

Source Water Protection Planning in First Nations in Alberta

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First Nations Technical Services Advisory Group

Environmental Liaison

October 24, 2019



TSAG Overview

- Indigenous not-for-profit organization formed in 1998
- Take direction from our Chiefs Steering Committee and Board of Directors
 - Made up of representatives from all 3 Treaty Areas
- Work with all First Nations in Treaty 6, 7, and 8 in Alberta

TSAG Overview

Mandate:

“TSAG is a not-for-profit provider of quality technical services and training for First Nations in Alberta”

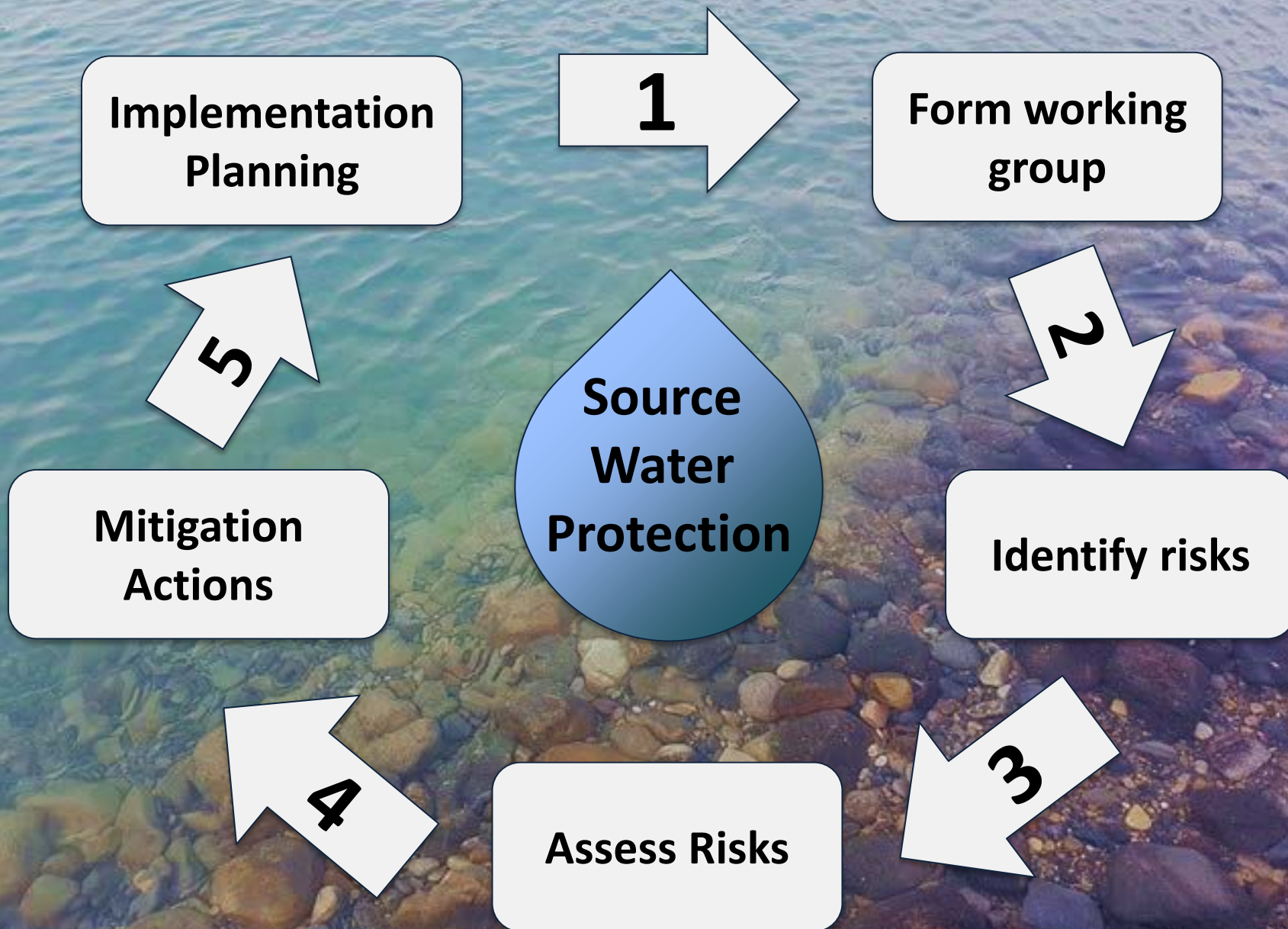
TSAG Overview

- Program areas
 - Asset management
 - Housing support services
 - Fire protection and prevention
 - Information technology
 - Youth Initiatives
 - Circuit Rider Training program
 - Environmental management

TSAG's Source Water Protection Planning Program

- AANDC funded the creation of an on-reserve source water protection guide and template
- Partnered with Dr. Robert Patrick (University of Saskatchewan) to develop guide and template
- Guide and template were piloted in Treaty 7, Alberta, with Siksika Nation in 2013





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





Aboriginal Affairs and
Northern Development Canada

Affaires autochtones et
Développement du Nord Canada

First Nations On-Reserve Source Water Protection Plan

Guide and Template



Canada

**Available on
Indigenous
Services
Canada
Website**

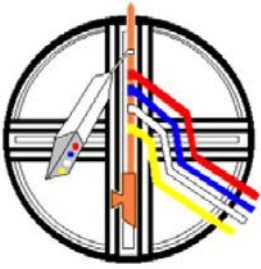
TSAG's Source Water Protection Planning Program

- Facilitate and support the creation of source water protection plans free of charge to First Nations
- To date, 15 First Nations in Alberta have developed or are developing source water protection plans with TSAG
