



PRAIRIE WATER
GLOBAL WATER FUTURES

ANNUAL PARTNERS MEETING 2019
SUMMARY REPORT

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Overview of the Event

On January 23rd, 2020, the Prairie Water project hosted their third Annual Partners Meeting in Saskatoon. Over 80 researchers and partners engaged on the project’s progress thus far and discussed water in the prairies.

The meeting began with an opening blessing by Elder Roland Duquette, who provided guidance on the significance of water and its role in connecting people. Attendees were then re-oriented to the Global Water Futures programme and the objectives of the Prairie Water project, which were addressed by Drs. John Pomeroy and Colin Whitfield, respectively.

We were then immersed in a warm-up activity: “Building Water Networks”. The activity had participants develop webs of yarns based on connections between shared water experiences. This activity aimed to visualize the role of water in connecting people and ecosystems. Moreover, the activity echoed the message given by Elder Duquette during the event’s opening. We then transitioned to break to allow for conversations initiated by shared experience.

Next, researchers gave updates on Prairie Water’s four research themes: surface hydrology, subsurface hydrology, wetlands, and governance. Presentations were given by Drs. Chris Spence, Grant Ferguson, Colin Whitfield and Helen Baluch, and Graham Strickert. Each update ended with a crystallization slide to capture the update in a single, cohesive synthesis.

An objective of the Annual Meeting was to feature projects undertaken by our young professionals. As such, project-level thematic updates were followed by seven lightning talks given by students and research staff. Topics featured new approaches to modelling prairie hydrology, building integrated watershed models, prairie pothole gas dynamics, collaborative water governance, participatory flood risk planning, and documenting water stories. The morning ended with a poster session that provided the opportunity for young research professionals and partners to converse directly on projects and new research results.

Focus shifted in the afternoon to learn from partners about pressing challenges related to water management and research. Members of the Prairie Water User Community Advisory Committee presented on behalf of their representative organizations to a panel of Prairie Water investigators on topics such as their organization’s mandate, ongoing projects, and scientific challenge and opportunities. Six presentations were given from federal and provincial governments, conservation organizations, food producers, First Nations partnerships, and watershed stewardship groups.

We hosted a series of breakout tables after the panel to discuss common themes and ideas that arose throughout the day. Three tables were formed to address themes of “Creating Knowledge Pathways and Facilitating Transfer”, “Building Tools and Toolboxes”, and “Research and User Group Synergies”. After the breakout groups, the Prairie Water Principal Investigators closed the event with a summary of what was heard and directions for the future. Elder Roland Duquette said a closing blessing that reminded all of the relational aspect of water.

The Annual Partner’s Meeting was organized to coincide with the Saskatchewan Association of Watersheds (SAW) annual conference. This represented an exciting new opportunity to work directly with project partners on engagement events and facilitate dialogue on research findings



and community needs. As a result of this partnership, both events had a high number of people attending, including many new registrants. Moreover, Prairie Water hosted an “Experimental Decision Laboratory” activity officially in the SAW meeting agenda, which allowed participants to directly contribute to scientific work and outputs of Prairie Water.

List of organizations that attended the Prairie Water Annual Partners Meeting 2020:

- Agriculture and Agri-Food Canada
- Assiniboine Watershed Stewardship Association
- City of Saskatoon
- Ducks Unlimited Canada
- Environment and Climate Change Canada
- Federation of Sovereign Indigenous Nations
- Lower Qu’Appelle Watershed Stewards
- Lower Souris Watershed Committee
- Meewasin Valley Authority
- Mistawasis Nêhiyawak
- Moose Jaw River Watershed Stewards
- North Saskatchewan River Basin Council
- Pheasant Rump First Nation
- Redberry Lake Biosphere Reserve
- SaskWater
- SK Association of Watersheds
- SK First Nations Water Association
- SK Ministry of Agriculture
- SK Ministry of Environment
- SK Water Security Agency
- South SK River Watershed Stewards
- Swift Current Creek Watershed Stewards
- University of Calgary
- University of Saskatchewan
- WaterSMART Solutions
- Wascana Upper Qu’Appelle Watershed Association Taking Responsibility

