

PROFESSIONAL PRACTICE GUIDELINES  
FOR WATER SYSTEM RISK MANAGEMENT PLANS

# WHAT WE HEARD REPORT

2018 DRAFT GUIDELINES

NOVEMBER 28, 2022



ENGINEERS &  
GEOSCIENTISTS  
BRITISH COLUMBIA

PROFESSIONAL PRACTICE GUIDELINES FOR  
WATER SYSTEM RISK MANAGEMENT PLANS

WHAT WE HEARD REPORT – 2018 DRAFT GUIDELINES

NOVEMBER 28, 2022

# TABLE OF CONTENTS

- INTRODUCTION** ..... 2
- SCOPE OF THE WHAT WE HEARD REPORT.** ..... 2
  - Consultation — 2022 ..... 2
  - Presentation and Feedback — 2016 to 2020 ..... 2
- BACKGROUND ON THE PROFESSIONAL PRACTICE GUIDELINES.** ..... 3
- WHO WE HEARD FROM.** ..... 4
- CONSULTATION — 2022** ..... 5
- PRESENTATIONS AND FEEDBACK — 2016 TO 2020** ..... 6
- WHAT WE HEARD — CONSULTATION 2022** ..... 7
  - WHAT WE HEARD: THE VALUE OF THE GUIDELINES ..... 8
  - WHAT WE HEARD: THE SCOPE OF THE GUIDELINES. .... 9
  - WHAT WE HEARD: THE FIT OF THE GUIDELINES ..... 10
  - WHAT WE HEARD: THE APPROACH TAKEN BY THE GUIDELINES. .... 11
  - WHAT WE HEARD: THE EFFECTIVENESS OF THE GUIDELINES ..... 12
- WHAT WE HEARD – SUMMARY** ..... 14
  - STAKEHOLDER EXPERIENCE WITH THE 2018 DRAFT GUIDELINES AND PILOT .. 14
  - STAKEHOLDER RECOMMENDATIONS FOR THE 2023 DRAFT GUIDELINES. .... 15
- WHAT WE HEARD — FEEDBACK 2016 TO 2020.** ..... 16
- NEXT STEPS** ..... 17
- APPENDIX: CONSULTATION PRESENTATION** ..... 18

# INTRODUCTION

Engineers and Geoscientists British Columbia, with financial support from the BC Ministry of Health, is working with WSP Canada to develop a set of 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.

These guidelines will support the development of comprehensive Water System Risk Management Plans to safely and responsibly manage risks to water systems and continue to protect public and environmental health.

The new guidelines will:

- Help reduce risks to public and environmental health
- Provide engineers and geoscientists with a consistent approach to their duties and obligations related to water systems risk management planning
- Help enhance the resilience of water systems 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 feedback received related to the *Guidelines for the Preparation of One Water System Risk Management Plans* prepared in 2018 (2018 Draft Guidelines).

## SCOPE OF THE WHAT WE HEARD REPORT

This What We Heard Report describes the consultation that took place with key stakeholders in August and September 2022 and reflects the feedback received from these stakeholders based on their own experience with the 2018 Draft Guidelines and pilot. It also describes presentations made and feedback received between 2016 and 2020. The feedback received during both of these consultation periods will inform the development of 2023 Draft Water System Risk Management Plans Guidelines (2023 Draft Guidelines).

## CONSULTATION — 2022

---

This consultation focused on holding workshops and interviews with the stakeholders who supported the development of the 2018 Draft Guidelines as:

- **Original project team members**, responsible for developing the 2018 Draft Guidelines
- **Original steering committee members**, who set the direction for the 2018 Draft Guidelines
- **Water System Risk Management Plan pilot project participants**, who applied the 2018 Draft Guidelines to work toward a Water System Risk Management Plan for their community

During this consultation, participants were asked to identify, based on their own experience, what worked well and what worked less well related to the 2018 Draft Guidelines and pilot and what recommendations they have for the 2023 Draft Guidelines. Participants were not asked to provide feedback on the goals and purpose of a Water System Risk Management Plan.

## PRESENTATION AND FEEDBACK — 2016 TO 2020

---

During this period, the original project team introduced the concept of a Water System Risk Management Plan and Professional Practice Guidelines through presentations to key stakeholder groups. These presentations included discussion and, in some cases, feedback was gathered.