- Many projects and initiatives to implement plans



Siksika Nation

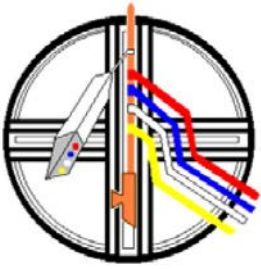




Frog Lake First Nation

- Since 2013:
 - 250m buffer zone around lake
 - Developed a waste transfer station

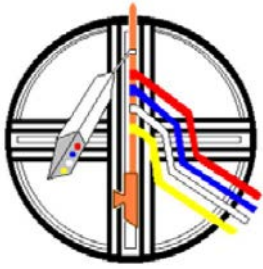




Frog Lake First Nation

- Since 2013:
 - Decommissioned underground fuel storage tanks
 - Developed an annual cistern cleaning program
 - 2015: 189 BWA on private systems; now down to 59

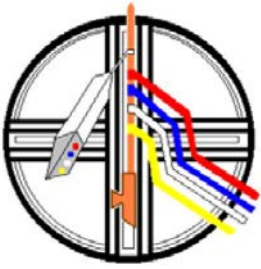




Frog Lake First Nation

- Since 2013:
 - Initiated a TLU study
 - Conducted feasibility study on alternative water sources





Frog Lake First Nation

- Since 2013:
 - Completed a groundwater survey
 - Conducted a landfill survey to test for leachate
 - Used their SWP plan as leverage to prevent an oil and gas project that would have impacted source water





Saddle Lake Cree Nation

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





Saddle Lake Cree Nation

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





Saddle Lake Cree Nation





Saddle Lake Cree Nation






Bigstone Cree Nation

- Partnered with the Municipal District of Opportunity to expand the plan to include the municipality and shared sources of water, have collaborated on numerous implementation projects
- Regularly work with the Mighty Peace Watershed Alliance
- Have recently begun work on a comprehensive, community-led environmental monitoring program in partnership with researchers from numerous post-secondary institutions



A photograph of a rocky shoreline with clear, shallow water. The water is a light blue-green color, and the rocks are various shades of brown, tan, and grey. The text is overlaid on the water portion of the image.