Workshop Objectives

- 1) **Provide a scientific update to partners** – This workshop attempts to bring together researchers with Prairie Water partners to discuss project development and progress. To ensure effective knowledge mobilization, it is important for us to continue our established and expected engagement with our partners in these larger interactive events and dialogue at least once a year.
- 2) **Provide a scientific update to Prairie Water researchers** – This workshop brings together all the researchers, and students for 1 – 1½ days to exchange progress on projects within Prairie Water. All themes and projects have an opportunity to showcase their findings and progress.
- 3) **Create science-based messaging** – Develop messaging on the latest research from the Prairie Water work plan (i.e., Hydrology, Groundwater, Wetlands, Governance) to be used in communications to more key stakeholders. Partners are often representative of a larger audience of stakeholders and their feedback on language, concerns, strategies, and preferred media are important to hear.
- 4) **Relationship building between researchers and partners/practitioners** - The annual workshop is a way to ensure that researchers and partners are still aligned in their mutual

needs, expectations are being met, and plans to adjust are made if necessary. Through these processes, researchers and partners continue to build trusting relationships.

- 5) **Graduate students and Post-Doctoral Fellows to learn from practitioners to improve research** – Through in-depth discussions and interactions, researchers can learn about priorities and relevant projects in the Prairies, the context in which research can be applied, and how research can contribute to the priorities and decisions of diverse stakeholders.
- 6) **Graduate student and Post-Doctoral Fellow training and skill-building** – Students will learn how to identify and interact with the audience for their research and how to communicate their research to stakeholders in a useful and resonating way. Through posters and other communication methods, students will learn to tell the story of their research, its intended impact, and how it relates to stakeholder priorities.
- 7) **Grow the Prairie Water network** – This event also functions as a way of extending our reach and building new relationships with future partners/stakeholders who have not yet been engaged. Ideally, new relationships should be balanced with reaffirming relationships with those who have been working with Prairie Water thus far.
- 8) **Prepare for project renewal (Prairie Water Phase II)** – Funding announcements for Phase II funding will occur in the month following this meeting. Although we approach this workshop as the last APM within Phase I, consideration should be made about where to go next. Feedback from participants can be used for refining plans in Phase II and priority setting post release of approved budgets.

Event Outcomes

Below is a summary of the known outputs, outcomes, and continuing conversations that developed from the meeting:

- Because of the collaboration with Saskatchewan Association of Watersheds (SAW) to coincide meetings, Drs. Bradford and Strickert et al. constructed and ran an Experimental Decision Laboratory at the SAW conference. This work contributes directly to objectives in the Governance workplan.
- Six presentations from agencies working or familiar with Prairie Water were given. Presentations introduced Prairie Water personnel to their mandates and challenges. This provided relevant scientific questions and challenges that can inform Phase II approach.
- A post-doctoral fellow was invited to contribute to a project proposal led by the North Saskatchewan River Basin Council.
- New connection made between WUQWATR and a post-doctoral fellow. Follow-up conversations slated to cover consultation on understanding nutrient management in a project in the respective watershed.
- Two HQP asked to have follow-up conversations with a participant regarding further information regarding their research. It was noted that researchers and HQP provided cards to follow-up conversations with partners.



- New connections made and observed among researchers and partners resulting from the warm-up activity.
- The GWF Knowledge Specialist was contacted by a representative of FSIN that attended to set up a conversation to discuss strategic entry of PW and GWF into broader relationships with FN.
- A PDF commented on the usefulness to hear from farmers and other practitioners on ways to make economic valuation of wetlands in their project relevant and useable. Insight was gained on how farmers might use data and how the data, paired with ecosystem service valuation, could provide reason for targeted retention of wetlands.
- Comment from one HQP when reflecting on the event: “The partners meeting educates me about the social, real-world context of my work.”
- A student also noted that they were told by a stakeholder that their work is applicable to targeted wetland conservation.
- An invitational artist produced a symbolic art piece inspired by presentations and discussions at the event. This created a direct example of using art to communicate science.
- From an HQP: WSA was interested in the applicability of their work to designing and sizing culverts.
- A number of HQP are now aware of the data collected by watershed stewardship groups and considering further engagement regarding relevant data to enhance their research projects.
- Strengthened relationship with SAW and PW event planning group due to coordinating events.
- Overall, very good feedback from researchers regarding the Researcher–Partner Exchange. In particular, this was useful for getting context for the role of different agencies in water management and governance in the Prairies.
- Prairie Water was referred to during breakout sessions at the Prairie Water and Land Workshop in Saskatoon on Feb 4th regarding research ongoing and the network being built.
- The meeting was referenced at the Starting Good Relationships meeting in Regina (Feb 5th) in reference to working in collaboration

Exit Survey Results

Number of respondents: 35

Approximately 10 respondents could be identified as researchers within Prairie Water, 2 from the advisory committee. 88% of responders thought that the workshop was successful in allowing participants to re-engage with the project and its research team.

