south end of the Upper Souris Refuge for the first five months of 2015 was 139,088 ac-ft (171,157 dam³). This outflow was 194% of the historic record for the January-May outflow, which was 71,811 ac-ft (88,579 dam³) for the period 1938 to 2015. Lake Darling elevation increased 0.74 ft (0.23m) from 1596.28 ft (486.55 m) on January 1st to 1596.79 ft (486.70 m) on May 31, 2015. Lake Darling was at 1597.02 ft (486.77 m) on May 31st 2015.

J. Clark Salyer National Wildlife Refuge - The total provisional flow measured from the Souris River to the J. Clark Salyer Refuge from January 1 through May 31 was 203,959 ac-ft (251,583

dam³). This was 189% of the historic January-May inflow, which was 107,973 ac-ft (133,185 dam³) for the period 1938-2015. Pool elevation on May 31 was 37,148 ac-ft (45,822 dam³). This was 16,401 ac-ft (20,231 dam³) above the January 1st volume. Approximately 202,587 ac-ft (249,891 dam³) was passed to Manitoba during the five month period.

On January 1, 2015 Lake Darling was at 1596.28 ft (486.55 m) with 101,031 ac-ft (124,622 dam³) of storage. Releases at this time were 140 cfs (3.96 m³/s). On January 31, 2015, releases were at 35 cfs (0.99 m³/s) and pool elevation was at 1595.92 ft (486.44 m). Inflows into the pool were estimated to be around 50 cfs (1.42 m³/s) all month. Local runoff initiated around March 9 and was short-lived as local snow pack was minimal. Spring runoff predictions initially were such that all three major reservoirs may not fill to summer operating levels, but unseasonable warm temperatures triggered a “flash-melt-down” and runoff came quicker than and higher than originally predicted and Lake Darling ended the month at an elevation of 1596.82 ft (486.71 m).

The Des Lacs River peaked on March 13th at 216 cfs (6.12 m³/s) and was also short lived. Lake Darling was officially declared ice free on April 9. Release plans from Lake Darling for the summer months include maintaining a minimum release of no less than 25 cfs (0.71 m³/s) to maintain live stream. Releases will be adjusted on local rainfall events, upstream releases and evaporation rates to keep Lake Darling no higher than 1597.00 ft (486.77 m) for the summer and continually the minimum release needed to achieve the February 1 target elevation of 1596.0 ft (486.46 m).

J Clark Salyer National Wildlife Refuge - All gates on all five dams were frozen in and drifted from January 1, 2015 through mid-March. Release plans for the summer months include maintaining the pools at their proposed operating levels while meeting the mandatory 20 cfs (0.57 m³/s) flows into Canada.

F. Durbian also noted that habitat is changing due to saturated soil conditions in the basin. The groundwater is high and supporting runoff thereby exasperating the flooding problem to communities in the basin.

8. Flow Forecasting Liaison Committee

John Fahlman reported there were three spring runoff forecasts issued this year – on or near February 1, February 15 and March 1st; and these forecasts were distributed to committee members via email. With runoff within the basin beginning on March 7, no further spring runoff forecasts were issued. With benign runoff forecasted and normal drawdown objectives, the Flow Forecasting and Liaison Committee (FFLC) did not see a need to discuss any of these three forecasts on a conference call. The FFLC has coordinated four conference calls thus far in 2015 (March 26, April 7, April 13 and June 15) to discuss operation decisions and potential runoff events. The main agenda on the last call organized was to discuss the Communication Plan for the committee. This plan has been previously circulated to the membership for comments which were subsequently incorporated into the final draft which John Fahlman, the committee’s board member, will be bringing to the board for approval. The committee is considering coming to the Board for an IWI funding to develop a better forecasting procedure (see Appendix B of the committee’s report).

