

PROFESSIONAL PRACTICE GUIDELINES  
FOR WATER SYSTEM RISK MANAGEMENT PLANS

# WHAT WE HEARD REPORT

ROUND TWO CONSULTATION

DECEMBER 2023



ENGINEERS &  
GEOSCIENTISTS  
BRITISH COLUMBIA

PROFESSIONAL PRACTICE GUIDELINES FOR  
WATER SYSTEM RISK MANAGEMENT PLANS

WHAT WE HEARD REPORT – ROUND TWO CONSULTATION

DECEMBER 2023

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# INTRODUCTION

Engineers and Geoscientists British Columbia, with financial support from the B.C. Ministry of Health and British Columbia Water & Waste Association, is working with WSP Canada to develop Professional Practice Guidelines that will describe the duties and obligations of professional practice that engineers and geoscientists should meet to identify, assess and manage risks to water systems in British Columbia.

The Professional Practice Guidelines will support B.C.'s move to an integrated, One Water approach to managing risks to the water system, from source to tap and sink to watershed.

Specifically, these guidelines will:

- Help reduce risks to public and environmental health
- Support governments and Indigenous communities in reducing water systems risk
- Provide engineers and geoscientists with a consistent framework related to water system risk management planning
- Help enhance the resilience of infrastructure and ecosystems in B.C.

To ensure the guidelines meet the needs of B.C.'s diverse water supply systems, Engineers and Geoscientists BC is consulting with stakeholders across British Columbia. This What We Heard Report, developed by James Laurence Group for Engineers and Geoscientists BC, is a summary of comments and insights received during Round Two consultation which took place in October 2023.

This Round Two consultation was made possible with funding from the Pacific Institute for Climate Solutions and built on an earlier consultation documented in the What we Heard Report - 2018 Draft Guidelines (November 28, 2022).

**The purpose of the Round Two consultation was to:**

- **Seek input that would support the development and implementation of the guidelines and a One Water approach across B.C.'s diverse water systems**
- **Open up a discussion about B.C.'s move to a One Water approach to managing water system risks**

## A ONE WATER APPROACH

Organizations in B.C. and across North America are moving toward an integrated, One Water approach to managing water systems risks.

A One Water approach acknowledges that all water systems are interconnected. It allows an ecosystem perspective to managing human infrastructure systems and watersheds and makes it possible to identify risks and opportunities at a water system level.

# SCOPE OF THE WHAT WE HEARD REPORT

## ROUND TWO CONSULTATION

This What We Heard Report describes the consultation with provincial ministries, B.C. First Nations Health Authority, Indigenous Services Canada, regional health authorities, local and regional governments and other interested parties that took place in October 2023.

## BACKGROUND ON THE GUIDELINES

In 2015, the Ministry of Health and Engineers and Geoscientists BC began work on drafting the Professional Practice Guidelines for Water System Risk Management Plans. This early work focused on a wide-reaching One Water system approach that included the watershed, water treatment, water distribution, wastewater collection, wastewater treatment and stormwater management.

The Water System Risk Management Plan concept was developed between 2008 and 2014 through dialogue among water professionals, industry associations and provincial ministries across British Columbia. The concept envisioned a new culture of collaboration across the whole water system where engineers, operators, land use planners, health authorities, ministries, local governments, First Nations Governments, Indigenous communities and other agencies work together to create a plan to manage the high-level public and environmental health risks not fully addressed through B.C.'s current regulatory compliance model. This includes risks related to climate change, aging infrastructure and a shortage of skilled workers.

Between 2016 and 2020, the project team made presentations and provided information about the proposed new guidelines to the BC Water & Waste Association, Engineers and Geoscientists BC, Public Works Association of British Columbia, and the BC Municipal Safety Association.

In 2018, the project team produced a draft set of guidelines designed to inform the development of a Water System Risk Management Plan. This draft was used as the basis for four pilot projects launched with the City of Fort St. John, the City of North Vancouver, the City of Vancouver and the Regional District of Nanaimo. Pilots were completed with the City of Fort St. John and the City of Vancouver. Both communities produced a Water System Risk Management Plan. The guidelines project was placed on hold during the COVID-19 pandemic.

Engineers and Geoscientists BC is working with WSP Canada on the next draft of the guidelines. To support that work, the project team has conducted two rounds of consultation.