# BACKGROUND ON THE PROFESSIONAL PRACTICE GUIDELINES

In 2015, the Ministry of Health and Engineers and Geoscientists BC began work on draft 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 and other departments and 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 due to climate change, aging infrastructure and a shortage of skilled workers.

The concept also envisioned the Water System Risk Management Plan as representing a collective, professional voice, with a professional engineer or geoscientist attesting that the plan is consistent with the guidelines.

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 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.

The 2018 Draft Guidelines were meant to be generic so they could be applied in different local and regional government contexts through facilitated workshops. The communities identified for pilots were selected to test the draft guidelines in distinct scenarios. In Fort St. John, for example, the community had already instituted a One Water system approach, the Regional District of Nanaimo had unique ownership and other circumstances, and the cities of North Vancouver and Vancouver both had strong, collaborative relationships with their regional drinking water and wastewater treatment provider.

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. The feedback received between 2016 and 2020 and stakeholder feedback received during the 2022 consultation will help inform the development of the 2023 Draft Guidelines.

## WHO WE HEARD FROM

At this stage of the project, Engineers and Geoscientists BC sought input from stakeholders who had contributed to the development and/or piloting of the 2018 Draft Guidelines:

- The original project team members, including representatives from:
  - BC Ministry of Health
  - Engineers and Geoscientists BC
  - WSP Canada
  - Kerr Wood Leidal Associates
  - AECOM
  - Wildgrass Consulting
- The original steering committee members including representatives from:
  - BC Ministry of Environment (now BC Ministry of Environment and Climate Change Strategy)
  - BC Ministry of Municipal Affairs and Housing (now BC Ministry of Municipal Affairs)
  - BC Water & Waste Association
  - Engineers and Geoscientists BC
  - Vancouver Coastal Health
  - WSP Canada Inc.
- Pilot project participants included:
  - City of Fort St. John
  - City of North Vancouver
  - City of Vancouver
  - Regional District of Nanaimo

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

### HOW WE REACHED PEOPLE

Engineers and Geoscientists BC emailed letters of invitation to all members of the original project team, all members of the original steering committee and all pilot project participants who contributed to the 2018 Draft Guidelines.

Telephone calls and follow-up emails were used to encourage participation.

## CONSULTATION — 2022

Workshops and interviews were held with stakeholders with previous experience with the project. Additional input was provided in writing by two members of the original project team, who had been instrumental in the development of the 2018 Draft Guidelines.

STAKEHOLDER GROUP	EVENT	DATE
<b>WORKSHOPS</b>		
Original project team	Workshop – Two-hour facilitated via Teams	August 16, 2022
Original steering committee	Workshop – Two-hour facilitated via Teams	August 19, 2022
Pilot project participant	Workshop – Two-hour facilitated via Teams	September 7, 2022
<b>INTERVIEWS</b>		
Pilot participant, Fort St. John	Interview – Two-hour via Teams	September 13, 2022
<b>WRITTEN INPUT</b>		
Original project team members	Written input	September 23 and 26, 2022

The workshops and interviews were conducted using a structured format and the same questions were asked of each group. Notes were taken at each session. A PowerPoint presentation was used to support the discussion. The Consultation Presentation is attached as Appendix A.

## PRESENTATIONS AND FEEDBACK — 2016 TO 2020

To build awareness of the value of Water System Risk Management Plans and the supporting Professional Practice Guidelines, the project team made presentations to key stakeholder groups between 2016 and 2020. In some cases, the presentations included discussion and opportunities to provide feedback.