9. Update from the Aquatic Ecosystem Health Committee (AEHC)

a. Report on the activities of the Aquatic Ecosystem Health Committee

Heather Husband gave an update on the activities of the AEHC. As a long term goal, the committee plans to assess watershed risks to water quality, streamline data consolidation, and determine appropriate indicators for aquatic ecosystem health. Committee action items for 2015:

- Spill communication update-still looking for two contact alternates, but other information has been updated;
- Approval of E. coli support document – circulating for comments and agency approval;
- Changes to the way data is presented in Annual Report (2015) – More usable database, information grouped in 5 or 10 years, charts and graphs over time and with related constituents, addition of a section on invasive species, and with information provided by the IJC, begin to look at the possibility for changes to Water Quality Objectives;
- Look at large duplicate discrepancies;
- Ask Pascal from DU Canada for project update in the fall; and
- Committee plans to meet via conference call in September.

b. Report on and Changes to the Current Water Quality Monitoring Program

Russell Boals mentioned Mark Gabriel, IJC, has taken the lead to look into the Water Quality Objectives. M. Gabriel is also dealing with a number of other boards regarding the water quality objectives. Heather Husband will provide input to the IJC-led investigation of the existing water quality objectives and their purpose and relevancy to current land use/land plan and other socio-economic activities in the basin. We need reference documents to explain why the objectives were chosen in light of repeated exceedances of Total Phosphorus, Sodium, and Iron at the Sherwood site. H. Husband noted monitoring of E.coli might need a little bit of tweaking; pesticides monitoring is ongoing for 2015. There are more detections of pesticides in Manitoba but, still below the guidelines. It is worth checking some pesticides that have been banned in Canada long time ago are being found in the water system; supposedly carried as long range air pollutants from outside the country (Atrazine is one such example). Karen Ryberg mentioned the USGS has collected data on pesticides across the United States and Atrazine is coming back into use due to weed resistant to other types of pesticides.

10. Compliance with Water Quality Objectives for 2015

Souris River at Westhope - Water Quality

Kristina Farmer presented a summary of the water quality monitoring program at Westhope. A total of seven samples were collected by Environment Canada in 2014 – six samples were collected at Westhope and one joint sample was collected with the USGS at Sherwood.

The highlights included:

- Total Phosphorus exceeded its Water Quality Objective 0.10 with all samples collected in 2014.
- Sodium exceeded its objective of 100 mg/L for 5 of the 7 samples reported to date
- Sulphate exceeded its objective of 450 mg/L in 2 of the 7 samples collected in 2014.
- Total Dissolved Solids exceeded the Water Quality Objective of 1000 mg/L in 2 of the 7 samples collected in 2014.
- Total iron exceeded its water quality objective of 300 µg/L 3 times in 2014.

- pH exceeded its Water Quality objective of 8.5 units in 1 of the 7 samples collected in 2014.
- The Dissolved Oxygen (DO) concentration was above the 5 mg/L Water Quality Objective for all samples in 2014.
- Fecal coliform exceeded its Water Quality Objective of 200 no. /100mL once in 2014 with a value of 300 colonies/100 mL. This was the first exceedance since 2010.
- Chloride did not exceed the Water Quality objective of 100 mg/L in 2014, and
- Total Boron did not exceed its objective of 0.50 mg/L in 2014.

Organics – Pesticide samples were collected between April and August of 2014. Similar to 2013, there were detections of 2,4D, Dicamba, MPCA, and Picloram had positive results, but were below their respective Water Quality Objectives.

General Observations

The flow at Westhope appeared to be higher than normal (median of 84 years) for most of 2014. In the past four years, it appears 2012 had significantly less flow than 2011, 2013, and 2014.

Souris River at Sherwood Water Quality

H. Husband presented a summary of the water quality monitoring program at Sherwood. The USGS collected a total of eight water quality samples from the Souris River in 2014 at the Sherwood site. The following is a summary of the monitoring program:

- Total Phosphorus exceeded the Water Quality Objective of 0.10 mg/L for 8 of the 8 samples (100%) collected in 2014, though the median value (0.26 mg/L) is down from 2012 (0.34 mg/L) and the same as 2013. The Total Phosphorus values ranged from 0.18 mg/L on January 23 to 0.35 mg/L on April 28.
- Sodium exceeded the Water Quality Objective of 100 mg/L for 3 of the 8 samples (37.5%) in 2014. This was down from an 83% exceedance in 2013. The results ranged from 61.7 mg/L on January 23 to 138 mg/L on May 29.
- Total Iron exceeded the Water Quality Objective of 300 µg/L in all 8 samples in 2014, with only two values measuring below 1000 µg/L (January and August). Results ranged from 699 µg/L in January to 3230 µg/L in April.
- Sulfate met the Water Quality Objective of 450 mg/L on all occasions in 2014.
- Total Dissolved Solids, pH, Chloride and Total boron all met the Water Quality Objectives in 2014.
- Dissolved Oxygen concentrations remained well above the 5 mg/L Water Quality Objective in 2014. Concentrations ranged from 8 mg/L on July 21 to 12.9 mg/L on April 16.
- E. coli Bacteria was collected in 2014. Two samples were analyzed by the Laboratory Service, North Dakota Department of Health. Their values were 50 CFU/100 mL on July 21 and 20 CFU/100 mL on August 20. AEHC is currently in the process of developing Water Quality Objectives for E.coli. For reference, both samples were below North Dakota's Water Quality Standard for E.coli of a 30-day geo-mean of 126 CFU/100 mL.

