

TSAG's Source Water Protection Planning Program

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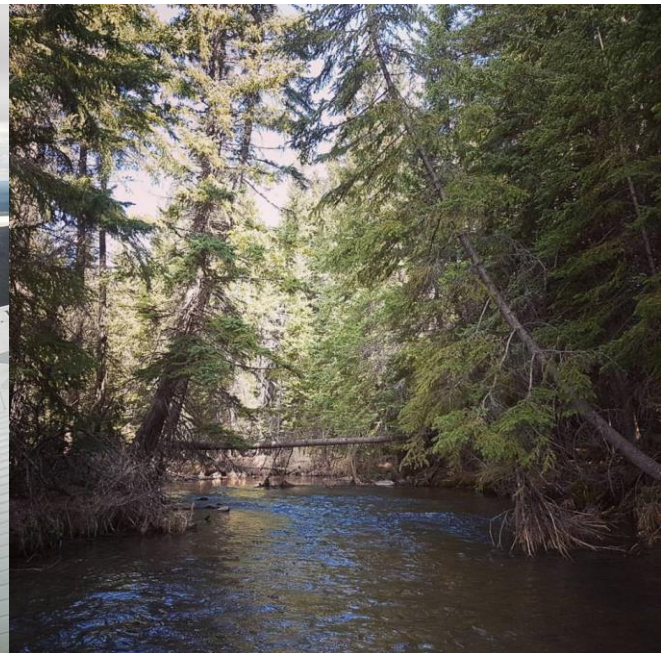
What is Source Water?

- Untreated sources of drinking water
 - Lakes
 - Rivers and streams
 - Aquifers



Source Water Protection Planning 101

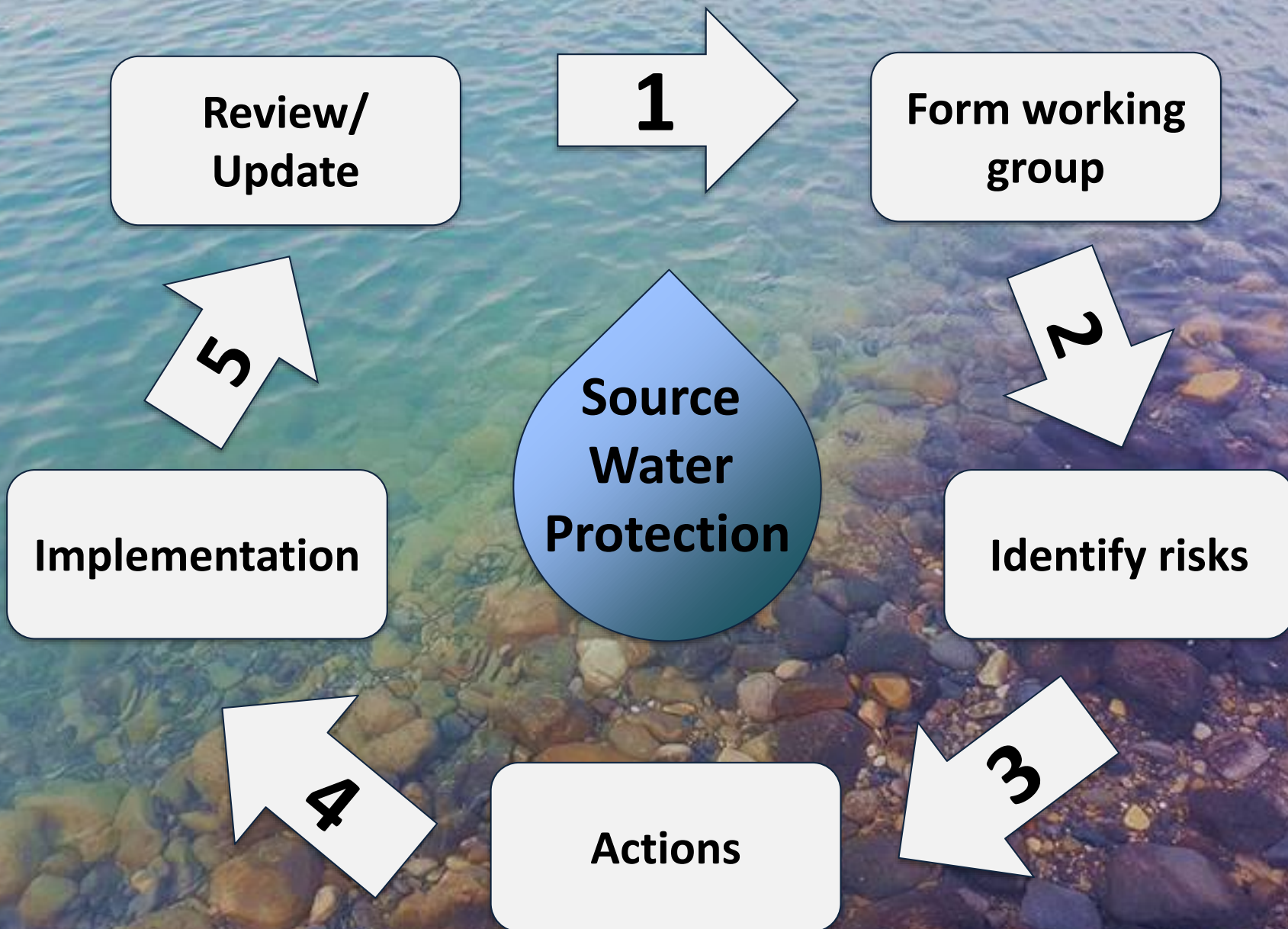
- Process to protect drinking water sources from contamination
 - Surface water
 - Groundwater