EVENT	PRESENTATION TITLE	DATE	FEEDBACK ON THE GUIDELINES RECORDED
<b>BC Water &amp; Waste Association</b>			
BCWWA Annual Conference Panel Session	System Risk Management Plans: A Conceptual Approach for Improving the BC Drinking Water and Wastewater Systems	May 2, 2016	Yes
BCWWA Annual Conference Panel Session	The Future of the Workforce Strategy and System Risk Management Plans	May 14, 2018	No
<b>PILOT PARTICIPANTS</b>			
Pilot Workshops: • City of Fort St. John • City of North Vancouver • City of Vancouver • Regional District of Nanaimo	Presentation and Workshop with Feedback Forms	2017 to 2018	Yes
<b>WATER SECTOR</b>			
9 <sup>TH</sup> Annual Canadian Water Summit	“One Water” System Risk Management Plans Links to Small Water Systems	June 2018	No
<b>ENGINEERS AND GEOSCIENTISTS BC</b>			
Challenges and Opportunities for Sustainability in the Lower Mainland Panel	Seeing the Ocean for the Raindrops: Developing Guidelines for WSRMPs in BC	June 12, 2018	No
<b>PUBLIC WORKS ASSOCIATION OF BRITISH COLUMBIA AND BC MUNICIPAL SAFETY ASSOCIATION</b>			
PWABC and BCMSA Joint Annual Conference and Trade Show	One Water System Risk Management Planning	September 17, 2018	No

Articles about Water System Risk Management Plans were also published in industry publications including BCWWA Watermark.

## WHAT WE HEARD — CONSULTATION 2022

During three structured online workshops held in August and September 2022, members of the original project team, members of the original steering committee and pilot project participants were asked for feedback on the value, scope, fit, approach and effectiveness of the 2018 Draft Guidelines. **The questions were structured to prompt workshop and interview participants to identify what worked well and what worked less well, based on their own experience with the 2018 Draft Guidelines, and to make recommendations that can help inform the 2023 Draft Guidelines.**

The following high-level key themes emerged from workshops and interviews with the project team, steering committee members and pilot project participants:

### WHAT WORKS WELL

**The 2018 Draft Guidelines are valuable because they provide a high-level framework to bring different departments and agencies together to identify water system risks that may not be identified by one group working on its own.**

**The One Water scope of the guidelines works well because all water is connected and assessing water system risks requires looking at the full water system.**

**Participants said they support the guidelines' intention to fit with other risk management plans and tools currently being used by the organization.**

**The guidelines' interdisciplinary and collaborative approach to developing a Water System Risk Management Plan helps build understanding of the interrelationship between water systems risks and broader risks to the health and wellbeing of the community.**

**The guidelines are an important step toward identifying, assessing and managing risks across the One Water system.**

### WHAT WORKS LESS WELL

**The framework is difficult to implement in some regional and municipal environments.**

**The One Water scope, as described in the guidelines, is broad and complex to implement and may not add value to organizations with a much narrower scope.**

**The guidelines don't provide adequate guidance on how to fit with other risk management plans and tools currently being used by the organization.**

**Bringing staff together in a workshop setting was often difficult to set up and facilitate in a way that gathered meaningful information.**

**The guidelines are not always clear, easy to use, practical and do not consistently meet the diverse needs of B.C.'s water systems.**

# WHAT WE HEARD: THE VALUE OF THE GUIDELINES

## + WHAT WORKS WELL

**The 2018 Draft Guidelines are valuable because they provide a high-level framework to bring different departments and agencies together to identify water system risks that may not be identified by one group working on its own.**

The guidelines help identify who needs to be involved in the conversation and encourage a consistent and inclusive approach that reaches across the silos that are common in the water sector.

The workshops provided a structured and purposeful venue for sharing information, priorities and perspectives and created the opportunity to identify, assess and manage risks across the whole system. They also helped connect water with larger community policies and goals.

Using the framework, workshop and pilot process, two municipalities were able to draft a Water System Risk Management Plan for their organization.

“Some of the **most insightful comments** came from people who don’t normally get asked to participate in water systems risk discussions.”

– PILOT PARTICIPANT

## - WHAT WORKS LESS WELL

**The framework is difficult to implement in some regional and municipal environments.**

While most workshop and interview participants see value in a high-level framework that brings departments and agencies together, many reported difficulties implementing the framework.

Some participants said the guidelines don’t reflect and allow for the external risks they have no control over and key agencies that are not willing to share information or work together to identify and manage risks.

Others said their staff didn’t meaningfully and effectively participate in the workshop and planning process because staff didn’t have time to fully understand and prepare for this new way of thinking about water systems.

Some found the workshop useful for bringing different departments and perspectives together, but said more work was needed following the workshop to identify risks and gather the information necessary to develop a Water Systems Risk Management Plan.

“Overall, I think its challenging. . . even in a small community you have **very different voices** between folks who manage a water utility and those who deal with sewer and drainage.”