The diversity of presentation styles and speakers was a key strength of the meeting – from senior researchers to graduate students to partner agencies. The workshop also made space for personal sharing and ideas sharing during the warm-up activity, poster session, and breakout tables. Being able to engage and learn in these different ways meant it was more likely that all participants could have a meaningful takeaway from the workshop.

The areas of water security and management in the Prairies face very real challenges that require coordination and discussion among a diverse group of actors in order to move forward. The complexity and difficulty of this work means that some participants were left wanting more collaboration and knowledge-sharing between all parties. For some, there is a sense of urgency for this type of information. With a committed group of researchers and partners that is building through Prairie Water, there is potential to dig deeper into the nexus of water, agriculture, and sustainability.

Table 1: Question 2 from the feedback survey on the quality of venue and sessions.

Criterion	Poor	Fair	Good	Very Good	Excellent	I don't know
Suitability of location (Holiday Inn)			3%	43%	54%	
Warm-up activity: Making connections & building networks		3%	14%	43%	37%	3%
Research update presentations	3%	3%	9%	40%	43%	3%
Poster session		6%	17%	43%	31%	3%
Partner-researcher session and panel		3%	26%	40%	29%	3%
Breakout cafe tables and structured break	3%	11%	20%	23%	40%	3%
Lunch and snack selection		3%	14%	31%	49%	3%

What was done well

Attendance and representation

- The APM was successful to attracting more partner/stakeholder organizations this year. There were more partners/stakeholders in attendance than Prairie Water researchers.
- “There was incredible representation from Provincial, municipal governments; Academic and non-government agencies.”
- “A very diverse group who share passion for water improvement.”

Warm-up activity

- Very successful as an icebreaker. Engaged people in personal sharing that allowed for further conversations and set a tone for the meeting.
- “Awesome!”
- “I have not experienced an ice-breaking activity that was that successful, where people are opening up, sharing stories, and connecting on more of a personal level. [...] this activity seemed to set a good tone for the meeting.”

Research updates

- Overviews of GWF and PW was provided important global and regional context
- Diversity of speakers and styles that enabled good uptake of information.
- Logistically speaking, presentation by researchers were quick and functioned well to orient people to the themes.

Posters

- Some participants really liked this opportunity to engage around results and research specifics
- Paired well with the lightning talks
- “great way to inspire project ideas”

Lightning talks

- Very well received by all. Lightning talks effectively communicated about Prairie Water research projects.
- In the future there could be more of these to “highlight findings and outputs to date”
- “short and informative, attention grabbers”

Partner–researcher session

- Was valuable to balance the academic presentations from the rest of the day. Connects research to other work and “on the ground” initiatives for water security.
- For many it was a favourite part of the workshop

Breakout session

- While it might not have worked for all, the relatively unstructured format of this session yielded a lot of different results including valuable technical discussions and drawing together like-minded people.
- “Round table exercises provided opportunity to meet like-minded people from different areas as well as having different reasons for being interested.”

Venue

- Food provided was highly enjoyed and majority thought that the venue was very good or excellent.

- The vegetarian option worked very well.

Ways to improve

Attendance and representation

- The meeting was reaching capacity of participants, especially using the respective activity formats.
- Although support was offered to Indigenous communities was offered to attend, there was limited attendance. Perhaps consider pursuing different ways of engaging throughout the year to build those relationships.

Warm-up activity

- Desire for additional informal ways to engage and make connections (e.g. “expert panel ‘speed dating’, evening social”). This would build upon the connections developed during this activity, noting that from past events, often activities formally in the meeting agenda are more successful.

Research updates

- More about findings to date and project implementation could be shared in place of some discussion on structure and theoretical frameworks.
- Increased unification of findings from the different themes.
- Crystallization slides were rushed. To be effective, these need to be developed ahead of time.

