



2020-21 Annual Update

OCTOBER 2021



For details on any of the initiatives described in this update, partnership opportunities or more information on becoming a member of the Canadian Municipal Water Consortium, contact info@cwn-rce.ca or (519) 904-2897.

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Message from Canadian Water Network

This 2020–21 Annual Update reflects upon the collective efforts of Canadian Water Network (CWN) participants, members and staff in *helping communities get to the future they want through water* during an unprecedented year, with a focus on meeting emerging challenges.

The past year has been marked by widespread and persistent effects of the COVID-19 pandemic, growing societal awareness of climate change impacts, and increased recognition of regional and global equity concerns. Across Canada, there has also been a surge of interest in better understanding our colonial history, its present-day implications and the imperative to learn from Indigenous Peoples as we find our way forward. These shared challenges have brought attention to the central importance of water and water-related opportunities for achieving social, environmental and economic well-being and sustainability.

Global and national crises are experienced broadly, but their effects are felt at the local level, including by community water leaders across Canada. Impacts are shaped by community contexts, as are response options and priorities for action. Water-related decisions are further embedded within complex governance systems developed to manage our communities and our society. Local leaders must look beyond traditional water technology and operations solutions to respond to water-related challenges within these complex systems. By reaching across boundaries and drawing on our collective knowledge to address shared challenges through water, we have an opportunity to build stronger communities for the benefit of all Canadians.

I am pleased to provide an update on some of the initiatives CWN has undertaken in the past year with the support and collaboration of leaders within and beyond the water sector. The report highlights various ways CWN is well-positioned to advance shared challenges by:

- Clarifying opportunities for progress on key issues
- Convening structured discussions that move communities forward
- Curating knowledge that is relevant for real-world decision-making

As I reflect on the past year, I am struck by the extent to which our focus on connecting people, knowledge and actions has intensified, rather than shifted, as a result of the pandemic. The outcomes of our recent initiatives reinforce the value of adapting to changing priorities and harnessing the best available knowledge to support water leaders in responding to key challenges — our core competency. As global and national crises continue to impact us all, CWN remains focused on equipping our water leaders to anchor progress for our communities.

Bernadette Conant



CEO
Canadian Water Network

About Canadian Water Network

CWN is a non-profit organization dedicated to helping communities get to the future they want through water. We connect water leaders with the insights, people and opportunities needed to move communities forward. We are motivated by the need for aligned and meaningful connections across the water sector and beyond to make progress on important but complex societal issues.

CWN initiatives provide credible insights and learnings based on the collective experiences of the Canadian and international water management community. Our work is structured to improve the ability of decision makers across the water sector — and beyond — to better consider, position and convey the basis and rationales for their decisions.

As **context experts**, we clarify important issues and opportunities for progress, convene structured discussions that lead to action, and curate knowledge in a way that is inclusive and relevant for real-world decision making.

We are supported by end users and decision makers in both the public and private sectors who rely on the insights we provide and the connections we enable. CWN's success is defined by the improved confidence, connections and success of those decision makers who strive for progress on complex environmental, social and economic challenges involving water.

As the Canadian water landscape evolves and national, regional and local priorities shift, we are at the forefront of identifying opportunities for progress, areas where aligned efforts can achieve the best value, and what insights can help decision makers move forward.

[🔗](https://cwn-rce.ca/wp-content/uploads/Canadian-Water-Network-Our-Story.pdf) To learn more about CWN, read our story:
cwn-rce.ca/wp-content/uploads/Canadian-Water-Network-Our-Story.pdf



About the Canadian Municipal Water Consortium

CWN's Canadian Municipal Water Consortium is a national network of forward-thinking leaders who share a common goal of advancing municipal water management for their communities.

Through facilitated discussions, Consortium participants explore critical issues and decision-making needs alongside their peers. They establish trusted relationships, exchange guidance and support in response to shared challenges, and discover new approaches and best practices. Consortium initiatives span organizational silos and engage other sectors to support leaders in balancing the fiscal, environmental and social demands of providing safe drinking water, wastewater and stormwater in their communities. Tangible takeaways include a deeper understanding of local needs and options using a national lens, access to curated information and decision-ready insights.

"The Consortium provides some of the best value available in terms of the opportunity to engage and learn from my peers in water utilities across Canada."

- Reid Campbell, Director, Engineering & Technology Services, Halifax Water

The Consortium is supported by senior decision-makers from 24 progressive municipalities and utilities across the country. Together, members of the leaders group identify key challenges and priorities to help inform the Consortium's initiatives. Their willingness to invest in the Consortium ultimately results in better outcomes across the water sector.

2019-2023 Consortium themes

- Achieving equity and improving public engagement in municipal water management
- Identifying shared risks and co-benefits that create the best business case for actions
- Crossing the public-private divide
- Prioritizing and addressing "forever/everywhere" chemicals

📄 To learn more about the Canadian Municipal Water Consortium, visit cwn-rce.ca/municipal-consortium

