



Report in 2016 SWHRT Indigenous Water Forum October 27- 28th 2016 Whitecap First Nation

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Executive Summary:

This report explains the major themes and priorities that emerged from the 120 invitees during the October 27-28th 2016 Indigenous Water Forum hosted by the University of Saskatchewan's Safe Water for Health Research Team (SWHRT) at Dakota Dunes Event Centre on the Whitecap First Nation.

The Indigenous Water Forum was important because it provided an opportunity for those with interest in safe drinking water for Saskatchewan First Nation reserves to share their perspectives on infrastructure, policies and regulations, research, and other components of safe drinking water provision. Given the momentum toward reconciliation and improving drinking water on reserves, the Indigenous Water Forum was timely, and necessary so that efforts are community-driven and responsive to local issues and concerns.

The Forum closed with 18 verified priorities (see Results, page 11) ranging from acknowledging the centrality and sacredness of water in all aspects of water management, to solving jurisdictional problems, revising educational curriculum, and improving communications and awareness. The 18 priorities were ranked by importance and urgency using innovative research approaches. Further perspectives were shared using a variety of workshop activities. These perspectives will be compiled and shared in the coming months (see Perspective Sharing, page 5).

The findings will be used to direct research funding applications, project implementation, and knowledge sharing across networks involved in managing First Nations drinking water and public health issues. The SWHRT will be leading several funding applications in the coming year.



Background:

The Safe Water for Health Research Team (SWHRT) at the University of Saskatchewan has been engaged in community-based participatory research funded by the Office of Vice President Research (Research Acceleration Program) and the Saskatchewan Heath Research Foundation for the last seven years. While some preliminary results and research reports are emerging from the work, communities, practitioners, and researchers are looking to prioritize the next set of research investigations, design challenges, social actions, and practical applications to improve drinking water on First Nations lands.

In the spirit of reconciliation and amelioration of social and resource inequities, SWHRT members facilitated a two-day Indigenous Water forum to provide an opportunity for sharing of knowledge on drinking water issues in Saskatchewan First Nations. The forum occurred on October 27th and 28th, 2016 at the Dakota Dunes Event Center on the Whitecap Dakota First Nation. Over 120 invitees attended the workshop; this included Elders, First Nation water treatment plant operators, Chiefs and Council members, government agency representatives, and interested academics and practitioners from around Saskatchewan. The forum opened with a pipe ceremony and blessings from Elders, and introductory statements from Dr. Lalita Bharadwaj. The forum was lead by Dr. Graham Strickert of the University of Saskatchewan's School of Environment and Sustainability, and Global Institute for Water Security. Funding for the forum was provided by:

- 1. Touchwood Agency Tribal Council,
- 2. Saskatchewan Health Research Foundation,
- 3. The Global Institute for Water Security, School of Public Health and Conference Fund at the University of Saskatchewan,
- 4. Dakota Dunes Community Development Corporation,
- 5. The Government of Saskatchewan's First Nations and Métis Sponsorship Grant, and
- 6. The Saskatchewan Indian Gaming Association.

The forum included two streams of discussion; one focused on operation and pragmatic issues in drinking water provision and was well attended by water treatment operators, First Nation operational managers, engineers, and trainees. The second stream included research and justice/policy issues and included academics and community-based partners, the Federation of Sovereign Indigenous Nations (FSIN) and tribal council representatives, government agency and NGO representatives, graduate students and other interested people. Pipe and water ceremonies were held for all participants to begin the second day, and tours of the local First Nation's drinking water treatment plant were also provided.

The forum included several research activities to help in prioritizing research and practical needs of First Nation communities for drinking water. Participants who volunteered to take part in the research were asked to 'sort' drinking water concerns using a modified group Q-methodology procedure where important, very important, and urgent and important issues were first collected and displayed. Secondly, these insights were thematically analyzed and ranked using ladled water as a visualization of their importance across all the issues raised over two days. Key concerns that were raised during the workshop were recorded by research personnel, and compiled after presentations. These reflection and 'sorting' exercises allowed the researchers to gain insight on problem definitions; which issues are deemed interconnected and are identified as priorities by participants from across the various sectors in Saskatchewan. The goal of these sorting exercises was to learn where to focus intensive research efforts for funding applications and future work on the more pressing issues as directed by the participants at the workshop. Other research activities that occurred during the forum included a small group 'rich picture' activity, facilitated discussions, a 'Photo-booth' picture, children's drawings, and evaluation forms at the end of the two-days.