Posters

- Could provide more time for this session, a larger space, or focus on a different medium for results sharing to make posters more engaging for everyone (especially non-researchers).
- HQP need to focus on making posters accessible to non-specialist audiences.

Lightning talks

- The session was perceived as so successful that there could have been more talks.

Partner–researcher session

- Suggestion that future iterations might include more evidence of research being put into practice by partner organizations or successful partnerships shared.
- The session needed more time. The dialogue happening between panels and presenters was excellent. However, the session did not allow for enough time, especially to hear from other organizations in the audience. Consider reducing the amount of speakers or setting defined limits for panel response.

Breakout session



- Could have been better structured so that more people had a chance to speak/contribute. For example, smaller groups, giving an objective for each to report back on, asking researcher's not to speak.
- Trying to respond to common themes developed during the day can be challenging due to the demand already placed on co-investigators. Next time, it should be considered having a few structured discussions decided on ahead of time, and perhaps one or two responsive tables.

Venue

- Be cognizant of the small screen compared to the room size. Encourage speakers to be mindful of the font used.
- Make sure speakers use the microphone well.
- We had too much food. Afternoon breaks had food cleared quite early (note that food sits out for a half hour and is then removed)

Generally, it was observed that Prairie Water has made improvements in the past year and that the present challenge of combining and sharing information “among the collective was very constructive” and is the right direction.

Ideas for future activities within Prairie Water include exploring how to deal with high salinity in watersheds and strengthening connections between researchers and communities so that (a) research results are being put into use and (b) continuing research aims to address individual communities' needs that may have been missed up until now.

Summary of Select Partner Questions

Below are excerpts from presentations given during the Partner-Researcher Knowledge Exchange. The intention is to gain insight into current scientific challenges or knowledge gaps in which Prairie Water or related research might help to address. Presenters were from the Prairie Water User Community Advisory Committee 2019/20 term, and excerpts are organized by agency.

Saskatchewan Water Security Agency

- Needs/Challenges:
 - Scientific findings that inform and form basic assumptions for water management approaches at WSA
 - Water management challenges frequently require imminent attention and require best available science
 - Ongoing science should improve understanding and allow for adaptive changes to management.
- Ways research can address these gaps (a few examples):



- Development of understanding/methods for very small-scale hydrology;
- Effective options to mitigate water quality concerns;
- Understanding groundwater sustainability of high-risk aquifers;
- Tools/visualization of subsurface environment (i.e., 3D geologic modeling)

Institute for Wetland and Waterfowl Research (Ducks Unlimited Canada)

- Scientific needs/challenges:
 - Development of agricultural systems that are both economically and environmentally sustainable.
 - How do wetlands respond to agricultural intensification under a changing climate.
- Ways to address gaps:
 - Comprehensive wetland inventory for the entire prairie ecozone
 - Long-term monitoring of prairie wetlands to understand how hydrology, biogeochemistry, and biodiversity respond to agricultural intensification and climate change
 - Profit/loss assessment of farming marginal landscapes (drained wetlands) under various moisture conditions.

Agriculture and Agri-Food Canada

- Scientific needs/challenges:
 - Extrapolation of surface soil moisture to root zone remains problematic
 - Lack of knowledge of ground water resources (quantity & quality) for use during lean times
 - Tools to apply or extract results not always available. Profit/loss assessment
- Ways research can address these gaps:
 - Improved understanding of role of wetlands in mitigating floods, droughts under a changing climate.
 - Incorporation of Ecosystem goods and services (biodiversity, pollinators etc).
 - Vulnerability assessment (designation of drought/flooded areas), too wet to seed etc What do we need to know?

Agricultural Producers Association of Saskatchewan

- Challenges and Scientific Gaps?
 - Agriculture on the Prairies is an extremely dynamic industry
 - Extreme competitive pressure
 - Pressure from decision makers to drive the economy
 - Pressure from public on how food is produced, what is healthy
 - Constant change in technology, agronomics, markets, growing conditions
 - Pressure from invasive weeds and diseases
 - Limited local capacity to address large issues
 - To be useful in application by non-science community, research needs to relate to solutions
 - Theoretical has to be translated into practical application