Source Water Protection Planning 101

- Watershed planning approach
 - Inventory land uses
 - Inventory water use





Example: Improperly maintained cisterns

- Decide how much of a risk to source water

LOW
RISK

MEDIUM
RISK

HIGH
RISK

Example: Improperly maintained cisterns

- Current mitigation actions – what is already being done?
 - Testing by CHR
 - Public works cleans cisterns when needed

Example: Improperly maintained cisterns

- Proposed mitigation actions – what could be done?
 - Inventory cisterns
 - Inspect condition
 - Fix or replace cisterns as needed
 - Establish a cistern cleaning crew
 - Clean cisterns on an annual basis

Implementation Planning

- Prioritize mitigation actions
- Identify funding sources and partnerships
- Set timelines



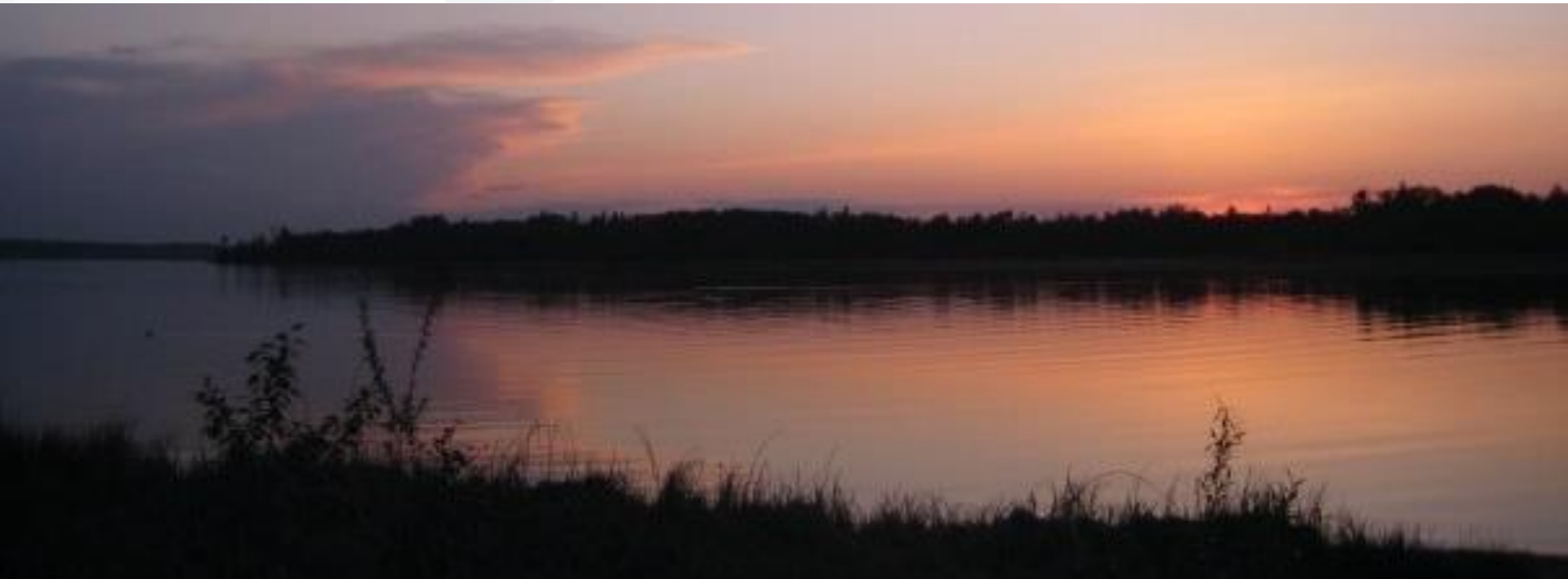
Community Feedback

- Host open-house(s) or other community engagement events to collect feedback on the plan
 - Any risks missed
 - Any additional mitigation actions



The Plan

End up with a community-based, community-driven plan that outlines all of the risks to water and what the community would like done to protect water



A Living Document

- On a regular interval the working committee reviews:
 - Membership (working group)
 - Land use assessment
 - Management actions
 - Implementation
(Steps 1-4)

Benefits

- Identifies and ranks land use risks to source water
 - Allows prioritization of resources
- Helps the community decide what steps should be taken and when
 - Long term plan that lays out a strategy for accessing funding and additional resources



Benefits

- Lists who can be partnered with to work on which challenges
- Raises awareness about water within the community



Benefits

- Fosters relationship building
 - Neighbouring communities
 - Watershed Planning and advisory councils (WPACs)
 - Other organizations within the province



Program Update

- 15 First Nations in Alberta have developed source water protection plans with TSAG
- Many implementation success stories