The first round, conducted in 2022, asked stakeholders who had been involved with the project previously, including pilot communities, to provide feedback on what worked well and not as well about the 2018 Draft Guidelines. The results of that consultation contributed to the development of 14 recommendations for revising the guidelines and are contained in *What We Heard Report: 2018 Draft Guidelines (November 28, 2022)*.

A second round of consultation was completed in October of 2023. This round involved a broad group of stakeholders representing provincial ministries, regional health authorities, the First Nations Health Authority, Indigenous Services Canada, and local and regional governments. This consultation was focused on opening up a discussion about a One Water approach to managing water systems risk and seeking input that would support the implementation of this approach across B.C.'s diverse water systems.

The stakeholder feedback received in the 2022 and 2023 consultations will help inform the development of the next version of the Guidelines for Water System Risk Management Plans.

## WHO WE HEARD FROM

During Round Two Consultation, Engineers and Geoscientists BC sought input from stakeholders who have an interest in the guidelines and may play a role in their implementation. This included representatives from the following organizations:

- B.C. ministries:
  - Ministry of Environment and Climate Change Strategy
  - Ministry of Health
  - Ministry of Municipal Affairs
  - Ministry of Transportation and Infrastructure
  - Ministry of Water, Land and Resource Stewardship
- First Nations Health Authority
- Indigenous Services Canada
- Partnership for Water Sustainability
- BC Water & Waste Association
- Regional health authorities:
  - Interior Health
  - Fraser Health
  - Northern Health
  - Vancouver Coastal Health
- Local and regional governments:
  - Capital Regional District
  - City of Vancouver
  - District of North Vancouver
  - Metro Vancouver
  - Regional District of North Okanagan

### HOW WE REACHED PEOPLE

Engineers and Geoscientists BC emailed letters of invitation to a broad range of stakeholders including provincial ministries with a direct interest in water, health authorities, Indigenous Services Canada and local and regional governments.

Telephone calls and follow-up email were used to encourage participation that represented the diversity of B.C.'s water system, including both small and larger communities.

These stakeholders reflected a broad range of perspectives and experiences from diverse regions of the province.

## CONSULTATION APPROACH

The consultation consisted of the following three independently facilitated two-hour online conversations:

Session A	B.C. ministries	October 10, 2023
Session B	Local governments, regional districts, BC Water & Waste Association, Partnership for Water Sustainability	October 17, 2023
Session C	Regional health authorities, First Nation Health Authority, Indigenous Services Canada	October 17, 2023

Each conversation followed the same set of questions to ensure consistency across the sessions and a notetaker recorded participant comments.

A PowerPoint presentation provided an introduction to the One Water approach, the Professional Practice Guidelines for Water System Risk Management Plans currently in development, and a One Water companion planning guide that is also in development. PowerPoint was also used to set up each discussion area.

*Please see Appendix A: PowerPoint - Professional Practice Guidelines for Water System Risk Management Plans.*

### ONE WATER COMPANION PLANNING GUIDE

To support the move to an integrated, One Water approach, the Province and Engineers and Geoscientists BC will also be developing a One Water planning guide. The planning guide will be:

- A companion to the Professional Practice Guidelines for Water System Risk Management Plans
- A stand-alone document for local and Indigenous governments and water system owners

While the planning guide was not a focus of the consultation, it was recognized that some of the information gathered through the consultation would also benefit the development and implementation of the planning guide.

## DISCUSSION AREAS

During each session, participants were asked for their comments and insights related to the following key discussion areas:

### DISCUSSION A: MOVING TOWARD AN INTEGRATED, ONE WATER APPROACH TO RISK MANAGEMENT

Key Question:

- How does an integrated One Water approach to managing risk fit with your organization's goals, objectives and priorities?

### DISCUSSION B: BUILDING A NETWORK OF SUPPORTERS FOR A ONE WATER APPROACH TO RISK MANAGEMENT

Key Question:

- How can you or your organization help support the use of the guidelines and the One Water planning guide across the province?

### DISCUSSION C: RECOMMENDATIONS FOR THE REVISED GUIDE

This discussion area focused on two of the fourteen recommendations for revising the 2018 Draft Guidelines:

**Recommendation 2:** In the absence of direct policy linkages, the guidelines should provide a compelling reason for organizations to commit time and resources to create a collaborative, interdisciplinary risk management plan; and

**Recommendation 14:** The guidelines should improve clarity on how the Water System Risk Management Process fits with other risk management plans and tools currently being used by your organization.