- **Important to link cost savings to best management practises**
- Ways research can address challenges (key questions):
 - Climate Change adaptation and Ecological Goods and services
 - How does society share the cost of providing Ecological Goods and Services on the landscape
 - How can communities build in resilience along with those EGS
 - How can Government initiatives support both priorities Ie. Federal Initiatives on re-forestation or Water Management
 - How can research support knowledge about relative economic factors of management practices and land use practices

Mistawasis Nehiyawak

- Challenge:
 - Sharing Territory and Sharing Responsibility (through partnerships, alliance and friendship)
 - Regaining relationship to the land and water
- Gaps and opportunities:
 - Importance of partnerships and utilizing partnerships to engage more First Nations
 - Sharing successes of partnerships to engage more communities
 - Bridging communities through honouring water

Watershed Stewardship Groups

- Challenges are often specific to the watershed
 - Common regional responsibilities include Source Water Protection Planning and Ag Water Management Strategy (including climate education for producers through the BRACE program)
- Up North (NSRBC)
 - Recreation lake engagement
 - Love Your Lake Shoreline Assessment
 - Natural Edge Shoreline Restoration
 - Culvert and invasive weed mapping
 - Aquatic Invasive Species
 - First Nation Climate Change Adaption
 - Community Source Water Protection Planning
- Down south (WUQWATR)
 - Water quality challenges and mitigation
 - Agriculture BMP delivery Farm Stewardship and Farm and Ranch Infrastructure Program
 - ALUS Program Delivery
 - Citizen Science initiatives
 - Aquatic Invasive Species
 - Agriculture Water Management
 - Topography challenges
 - Impacts to responsibility (stake) holders

Assiniboine River Basin Initiative (not presented)

- Issues/concerns that come to the forefront in discussions with stakeholders:
 - Research across watersheds, not political boundaries
 - Communication
 - Engagement
 - Sustainability
 - Harmonious and uniform polices/programs across boundaries

Select Action Items

Given the feedback and reflection from the event, we identify a non-inclusive list of several Calls to Action over the interim year. These items are meant to enhance the engagement opportunities between Prairie water researchers, collaborators, partners, and stakeholders, as well as work towards increasing the relevancy and mobilization of the work being performed to contribute to the resiliency of prairie communities.

Ways to share new findings. The next event and related engagement should really focus on findings and making them accessible as well as personable. Re-orientation is great at the being of the event; however, spending too much time on time on project structure limits time spent on results. One way could be to provide supplementary material ahead of time. We might also consider sharing success stories between researchers and partners.

Engagement throughout the year. How do we find ways of keeping up engagement during the year between Annual Partner Meetings? How do we meet more frequently on, say, the internet? An option is attending more partner-led events. However, due to the resource constraints on attending meetings, a remote option should also be pursued. Potentially, this can consider recorded webinars.

Representation from stakeholders. This includes on the advisory committee. Draw more from expertise in AB, MB, and additional First Nations. During event, we can allow for more opportunities to showcase stakeholder projects and needs. Activities tested during the APM proved to be successful and valuable, and could be built upon in future events. To increase engagement outside of SK, we can coordinate with Global Water Futures to bring science to the stakeholders, themselves, especially for those agencies that have difficulty travelling across political borders.

Keep up the engagement. Partners view this type of engagement positively. Below are experts from the exit survey:

- (1) “I felt as though I gained a lot of insight into how and why research was being done and by whom. The workshop was very well done”
- (2) “I liked how Colin and Chris shared thoughts of what is to come but when elder Roland spoke he tied everything together so well.....I think that that is where minds were shifted”

Value was observed by HQP as evidenced by the following reflections:



- (1) “This learning has a lot of value — showing me that my research isn’t occurring in a vacuum”
- (2) “During my poster presentation I got the opportunity to ask farmers what they think about my research. Did it make sense? And how I can improve on it? I got what I wanted from the [partners]”.

There is real value to maintaining similar event formats that facilitate dialogue among parties. As proven by the event outcomes, conversations were sparked, relationships built, and communication continuing after the APM. Strategies to increase time for this dialogue will benefit future events and relationship-building.

Appendix

Please note that appendices are not included due to protection of privacy. If one is interested in receiving access, please pass on your inquiries to the Prairie Water Project Manager.

Appendix A: Registration List

Appendix B: “What other questions did you have?” Responses

Appendix C: Knowledge Pathways Responses

Appendix D: Science Challenges Responses