 - Decommissioning abandoned water wells
 - Illegal dumpsite cleanup
 - Collaboration and partnerships
 - Coordination with other community plans
 - Community-based monitoring initiatives
- But not as many as we would like to see...



Social Sciences and Humanities Research Council – Call for Proposals





Source Water Protection Planning Retreat

January 22 & 23, 2019
Banff, Alberta

Retreat Objectives

1. Bring communities together to share knowledge around water protection and planning
2. Identify common/shared challenges or barriers to source water protection
3. Share knowledge, strategies, etc. around solutions and identify potential solutions to overcome barriers



Barriers to SWPP Implementation

- Inadequate capacity
 - Financial
 - Human resources
 - Institutional
 - Social
 - Technical

Community-Driven Solutions

- Hiring of an Implementation Coordinator
- Hiring of a Funding and Proposal Coordinator
- Dedicated funding for source water protection plan implementation
- Strategies to build partnerships and increase collaboration
- Stronger cultural connections to water

Barriers to SWPP Implementation

- Inadequate capacity
 - Financial
 - Human resources
 - Institutional
 - Social
 - Technical



Support for Source Water Protection Plan Implementation

Sustainable Communities

- Provide training courses on solid waste management
- Transfer station planning
- Waste diversion, community composting, community gardens
- Community education and outreach
- Assist with clean-up of illegal dumpsites



Source Water Success: Saddle Lake Cree Nation

- Completed plan spring 2017
- Identified unauthorized dump sites as a high source water risk





Source Water Success: Saddle Lake Cree Nation

- Partnered with TSAG to utilize youth and existing community programs to clean up sites





Source Water Success: Saddle Lake Cree Nation



Project Design Support and Proposal Review

- Assist with the technical side of project planning
- Assist with grant application and project proposal review
- Facilitate networking