Key Questions:

- What are some compelling reasons you can think of for organizations to commit time and resources to implementing the guidelines (in the absence of a policy directive)?
  - Is there value in simplifying the guidelines process for smaller community water systems?
- What risk management tools or enterprise risk management process are in your organization (related to water) and how might the guidelines fit with and support those?



# WHAT WE HEARD

## KEY THEMES

During three structured online conversations held in October 2023, participants were asked to provide their comments and insight on three key discussion areas including how a One Water approach to managing risk fits with their organization's goals, objectives and priorities, how their organization can support the use/implementation of the guidelines and the One Water companion planning guide across the province, and for their input on two recommendations for improving the 2018 Draft Guidelines.

The following high-level key themes emerged from the three sessions:

An integrated, One Water approach to managing risks:

- Fits with organizational goals, policies, regulatory frameworks and priorities of the organizations that participated in the sessions
- Aligns with Indigenous recognition of the cultural and spiritual value of water

The guidelines will:

- Benefit ministries, local and regional governments and other stakeholders by providing a 'big picture' focus that could help align programs and processes, create efficiencies, provide guidance to other management plans, encourage collaboration and inform decision making
- Support local governments to create a solid risk management plan to demonstrate the need for infrastructure development and funding
- Help set provincial government priorities and requirements for funding local government infrastructure and planning initiatives
- Help local governments make decisions on the challenging issues they are dealing with today
- Support and fit with existing management tools and enterprise risk management plans

The guidelines could be implemented by:

- Linking the One Water approach to funding opportunities and programs
- Directly linking the guidelines to the realities, priorities and risks of key audiences
- Bringing together an interdisciplinary team to communicate the benefits of this approach to key audiences, including senior management and political decision makers

## WHAT DOES INTEGRATED WATER RESOURCE MANAGEMENT MEAN TO YOU?

To kick off each session, participants were asked: What does the phrase Integrated Water Resource Management mean to you? The following statement summarizes what we heard:

**Integrated Water Resource Management is a collaborative approach that brings people from diverse disciplines together to operationalize a holistic approach to water management that considers water in relationship with land, air and living organisms.**

## PROVINCIAL MINISTRIES

### **DISCUSSION A: MOVING TOWARD AN INTEGRATED, ONE WATER APPROACH TO RISK MANAGEMENT**

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An integrated One Water approach to managing risk fits well with the goals, objectives and priorities of the participating ministries. It:

- Supports Ministry of Municipal Affairs to:
  - Work toward more climate-resilient systems
  - Set prioritization criteria for Ministry-administered funding programs that help build sustainable municipal infrastructure and communities
- Supports Ministry of Water Land and Resource Stewardship's:
  - Accountability for integrated land and natural resource management for land and marine environments
  - Mandate for drinking water protection and assessing risks to watersheds
- Supports Ministry of Health to:
  - Provide clean, safe drinking water under the Drinking Water Protection Act
  - Have the appropriate infrastructure in place to serve the various needs of the community
  - Contribute to bringing everyone together to develop a strong, robust program for the management of water in B.C.
- Supports Ministry of Environment and Climate Change Strategy to:
  - Get better input for more comprehensive Liquid Waste Management Plans
- Supports Ministry of Transportation and Infrastructure to:
  - Enhance infrastructure resiliency to extreme weather events

Other comments:

- A consistent framework can create efficiencies and reduce confusion across B.C.'s 188 larger water systems
- A more holistic approach to water systems could be more responsive to the needs of the Indigenous populations in B.C.

### **DISCUSSION B: BUILDING A NETWORK OF SUPPORTERS FOR A ONE WATER APPROACH TO RISK MANAGEMENT**

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Participating ministries indicated a willingness to help support the use of the guidelines and/or the One Water companion planning guide across the province through:

- Exploring potential synergies with the provincial source water risk assessment framework in very early development by the Ministry of Water, Land and Resource Stewardship; in particular, the framework could generate data that professionals could use for water system risk assessment
- Integrating the One Water approach outlined in the guidelines into the requirements of existing grant opportunities, particularly for municipalities; for example, incentivizing municipalities by tying a One Water approach to funding for infrastructure or resilience-building; the Infrastructure Planning Grant Program was mentioned