Approach and methods:

The forum was organized by a panel of experts in safe drinking water research, reserve representatives, academic engineers and practitioners, and local experts from Saskatchewan. The forum schedule was designed to guide participants through a process to respond to a series of presentations about drinking water issues. While workshop presentations and discussions were occurring, participants were asked to write down key successes, issues or concerns on large coloured papers (green, yellow, red) which were then posted on a central wall over the course of the day. These statements reflected important (green) issues that were in need of greater emphasis and awareness. Very important (yellow) issues were deemed central to solving drinking water concerns, and important and urgent (red) issues needed to be dealt with in the coming year. After the first day, researchers compiled these issues according to their colour and thematically coded (categorized and brought similar issues together) to create overall themes that represented groups of interrelated issues. The green/yellow/red issues are depicted in Tables 1-3 and the overall themes are described in Table 4.

Participants then volunteered to be part of two 'reflection' focus groups at the end of each day and worked together to sort these issues. On the first day, participants were asked to think about the green/yellow/red issues and draw a representation of the issue on a piece of paper. To connect issues together, participants then passed their drawing to the next person sitting beside them at the table, and added to the picture to begin to create a story about the issue through drawing out the potential causes for the issue, and emergent solutions. The picture was passed around the entire table (6-8 individuals) for participants to create a 'rich picture.' Researchers then took home the green/yellow/red statements and the rich pictures for further analysis which included matching similar issues together and organizing them by common themes, processes, and potential solutions.

The resulting themes were presented to the entire participant group the following morning. Empty water jugs were lined up along a table, and labelled with the emergent themes (see image to right). Over the course of the second afternoon, participants were then asked to verify the importance of the themes by adding a ladle of water to the jugs that were labelled with what they believed were the most important themes to be explored for solving drinking water problems. The water levels in the jug were recorded using pictures, and participants were asked to drink from the jugs before leaving to gain the energy of that water to drive them to take action in their home communities towards the specific theme. The leftover water in the jugs was utilized to



nourish a large tree outside so that none of the water would be wasted.



Perspective sharing:

Seven different types of information were shared by individuals and groups during the forum.

- Prior to the forum occurring, invitees were asked to send in photos, and short quotations about their concerns for drinking water on reserve. We received 16 comments and pictures from participants attending the conference which were compiled together in a PowerPoint presentation. A PDF of the presentation is available: <u>Concerns About Drinking Water on Reserve</u>
- 2. During the forum, participants were asked to note down successes, issues, or concerns on pieces of green, yellow, or red paper to significant importance and urgency. These issues were posted at the front of the forum room and were 'sorted' during subsequent reflective exercises.
- 3. Participants were guided through a 'rich picture' exercise where the pictures they created told a story about their water concern and possible solutions as a group. These rich pictures will also be analyzed by fine arts specialists in partnership with the SWHRT.
- 4. The thematic concerns raised during the green, yellow, and red paper exercises and the rich picture were categorized, then verified using a reflective water exercise in which participants could 'ladle' water into jugs that were labelled with their prime concerns. The water levels of the jugs were monitored and captured by photography for comparison after the forum.
- 5. Photobooth pictures were taken where participants were asked to complete the sentence "Safe drinking water is ______" and have their photo taken while holding up the sign.
- 6. Graduate students took notes on issues raised and discussion that occurred during the forum. These qualitative notes provide more data on the issues of concern for the participants in the forum.
- 7. Evaluation forms were collected from participants on the last day of the forum. These forms provided additional quantitative and qualitative data and will be analyzed by the research team.



Results and Analyses:

As of November 8, 2016, the green/yellow/red issues of concern and the water jug information have been analyzed by the research team. Plans are in place to examine all information created and gathered to determine other important themes and outcomes from the forum.

The first research activity in the forum involved asking participants to write out key successes, issues and concerns on the coloured paper and graduate students posted these papers at the front of the room throughout the day as they emerged. These key issues were copied out in the words used by participants and located in tables for easier viewing. When key issues were raised in more than one importance level, they were included in the higher level of importance for further analyses. The tables are presented below along with one representative photo of the actual paper used during the forum:

Important issues: The green paper signified issues and concerns that were important enough to participants to note and share with other forum participants. Many of the issues raised in the important category were based around making sure different voices had a chance to share their concerns for planning and management of drinking water, and that education and curriculum designs included early lessons about water security. It was also important to participants that water continued to be considered sacred, and that each person take individual actions to improve drinking water wherever they can.