Use of Drones to Inform Cumulative Environmental Effects Planning

- Pilot project
 - Working with 3 communities to assess and monitor environmental risks identified in community plans



Potential Applications

- Location and assessment of illegal dump sites
- Coarse riparian area assessment
- Monitoring surface water levels
- Monitoring reclamation sites



Private Drinking Water Systems Assessment



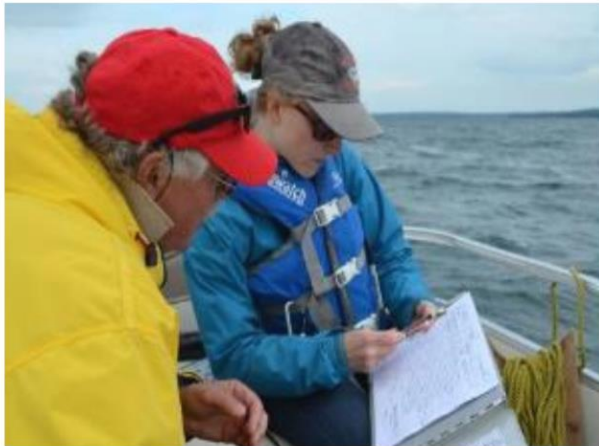
Private Drinking Water Systems Assessment

Deep Dive: LT-DWA

- An key outcome of this exercise was highlighting LT-DWAs on private water systems.
- Its been long recognized that wells and cisterns do not receive adequate attention and resources.
- In response the regions have received funding to collect information and conduct risk assessments to better understand the situation the magnitude of the issue.
- FNIHB is working through Health Co-Management (HCoM) and TSAG on how assessments will be carried out.

Lake Monitoring with ALMS

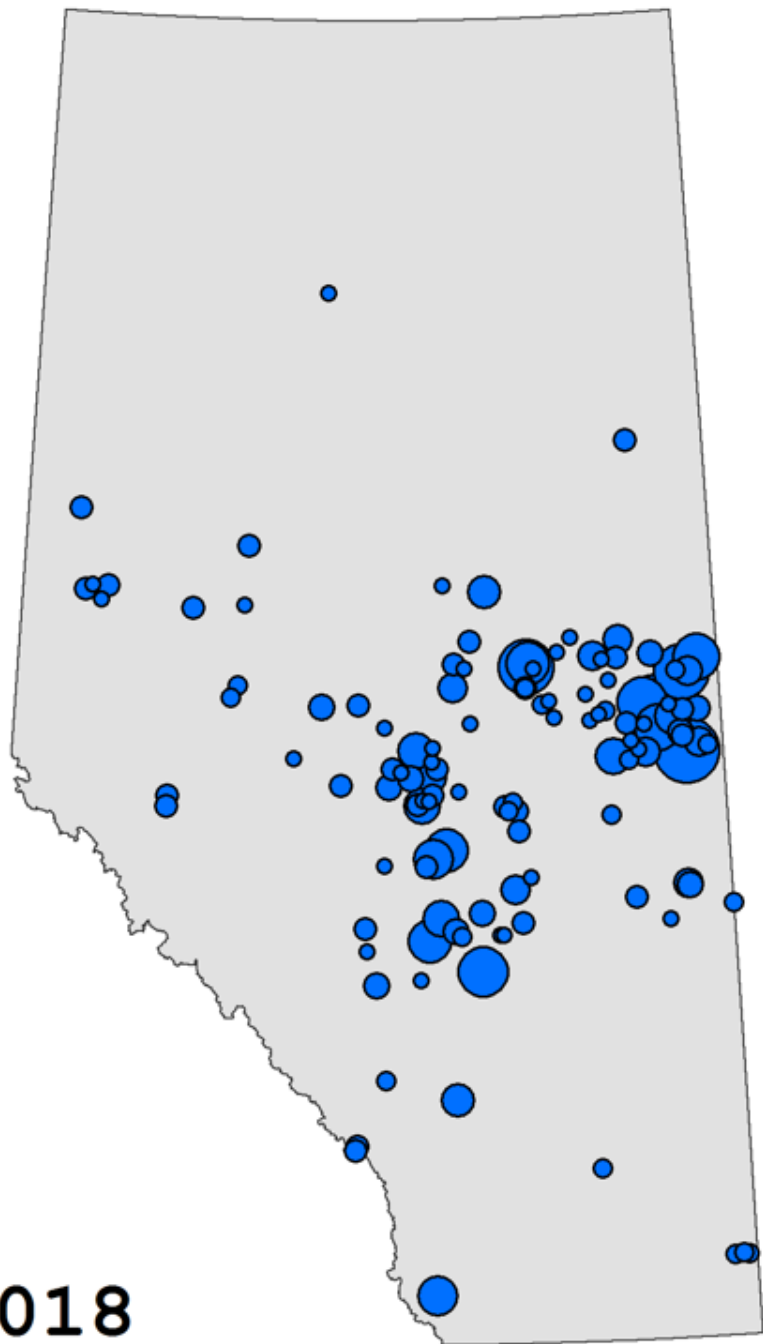
- Alberta Lake Management Society
 - Not for profit that promotes understanding and comprehensive management of lakes, reservoirs, and their watersheds