Canadian Water Network's Canadian Municipal Water Consortium





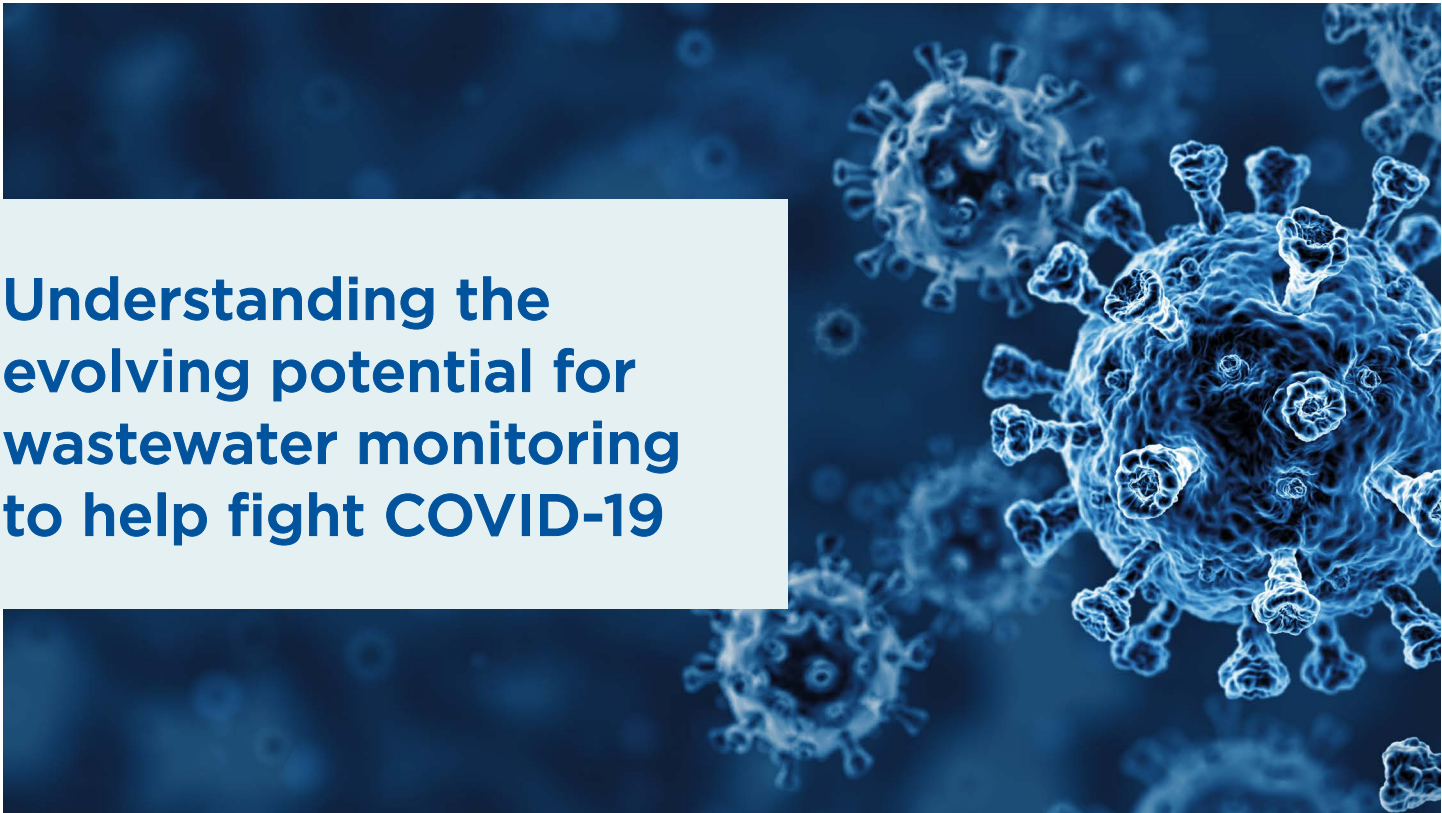
Clarifying opportunities for progress on key issues

CWN enables progress on societal challenges by effectively framing and clarifying water management issues, realities and possibilities for action.

Water management is fundamentally connected to environmental, social and economic well-being. The broader societal context in which water management decisions occur has a direct bearing on the analysis of options, decision-making rationale and anticipated outcomes of actions taken.

Whereas deep pools of information are often available, progress on complex issues is more often limited by the need for a clear picture of the relevant context and the key elements involved, including how water management options affect and are impacted by other sectors.

CWN contextualizes water management issues by considering the cross-sectoral landscape and the decisions faced by the various players involved. We then identify the possibilities, trade-offs and opportunities where aligned action can bring multiple benefits across sectors, enabling progress on society's most complex challenges.



Understanding the evolving potential for wastewater monitoring to help fight COVID-19

The severe health consequences and global spread of COVID-19 prompted rapid development of surveillance programs to inform public health responses. In Canada and internationally, researchers mobilized to apply the established technique of wastewater-based epidemiology (WBE) to detect the presence of COVID-19 in communities. Before the global pandemic, WBE had been used internationally as a public health tool but had not been applied to a large degree in Canada. As Canadian and international researchers worked to establish analytical methods for wastewater testing for SARS-CoV-2, CWN recognized parallel needs to ensure that wastewater testing results could be both scientifically rigorous and useful to public health authorities.

CWN established the COVID-19 Wastewater Coalition in April 2020 to improve our understanding of if, how and where wastewater techniques might provide value for public health decisions. This national collaboration brings together municipalities, utilities, researchers, public health agencies and governments to advance Canada's ability to support public health protection and surveillance in the face of COVID-19 by endorsing the shared goal of better connecting research to public health decisions. The Coalition's work is coordinated with international efforts through CWN's membership in the Global Water Research Coalition (GWRC) and by active participation in international forums.

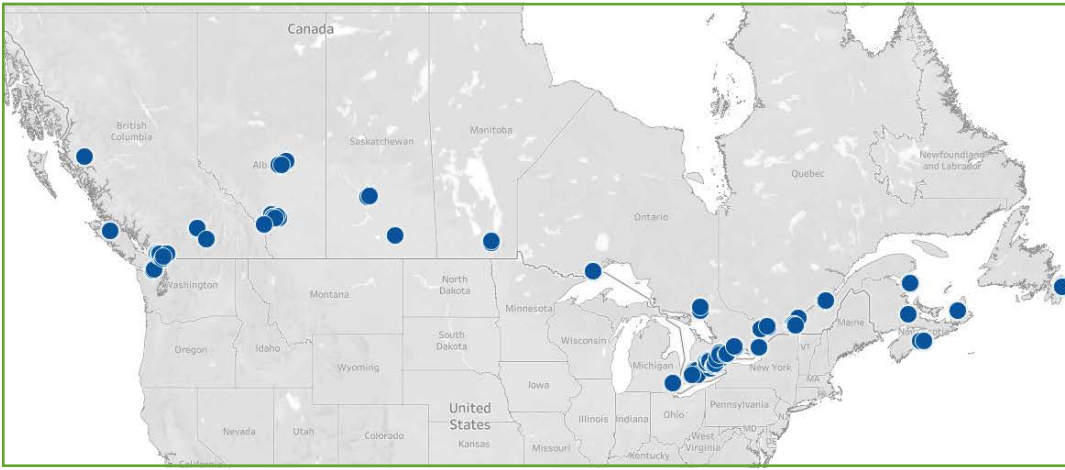
"Helping Canada to better address and assess what is needed and what the reliable use of the technique could look like is the fundamental rationale for the Canadian COVID-19 Wastewater Coalition."

