Protecting Sources of Drinking Water in Alberta

NSWA Educational Forum, October 24, 2019

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Overview

- About the Alberta Water Council
- Background
- Project update
- Next steps
- Questions and comments

About the Alberta Water Council (AWC)

- Multi-stakeholder partnership with 24 members from governments, NGOs, and industry.
- *Water for Life* partnership.
- Consensus-based decision-making process.
- Advice on provincial water management challenges and opportunities.

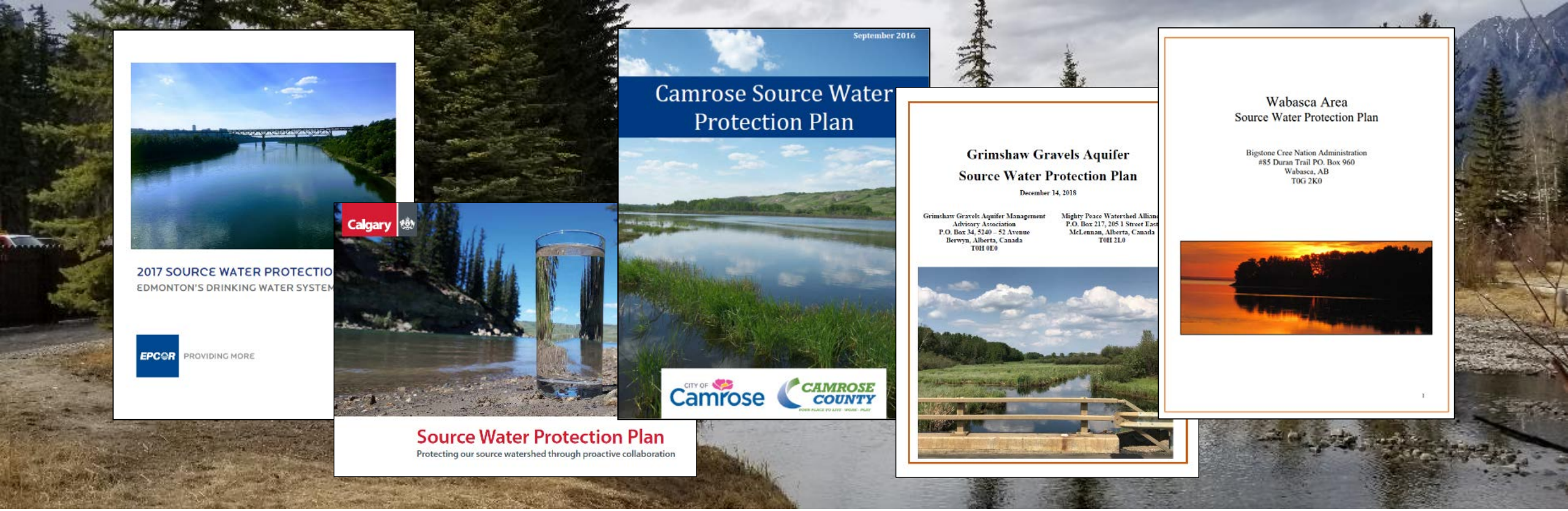
What is Source Water Protection (SWP)?

- First line of defense in a multi-barrier approach
- Risk management process
- Proactive, collaborative actions to protect sources of drinking water
- Supported by Drinking Water Safety Plan and watershed management planning
- Cost-effective method to maintain and improve source water quality and quantity

Alberta's Drinking Water Program

Regulates drinking water systems for over 80% of Albertans:

1. Legislation – municipal/industrial systems, certification and compliance
2. Protection – proactive measures, emergency response and source water protection
3. Drinking Water Systems – design and operational standards, assessments and funding
4. Performance Assurance – approvals, compliance and enforcement activities
5. Knowledge/awareness – publications, online resources, research and program evaluation



Project Background

- *Water for Life* Strategy – goal to ensure safe, secure drinking water
- 2013, Drinking Water Safety Plans became mandatory in Alberta
- Several communities are developing source water protection plans
- Regional plans support source water protection planning
- 2018, AWC source water protection project team formed