Other comments:

- Concern was expressed that an integrated, One Water approach would work well for larger municipalities but may not work as well for smaller community's water systems. Barriers identified include budget constraints and mix of services, especially in communities that have multiple regional district service areas
- Participants discussed the importance of scale for smaller communities, and the need to communicate that scale in the guidelines so that smaller communities can easily see how they can use the guidelines to implement a One Water approach to water system risk management
- A participant suggested the guidelines recommend setting a budget for collaboration on a One Water approach when there are multiple jurisdictions providing services
- One participant said incentivizing can be very effective instead of enforcement through an act

*"We need to see how a One Water approach fits and advances local governments and how it fits into a current [funding] program... How does the lever that we want to pull add value to the dollars in the program? Dollars are always limited and over-subscribed."*

## DISCUSSION C: RECOMMENDATIONS FOR THE REVISED GUIDE

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**Recommendation 2: In the absence of direct policy linkages, the guidelines should provide a compelling reason for organizations to commit time and resources to create a collaborative, interdisciplinary risk management plan.**

Participants identified the following compelling reasons for organizations to commit time and resources to implementing the guidelines in the absence of a policy directive:

- An integrated, One Water approach to risk management will help avoid higher costs later on
- A One Water approach is the core of good governance, financial management and sustainable service delivery
- It allows organizations to demonstrate the need for infrastructure development to address aging infrastructure and climate change resilience
- One participant identified a future proposed regulation that would require municipalities to prepare and maintain a risk assessment that considered climate resilience and extreme weather events

*"We need to have places for people to live and we need water and waste management services. Water is a critical component when it comes to further development."*

**Recommendation 14: The guidelines should improve clarity on how the Water System Risk Management process fits with other risk management plans and tools currently being used by your organization.**

Participants identified the following management tools or enterprise risk management processes that are in their organization (related to water) and how they might fit with and support the guidelines:

- This approach ties in with Liquid Waste Management Plans, which are an option under the Environmental Management Act
- The source water risk assessment framework currently under development by the Ministry of Land Water and Resource Stewardship
- The One Water approach is an umbrella that leverages existing plans and supports organizations to consider multiple tools

## LOCAL GOVERNMENTS, REGIONAL DISTRICTS, BC WATER & WASTE ASSOCIATION, PARTNERSHIP FOR WATER SUSTAINABILITY

### DISCUSSION A: MOVING TOWARD AN INTEGRATED, ONE WATER APPROACH TO RISK MANAGEMENT

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An integrated One Water approach to managing risk fits well with the goals, objectives and priorities of the participating organizations. It:

- Fits with the risk management objectives common to most local and regional governments
- Supports the sustainable service delivery goals common to local and regional governments
- It isn't a new concept for many regional and local governments; some prefer the term 'circular economy'
- Would be valuable if it provided a framework around water for every decision local governments make; it could be a unifying framework everyone could use, even the finance department
- Would be helpful if it was able to provide a framework that can be applied to things that have a negative impact on the earth's finite resources

*"If we can get this right, we can help local governments stay focused and stay on track."*

### DISCUSSION B: BUILDING A NETWORK OF SUPPORTERS FOR A ONE WATER APPROACH TO RISK MANAGEMENT

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Participating organizations said they could help support the use of the guidelines and/or the One Water companion planning guide across the province when it can be demonstrated that:

- It has direct and immediate application to the current realities of local and regional governments, including their pressing risks
- It provides an effective way to reduce risk and conserve constrained budgets through inter-disciplinary and inter-organizational collaboration
- The same framework works for small and larger communities

Participants also offered the following advice:

- Look for champions in every organization and find ways to partner with other organizations
- Recognize the network needs to include non-technical senior executive and political decision-makers
- Incorporate communicators and other professionals who can demonstrate the benefits of the guidelines to key audiences including senior management, political decision-makers and the public

One participant stressed the important role provincial regulation can play in generating action at a regional government level.