– PILOT PARTICIPANT

## RECOMMENDATIONS – VALUE

During the 2022 consultation, members of the original project team, members of the original steering committee and pilot project participants provided the following recommendations for revisions to the 2018 Draft Guidelines:

- Make the guidelines flexible enough to accommodate a variety of organizational models and relationships
- Acknowledge that some risks are outside the organization’s control and that in some cases, it is enough just to identify the risk

# WHAT WE HEARD: THE SCOPE OF THE GUIDELINES

## + WHAT WORKS WELL

**The One Water scope of the guidelines works well because all water is connected and assessing water system risks requires looking at the full water system.**

Enhancing the resilience of the water system in B.C. and protecting public health and safety requires a full picture, full cycle approach. Participants said this has become increasingly apparent since the recent floods where a weather event damaged water, transportation, housing, health care and other infrastructure threatening the health and safety of large numbers of people.

Focusing only on source water protection or drinking water, for example, and not on wastewater or the water distribution system, is not looking at the full picture of possible risks within the water cycle.

“I think the scope of **One Water is the right approach.**”

– ORIGINAL STEERING COMMITTEE MEMBER

## - WHAT WORKS LESS WELL

**The One Water scope is broad and complex to implement and may not add value to organizations with a much narrower scope.**

Prioritizing risk across the One Water system can be challenging because each organization has its own priorities, relationships and circumstances. Often, there is no history or culture of working together from an enterprise or one water system perspective. Smaller communities, or those with a narrower scope, can find the One Water approach daunting and overly complicated for their needs. Not all water utilities understand or immediately see the benefits of a One Water approach.

“I would have found it more useful **if the scope was smaller.** . . . It wasn't easy to execute for us.”

– PILOT PARTICIPANT

## RECOMMENDATIONS – SCOPE

Recognizing the One Water scope can be too broad and complex for some organizations and may discourage use of the guidelines to develop a Water System Risk Management Plan, consultation participants recommended the 2023 Draft Guidelines:

- Outline a flexible, modular approach to the One Water scope that would make it easier to complete a One Water plan tailored to an organization's responsibilities and jurisdiction
- Acknowledge that progress can be made incrementally over time across departments, agencies and risk categories
- Help build foundational knowledge about the One Water approach; this could include easy resources and questionnaires to get people thinking from a One Water perspective

“There is a need to **build a ‘one water’ capacity** within the sector.”

– ORIGINAL PROJECT TEAM MEMBER

# WHAT WE HEARD: THE FIT OF THE GUIDELINES

## + WHAT WORKS WELL

**Participants said they support the guidelines' intention to fit with other risk management plans and tools currently being used by the organization.**

Some said they recognize the guidelines are meant to help avoid duplicating work the organization has already done for other risk-focused plans and help identify and fill the gaps left by those other plans.

They supported the concept that the Water System Risk Management Plan developed through the guidelines would improve inter-department and inter-agency connections and would be like an umbrella that protects the organization by connecting all the other plans.

“The Professional Practice Guidelines fill gaps. It is a soft approach to legislating things, in a way, because it’s **creating duties for engineers to consider** in their practice.”

– ORIGINAL PROJECT TEAM MEMBER

## - WHAT WORKS LESS WELL

**The guidelines don’t provide adequate guidance on how to fit with other risk management plans and tools currently being used by the organization.**

Some participants said the umbrella diagram creates confusion and appears to limit the pieces that can fit into it, rather than demonstrating the capacity to expand or contract depending on the needs of the organization.

Some suggested other plans, such as the Liquid Waste Management Plan and the Solid Waste Management Plan might be better places for risk identification and management.

“When I looked at the diagram, I was hung up on the [plans] that **I didn’t think were totally related to water.**”

– ORIGINAL STEERING COMMITTEE MEMBER

## RECOMMENDATIONS – FIT

During the 2022 consultation, members of the original project team, members of the original steering committee and pilot project participants recommended the 2023 Draft Guidelines:

- Provide more clarity around how to fit the guidelines with other risk management tools and plans
- Remove the umbrella diagram or adjust it so that it cannot be interpreted as limiting the number of other plans that should be considered

# WHAT WE HEARD: THE **APPROACH** TAKEN BY THE GUIDELINES

## **+** WHAT WORKS WELL

**The guidelines' interdisciplinary and collaborative approach to developing a Water System Risk Management Plan helps build understanding of the interrelationship between water systems risks and broader risks to the health and wellbeing of the community.**

Participants repeatedly reported that it was beneficial to have diverse staff together in the workshop to share information and discuss concerns and issues.