Creating a Network of Community-led Indigenous Source Water Protection Planning

Social Sciences and Humanities Research Council – Call for Proposals

“This funding will support community gatherings, workshops, or other events or outreach activities that will mobilize knowledge, facilitate dialogue and knowledge sharing”



Source Water Protection Planning Retreat

**January 22 & 23, 2019
Banff, Alberta**

**SSHRC Indigenous Research Capacity and Reconciliation –
Connection Grants**

Source Water Protection Planning Retreat

- Partnered with Dr. Robert Patrick (again!)
- Brought together 12 First Nations
 - 6 First Nations from Alberta
 - 6 First Nations from Saskatchewan



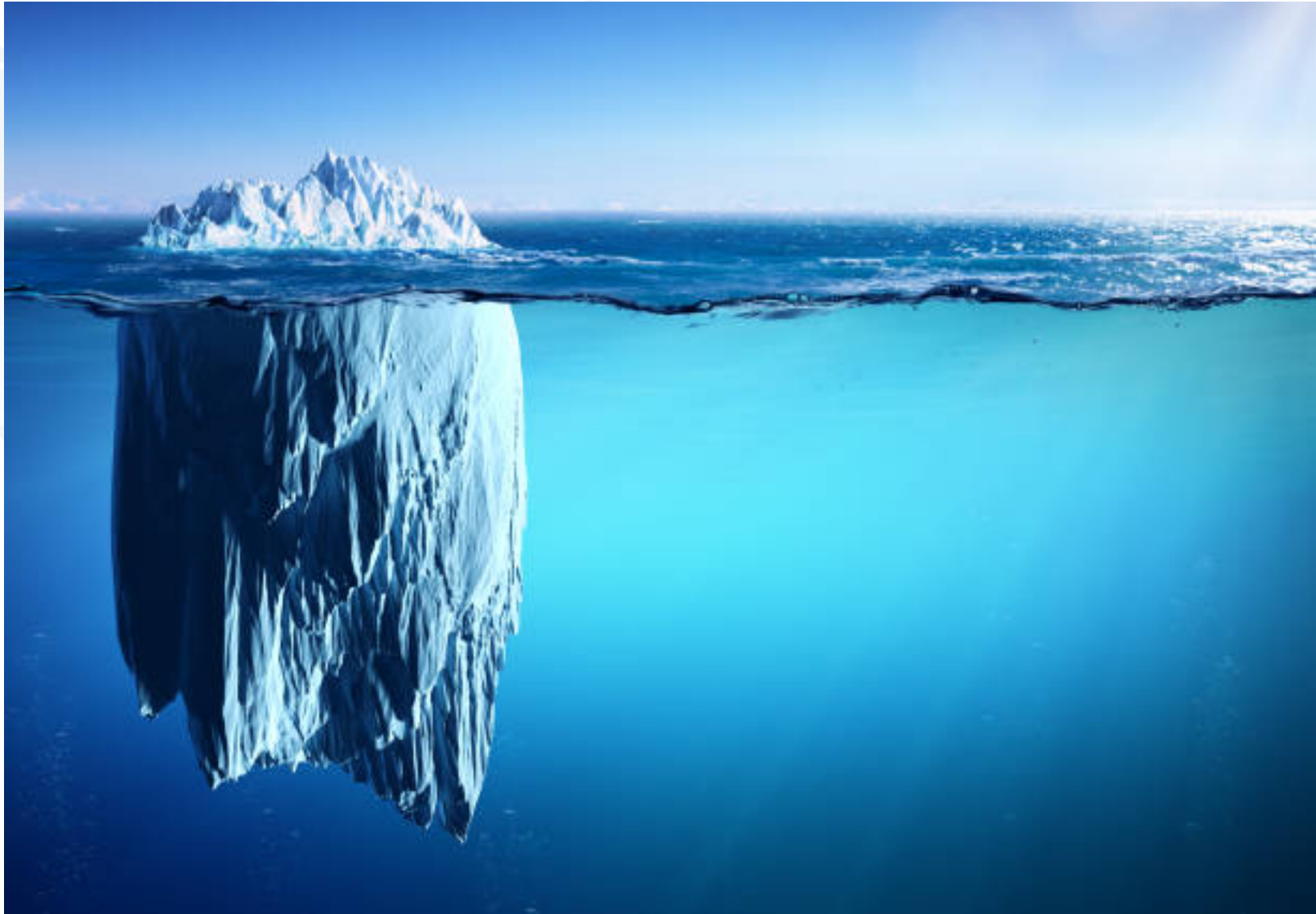
Retreat Objectives

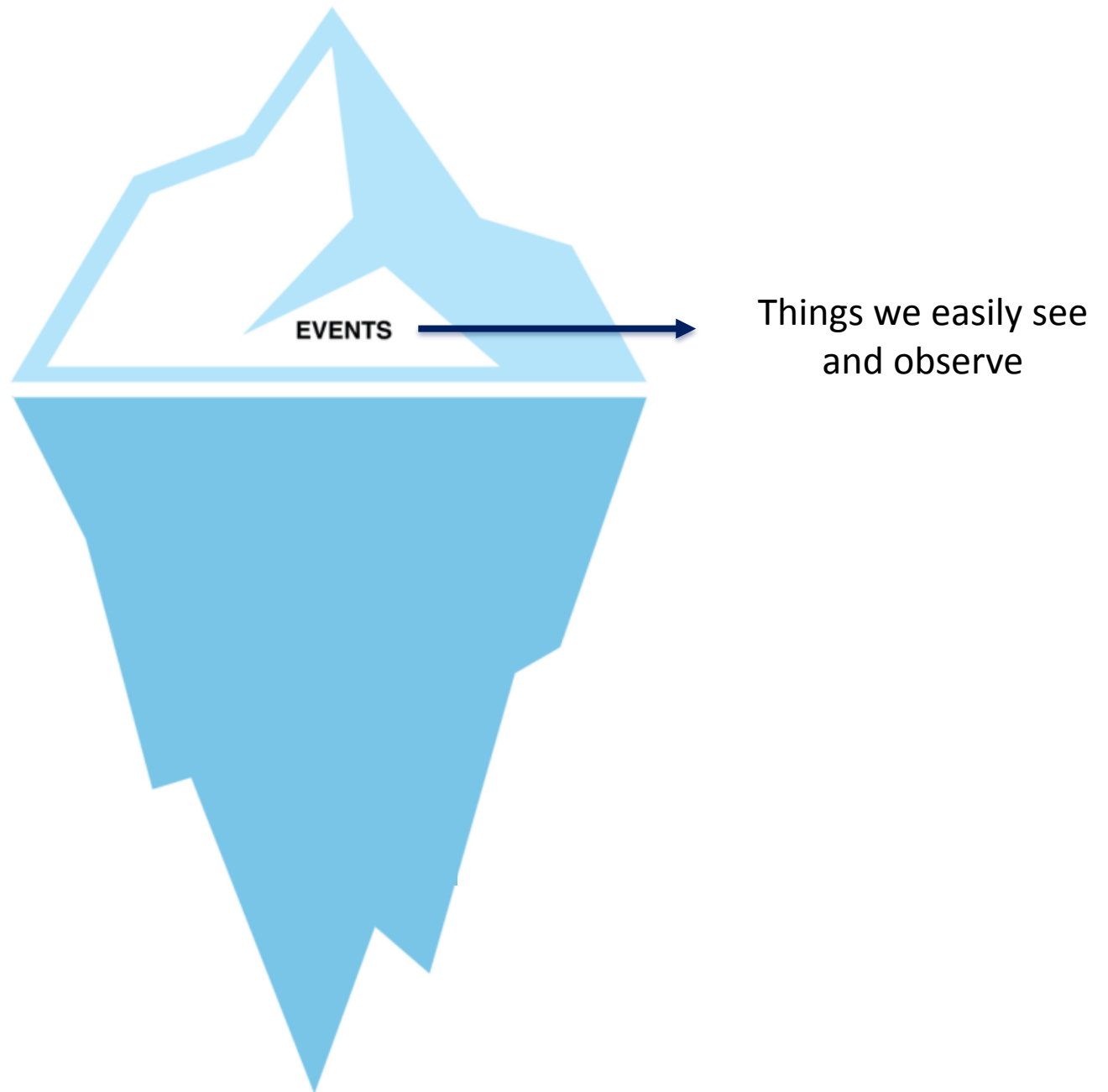
1. Bring communities together to share knowledge around water protection and planning
2. Identify common/shared challenges or barriers to source water protection
3. Share knowledge, strategies, etc. around solutions and identify potential solutions to overcome barriers