*"We can't be siloed anymore to meet city-building objectives."*

## DISCUSSION C: RECOMMENDATIONS FOR THE REVISED GUIDE

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**Recommendation 2: In the absence of direct policy linkages, the guidelines should provide a compelling reason for organizations to commit time and resources to create a collaborative, interdisciplinary risk management plan.**

Participating organizations identified the following compelling reasons for organizations to commit time and resources to implementing the guidelines in the absence of a policy directive:

- The guidelines present a framework that is going to help governments make decisions on some of their really challenging issues (infrastructure spending priorities, for example)
- The guidelines are tested and the team is confident in their direction and effectiveness
- The guidelines can help local governments determine the highest and best priority for money allocation
- Others in local government are using the guidelines and have found them (and a One Water approach) useful (people in local government learn by sharing successes)

One participant emphasized that every local government is struggling with different challenges and asked if it is realistic to try to apply one risk management tool to every water system in the province.

*“We don’t own all the risks. There are so many levels of government and so many entities that are responsible for the water cycle. You can’t expect one entity to be able to capture all the risks.”*

Participants also offered the following advice:

- Make the guidelines relevant to people’s immediate needs
- It will take more than engineers to build a network of supporters across the province; there needs to be communications people, biologists and others who are in association with the water sector
- Make sure there is a trusted and respected provincial government presence to make policy statements and add credibility; be aware that there has been a lot of turnover at the provincial level in recent years
- Provide guidance on how smaller communities can proceed once they have identified a risk that is beyond their scale. Can you transfer that risk? Can you partner to address that risk?

**Recommendation 14: The guidelines should improve clarity on how the Water System Risk Management Plan process fits with other risk management plans and tools currently being used by your organization.**

Participants identified the following management tools or enterprise risk management processes that are in their organization (related to water) and how they might fit with and support the guidelines:

- Our Emergency Response Plan
- Our risk-based assessment process that tells us when pipes need to be replaced
- Our annual risk analysis and 10-year plan for replacements and changes
- Our Asset Management Plan; it has a risk assessment piece and also consider the dual probability of certain risks
- The Natural Asset Management Pathway that recognizes the overall value of water
- The Syilx Water Declaration that communicates the importance of water and the responsibilities of the Syilx Nation to the water and land

*“I am a strong advocate for listening to the knowledge that our Indigenous People have. They’ve been living in harmony with the land for thousands of years.”*

## DISCUSSION A: MOVING TOWARD AN INTEGRATED, ONE WATER APPROACH TO RISK MANAGEMENT

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An integrated One Water approach to managing risk fits well with the goals, objectives and priorities of the participating organizations. It:

- Aligns with First Nations' recognition of the cultural and spiritual value of water
- Somewhat fits with the Drinking Water Officers' Guide
- Connects to the Comprehensive Drinking Water Source-to-Tap Assessment Guideline (Modules 1-7)
- Is consistent with the ecosystem approach to infrastructure management that is of interest to rural and remote First Nation communities
- May align with the Indigenous Services Canada legislation currently in development that talks about the principles of water service and the effective management and monitoring of all stages of water service from the protection of source water on reserve to the treatment and disposal of wastewater; it also talks about working with other entities including those off reserve

Participants also said:

- Professional practice guidelines are important because they set the standard in the absence of legislation
- In order for Drinking Water Officers to use the guidelines as a tool, the Ministry of Health must put it into the Drinking Water Officers' Guide
- There may be an opportunity to make the guidelines a reference document in the Drinking Water Officers' Guide (Health officers sometimes indicate that a water supplier should follow a recognized professional practice)
- There is a good opportunity for rural, remote First Nations to adopt this approach on a small scale
- Even if you can do it with the larger systems, how do you bring in the smaller systems?

*"The notion of looking at an integrated approach is really good. I'm just a little bit worried about if it's going to have some teeth."*

## DISCUSSION B: BUILDING A NETWORK OF SUPPORTERS FOR A ONE WATER APPROACH TO RISK MANAGEMENT

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Participating organizations identified the following considerations that would help support the use of the guidelines and/or the One Water companion planning guide across the province:

- Present the guidelines to the Drinking Water Leadership Council so that it goes to all health authorities and the Drinking Water Officers can incorporate it into their toolbox
- Compare the guidelines to an Indigenous ecosystem approach
- Demonstrate collaboration as it is often a requirement for funding approval
- Provide a direct financial incentive to support using the One Water approach
- Directly engage with Indigenous communities

## DISCUSSION C: RECOMMENDATIONS FOR THE REVISED GUIDE

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**Recommendation 2: In the absence of direct policy linkages, the guidelines should provide a compelling reason for organizations to commit time and resources to create a collaborative, interdisciplinary risk management plan.**