Project Objectives

- Synthesize SWP practices, processes, and risks to drinking water sources in Alberta
- Document complementary source-water related initiatives
- Examine SWP approaches and risk management models in selected jurisdictions
- Identify successes, gaps, barriers, redundancies, and lessons learned
- Develop a guidance document

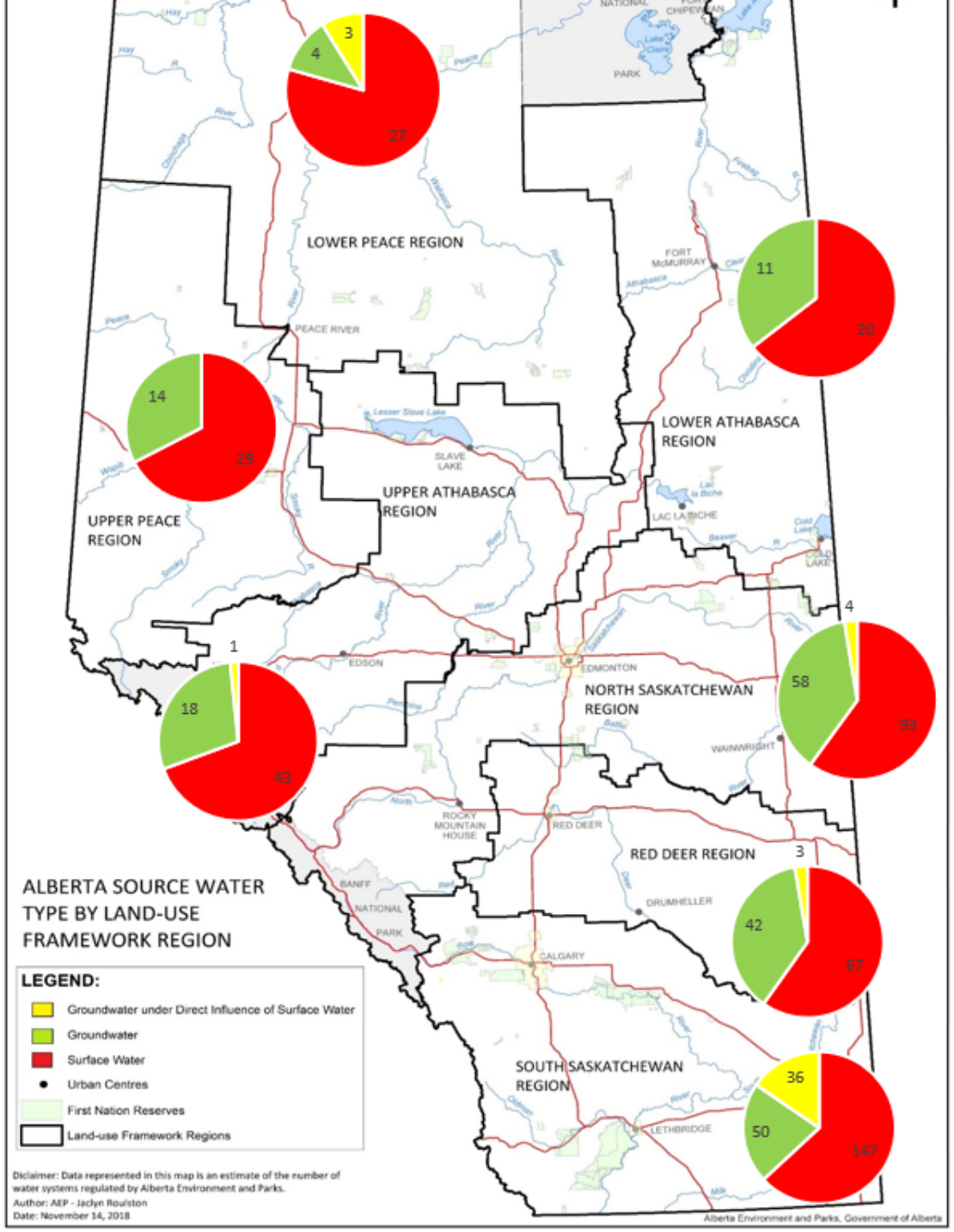
Project Progress

Project Progress

- Completed inventory of drinking water treatment systems in Alberta
- Compiled list of SWP risks, practices, and approaches
- Finished the jurisdictional scan and compared findings with Alberta
- Finalized the draft guidance document
- Completed the draft companion report
- Completed sector engagement and incorporated input