Organics

- Pesticide samples at the Sherwood site were collected as a part of an intensive statewide study conducted by the ND Department of Agriculture. Samples were collected one per month at Sherwood in April, May, June, July, August, and October.
- 95 Pesticides were tested for and none were above the Water Quality Objectives, or for those not part of routine testing, none were above either aquatic life benchmarks or human health limits.
- Of the pesticides Water Quality Objectives are established for, 2, 4-D and Atrazine had positive, though very low, results.

General Observations

Only three parameters, total phosphorus, sodium, and iron were above water quality objectives in 2014. Most of the median values were lower than last year except for chloride, which increased only by little bit.

Something to note that may need further study is information from Pesticide Study conducted by the ND Department of Agriculture. Along with the Sherwood site, the ND Department of Agriculture also sampled two other sites along the Souris River in North Dakota: one above Minot and one downstream of Velva. Both the number of detections and number of different pesticides detected increased when travelled downstream. All detections were below the aquatic life benchmark, which has numeric values well below human health standards.

Monitoring for 2015 will continue the same as 2014.

11. International Watershed Initiative Projects

a. Strategic Projects Supported by IWI Initiatives

Mark Gabriel mentioned the Water Quality Objectives are going through an internal review process by the IJC including data analyses for the period of record and trend / statistical analysis.

b. Outcome of Joint Boards meeting at the IJC spring 2015 meeting

There was discussion about public involvement and participation in IJC boards. IJC continues to encourage public membership and engagement in board activities. Maybe challenging but, is becoming more of a requirement than simply a request as the Board is moving from being a pilot to a full-fledged IWI board. There was also discussion about the current water quality objectives and how to address the frequent exceedances.

There was no new information about the POS.

The Core Committee presented the status of its review of the Plan of Study for the Souris River Basin. The 1989 Agreement was written over 25 years ago. The Agreement was written assuming that any flood event would be snowmelt only, that late spring/summer/fall rain events would only cause minor flooding. The Committee is looking at the language of the 1989 Agreement to suggest clarification and modifications by making a list of all language items that need clarity. The Reservoir Regulation Manuals will include rainfall events. After the 2011 flood, Saskatchewan revisited Probable Maximum Flood (PMF) and Inflow Design Flood (IDF) flows into Rafferty and

Alameda reservoirs. How do we operate these reservoirs during rain events? Initial modelling shows the reservoirs cannot return their pools to a safe level (dam safety) while being limited to a maximum target flow of 4,000 cfs. The Committee plans to meet in September to finalize the language of the 1989 Agreement. The Core Committee includes the agencies directly involved with operations. There is merit in looking at the POS activities again for relevancy as it has been a number of years since the POS was developed. The Committee has sent a letter to the Co-Chairs of ISRB (see attachment) with suggestions for the group make-up. The group would include the Core Committee but expand the Committee to include Manitoba. The Committee is close to finishing the language issue and is working toward Reservoir Operation Manuals. Wayne Jenkinson mentioned IJC has a “Review Order Funds” to support the activities of the Board that require investigations like this one. Megan Estep volunteered to review the POS on the US side. Tim Fay agreed to help M. Estep.

Action: Megan Estep will review the POS and provide a progress report to the Board.

John Fahlman suggested including the Saskatchewan Study in the review of the POS. A conference call was suggested for late August 2015. The Committee requests the Board to approve the review of the POS.

12. Update on Water Management Projects

a. Update on Water Management Projects

John Fahlman reported the water legislation in Saskatchewan will change in a year or so. There will be a province-wide risk based approach to drainage projects in the Souris River Basin. Two pilot projects are being considered including one in the Souris River Basin.

b. NAWS

Bob White mentioned the Final EIS was done on April 10, 2015. The Record of Decision (ROD) is expected to be signed by the end of June/July. The NAWS is at its final stage; it has been a long haul but, with a better treatment system this time.