– Steve E. Hrudehy

The COVID-19 Wastewater Coalition set out guiding principles for participants to adopt in support of its goal. The principles include framing all research and activities in terms of how outcomes will address end-user needs, and engaging in open sharing of ideas and results to prioritize collective progress over individual or institutional recognition or advancements. By April 2021, 138 signatories spanning academia, municipalities and utilities, industry and private laboratories, federal and provincial governments, provincial and local public health authorities, non-government organizations and others had adopted the guiding principles. The principles were also adapted by Water Research Australia in the development of its Collaboration on Sewage Surveillance of SARS-CoV-2 (ColoSSoS).

"Researchers, water utilities and environmental health professionals in Australia and New Zealand were determined to help in whatever way they could to serve the community in response to the COVID-19 pandemic. It became evident that the conventional model of intellectual property protection for publication and commercialization would be counter to the public interest in this case. A proactively open and collaborative approach was required. We were very fortunate to come across the CWN guiding principles which fearlessly stated exactly what needed to be said in our context. The principles were critical in overcoming one of the greatest challenges to rapid mobilization of expertise and evidence in response to the pandemic."

– Dan Deere, Project Manager, ColoSSoS



Participants who have signed on and agreed to abide by the Guiding Principles when conducting activities that relate to the COVID-19 Wastewater Coalition:

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An early narrative that emerged through the COVID-19 Wastewater Coalition’s work was recognizing that wastewater testing for SARS-CoV-2 is fundamentally an application of public health surveillance that must be governed by appropriate ethical guidance. During the spring of 2020, the Coalition convened leading experts to develop ethics and communications guidelines for conducting research on SARS-CoV-2 in wastewater and engaging effectively with public health agencies and communities about wastewater surveillance data. Internationally, the Coalition’s guidelines have been adopted by the European Commission for implementation in the EU Sewage Sentinel System for SARS-CoV-2 and have been recognized by the World Health Organization.

☑ **The guiding principles and the ethics and communications guidelines are available on CWN’s website at cwn-rce.ca/covid-19-wastewater-coalition/guiding-principles**

As researchers worked to develop analytical methods for wastewater testing during the early days of the pandemic, the COVID-19 Wastewater Coalition identified a need to ensure that the context in which the resulting wastewater surveillance data would be considered for public health decisions was held front and centre in the design of pilot projects, approaches and methods. In response, the Coalition convened leading experts in wastewater, public health, microbiology, toxicology, engineering and water quality to generate important guidance documents for pilot research, as well as a draft sampling and analysis protocol.

☑ **A curated collection of resources for Canadian investigators, including guidance documents for pilot research, is available on CWN’s website at cwn-rce.ca/covid-19-wastewater-coalition/wastewater-surveillance-resources/**

Since March 2020, research to develop wastewater testing for SARS-CoV-2 has accelerated across the globe and a wide range of approaches and techniques has evolved. Any reliance on wastewater surveillance data for public health decisions requires an ability to compare data within and between communities, including understanding how results may differ according to the analytical approaches and techniques being used. During the summer of 2020, the Coalition launched a national Inter-Laboratory Study in

partnership with the National Microbiology Laboratory. This study was designed with the goal of better understanding the variability associated with methods used across Canada and was credited by participants as catalyzing progress in this country. The study’s findings were shared in a December 2020 webinar series that also examined use cases, challenges and next steps for WBE in Canada.

☑ **Read the Inter-Laboratory Study report and watch the webinar recordings at cwn-rce.ca/covid-19-wastewater-coalition/phase-1-inter-laboratory-study/**

As the pandemic continues to evolve due to variants and other factors, and as wastewater surveillance becomes more widespread, discussions on current and future applications of WBE require a common baseline to understand where monitoring is already underway and being used to inform public health decisions. The COVID-19 Wastewater Coalition published two maps in spring 2021 that provide a visual narrative of where wastewater monitoring for SARS-CoV-2 is ongoing in Canada, which can serve as a stepping stone to build a more detailed national picture.

☑ **See all COVID-19 Wastewater Coalition maps at cwn-rce.ca/covid-19-wastewater-coalition/covid-19-wastewater-coalition-maps/**

There are strong reasons for optimism about how WBE can support public health management, including ongoing surveillance of COVID-19 and variants of concern in communities and large facilities. Through its work, the Coalition continues to frame and clarify the evolving applications and implications of this approach to inform public health decisions.

☑ **To learn more about the COVID-19 Wastewater Coalition’s work, visit cwn-rce.ca/covid-19-wastewater-coalition/**

Information on selected international COVID-19 collaborations in which CWN has participated is available at:

☑ **Global Water Research Coalition — globalwaterresearchcoalition.net/**

☑ **Water Research Australia, Collaboration on Sewage Surveillance of SARS-CoV-2 (ColoSSoS) — waterra.com.au/research/communities-of-interest/covid-19/**



Assessing needs for climate information and analytics to advance municipal flood management

Climate change impacts are being experienced by Canadians more frequently and with increasingly severe consequences. Flooding from severe storms and overflowing waterbodies has caused significant damage to Canadian communities over the past two decades. To make effective decisions about climate change adaptation, communities, private sector actors and governments at all levels need relevant, timely and reliable climate data.