Drinking Water Treatment Systems and Sources

- Over 670 systems are regulated by Alberta Environment and Parks
- 83% of these systems serve small municipalities
- Over 2000 ‘micro’ systems are regulated by Alberta Health Services
- Regionalization of systems is increasing
- Surface water is the main source and groundwater is used to a lesser extent
- North Saskatchewan Region has nearly 100 surface water and 60 groundwater systems



Survey and Questionnaire

- Information was collected on SWP practices, processes and risks to drinking water sources
- Public and private survey – 47 responses
- Individual surveys – 98 responses
- Targeted drinking water providers – 13 responses
- First Nations were also invited to participate

Survey Findings

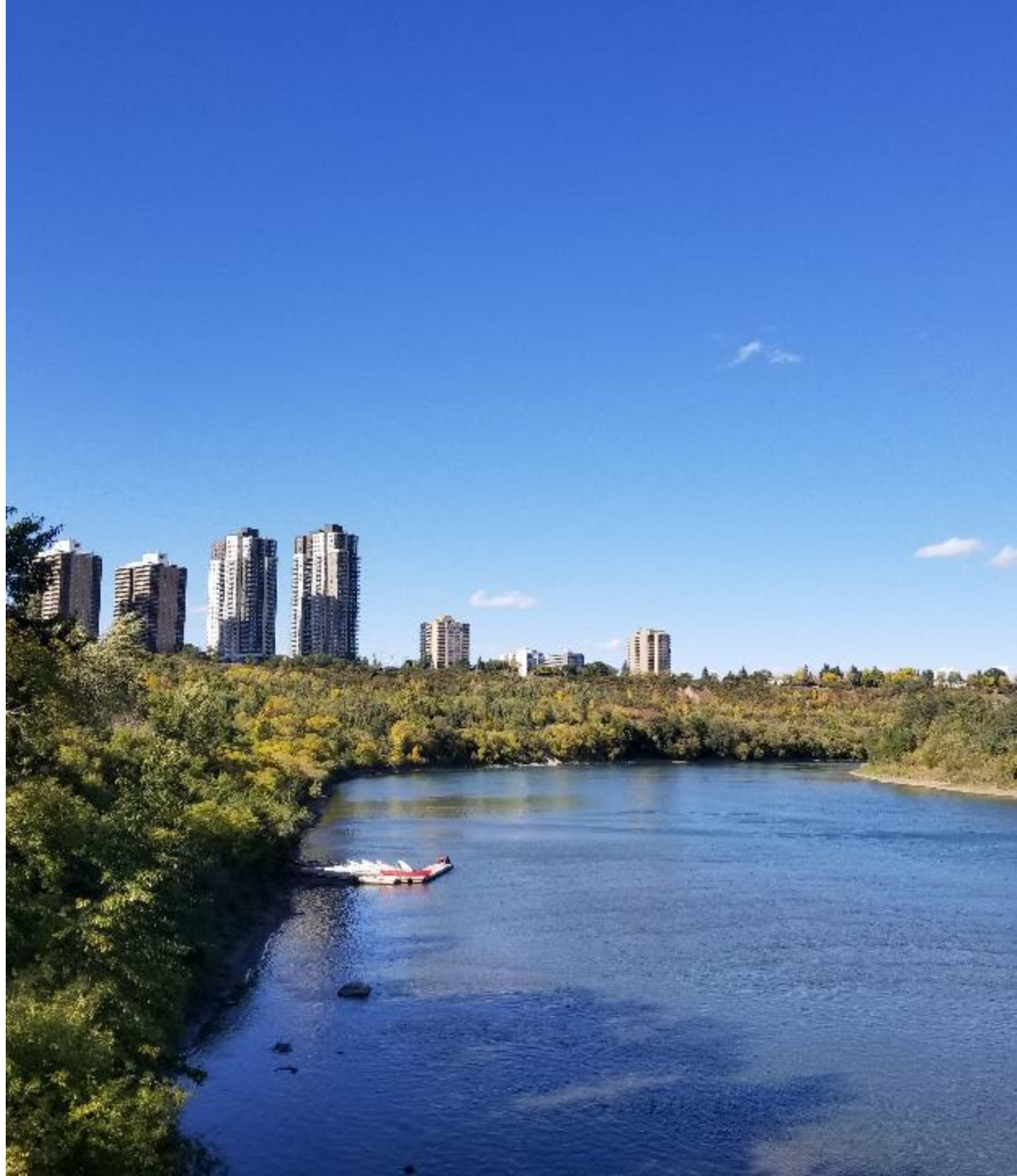
- Several public and private organizations indicated involvement in SWP approaches
- SWP approaches include providing information, training, legislation, policies, plans and guidance
- Multiple groups are spearheading SWP initiatives (mostly in planning or early implementation stage)
- Most common risks: extreme weather, development, stormwater, recreation and livestock
- Common barriers to SWP: lack of resources, integration, funding, data and awareness