Land-based education of youth – creating future stewards	More involvement of rural and urban students in research and data collection	Find more innovative ways for protecting the river riparian areas	Recognize and value diversity in ways of knowing and being
Education and Awareness for Youth	Put water at the centre of all land-use decision making	Learn from the communities	Building Strong partnerships between Indigenous and non- Indigenous folks
Proactive sends the right message to youth	Transfer knowledge from elders and WTPO to K-12 students and university students – then all to public	Water, life, people, health, sacred, Elders,	Take my responsibilities
More detailed assessment eg. Microbial water safety and chemical contamination	Make documents and information understandable	Water and waste water management and protection contribute to overall environmental protection	Talk, listen and take action
Good pay for water operators	Use accredited professionals to support Elders TEK	Need key people at the table – operators and designers	Planning and management team communicating with members
Co-creating educational lessons with youth for youth and encouraging youth action	Creation of an open – public water forum where we can invite youth and the public	Communication among water operators across FN	Incorporate indigenous knowledge better in the school system and curriculums

Table 1 Important Successes, Issues and Concerns (Green)

Very Important issues: In this group of issues and concerns, of primary importance was sorting out jurisdictional issues for solving on-reserve drinking water provision. Awareness and knowledge sharing was again important, however, in this category, participants felt that the way in which knowledge was shared among people living on First Nations lands, policy makers, and scientists needed change. Leadership and representation on decision making groups was expressed with statements like "Leadership empowerment to strengthen community force" and having a "Community Champion for water." Integrated approaches for water and environmental protection also came through in this category.



Table-2 Very Importa	ant issues			
Reduce barriers to training for water	Create Source water	INAC is slow to respond (money and	Source Water Protection plan policy	
treatment officers	Protection plans – do one thing at a time	communications)	and law, compliance, and enforcement	
Who owns the water in the Saskatchewan river basin?	Teach the youth to respect and protect water	Let youth know to protect and respect water	Leadership empowerment to strengthen community force	Economic development and business opportunities
Will First Nations' communities have to pay for their water licenses like in Alberta?	Quantifying hazards that lead to risks	Standardized drinking water regulations that are enforced across Canada	More awareness of FN water issues in settler communities	Education with and water
Community Champion for water	Social media skills for water activism	Fill in the gaps in jurisdiction for water	More technical education around wells and contaminated sites	Integrated approaches
Who is water security for? Sask- Power? Fracking?	Knowledge transfers	Youth Engagement	Anti-racist education Justice for environment Bridge between community and scientists	Protect natural water supply
Knowledge transfer	Source water protection planning	Provide sufficient resources and reduce administrative burdens to support water protection	Inclusive education with inclusive terminology	Collaboratively develop decision making processes that respect Indigenous protocols
Need environmental protection act			Simple English – break down vocabulary to provide inclusivity	

Table-2 Very Important Issues



Very Important and Urgent Issues: In this category, urgent issues included creating source water protection plans. This likely arose because of recent events in Saskatchewan and beyond like the North Saskatchewan Husky Oil Spill, and Standing Rock protest of the Dakota Access Pipeline. Related to these events, participants also noted the need for uniting as Indigenous people, and preparing for unexpected events in order to protect water. Better communication across jurisdictions such as regionally, provincially and nationally were urgent to begin advocating, while compelling efforts at revising drinking water policy at the federal level was deemed urgent because of the current political climate and windows of opportunity. To support urgent improvements for drinking water and the urgent needs for new policy, source water protection and better communications, enhanced funding and resources for supporting drinking water protection were prioritized by participants.

[[All First Nation	
			Unite	
Communication between government agencies, from WTPO → to the top	Make policy for protection of Water for human consumption more industry based Economies vs. governments	Education and Awareness	Respect and implement treaties and agreements by interacting with Indigenous peoples within planning and management processes	There was a time we didn't have to treat our water, but now it is all poisoned. Very important that we create curriculum for all schools
People have no choice but to drink contaminated water	First Nation Water Planning processes need some legal teeth and need to be included in water resource management mandates	Source water protection – groundwater and wells	Source water protection – from oil and other pollution	Water has become an industry
\$ - how do you get government to fund or commit to better services and research for First Nations led research	Water treatment plant with alternative sources for emergency response	More funding for improvement of treatment plants	IBROM water treatment plants for all First Nations, towns, cities	Stricter regulation of pipeline and other industry (effluent) – prevent disasters
Need regulations	Network and Build Relationships	Introduce water security to school curriculum – quality and quantity	Stop pipeline project	Oil Spills
Tailored solutions, site specific and problem specific	Decadal drought	Stay positive and don't give up	Creation of a Band Member Resolution Template Document	Building Capacity in First Nations
Delta water quality and quantity	Emergency preparedness and response	Higher salary for water treatment operators	Identification of current and proposed pipelines - Increase regulatory Transparency	Resources to study Fracking and Water