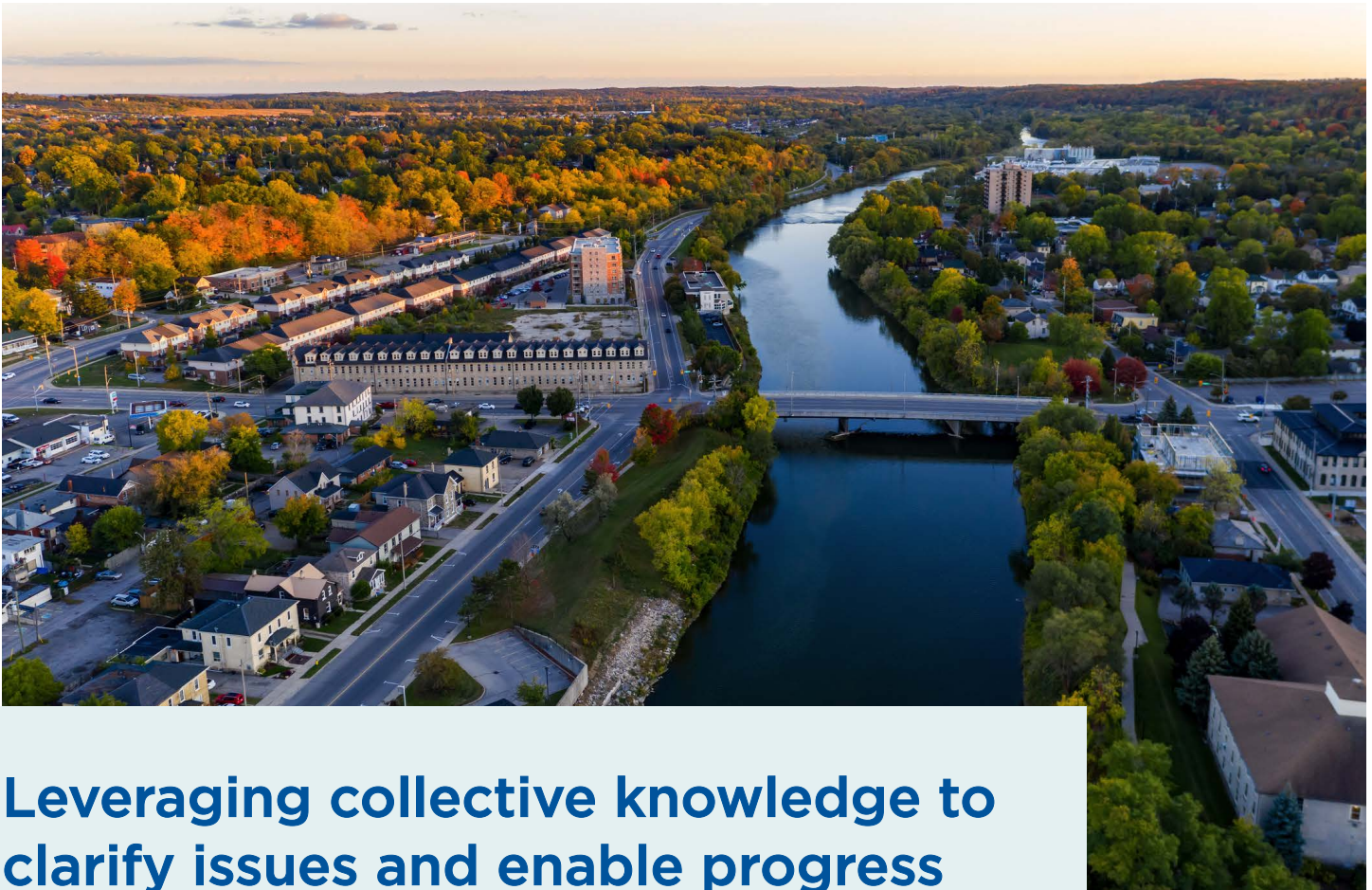
With support from the Insurance Bureau of Canada, CWN undertook a study in 2020 to generate recommendations on the successful framing and structuring of the Canadian Centre for Climate Information and Analytics (C3IA). The establishment of the C3IA was recommended by Canada's Expert Panel on Sustainable Finance as being critical for improving the availability of, and access to, climate information and decision analysis. Supporting the framing and structuring of the C3IA provides an opportunity to make more effective use of the data, information and knowledge held by various sectors to better inform decisions.

Given the prevalence of flooding as a difficult and costly climate-related challenge for Canadian communities, CWN used the issue of flood management to frame its analysis. CWN began by structuring and facilitating group meetings and one-on-one discussions with expert advisors on key areas of overlapping interest. To achieve a broader understanding of flood risk and its management and mitigation, CWN included perspectives from the municipal and insurance sectors, and academia. Whereas CWN's primary goal was to ensure the C3IA is of pragmatic value to municipalities, cross-sector consultations were used to frame and structure recommendations in a way that would advance the objectives of multiple sectors.

CWN's approach throughout the study focused on clarifying what elements would need to be in place for the C3IA to effectively address flooding. Discussions highlighted that the C3IA's success is tied to the willingness and ability of multiple sectors to share data, information and knowledge, which in turn hinges on the C3IA's ability to achieve buy-in from the various sectors from the earliest stages of development. Another critical factor in ensuring productive cross-sector discussions is the identification of a shared goal or outcome. Finally, the C3IA's structure must be viable, stable and sustainable to warrant municipalities' time and effort to support its development and implementation. A summary of insights and a full study report were published in August 2020, and CWN was invited to present its findings and a use case for the C3IA to a national audience in October 2020.

There is a clear opportunity for a national approach such as the proposed C3IA to support Canadian municipalities in protecting people, the environment and local economies from climate change impacts. Ultimately, understanding the needs of municipal decision makers, and what data, information and knowledge are required is a key factor in successful implementation. Seeking clarity from potential C3IA contributors and users from the outset will significantly increase its ability to deliver value and inform decision-making over the long term.

[For more information about the project, and to access the summary of insights and full report, visit \[cwn-rce.ca/project/advancing-municipal-flood-management-through-effective-knowledge-curation/\]\(https://cwn-rce.ca/project/advancing-municipal-flood-management-through-effective-knowledge-curation/\)](https://cwn-rce.ca/project/advancing-municipal-flood-management-through-effective-knowledge-curation/)



Leveraging collective knowledge to clarify issues and enable progress

Canada's water leaders collectively hold a wealth of knowledge. Twice a year, CWN convenes a national roundtable that brings together water utility executives with thought leaders from other sectors to discuss multi-dimensional challenges in community water management. Structured and facilitated conversations leverage the knowledge 'in the room' to clarify the issues and identify opportunities for progress as leaders navigate unprecedented change and uncertainty.