Questionnaire Findings

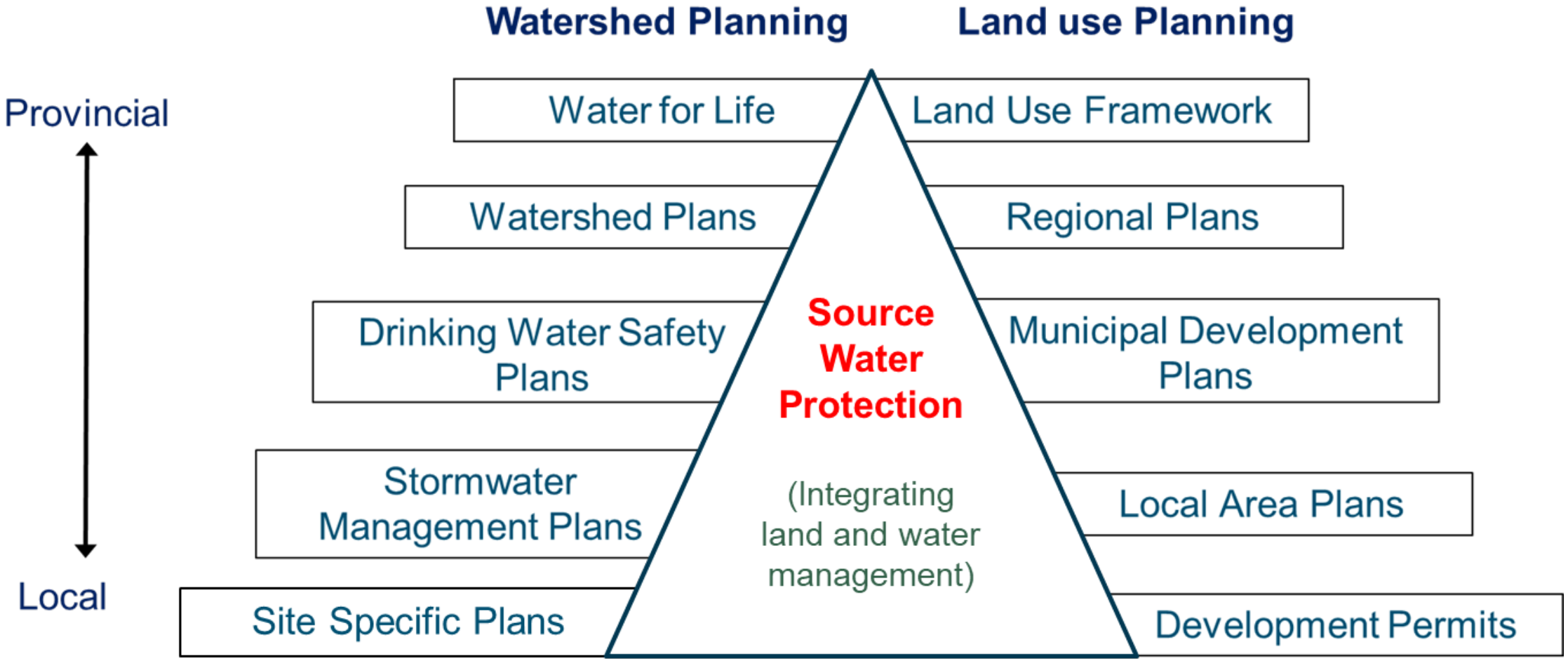
- Distributed questionnaires to selected municipalities of various sizes in each region
- Potential source water risks: algae, floods, wildfires, stormwater, invasive species, contamination, low water levels, over extraction and lack of backup supplies
- Identified gaps and barriers to SWP:
  - Need for clarity on governance, roles and integration of planning processes from local to watershed levels
  - Lack of information, resources, tools, training, education and collaboration
  - Operators have limited control over risks