There were no updates from Manitoba.

c. Climate Analysis and Water Balance Report

Karen Ryberg, USGS, presented the results from a Climate Analysis project conducted by the USGS with funding from the North Dakota State Water Commission and the US Geological Survey. The title of the project is, “Tree-Ring Estimates of Long-Term Seasonal Precipitation Souris River Region Saskatchewan, North Dakota, and Manitoba”. The study was prompted by the 2011 Flood. The first part of the project was to evaluate precipitation and temperature records and tree-ring climate proxy data; to determine if regional climate is subject to multi-decadal to century-scale changes; and provide estimates of that variability. The goal of the project was to produce stochastic simulations of unregulated flow and a reservoir storage/flow routing model in order to approximate regulated flow that will inform future flood control measures and reservoir operations. The report concludes the Souris River region precipitation varies on long-term, multi-decadal to centennial time scales. The time scales vary with location in the region and with season. The most frequently used explanatory variables were those representing the 64-year time scale. While an extreme flood was the motivation for this work, extreme drought is an important part of the history of the basin. The project is expected to be completed this summer. The data can be used by ND

SWC and others doing hydrologic analyses. The report could be presented at the winter 2016 Board meeting.

d. Update from the City of Minot

Lee Staab, Manager City of Minot, reported the results of the federal one billion dollar competition in which Minot is participating will be made public in about two weeks. There are 67 applicants and 75 stakeholders. L. Staab thanked the Board for supporting the City of Minot's application for the federal grant. Named a chief resiliency officer for the City. Will submit application for Phase II and will advise the Board when that happens. The new Minot Airport with 11,000 m² will open in February or April 2016.

e. Update from the Upper Souris Basin Watershed Committee (USWA)

David Pattyson, Manager of the Upper Souris Watershed Association, gave an overview of his association and its activities. The USWA is a non-profit organization that focuses on source water protection through promoting environmentally, culturally, and economically sustainable practices. USWA was formed with representatives from rural and urban municipalities, First Nations, Metis communities, Conservation and Development Authorities, local industries, and interest groups. The Source Water Protection Plan has 9 categories and 40 action items.

f. Update from the Lower Souris Basin Watershed Committee (LSWC)

Teresa Walker, Board Members of LSWC, made a presentation on the activities of the LSWC. The LSWC was established on March 22, 2006 as part of the Saskatchewan Water Security Agency's (WSA) basin planning initiative aimed at Source Water Protection. Watershed projects support agricultural best management practices (BMP) implementation; watershed education and awareness, well decommissioning and well-head protection plan, and also assist producers in planning water management projects. Project partners include: WSA, Environment Canada, Government of Saskatchewan, Government of Canada Growing Forward 2, Ducks Unlimited Canada, Saskatchewan Wildlife Federation, Lake Winnipeg Basin Initiative, Local Urban and Municipal Governments, Local farmers and Ranchers.

g. On June 16, 2015, Todd Sando and Russell Boals received a letter from the IJC requesting to add four additional members to the Board. These public members should come from within the Souris River Basin. The IJC requested the names of potential public members should be submitted by mid-September and ready for the October 2015 IJC appearance in Ottawa. Must be public members; not agencies. Terms to be determined yet. Co-Chairs to work on their respective sides. Local governments could be accepted as members, similar to the Rainy-Lake of the Woods Watershed Board.

There was also discussion about the new Assiniboine River Basin Initiative. John Fahlman noted that we have the Prairie Provinces Water Board (PPWB), therefore why do we need another organization in the basin. Mark Lee responded the ARBI is a stakeholders' organization like the Red River Basin Commission (RRBC) and therefore has a basin-wide and grass-roots members that could implement decisions faster than other organizations. Manitoba has provided \$50,000 last year and will put in another \$50,000 to ARBI this year.

13. Next meeting

The Board will hold a conference call on August 26, 2015 at 9:00 am CST.

Topics – new Public Board nomination and Plan of Study (POS).

14. Adjournment

The meeting was adjourned at 12:30 p.m. on June 19, 2015 (Estevan, SK).