Participants identified the following compelling reasons for organizations to commit time and resources to implementing the guidelines in the absence of a policy directive:

- The results from the pilots demonstrate positive outcomes that could be realized by other communities that size
- Case studies demonstrate where mistakes have been made from not taking a One Water approach
- Adopting a One Water approach will help communities demonstrate the good work they are doing to improve water safety; this could help the public understand the value of water infrastructure
- It is easy to understand and use

Participants made the following suggestions:

- Use plain language
- For smaller communities:
  - Offer it as a tool to help support guides and plans they are already familiar with
  - Clearly identify what does and does not specifically apply to small community water systems
- Consider incorporating lists and checkboxes to make the actions easier to implement
- Consider a short form screening tool for smaller communities
- Clarify the operator role in supporting the development of the WSRMP.
- Create a video series to help water suppliers use the guidelines

**Recommendation 14: The guidelines should improve clarity on how the Water System Risk Management Plan process fits with other risk management plans and tools currently being used by your organization.**

Participants identified the following management tools or enterprise risk management process that are in their organization (related to water) and how they might fit with and support the guidelines:

- Guidance Document for Determining Groundwater at Risk of Containing Pathogens (GARP)
- Source to Tap Assessment Modules 1-7
- Well Protection Toolkit
- First Nation Health Authority is developing a water system risk assessment tool
- Emergency Response Plan Template used by operators

One participant commented that this is an overarching plan that ties the various components including governance and finance together.

*“It would be respectful to be able to plug in the results of existing work without redoing it.”*



## ADDITIONAL COMMENTS SHARED DURING THE CONVERSATIONS

- Indigenous Services Canada reminded the group that it doesn't speak for Indigenous communities and that it is important to ensure those communities are adequately engaged and have the opportunity to contribute to the development and implementation of the guidelines and the One Water approach
- A participant reminded the group that while a One Water approach is a laudable goal, the whole structure of laws and regulations in B.C. do not take that approach
- Health authorities identified the importance of considering risks that originate outside the water system such as the effects of agriculture, mining and forestry on source water quality
- Some participants said there are a broad range of stakeholders with an interest in water systems and emphasized the importance of consultation with all stakeholders with an interest in water systems
- Several participants suggested small community water systems may not have access to the budget necessary to do this work and develop a One Water-focused Water System Risk Management Plan

## PRIORITY CONSIDERATIONS

Participants shared the one priority they want the project team to take away from this session to inform the development of the guidelines:

- Continuously engage and provide more opportunities for us to provide comments
- Consider all parties for a One Water approach
- Climate resilience is a critical component
- Recognize the holistic approach that guides Indigenous communities
- The guidelines should be scalable and simple to implement
- Keep the guidelines focused on the audience/s
- Highlight the significance of water as a valuable resource and garner interest for its conservation Be aware of the resource implications
- The most critical factor to reduce water system risk is a highly trained, certified operator
- Use video to help tell the story and engage people
- Start small and build
- Build awareness
- Networking and collaboration
- Our land use has consequences for water
- Reconciliation
- Transcendent. We've got to get past the ordinary

*“Creating a One Water plan is another step on a reconciliation path.”*



## RECOMMENDATIONS FOR MOVING FORWARD

The following recommendations expressed during the consultation can help move the One Water approach and the guidelines forward:

- Continue to engage and pilot to make sure the approach fits with the needs of B.C.'s diverse water systems and key stakeholders
- Recognize and plan for the unique needs of small community water systems so that they can benefit from the One Water approach
- Engage with Indigenous communities to ensure they have the opportunity to contribute to the development and implementation of the guidelines and the One Water approach
- Keep the guidelines simple and easy-to-use at first; build out over time
- Incorporate an integrated, interdisciplinary team of professionals to tell the One Water story and motivate a broad network to incorporate a One Water approach
- Consider the development of resources complementary to the professional practice guidelines for local government and water utility staff

## NEXT STEPS

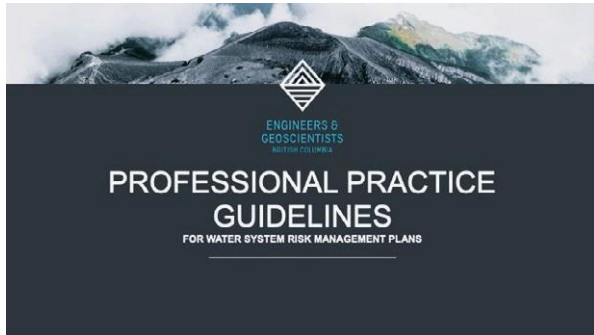
The comments and insight received through the consultation held in October 2023 will help inform the development and implementation of the next version of the Professional Practice Guidelines for Water System Risk Management Plans.