Literature Review Findings

- **Legislation** – SWP is supported by provincial laws and some municipal bylaws
- **Policy** – provincial guidance and standards for municipalities and specific industries
- **Plans** – developed by various organizations for land use and water/watershed management
- **Programs** – used for education, outreach, research and stewardship activities
- **Tools** – available to support SWP, but not all are easy to access or use



Integration with other planning processes



Jurisdictional Scan

1

Reviewed several approaches that support SWP in B.C., Ontario, Colorado, California and Australia

2

Compared findings with the Alberta context

3

Identified possible ways to apply these approaches in Alberta

Jurisdictional Scan Results

- Education, training, technical support and tools are provided
- Colorado and California have SWP templates/forms
- U.S. federal government provides funds for SWP
- Ontario’s laws provide instructions for SWP plans
- BC has a comprehensive risk assessment process and toolkit

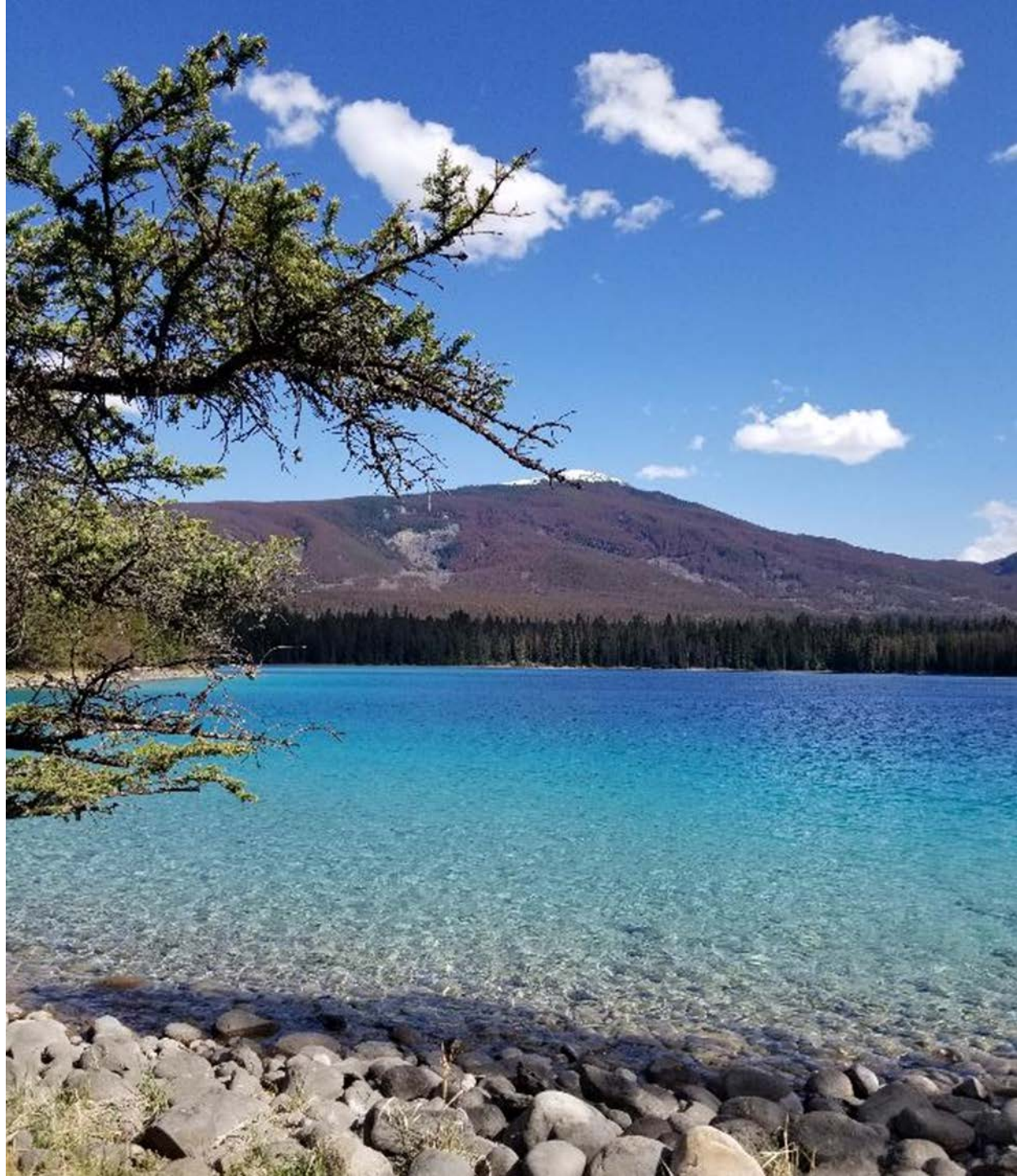
Relevance to Alberta

- Training, technical support, resources and centralized tools are needed
- Drinking water providers usually lead SWP
- Collaboration among stakeholders is important
- Clearly defined roles is critical from the start
- Implement SWP in conjunction with stewardship initiatives and land use planning

Guidance Document

Guide to SWP Planning

- Informed by regional and international guides
- Describes tools, resources, case studies and key factors for success
- Main steps outlined in the draft guide:
    - Step 1: Involve key groups and create a vision
    - Step 2: Characterize your source water area
    - Step 3: Set program goals
    - Step 4: Develop an action plan
    - Step 5: Implement the action plan
    - Step 6: Evaluate and revise periodically