It was acknowledged that the interdisciplinary and collaborative approach seemed to work best in the pilot community that already had a deep and broad One Water culture where elected officials and senior management set safe, sustainable water as a local government priority.

“To get the city manager in the room with the finance people and the fire department and emergency response people, and the planners as well – **that was really eye opening to them** because they don't work in water every day.”

– PILOT PARTICIPANT

## **-** WHAT WORKS LESS WELL

**Bringing staff together in a workshop setting was often difficult to set up and facilitate in a way that gathered meaningful information.**

Some participants talked about the absence of a senior champion within the organization to establish collaboration as an organizational priority. Others talked about barriers to fruitful discussion, such as limited shared knowledge, different interpretations of the purpose and implementation expectations of a Water System Risk Management Plan and lack of clarity around the roles and responsibilities of the participants to the collaboration. Some reported that they broke the workshop into smaller groups and/or continued work outside the workshop to advance the plan.

“My question is **what is the role of the health authority?** Advisory role? Enforcement? Reviewing it? It wasn't clear. I want to make it clear, not only for the health people but anyone that's on that [collaborative] list as well.”

– ORIGINAL STEERING COMMITTEE MEMBER

## RECOMMENDATIONS – APPROACH

Consultation participants recommended the 2023 Draft Guidelines:

- Provide guidance on how to build an interdisciplinary, collaborative approach to water systems risk management planning
- Provide tools and resources that will help build staff knowledge about One Water and how water systems risk can potentially create risks in other areas of the organization, such as finance and human resources.
- Increase the flexibility of the planning process so that it can be adapted to the scale, scope and priorities of different organizations
- Provide clarity around implementation expectations: Are staff expected to resolve all the identified risks? Will there be funding or regulatory consequences to listing unresolved risks?
- Provide clarity around the roles and responsibilities of professional engineers and geoscientists and members of the collaborative, interdisciplinary team in identifying, assessing and managing risks

# WHAT WE HEARD: THE EFFECTIVENESS OF THE GUIDELINES

## + WHAT WORKS WELL

**The guidelines are an important step toward identifying, assessing and managing risks across the One Water system.**

There is strong value in providing a high-level framework for identifying, assessing and managing risks across the one water system. The 2018 Draft Guidelines provide an important step in that direction.

The workshops and pilots that resulted from the guidelines helped facilitate dialogue about water-related risks and their broader impact and helped break down silos within and across organizations.

In two cases, Water Systems Risk Management Plans were developed following the process described in the guidelines. One of those plans has been implemented and there is discussion about reviewing and updating it.

“I think the guidelines themselves were pretty good and **helped keep us on track.**”

– PILOT PARTICIPANT

## - WHAT WORKS LESS WELL

**The guidelines are not always clear, easy to use, practical and do not consistently meet the diverse needs of B.C.’s water systems.**

Many said the document is long, not directed to a specific audience and doesn’t make its points efficiently and clearly. They said some of the diagrams do not enhance understanding.

Some participants said the guidelines did not provide the flexibility to meet the circumstances of their water system and organization. They indicated water-related risks might be best considered through existing planning vehicles.

Some said the guidelines do not provide a compelling reason for regional and local government staff to commit time and resources to creating a collaborative, interdisciplinary risk management plan that will be challenging and complex to develop. Others said the risk-focus may raise staff concerns that identifying a risk creates the responsibility to resolve that risk.