The Fall 2020 Leaders Roundtable focused on the realities of total utility management, as water leaders strive to better serve their employees and customers across the environmental, social, governance and technology elements of their organizations. The Spring 2021 Leaders Roundtable convened candid discussions on the affordability and equity of water services. Conversations were enriched through the participation of thought leaders such as Cathy Bernardino Bailey of Greater Cincinnati Water Works, who shared her notion that municipalities and utilities will increasingly become anchor organizations that lead community progress on issues of affordability and equity. The Fall 2021 Roundtable will build on the previous discussions by focusing on evolving practices around utility governance and financial sustainability, and their role in achieving broader community goals.

[Visit the Municipal Consortium webpage to learn more about the upcoming Leaders Roundtable:](#)
cwn-rce.ca/municipal-consortium/

In addition to these bi-annual roundtables, CWN works continuously with our network of utility leaders and other partners to monitor water sector trends, gather insights and identify opportunities to advance community water management. With financial support from the Federation of Canadian Municipalities, CWN led a qualitative research project in 2019 on key municipal trends, needs, best practices and innovations with the potential to achieve improved environmental stewardship, economic and social benefits, and greenhouse gas reductions in the water sector. The research synthesized current knowledge and engaged stakeholders from across the water sector to validate and augment this knowledge. The project culminated in a final report published in March 2019 and a national webinar in March 2020.

[A snapshot of CWN's detailed water sector trends report is available at \[cwn-rce.ca/report/water-management-trends-in-canadian-municipalities-a-snapshot/\]\(http://cwn-rce.ca/report/water-management-trends-in-canadian-municipalities-a-snapshot/\)](#)

[To view the national webinar hosted by the Federation of Canadian Municipalities, visit \[fcm.ca/en/resources/gmf/webinar-recordings-best-practices-in-municipal-sustainability\]\(http://fcm.ca/en/resources/gmf/webinar-recordings-best-practices-in-municipal-sustainability\)](#)



Identifying opportunities for impactful national and international collaboration through water

In June 2021, CWN responded to the House of Commons Standing Committee on Environment and Sustainable Development's invitation for input on the committee's study on freshwater in Canada. This comprehensive study was launched in March 2021 to examine options for streamlining the federal role with respect to freshwater management in Canada and improving collaboration with other levels of government and non-government stakeholders. CWN's submission draws on our extensive knowledge of the Canadian water landscape and our observations of recent federal government consultations regarding the creation of the new Canada Water Agency. We point to the intense public interest in freshwater issues and wide-ranging needs expressed by the water community as an opportunity for the federal government to enable impactful collaborations that place end-user needs front and centre. We further highlight the value that would come from federal investment in a dedicated structured convening role that enables alignment around shared community objectives, identifies opportunities for effective collaboration across sectors and drives progress on national priorities through water.

[Read CWN's submission to the House of Commons Standing Committee on Environment and Sustainable Development's study on freshwater at \[ourcommons.ca/Committees/en/ENVI/StudyActivity?studyActivityId=11124901\]\(https://ourcommons.ca/Committees/en/ENVI/StudyActivity?studyActivityId=11124901\)](https://ourcommons.ca/Committees/en/ENVI/StudyActivity?studyActivityId=11124901)

Internationally, CWN is a proud member of the Global Water Research Coalition (GWRC), a water research alliance comprising twelve leading research organizations around the world. Focusing on water supply, wastewater issues and renewable water resources, the GWRC is dedicated to promoting international cooperation and collaboration in water-related research. CWN brings Canadian knowledge and perspective to this international table and benefits from the insights of emerging international research findings. In 2020, GWRC members collaborated on the development of fact sheets on effects-based monitoring as well as drinking water and wastewater management in the face of COVID-19. Launched in 2019 and continuing through 2022, CWN is leading a qualitative research project with GWRC members to identify how and where investments in water research and innovation provide value to water utilities and governments, and to develop metrics to guide the evaluation of return on investment in water research and innovation. Additional ongoing GWRC projects include a series of fact sheets on Per- and Poly-Fluoro Alkyl Substances (PFAS) and case studies on the application of digitization in the water industry.

[Visit GWRC's website to access fact sheets and learn more about current projects and priorities: \[globalwaterresearchcoalition.net/\]\(https://globalwaterresearchcoalition.net/\)](https://globalwaterresearchcoalition.net/)



Convening structured discussions that move communities forward

CWN convenes structured discussions in key areas where aligned and meaningful connections can help communities move forward through water.

Achieving progress on complex challenges heavily relies on not only engaging the right people but actively and intentionally enabling the right conversations. Whereas applied research finds and develops opportunities for knowledge uptake, structured convening accelerates knowledge into practice and policy by creating spaces that are shaped by the decision-making context and needs.

CWN-convened discussions are structured for impact. We establish networks of peers and allies, cultivating more profound knowledge and insights into possibilities and enabling progress on community priorities. We strive to create safe and equitable spaces where emerging and seasoned leaders with different perspectives and diverse backgrounds can engage and learn from one another. Within these spaces, facilitated discussions allow shared objectives to be identified, highlight opportunities for effective collaboration, and drive progress on water management priorities.

Leading virtual Blue Cities Discussions during the global pandemic



Since 2016, Blue Cities has been Canadian Water Network's annual flagship event. When the pandemic prevented us from hosting Blue Cities 2020 in person, CWN quickly pivoted to ensure that the valued discussions and connections that are central to this networking event could continue. As organizations across the country began to embrace virtual conferencing, CWN was mindful of the need to add value in this space without overwhelming participants.

Blue Cities Discussions was held in early June 2020. The program included six online sessions over four days and attracted over 150 participants representing industry, academia, municipalities and utilities. The event kicked off with a plenary session exploring how to achieve co-benefits by investing in water. Speakers from Infrastructure Canada, Metro Vancouver and the Insurance Bureau of Canada provided insights from various viewpoints — including major investors, regulators, partners and project managers who drive resiliency across Canada.

A discussion was facilitated on balancing utility revenue impacts and levels of service demands. As customer expectations grow and additional considerations such as equity come to the fore, utilities must continuously rebalance their priorities. Setting levels of service with appropriate utility and customer input provides a solid framing for managing water services moving forward.