Further engagement is required to:

- Ensure the guidelines meet the needs of B.C.'s diverse water systems
- Build a network to support the implementation of the guidelines across the province

Continued engagement will help build an interdisciplinary team and a roll-out plan that can generate momentum and increase adoption of the One Water approach and guidelines.

# APPENDIX A: POWERPOINT - PROFESSIONAL PRACTICE GUIDELINES FOR WATER SYSTEM RISK MANAGEMENT PLANS



## MOVING TOWARD ONE WATER

Organizations in B.C. and across North America are moving toward an integrated, One Water approach to managing water system risks.

The Professional Practice Guidelines will support B.C.'s move to an integrated, One Water approach to managing risks to the water system.

2 INTRODUCTION

## A ONE WATER APPROACH

One Water acknowledges that all water systems are interconnected.

One Water allows us to:

- Take an ecosystem perspective to managing human infrastructure systems and watersheds
- Identify risks and opportunities at a water system level

3 THE GUIDELINES

## BENEFITS OF A ONE WATER APPROACH

We can:

- Assess and mitigate risk to public health and the environment at a system level
- Develop overarching strategies that improve the resilience and reliability of our water resources and systems

4 THE GUIDELINES

## THE GUIDELINES

WSP

6 THE GUIDELINES

## PURPOSE OF THE GUIDELINES

The Guidelines describe the duties and obligations of professional practice that engineers and geoscientists should meet to **identify, assess and manage risks to water systems.**

6 THE GUIDELINES

## PURPOSE OF THE GUIDELINES

These Guidelines intend to:

- Help reduce risks to public and environmental health
- Support governments and Indigenous communities in reducing water systems risks to communities
- Provide engineers and geoscientists with a consistent framework related to water system risk management planning
- Help enhance the resilience of infrastructure and ecosystems in B.C.

7 THE GUIDELINES

## WHO WILL USE THE GUIDELINES?

**Key audience:** Engineers and Geoscientists BC registrants

**Broader intent:** The Guidelines will support others, including:

- Water utility staff and operators, municipal and community staff, regional and First Nations health authorities.

8 THE GUIDELINES

## LEVEL OF GUIDANCE

- The Guidelines will provide direction on:
  - How to scope a One Water system risk management plan at a community level
  - How to approach risk identification, risk assessment and risk management
  - The duties and obligations of an EGBC registrant who is engaged in water system risk management planning and advisory services

6 THE GUIDELINES

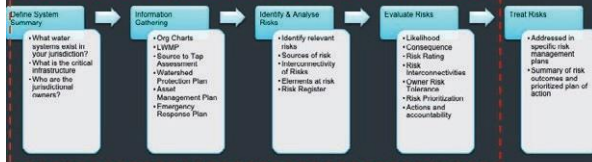


## ENTERPRISE RISK CATEGORIES

- Governance
- Financial
- Regulatory
- Operational
- Watershed
- Communication
- Strategy
- Resilience



## PROCESS OVERVIEW



Through these guidelines, water system owners have an opportunity to design the risk management process to meet their needs and address their most relevant risks.

## BUILDING ON PAST WORK

	ACTION	OUTCOME
2015	<ul style="list-style-type: none"> <li>Conducted early work on draft guidelines (led by a steering committee)</li> </ul>	A wide-reaching one water system approach that included the watershed, water treatment, distribution, collection, water treatment and stormwater management
2016-2021	<ul style="list-style-type: none"> <li>Presented to BCWWA, P-WAHC, E-GRBC and E-CCP</li> <li>Developed 2018 Draft Guidelines</li> </ul>	
2018	<ul style="list-style-type: none"> <li>Launched four pilot projects to test the 2018 Draft Guidelines                             <ul style="list-style-type: none"> <li>City of Fort St. John</li> <li>City of Vancouver</li> <li>City of North Vancouver</li> <li>Regional District of Nanaimo</li> </ul> </li> </ul>	City of Fort St. John and City of Vancouver completed the pilot and used the guidelines to develop a Water Systems Risk Management Plan
2022	<ul style="list-style-type: none"> <li>Engaged on what worked well and what worked less well about the 2018 Draft Guidelines.</li> <li>All stakeholders consulted had previous experience with the 2018 Draft Guidelines and pilot</li> </ul>	A What We Heard Report that summarized feedback on what worked well and what worked less well
2023	<ul style="list-style-type: none"> <li>Conducted a critical review to synthesize the results of a 2022 gap analysis and stakeholder engagement.</li> </ul>	14 recommendations for revising the 2018 Draft Guidelines and implementing Water System Risk Management Plans in B.C.