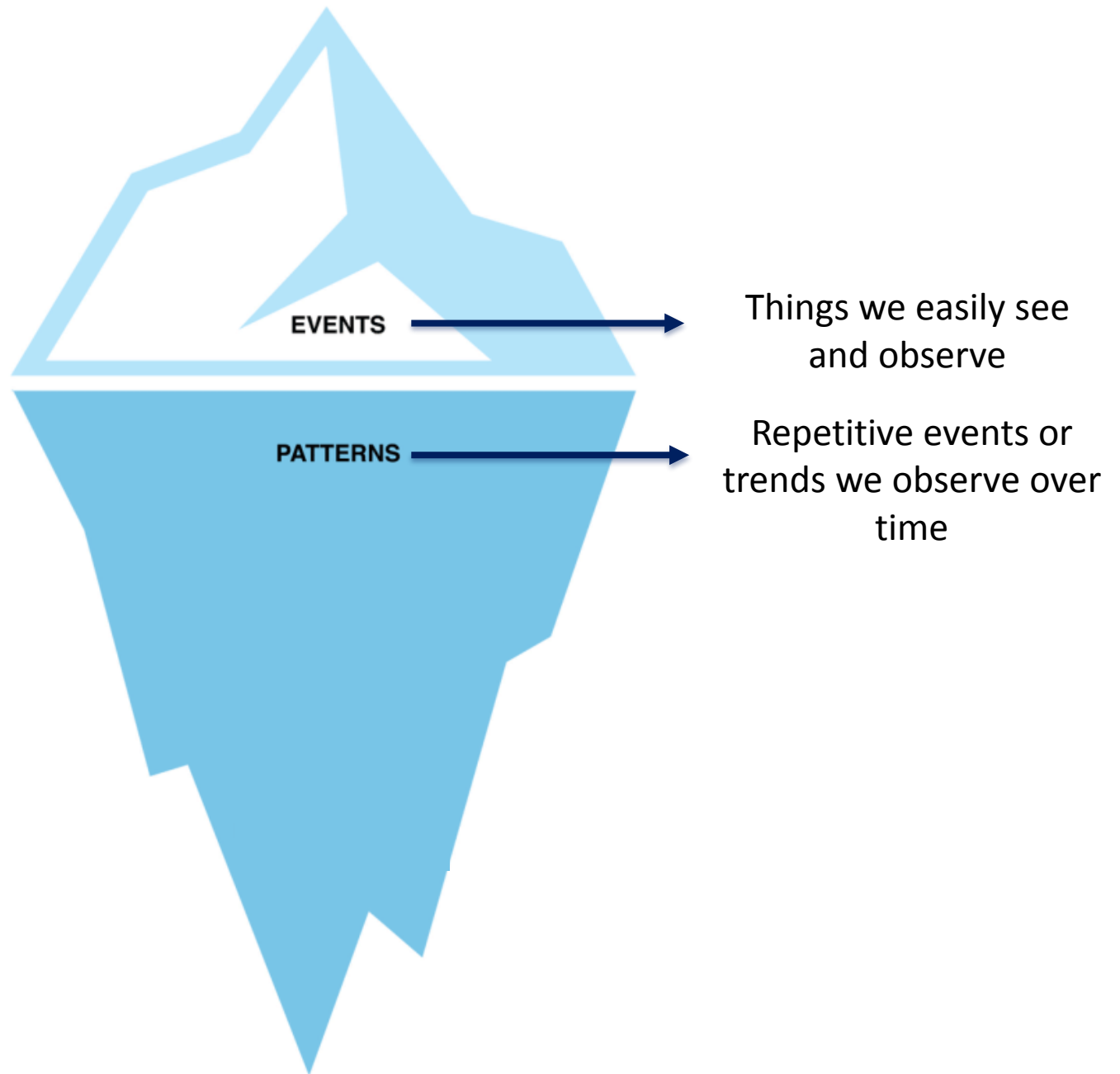
The Iceberg Model