Water utility workforces are changing and many experienced staff are starting to retire. During Blue Cities Discussions, panelists provided insights into these changes, including the need to embrace digitization and an increased focus on


customers. As they navigate the future, utilities will require a deeper understanding of staff skillsets and how to support their workforce.

Another session highlighted the opportunities and challenges associated with water service delivery. Much water-related infrastructure is located on private property, and municipalities and utilities are looking for innovative ways to ensure an appropriate level of service is provided in their communities. Panelists shared how the pandemic has resulted in additional barriers to accessing 'the private side' and discussed innovations and opportunities to keep services in place.

Water managers are not immune to the challenges and opportunities that come with 'big data.' Utilities are collecting more data than ever before, but some struggle to truly understand and use the data effectively. Led by a panel of industry and utility experts, Blue Cities Discussions participants shared their experiences related to the digitization of water services.

The closing plenary brought together a dynamic and insightful panel of thought leaders who shared their insights on what the water industry will look like as we move into a new reality. The 'at issue' session format provided a fun and interactive way for participants to learn from one another about how the pandemic and other mega-trends are shaping water services in Canada.

 **The June 2020 program for Blue Cities Discussions, as well as the programs and highlights of all previous Blue Cities events, are available at [bluecities.ca](https://www.bluecities.ca)**



Enabling peer sharing in response to emerging issues

The Canadian Municipal Water Consortium's Strategic Sharing Groups provide meaningful peer sharing and learning opportunities on emerging issues. CWN organizes, frames and facilitates dialogues among participants and invites leading experts to share their knowledge and targeted insights from across sectors. Discussions are led by participants, ensuring that insights are relevant and timely. Most importantly, participants are free to contribute and connect while CWN captures the key take-aways for future reference. Ultimately, it is a safe place to challenge the status quo and engage in forward-thinking conversations.

In March 2020, CWN mobilized to launch a COVID-19 Strategic Sharing Group to help community water leaders plan, prioritize and respond to the pandemic and ensure continuity of services while also protecting the health and safety of staff. Strategic Sharing Groups are typically exclusive to Municipal Consortium members. However, given the unprecedented situation and the clear benefit for those outside the network, CWN opened these discussions to other municipalities to support the broader municipal community. The timely exchange of approaches and best practices supported rapid learning and adaptation to the COVID-19 crisis.

"This allowed us to accelerate our responses across the country and not be part of the 'disaster' but actually be a supporting entity in our communities."

— COVID-19 Strategic Sharing Group participant

🔗 **Learn more about the COVID-19 Strategic Sharing Group and read a summary of insights captured from the discussions at cwn-rce.ca/project/supporting-water-and-wastewater-utility-decision-making-during-the-covid-19-pandemic/**

In October 2020, CWN kicked off a Strategic Sharing Group focused on Advancing Levels of Service in the Context of Uncertainty for Municipal Consortium Leaders Group members. Consortium Leaders have identified that clearly defining, managing and monitoring the levels of service they provide is central to balancing customer expectations with utility costs, asset priorities and other realities. Strategic Sharing Group participants discuss challenges, barriers and best practices for advancing corporate, customer and technical levels of service. Meetings cover a range of topics, including identifying drivers for setting and financing levels of service, securing buy-in from council and the public, communication and engagement strategies, and cross-departmental collaboration and coordination. Meetings are planned through December 2021.

🔗 **An overview of the Advancing Levels of Service in the Context of Uncertainty Strategic Sharing Group is available at cwn-rce.ca/project/advancing-levels-of-service-in-the-context-of-uncertainty/**



Virtual Dialogues

Bringing cross-sector perspectives to Canada's water leaders



Hosting virtual dialogues that engage cross-sector perspectives to make progress on complex challenges

Drinking water, wastewater and stormwater managers across Canada are facing challenges such as aging infrastructure and changing demand use patterns, which threaten the long-term financial sustainability and resilience of these essential services. In many communities, existing infrastructure is struggling to meet increasing demands from densification and extreme weather events. These demands are compounded by uncertainty surrounding future needs and conditions related to climate change, contaminants of emerging concern and the COVID-19 pandemic. The complexity and multi-faceted nature of these challenges mean that the effectiveness of actions taken in one department or sector will be impacted by other actors, and vice versa.

CWN's virtual dialogue series convenes structured discussions that approach complex challenges through a co-benefits lens. These dialogues identify and explore opportunities to prioritize actions that can achieve multiple benefits across departments or sectors in the face of what might otherwise be seen as competing objectives. Thought leaders discuss co-benefits success stories, lessons learned and approaches to working across community silos. The primary goal of the series is to bring cross-sector perspectives to Canada's water leaders in a way that informs decision making and enables effective progress for a wide range of actors working to address complex challenges.

Given the centrality of water to communities, its connection to many municipal departments and across sectors, this approach of convening diverse actors to examine challenges through a co-benefits lens holds the potential to achieve transformational change with lasting social, environmental and economic outcomes for the water sector and beyond.

Virtual Dialogue: Pursuing Co-benefits to Advance Water Management

CWN's January 2021 virtual dialogue focused on the importance of incorporating co-benefits into the early phases of project planning and development.

For more information about this virtual dialogue, visit cwn-rce.ca/project/a-co-benefits-approach-to-water-sector-management/



Building connections to advance wastewater surveillance for COVID-19 in Ontario

The work of the COVID-19 Wastewater Coalition established connections among the community of Canadian labs conducting wastewater testing for SARS-CoV-2. It also paved the way for subsequent federal and provincial wastewater surveillance collaborations involving research laboratories, wastewater utilities and public health agencies.

Early conversations convened by the COVID-19 Wastewater Coalition in March and April 2020 identified a high level of interest across Canada among communities, universities, government and private labs to monitor the spread of COVID-19 through wastewater-based epidemiology (WBE). The rapidly evolving science of monitoring SARS-CoV-2 in wastewater is not yet fully validated, and poor or misleading information could be more damaging for communities than no information. With financial support from Ontario Clean Water Agency, the Ontario Hub of the COVID-19 Wastewater Coalition was initiated to ensure that the WBE methodologies used by municipalities will provide information that advances an understanding of community spread and meaningfully impacts public-health decisions.