Table 3: Very Important and Urgent Issues



Themes:

After the first day, the coloured papers and discussion notes were reviewed for *themes* – the prominent subject, or stem through which issues and concerns were related. Six themes emerged for each of the levels of importance. Figure-1 provides an example of how thematic analysis was completed:

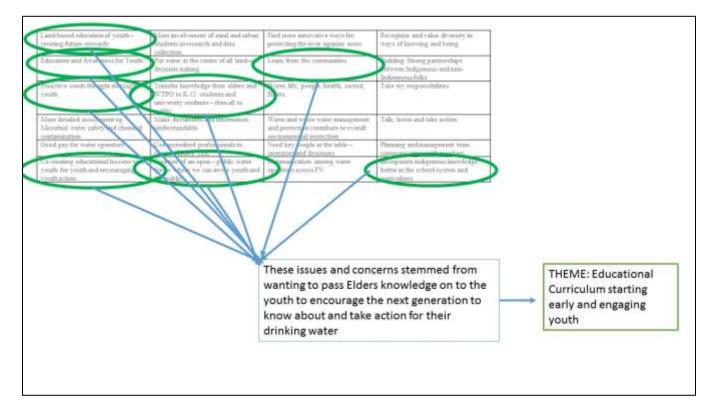


Figure 1 – Example of how Thematic Analysis was completed

Thematic analysis was completed by two researchers with the tables of issues and concerns after the first day of the forum. Researchers independently read through and assembled what they perceived were similar issues and concerns. Then the two researchers discussed and confirmed the thematic findings to come to agreement about the themes. Thematic coding has long been a practice followed by qualitative researchers and is an established method for analyzing textual and other data. Table 4 summarizes the themes:

Level of Importance	Themes emerging	Explanation
Very Important and Urgent	 Better communications, locally, regionally, provincially and nationally Source water protection Gain appropriate funding and resources Make better regulations and policy Unite as Indigenous people Drapage for the unknown 	The themes in this category focused on having coordinated efforts across the nation to recognize how important it is to protect Canada's source waters. That meant having the resources available to do so at the local, regional, provincial, and national level. To do so, there was a movement to unite Indigenous people towards better drinking water management, and also be more prepared for
Very Important	 Prepare for the unknown Youth engagement and education Sort out jurisdictional problems Raise awareness everywhere of FN water issues Knowledge transfer among scientists, policy, and government leaders Integrated, whole environmental protection laws and approaches Community Champions 	situations like the recent Husky Oil spill. The themes in this category focused on the interrelations among people engaged in water management and policy making. There was a need for enhanced knowledge sharing and integrated approaches for managing water. The knowledge sharing included intergenerational engagement, transparent communication among scientists, policy makers and government agencies as well as knowledge sharing in different ways so that it is accessible. The need for Champions also demonstrated a desire for better leadership for water.
Important	 Educational Curriculum – starting early and engaging youth Taking personal action for the future Partnerships made up of many people and open to the public Water should be sacred and central Urban and rural riparian understanding Recognizing importance of diversity and innovation 	The themes in this category focused on aspects of drinking water that involved change at the societal and cultural levels. There was interest in changing the curriculum to include the values held by Indigenous people for water, most prominently, that water should be viewed as sacred and respected. Other important values included being personally responsible for change in communities and setting examples for youth and others to follow. Educating others about the interconnectedness of water systems along a river was also important so that different social and cultural groups (i.e., urbanites and reserve populations) were aware of downstream effects of poor water management.

Table 4: Themes arising from the important to urgent issues and concerns

The final activity during the water forum was a verification of these results. The six themes emerging from each of the three importance categories were used to label water jugs that participants could ladle water into as a reflection of their beliefs about the most important issues. The water and jugs were left out on a table for participants to view and discuss with others. Participants were encouraged to add water during the second afternoon of the forum.