“As it’s currently laid out, **the process seems daunting.**”

– ORIGINAL PROJECT TEAM MEMBER

## RECOMMENDATIONS – EFFECTIVENESS

Members of the original project team, members of the original steering committee and pilot project participants made the following recommendations to improve the effectiveness of the guidelines:

- Clearly state and speak to the primary audience for the guidelines (professional engineers and geoscientists who are employed by or provide services to local governments and water utilities)
- Clearly describe the purpose of the guidelines (to describe the duties and obligations of professional practice that engineers and geoscientists should meet to identify, assess and manage risks to water systems in B.C.)
- Recognize that, while the guidelines provide direct guidance to engineers and geoscientists, they are meant to be community-focused; their job is to support regional and municipal governments to reduce water systems risks to communities
- Clearly describe the roles and responsibilities, where possible, of key participants to the planning process
- Provide guidance that helps engineers and geoscientists encourage participation and lead a scalable and flexible process that meets the diverse needs B.C.'s water systems
- Consider reframing the risk focus to a leading practices focus
- Consider templates, questionnaires and checklists to make the guidelines more directed, practical and engaging
- Add recommendations on how often the Water System Risk Management Plan should be reviewed and updated
- Continue to seek input from stakeholders and potential guidelines users to ensure the next draft meets the diverse needs of B.C.'s water systems

## WHAT WE HEARD – SUMMARY

This What We Heard Report describes what we heard through the 2022 consultation with members of the original project team, members of the original steering committee and pilot project participants.

Their comments related to What Worked Well and What Worked Less Well, based on their experience with the 2018 Draft Guidelines and pilot, are summarized here:

### STAKEHOLDER EXPERIENCE WITH THE 2018 DRAFT GUIDELINES AND PILOT

CATEGORY	WHAT WORKS WELL	WHAT WORKS LESS WELL
<b>VALUE</b>	The <b>high-level framework</b> to bring departments and agencies together to identify water system risks that may not be identified by one group working on its own	The framework is <b>difficult to implement</b> in some regional and municipal environments
<b>SCOPE</b>	The <b>One Water scope</b> because all water is connected and assessing risk requires looking at the full water system	The <b>One Water scope, as described in the 2018 Draft Guidelines, is broad and complex to implement</b> and may not add value to organizations with a much narrower scope
<b>FIT</b>	The <b>intention to fit with other risk management plans and tools</b> currently being used by the organization	The guidelines <b>don't provide adequate guidance</b> on how to fit with other risk management plans and tools currently being used by the organization
<b>APPROACH</b>	The <b>interdisciplinary and collaborative approach</b> to developing a Water System Risk Management Plan	<b>Bringing people together in a workshop setting was often difficult</b> to set up and facilitate in a way that gathered meaningful information
<b>EFFECTIVENESS</b>	The <b>guidelines are an important step toward identifying, assessing and managing risks</b> across the One Water system	The guidelines are <b>not always clear, easy-to-use and practical</b> , and do not consistently meet the diverse needs of B.C.'s water system

## STAKEHOLDER RECOMMENDATIONS FOR THE 2023 DRAFT GUIDELINES

---

Key stakeholder recommendations on value, scope, fit, approach and effectiveness are summarized here to provide guidance to the development of the 2023 Draft Guidelines:

- Write the guidelines so that they provide information and instruction directly to the primary audience - professional engineers and geoscientists who are employed or provide services to local governments and water utilities
- Recognize that while the guidelines provide direct guidance to engineers and geoscientists, their job is to support regional and municipal governments to reduce water system risks to their communities
- Provide guidance that helps reduce the complexity of the One Water, collaborative, interdisciplinary approach and reduces barriers to participation
- Increase the flexibility of the planning process described in the guidelines so that the process can be adapted to the scale, scope and priorities of all B.C. regional and local governments
- Provide clarity around the roles, responsibilities and expectations of professional engineers and geoscientists and the interdisciplinary, collaborating partners
- Acknowledge that some risks are outside the organization's control and it may be enough, at this point, just to identify those risks
- Continue to seek input from stakeholders and potential guidelines users to ensure the guidelines accommodate a variety of organizational models and relationships

Through the consultation, participants also provided comments and recommendations related to provincial direction for the overall water system risk management program.

We heard there is a need to:

- Determine whether the creation of a plan is voluntary, mandatory or linked to funding
- Define roles, responsibilities and expectations for completing and implementing the Water System Risk Management Plan
- Define the role of professional engineers and geoscientists
- Confirm the emphasis on a One Water scope and an interdisciplinary, collaborative approach
- Build One Water awareness and capacity within regional and local governments
- Align key ministries and industry leaders around the approach and direction of the water system risk management program, including an interdisciplinary, collaborative approach and a One Water scope

“We have to have provincial guidance. . . **I think you need that North Star to point to** and then the professional practice guidelines will tie into that.”