Building directly on the community and research connections established through CWN's COVID-19 Wastewater Coalition, as well as the Coalition's draft sampling and analysis protocol and Inter-Laboratory study, the Ontario Ministry of Environment, Conservation and Parks established its COVID-19 Wastewater Surveillance Initiative in early 2021. This initiative was supported by the Ontario Clean Water Agency and conducted in collaboration with the National Microbiology Laboratory. The purpose of the Ontario-led initiative was to expedite the development of formal methods and protocols, and advance Ontario's capacity for wastewater surveillance of COVID-19. In August 2021, the Ontario-led initiative published a technical guidance protocol for evaluating methods for SARS-CoV-2 testing in wastewater.

[To access the Ontario-led COVID-19 Wastewater Surveillance Initiative's technical guidance protocol, visit \[researchgate.net/publication/354248379_Protocol_for_Evaluations_of_RT-qPCR_Performance_Characteristics_Technical_Guidance\]\(https://www.researchgate.net/publication/354248379_Protocol_for_Evaluations_of_RT-qPCR_Performance_Characteristics_Technical_Guidance\)](https://www.researchgate.net/publication/354248379_Protocol_for_Evaluations_of_RT-qPCR_Performance_Characteristics_Technical_Guidance)

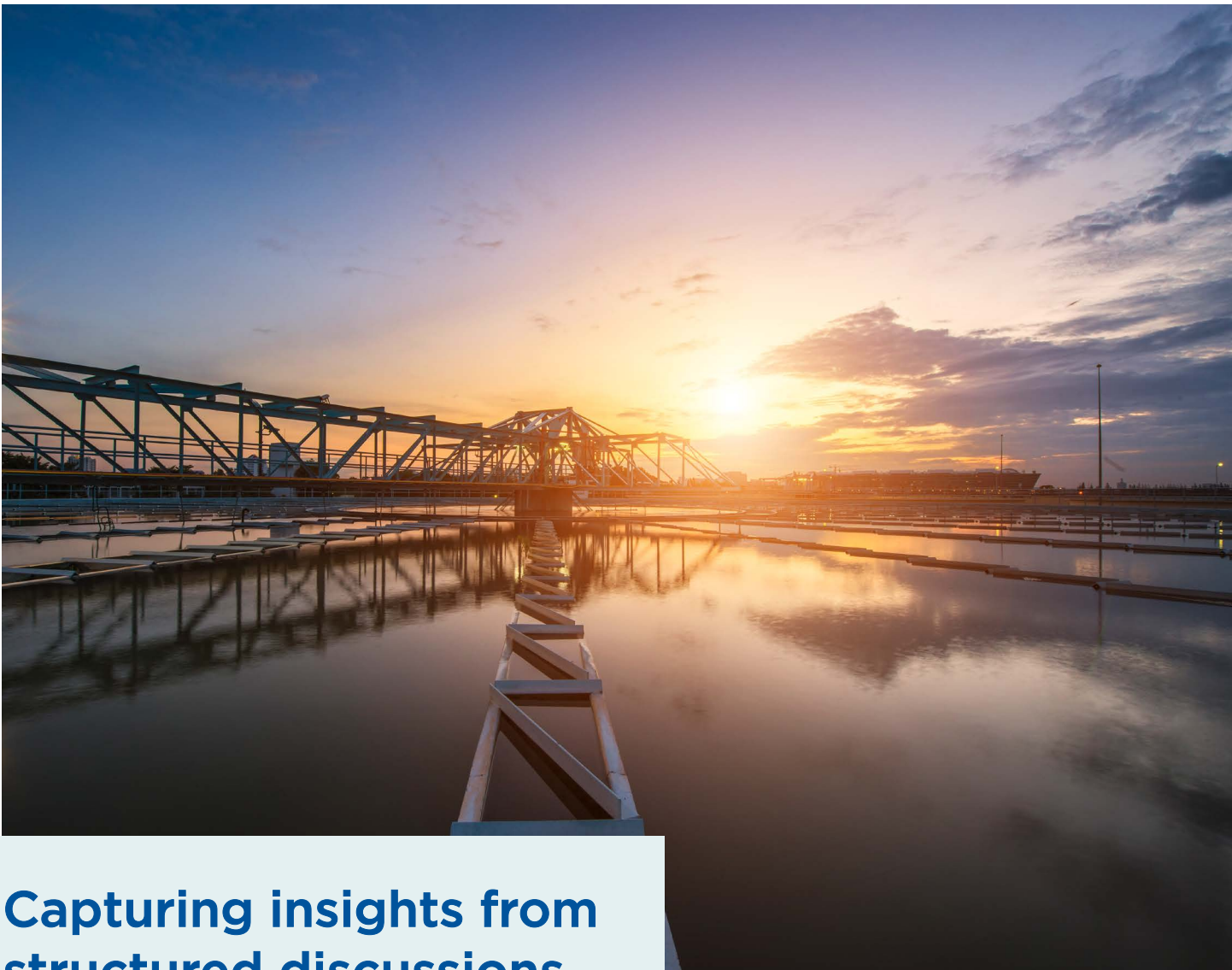


Curating knowledge that is relevant for real-world decision-making

CWN curates knowledge from relevant sources across sectors to extract impactful insights that can be directly applied in decision-making.

The way that knowledge is identified, gathered, organized and presented is central to its usefulness in informing decisions. Because water management has impacts beyond the water sector and vice versa, relevant sources of data, information and knowledge must be sought from beyond the confines of the traditional water management community. Effective curation of this knowledge requires a constant focus on the real-world context in which it will be applied.

CWN's approach to knowledge curation is rooted in a deep understanding of the broader context, including the decisions faced by water managers and other relevant actors outside the water sector. CWN collaborates with federal and provincial governments and industry to undertake national initiatives that curate and frame knowledge to help decision makers anticipate and respond to critical water management challenges and emerging trends.



Capturing insights from structured discussions

The high quality of CWN's structured discussions results from leveraging the collective wealth of knowledge among our network participants. Our structured discussions are designed to use this knowledge to generate valuable insights and takeaways that can help advance key water management decisions. We regularly capture these insights and highlight key takeaways to facilitate their uptake by our Municipal Consortium participants, as well as the broader water management community.