LakeWatch Program

- Volunteer-based water quality monitoring program
- Provide:
 - Training
 - Equipment
 - Sample analysis costs
- Just need a community contact with a boat!

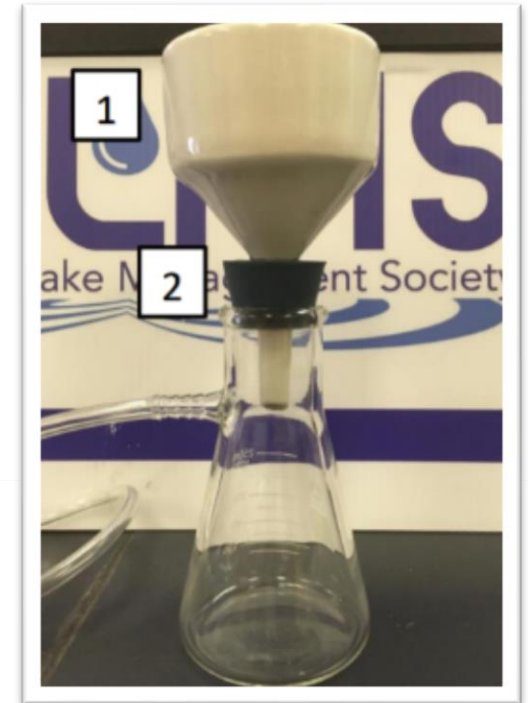
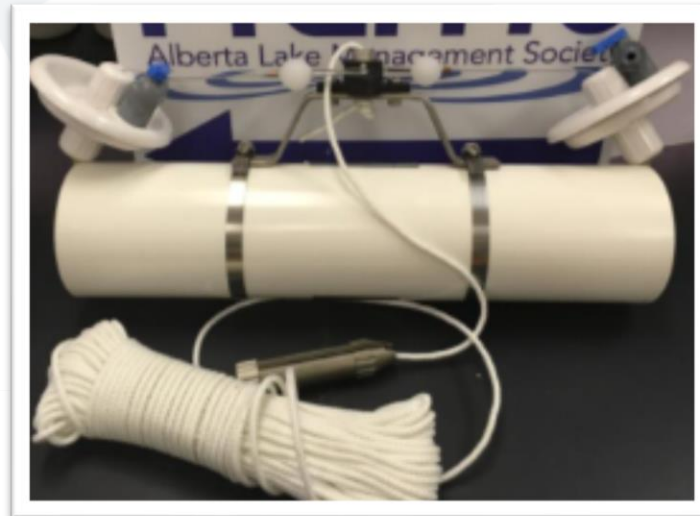
2018




- **2018**
- 593 Volunteer Hours
- 139 Lake Monitoring Trips

LakeKeepers Program

- Working on partnering with TSAG for us to provide training support for interested First Nations





“There is no greater medicine than water – it is foundational, our very beginnings, it reminds us where we came from, our first environment in the womb.”

Elder, Chiefs of Ontario 2006

Questions?

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