**List of Attendees,
International Souris River Board Meeting, Estevan, SK
June 19, 2015**

Board Members in Attendance

Russell Boals, Canadian Co-chair, Retired, Regina, SK
Todd Sando, U.S.A. Co-chair, ND State Water Commission, Bismarck, ND
John Fahlman, Member for Canada, Saskatchewan Water Security Agency, Moose Jaw, SK
Gregg Wiche, Member for the United States, U.S. Geological Survey, Bismarck, ND
John-Mark Davies, Member for Canada, Saskatchewan Water Security Agency, Saskatoon, SK
Megan Estep, Member for the U.S.A, U.S. Fish and Wildlife Service, Denver, CO
Mark Lee, Member for Canada, Manitoba Conservation & WS, Winnipeg, MB
Jeff Woodward, Member for Canada, Environment Canada, WSC, Regina, SK

Regrets

Nicole Armstrong, Member for Canada, Manitoba Conservation & WS, Winnipeg, MB
Col. Daniel Koprowski, Member for the U.S.A, U.S. Army Corps of Engineers, St. Paul, MN
Scott Gangl, Member for the United States, ND Game & Fish Department, Bismarck, ND
David Glatt, Members for the United States, ND Dept. of Health, Bismarck, ND

IJC Staff

Wayne Jenkinson, Engineering Advisor, IJC, Ottawa (via conference call).
Mark Gabriel, Engineering Advisor, IJC, Washington, D.C.

Support Staff in Attendance

Robert White, U.S. Co-secretary, ND State Water Commission, Bismarck, ND
Scott Jutila, US ACE, St. Paul, MN
Heather Husband, ND Department of Health, Bismarck, ND
Brent Hanson, USGS, Bismarck, ND
Kristina Farmer, Environment Canada, Winnipeg, MB
Dave Ashley, Souris River Joint Board, Velva, ND (observer)
Tim Fay, ND State Water Commission, Bismarck, ND
Cliff Hanretty, Eaton Irrigation District, Towner, ND (observer)
Jim Olson, KXMC-TV Station, Minot, ND
Dan Jonasson, City of Minot, ND (observer)
Ken Bottle, US FWS, Lakewood, CO
Lee Staab, City of Minot, ND
Dave Helfrick, Environment Canada, WSC, Regina, SK
Karen Ryberg, USGS, Bismarck, ND
David Pattyson, Upper Souris Watershed Association
Teresa Walker, Lower Souris Watershed Committee
Ryan Ackerman, Souris River Joint Board, Minot, ND
Girma Sahlu, Canadian Co-secretary, Environment Canada, Regina, SK

International Souris River Board
ACTION ITEMS – progress updated June 19, 2015

PERSONS OR COMMITTEE RESPONSIBLE	TOPIC	MINUTE	ACTION	STATUS As of June 19, 2015
Doug Johnson	Development of an International Souris River Board Procedures Manual	Sep 25/09-3 Feb 27/09-10a.	Doug Johnson to coordinate and call a meeting of a Canadian team for production of a draft procedures manual. At the Feb 23, 2010 meeting, Doug reported this was incomplete.	Ongoing
Bob Harrison Martin Graczyk Ed Eaton	Report on the spring 2009 flood.	Sep 25/09-3 June 18/09-10d.	SRFFLC to write a report on the spring 2009 flood. The report is to document what happened, provide a chronology of events, examine why the forecast (at Minot) was too high, lessons learned, and make recommendations for improvements for the future.	Ongoing Ed Eaton reported that he has spoken with Brian Connelly. Funding to do the work is available. Ed estimated that the report would be drafted by the end of September. Allen Schlag reported that Brian Connelly is working on a critique of the 2009 flood estimates produced by various organizations. Ed noted that he would like to incorporate Brian's report into his flood report. Scot to provide the report to the Board
AEHC	Compliance with Water Quality Objectives	September 14, 2011	AEHC to recommend actions to be taken by the Board to address exceedances of water quality objectives	Closed
John Fahlman	Winter release from mid-level outlet for better water quality	June 20, 2012	J. Fahlman to check with his staff if releases could be made from the mid-level out of Rafferty Reservoir to improve water quality downstream and respond to Mike Sauer.	Closed
Flow Forecasting Liaison Committee	New Communication Strategy	June 20, 2012	The Flow Forecasting Liaison Committee will create a formal communication strategy	Ongoing
AEHC	New E. coli objective	June 20, 2012	AEHC will prepare a short report detailing the justification/reasons for adding E. coli to the ISRB Water Quality Objectives	Closed
AEHC and HC	Varying flow rates for winter releases	June 20, 2012	AEHC and HC will develop a plan for testing various winter release rates to determine the optimum flow rate to maintain DO levels	Closed
ISRB	Engaging the Upper Souris Watershed Association with Board activities	June 20, 2012	As an IWI Board, the ISRB would continue to seek opportunities to engage watershed associations and the public	Closed
AEHC	Terms of Reference	February 20, 2013	AEHC Co-chairs to send their TOR to the Board	Completed
Water Security Agency	90-day volume - Souris River at Sherwood	February 20, 2014	WSA will prepare an estimate of the 90-volume for the Souris River at Sherwood for March 20 meeting	Completed
ISRB	Flood event determination	February 20, 2014	The Board will determine the return period/flood event for Spring 2014	Completed
Co-Secretaries	Membership update	February 20, 2014	Co-Secretaries will send an updated list of all committees to the Board	Completed