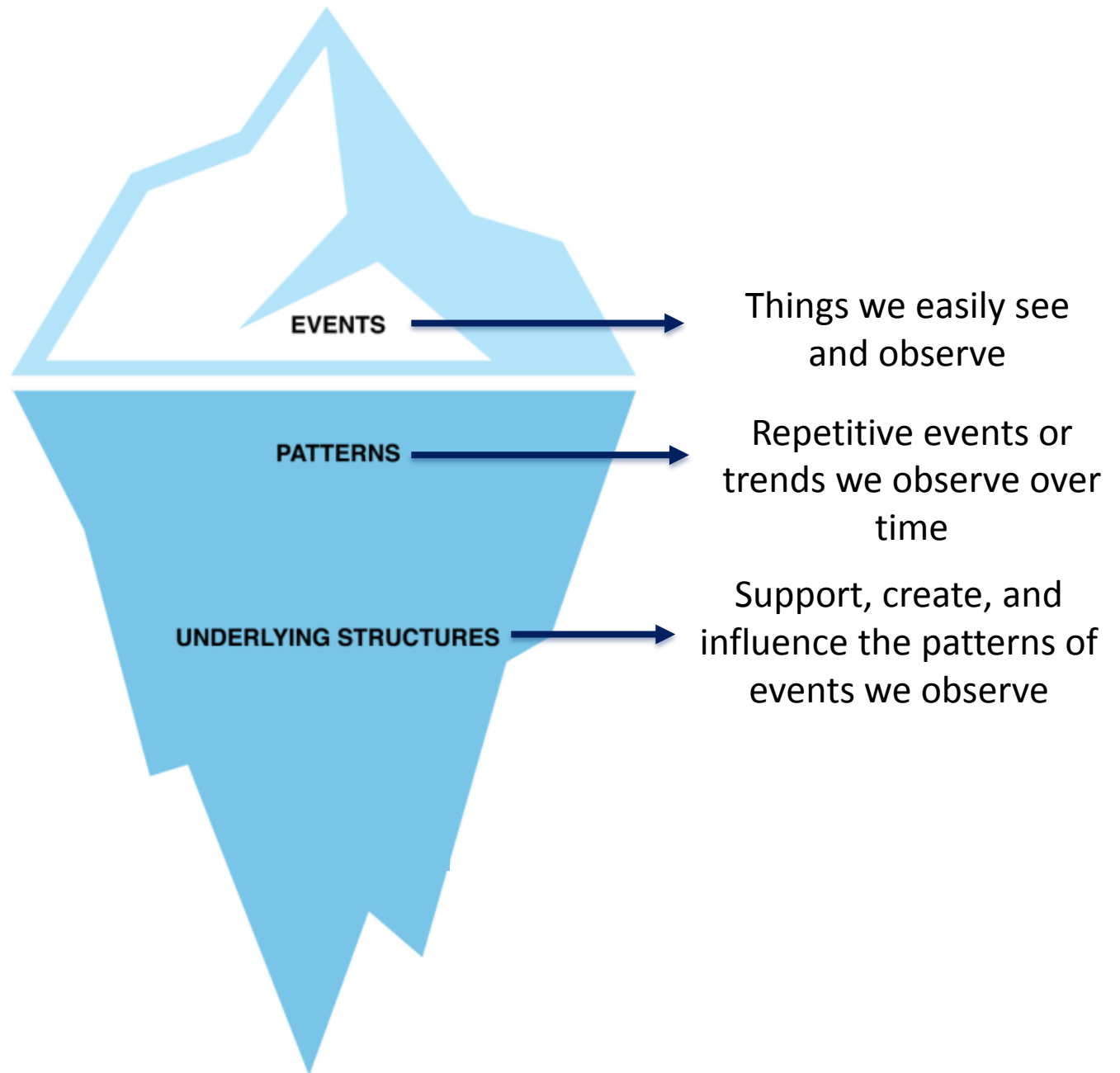