– ORIGINAL PROJECT TEAM MEMBER

## WHAT WE HEARD — FEEDBACK 2016 TO 2020

The project team introduced the Water System Risk Management Plan concept through presentations held between 2016 and 2020 and pilot workshops held in 2017 and 2018. Feedback on the Water System Risk Management Plan concept was gathered at the BCWWA Annual Conference Panel Session (May 2, 2016) and the pilot workshops. Pilot workshop participants also provided feedback on the pilot process.

We heard:

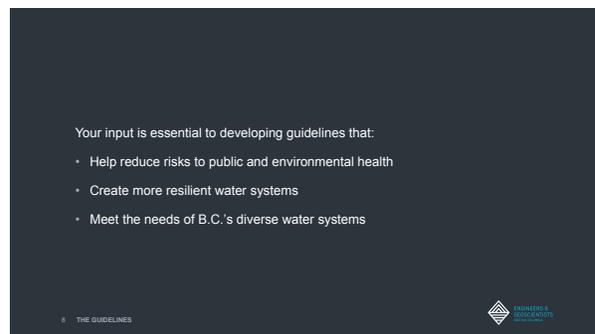
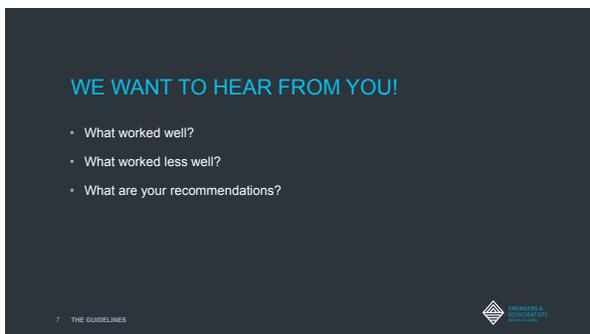
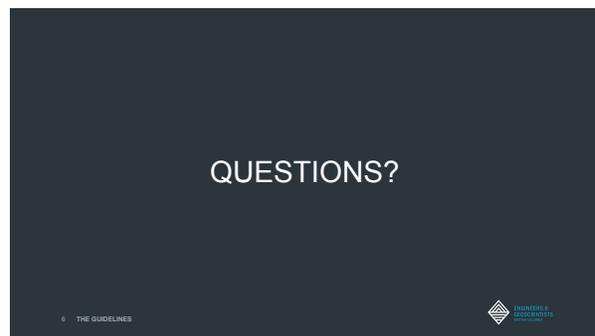
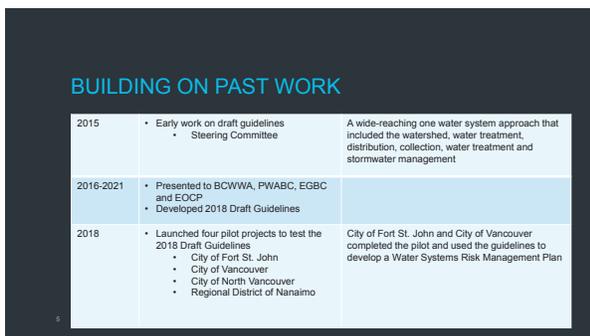
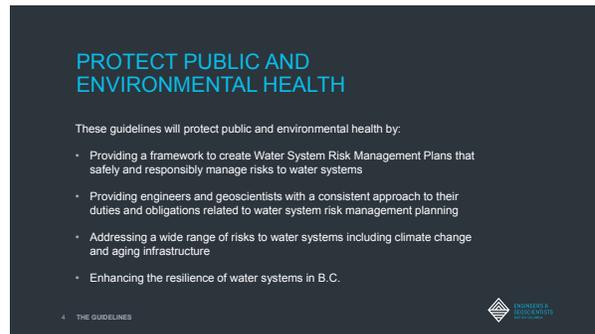
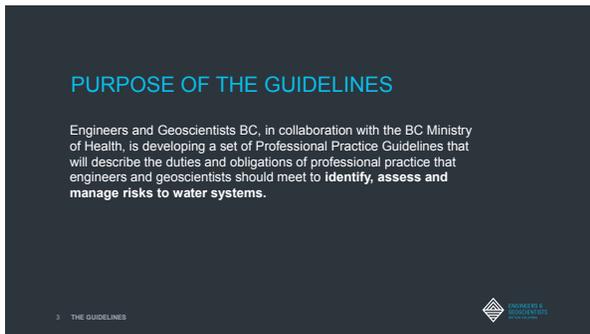
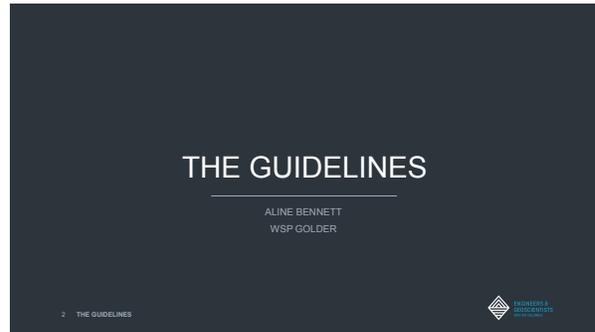
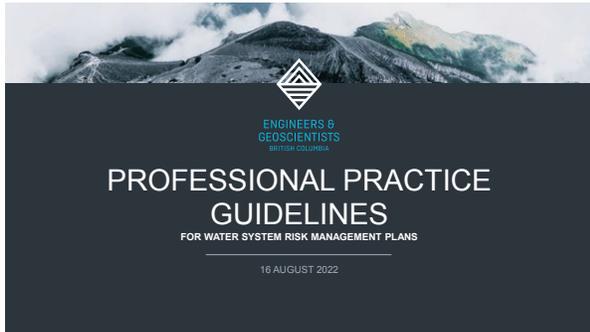
- + Participants value the overarching, multidisciplinary and multijurisdictional risk management approach for water systems
- + The collaboration and cross-departmental dialogue outlined in the 2018 Draft Guidelines is a key value of the workshops and the water system risk management process
- + The process recognizes the role of professional engineers in water system risk management
- The approach described in the guidelines is complex and requires a great deal of staff time
- Workshop participants unfamiliar with the Water Systems Risk Management Plan concept were not able to fully participate in the workshops
- There is a potential over-emphasis on engineers
- The risk prioritization and evaluation process posed challenges for participants