International Souris River Board
ACTION ITEMS – progress updated June 19, 2015

PERSONS OR COMMITTEE RESPONSIBLE	TOPIC	MINUTE	ACTION	STATUS As of June 19, 2015
ISRB	Communication Protocol	February 20, 2014	Board to review and approve the “Communication Protocol for Fish Kills in the Souris River on March 20, 2014	Completed
Co-Chairs	Mike Laitta’s support	February 20, 2014	Co-Chairs will send a joint letter requesting the IJC for Mike Laitta’s assistance.	Closed
ISRB	Potential Public Board members	February 20, 2014	Board will prepare a list of potential NGOs to establish a pool to draw public candidates for Board membership	Closed
ND SWC	Next Face-to-Face Meeting	February 20, 2014	ND SWC will host the June 2014 Public and Board meeting	Completed
IJC	IWI template	June 25, 2014	Mark Colosimo will send the IWI template to H. Husband for submission of the proposed changes to the Water Quality Objectives.	Completed
ISRB Co-Chairs and Co-Secretaries	Public membership on Board	June 25, 2014	Board will prepare a list of potential NGOs to establish a pool to draw public candidates for Board membership	Ongoing
Dan Selinger	Determination of Natural Flows to May 31, 2014	June 25, 2014	Dan Selinger, WSC, to submit his calculations to the Board for review and approval at the Sept. 25 conference call	Completed
Manitoba Water Conservation & Stewardship	Next face-to-face meeting	June 25, 2014	Manitoba Water Conservation and Stewardship will coordinate and host the next Board meeting.	Completed
Megan Estep	Synopsis of the adequacy of the hydrometric network in the Souris River Basin	February 26, 2015	Megan Estep volunteered to provide a synopsis to the IJC regarding the adequacy of the hydrometric network in the Souris River Basin.	Ongoing
ISRB Co-Chairs	Request for support letter to the City of Minot NDRC application submission	February 26, 2015	Co-Chairs to review and endorse the support letter on behalf of the Board.	Completed
Saskatchewan Water Security Agency	Host the Summer 2015 Public and Board meeting	February 26, 2015	Environment Canada will coordinate the Summer 2015 Public and Board meeting in Estevan, SK	Completed
ISRB Co-Secretaries	Doodle poll to set-up a webinar	February 26, 2015	The Co-secretaries will conduct a Doodle Poll to set-up a webinar for Gregg Wiche’s presentation on Climate Analysis and Water Balance Report as part of the POS	Completed
ISRB Co-Secretaries	Next face-to-face meeting June 18-19, 2015	February 26, 2015	Co-Secretaries will coordinate with EC and WSA to setup the logistics for the Summer of 2015 meeting in Estevan, SK	Completed
ISRB Co-Secretaries	Conference call Aug. 26, 2015	June 19, 2015	Co-Secretaries will setup a conference call for August 26, 2015 to discuss public membership & the POS	Ongoing
Megan Estep	POS Review	June 19, 2015	Megan Estep volunteered to review the POS and report back to the Board. Tim Fay agreed to help out.	Ongoing

Note: When two or more meetings are referenced to an item; that indicates a carry-forward of an action item from previous meetings.