Companion Report

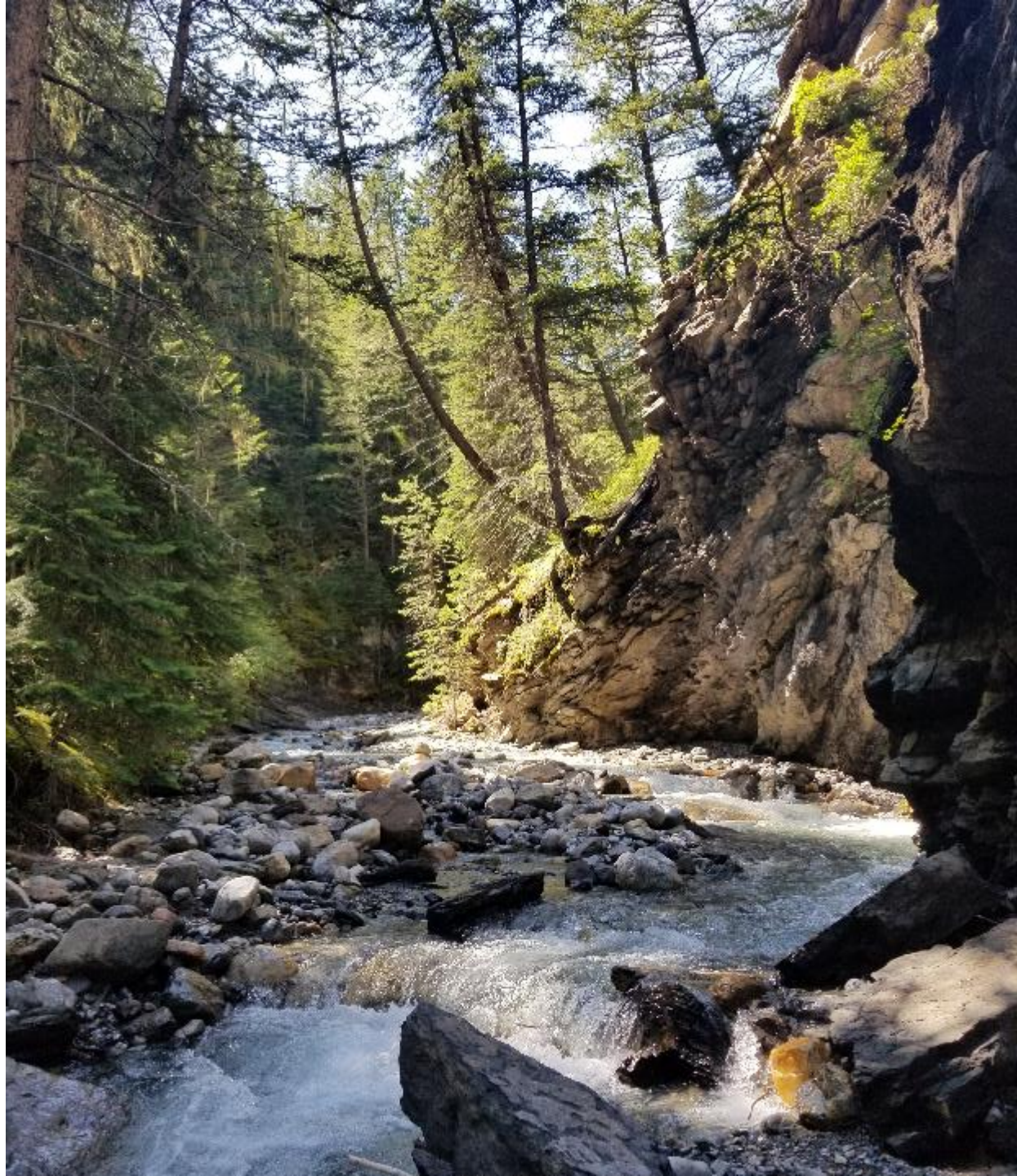
Companion Report

- Provides background about the project
- Summarizes the findings from the surveys, questionnaires and literature review
- Includes results from the jurisdictional scan and relevance for Alberta
- Acts as a reference for the guide document

Sector Feedback

Several comments were received and incorporated into the documents:

- Linkages between DWSP and SWP plans
- Roles of the drinking water provider
- Encourage collaboration with key groups
- Need for funding, expertise, and tools
- Need for public awareness SWP
- Integrate with other land and water management work