## NEXT STEPS

The feedback received through consultation between 2016 and 2020 and in 2022 will help inform the development of the 2023 Professional Practice Guidelines for Water System Risk Management Plans.

Broader consultation is required once the objectives and key elements of the 2023 Draft Guidelines have been prepared for review.

# APPENDIX A: CONSULTATION PRESENTATION



## TODAY WE WANT TO HEAR YOUR THOUGHTS ABOUT:

1. The **value** of the guidelines
2. The **scope** of the guidelines
3. The **fit** of the guidelines (with risk management tools you are already using)
4. The **approach** taken by the guidelines (interdisciplinary, risk evaluation)
5. The **effectiveness** of the guidelines (to develop Water System Risk Management Plans)
6. Anything else you think would help create clear, easy-to-use and practical guidelines that meet the needs of B.C.'s diverse water systems

9 THE GUIDELINES



## THE SCOPE OF THE GUIDELINES

From the 2018 Draft Guidelines

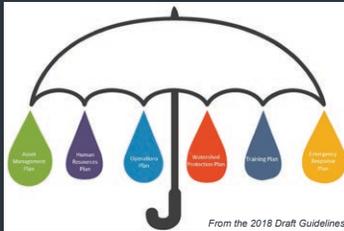
A One Water System Risk Management Plan is an enterprise risk management tool for the management of water from source to tap and sink to watershed.



10 THE GUIDELINES



## THE FIT OF THE GUIDELINES



11 THE GUIDELINES



## THE APPROACH

Collaborative, Interdisciplinary



From the 2018 Draft Guidelines

12 THE GUIDELINES



# THANK YOU!

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

ENGINEERS AND GEOSCIENTISTS BC  
BC MINISTRY OF HEALTH

200 • 4010 REGENT STREET, BURNABY, BRITISH COLUMBIA, CANADA V5C 6N2

**MAIN** 604-430-8035    **TOLL FREE** 1-888-430-8035    **EMAIL** [info@egbc.ca](mailto:info@egbc.ca)    **WEBSITE** [egbc.ca](http://egbc.ca)