## ONE WATER COMPANION PLANNING GUIDE

- The Province and EGBC are developing a Planning Guide on Applying a One Water Lens for Managing Water System Risks
- This will be:
  - A companion to the Professional Practice Guidelines
  - A stand-alone document for local and Indigenous governments and water system owners

13 THE GUIDELINES



## MOVING TO AN INTEGRATED, ONE WATER APPROACH

14 THE GUIDELINES



Questions?

15 THE GUIDELINES



WHAT DO YOU THINK?

16 THE GUIDELINES



## A MAJOR SHIFT

Moving to an integrated, One Water approach reflects a major shift in how water risks are identified, assessed and managed in British Columbia.

17 THE GUIDELINES



## GUIDELINES FOR A ONE WATER APPROACH

Your input is essential to developing Guidelines that:

- Help reduce risks to public and environmental health
- Create more resilient water systems
- Meet the needs of B.C.'s diverse water systems

18 THE GUIDELINES



## WHAT DO YOU THINK?

How does an integrated, One Water approach to managing risk fit with your organization's goals, objectives and or priorities?

19 THE GUIDELINES



## DISCUSSION

20 THE GUIDELINES



## BUILDING A NETWORK

21 THE GUIDELINES



## WORKING TOGETHER

An integrated, One Water approach will require agencies and organizations to work together to identify, assess and manage risks to the water system.

22 THE GUIDELINES



## Questions?

15 THE GUIDELINES



## WHAT DO YOU THINK?

16 THE GUIDELINES



# RECOMMENDATIONS FOR THE REVISED GUIDELINES

26 THE GUIDELINES

- ## RECOMMENDATIONS FOR THE REVISED PROFESSIONAL PRACTICE GUIDELINES
- Based on the consultation and gap analysis, WSP developed 14 recommendations for the next version of the guide.
  - The recommendations focused on:
    - Simplifying the Guidelines
    - Improving the flexibility and ease-of-use of the Guidelines
    - Clarifying the expectations and obligations of professional practice in relation to Water System Risk Management Plans
- 26 THE GUIDELINES

## WHAT DO YOU THINK?

Today, we would like your feedback on two recommendations:

27 THE GUIDELINES

## Recommendation #2

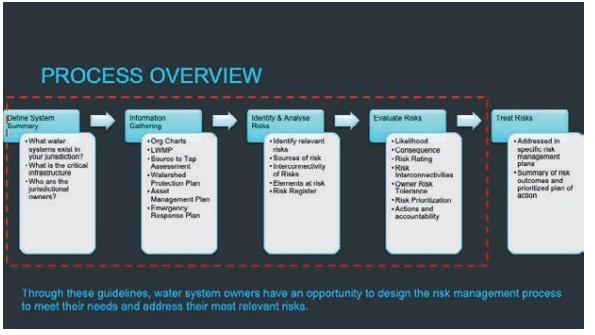
In the absence of direct policy linkages, the Guidelines should provide a compelling reason for organizations to commit time and resources to create a collaborative, interdisciplinary risk management plan.

28 THE GUIDELINES

## WHAT DO YOU THINK?

What are some compelling reasons you can think of for organizations to commit time and resources to implementing the Guidelines?

29 THE GUIDELINES



## Questions?

30 THE GUIDELINES

## WHAT DO YOU THINK?

31 THE GUIDELINES

# DISCUSSION

11 THE GUIDELINES



# THANK YOU!

WE APPRECIATE YOUR CONTRIBUTION AND LOOK FORWARD TO YOUR CONTINUED INVOLVEMENT!

ENGINEERS AND GEOSCIENTISTS BC  
BC MINISTRY OF HEALTH  
BCIWA

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