Insights are captured from CWN webinars, virtual dialogues, strategic sharing groups, Consortium Leaders roundtables and other events and framed in a way that can strategically inform decision-making. This process is multi-faceted and leverages

our deep understanding of the broader water sector context and the opportunities to inform key challenges and decision needs. In addition to helping Canada's water leaders anticipate and respond to emerging trends, the insights we capture are used to shape future CWN initiatives and maximize their value for decision makers in the water sector and beyond.

🔗 In fall 2020, CWN published a summary of insights and strategies for managing contaminants of emerging concern in wastewater based on two years of strategic sharing group discussions. Learn more at cwn-rce.ca/project/insights-and-strategies-for-managing-contaminants-of-emerging-concern-in-wastewater

Creating customized research and knowledge syntheses in response to shared challenges



From time to time, CWN is approached by a Municipal Consortium member who is facing a specific challenge or decision and is struggling to access or interpret information that is relevant to their local context. Frequently, these challenges are shared by a subset of other Consortium members, who could also benefit from access to relevant research and practice knowledge from the water management community. In such cases, CWN may undertake a customized analysis for a Consortium member that engages our extensive expertise and broad network to help inform their decisions.

We begin by framing the analysis to reflect the decision maker's local realities and constraints within the broader context of water sector trends and opportunities. Each

analysis is tailored to the member's needs and may include a desktop scan of existing research; consulting with leading experts across sectors; engaging key perspectives via workshops, interviews or questionnaires; as well as other means of drawing on relevant research and lived experiences of water managers within our network. CWN synthesizes the research and practice knowledge, highlighting key findings and drawing out relevant insights that can meaningfully support decision-maker responses to local challenges.

With permission from the member who requested the analysis, the final product is typically shared with other Municipal Consortium members who can benefit from the curated knowledge and insights to inform their own local decisions.

Stormwater Capital Plan Prioritization Approaches: A Comparative Analysis

Commissioned by Toronto Water, CWN examined the diversity of approaches taken to prioritize plans and actions related to stormwater management and urban flood prevention across Canada. CWN interviewed municipalities and water utilities to understand how stormwater management units and programs are structured, as well as how they select projects and prioritize work. The final report presented insights, best practices and key considerations for developing a customized stormwater project prioritization approach.

Street Trees and Underground Utilities: Approaches for Managing Conflicts

In response to another challenge area identified by Toronto Water, CWN undertook a comparative analysis to examine how conflicts between trees and underground utilities can be minimized and effectively addressed. CWN conducted a literature review and validated the findings against practical experiences of municipalities in Canada and the United States using an interview and questionnaire process. The commonalities and differences between municipal approaches for managing tree-utility conflicts were compared and the results were synthesized to identify best practices and recommendations for Toronto Water.



Developing insights briefs on emerging topics

As the Canadian water landscape evolves, specific topics may emerge or re-emerge as areas of concern for community water managers. In some cases, the information water managers must sort through to understand an issue and its relevance to their local context may be overwhelming or even contradictory. Water managers may also face critical knowledge gaps, including how the information available relates to their decision-making context.

CWN insights briefs provide a concise summary of the state-of-the-knowledge on topics that have been identified by Municipal Consortium Leaders or other network participants as having critical knowledge gaps that are particularly relevant for community water managers. In these topic areas, CWN may engage in discussions with Consortium Leaders to

effectively frame the issue and identify the key questions to be addressed. We undertake a broad scan of the scientific and grey literature to understand what is known about the topic, why it is an issue for water management, its current status within the Canadian context, and key considerations for effectively addressing the issue.

CWN insights briefs may be shared with Municipal Consortium members and later made broadly available through our website, or if developed for specific clients, can be kept confidential. As with CWN's other knowledge curation activities, the primary goal is to improve the ability of community leaders to respond to critical water management challenges and emerging trends.

Challenges, Considerations and Opportunities for Chloride Management and Mitigation

Chloride-related research has dominantly focused on the impacts of road salt, which has become the largest anthropogenic contributor of chloride to the environment. As a result, most policies directed towards chloride management in Canada have focused on best practices for winter road maintenance. However, it is important to also consider the magnitude of other anthropogenic sources of chloride, including wastewater treatment plant effluents. In communities that are serviced by hard water, the largest contributor of chloride to wastewater treatment plants is likely the brine backwash from water softeners.

In 2020–21, CWN undertook a project for Environment and Climate Change Canada to examine the state-of-the-knowledge on chloride contributions from water softener use in the Great Lakes Basin. CWN produced an insights brief that identified key knowledge gaps in the water-softener-chloride transport pathway. CWN also provided a series of recommendations which identified municipalities and drinking water/wastewater utilities as crucial stakeholders with essential expertise and knowledge to contribute in designing effective outreach campaigns and engaging the public.

Looking ahead

As we look to the future, we anticipate that new challenges will also bring new opportunities to build stronger communities across Canada.

The economic impacts of the pandemic have been severe, and community leaders are being asked to do more with less. In this context, CWN's approach of leveraging collective knowledge to help decision makers respond to emerging trends will become even more critical. We will continue to support communities in addressing water equity and sustainability challenges and exploring how co-benefits approaches with multiple actors can achieve progress and share costs.

Whereas community water leaders have always adapted to changing priorities, the pandemic has accelerated the need for relevant knowledge, insights and cross-sectoral connections to make progress on increasingly complex challenges. In 2022, CWN will pilot a Municipal Consortium expansion to incorporate additional participants with diverse perspectives who can contribute to and benefit from our work. This will include private sector strategists invested in advancing water goals, thought leaders from across the academic community, and innovative water leaders who bring new points of view.

We will continue to monitor the Canadian water landscape for opportunities to expand CWN's structured convening role to drive progress on national priorities through water. As recognition for this role grows, CWN is identifying new possibilities for effective cross-sectoral collaboration around shared community objectives. In late 2021 and 2022, CWN also will redouble our focus on supporting our network by curating knowledge and insights in response to emerging needs through briefs and other web-based content.

CWN approaches all this work with a central focus on framing and clarifying water management issues, realities and possibilities for action. In doing so, we look forward to engaging with you — our network participants — and to the opportunity to meet again in person when circumstances allow.