Next Steps

Next Steps

1

Incorporate feedback from sector engagement

2

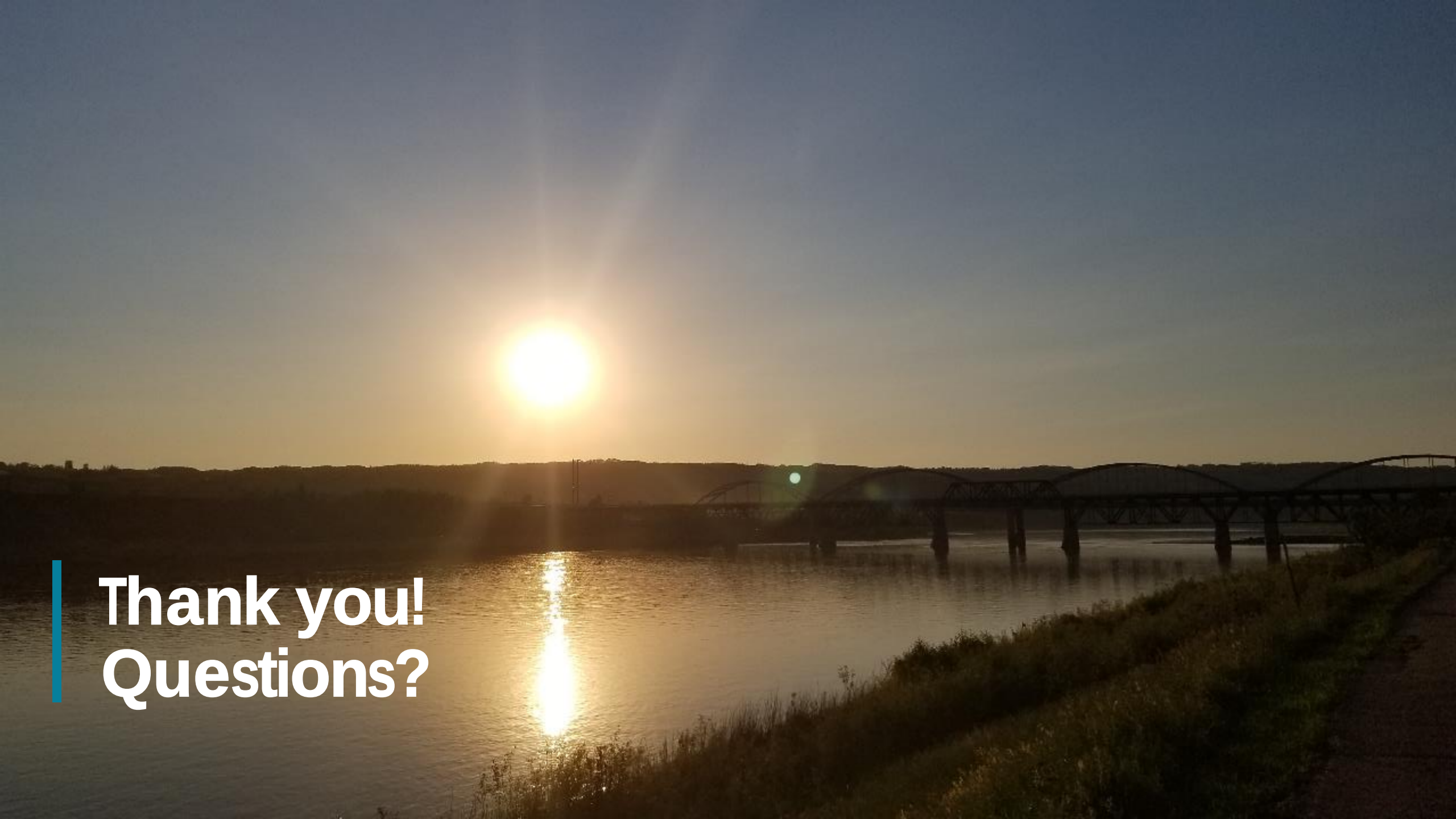
Request approval of documents by the AWC board this November

3

Execute a communications plan (i.e., potential press release, mailouts and sharing of documents)

Our Team!

Name	Sector/Organization
Barry White	GoA (Alberta Agriculture and Forestry)
Dan Moore	Forestry (Alberta Newsprint Company)
Danielle Koleyak	Large Urban (City of Edmonton)
Morna Hussey	GoA (Alberta Environment and Parks)
George Roman	WPACs (Bow River Basin Council)
Margo Redelback	Irrigation (Alberta Irrigation Districts Association)
Mike Christensen	Lake Env. Cons. (Alberta Lake Management Society) *co-chair*
Paul McLauchlin	Rural (Rural Municipalities Association)
Phil Boehme	GoA (Alberta Environment and Parks) *co-chair*
Rosey Radmanovich	N/A (First Nations Technical Services Advisory Group)
Sarah Skinner	WPACs (Battle River Watershed Alliance)
Steph Neufeld	Lake Env. Cons. (Alberta Lake Management Society)
Tanya Thorn	Small Urban (Alberta Urban Municipalities Association)
Trevor Rhodes	Large Urban (City of Calgary)
Project Managers: Anuja Ramgoolam and Lauren Hall	



Thank you!
Questions?