Once participants were preparing to leave, researchers took pictures of the water jug so they could compare the level of water in each jug to help verify the importance of that theme. The themes were subsequently put in order by the water level to establish the final ranking of importance and urgency as directed by the participants in the forum: From most to least importance, the themes were:

- 1. Water should be sacred and central
- 2. Make better regulations and policy
- 3. Prepare for the unknown
- 4. Sort out jurisdictional problems
- 5. Source water protection
- 6. Integrated, whole environmental protection laws and approaches
- 7. Knowledge transfer among scientists, policy, and government leaders
- 8. Youth engagement and education
- 9. Community Champions
- 10. Unite as Indigenous people
- 11. Gain appropriate funding and resources
- 12. Better communications, locally, regionally, provincially and nationally
- 13. Educational Curriculum starting early and engaging youth
- 14. Taking personal action for the future
- 15. Raise awareness everywhere of FN water issues
- 16. Partnerships made up of many people and open to the public
- 17. Urban and rural riparian understanding
- 18. Recognizing importance of diversity and innovation





Discussion:

Previous work from the SWHRT has demonstrated inequities in policy, provision, and the process of managing drinking water on reserves in Canada (see for example, Bradford, Ovsenek and Bharadwaj, 2016; Bradford, Bharadwaj et al., 2016; Morrison et al., 2015; and Dupont et al. 2014). We have also described some of the issues related to intergenerational knowledge transfer, information sharing, and the preferences of community members for their drinking water treatment and source water protection (see for example, Bradford, Zagozewski et al., 2016; Bradford and Bharadwaj, 2015; McLeod et al., 2014; Patrick 2011).

The prioritization activities involved in the 2016 Indigenous Water Forum provide direction for researchers, representative organizations, and government agencies. It is clear that the participants conceive water as a sacred and central element in their lives, and that both a) better regulations that value- and experience-driven, and b) a better process for creating regulations are needed. Water treatment plant operators and technical experts as well as researchers and government representatives noted that there are problems with the current policies and regulations that are interfering with the improvement of drinking water provision on First Nations lands. Participants raised alarms about the lack of coordination between provincial and federal governments to work with First Nations to manage unpredictable adverse drinking water events such as contaminated source water on reserve or in adjacent municipalities. The participants repeated the need to be prepared for the unknown. Both streams shared the importance of having diverse voices involved in policy and regulation creation. The water treatment operators themselves have particular knowledge and skills that need to be shared to improve both on-the-ground drinking water management, and the regulations built to ensure its safe provision. Both streams noted the need for improved communications within what scientists term the policy space (where policy makers, researcher/scientists, and the society for which the policy is intended come together to make decisions). The communications gaps among these groups are in need of repair; alternative formats for communication within and between groups/stakeholders need to evolve so each group can contribute in a meaningful way. A contributing issue for the communication problems is a lack of clarity over responsibilities for drinking water provision among the agencies and partners involved. A suggested remedy would be to review existing policy and set out clear jurisdictional responsibilities, while also creating new policy for areas where none currently exist.

Participants consistently asked for ways to gain support for including youth in drinking water management now and in the future. Successes were presented across various fields where youth have been involved: curriculum design, conducting research with and without academic partners, being involved in mentorship and training programs with water treatment plant operators, becoming community champions through Junior Ranger programs and environmental clubs, and completing other outreach activities through the Safe Drinking Water Foundation and Saskatchewan Environmental Society.



Pathways Forward:

In the coming months, the SWHRT will analyze the information shared at the forum and direct our efforts towards gaining support for projects in the priority areas. We will continue with site visits to First Nations lands with existing partners and others with interest in becoming involved. We will continue to seek out opportunities for research funding, on-the-ground projects, and facilitating more opportunities to share knowledge about drinking water on reserves in Saskatchewan.

More specifically we have the following plans for 2016-2017:

- 1. Complete a scoping review of drinking water infrastructure on reserves in Saskatchewan exploring the process to gain infrastructure and the decision making path for which kind of treatment and delivery options are selected and used
- 2. Submit a Letter of Intent for a multi-year Tri-Council funded grant application for examining the concept of community co-design and co-creation of drinking water assets and provision on reserve in Saskatchewan
- 3. Complete 2-3 other knowledge mobilization projects to share the knowledge resulting from previous work and current work in co-created and culturally harmonized ways



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