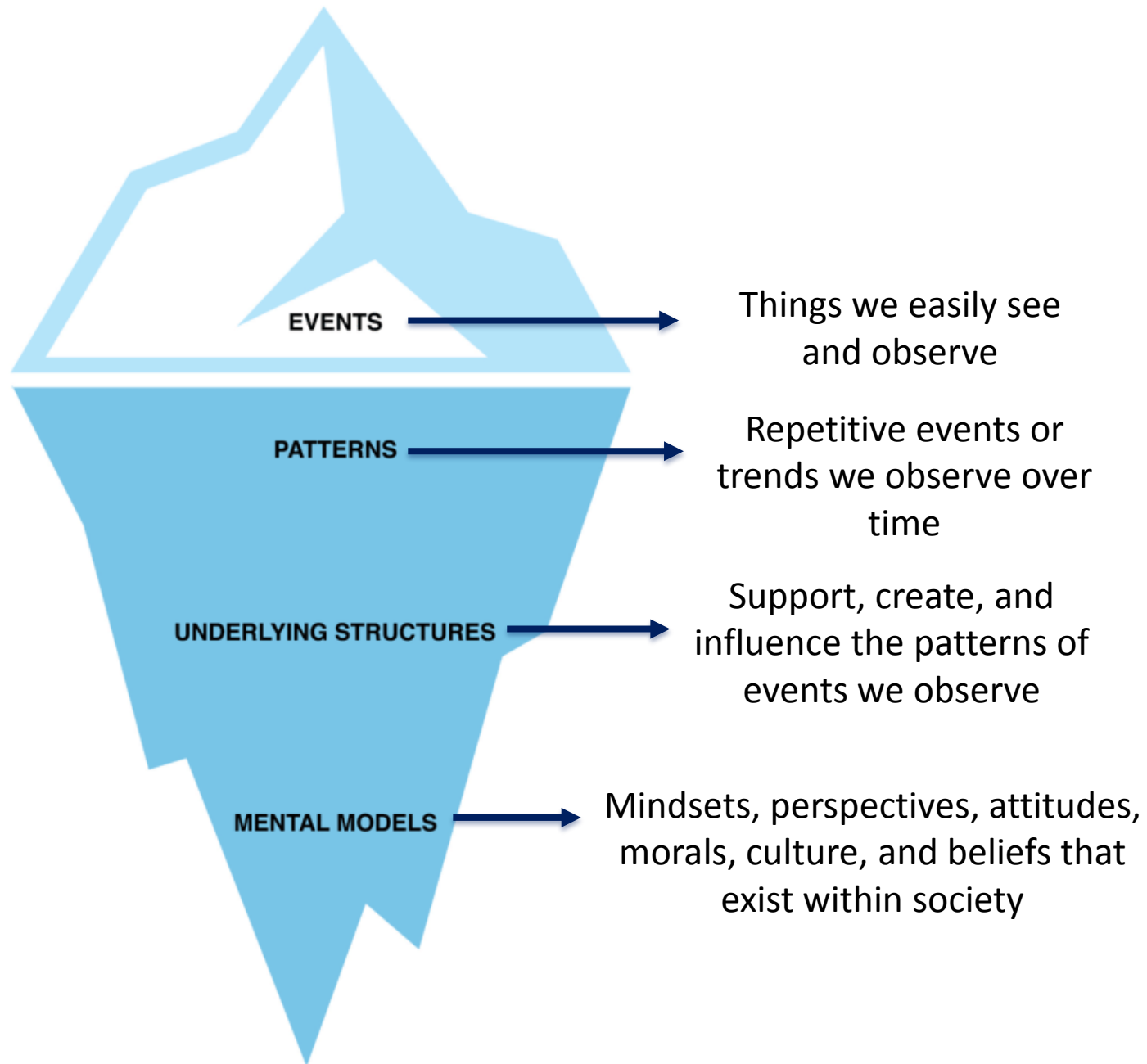
The Iceberg Model

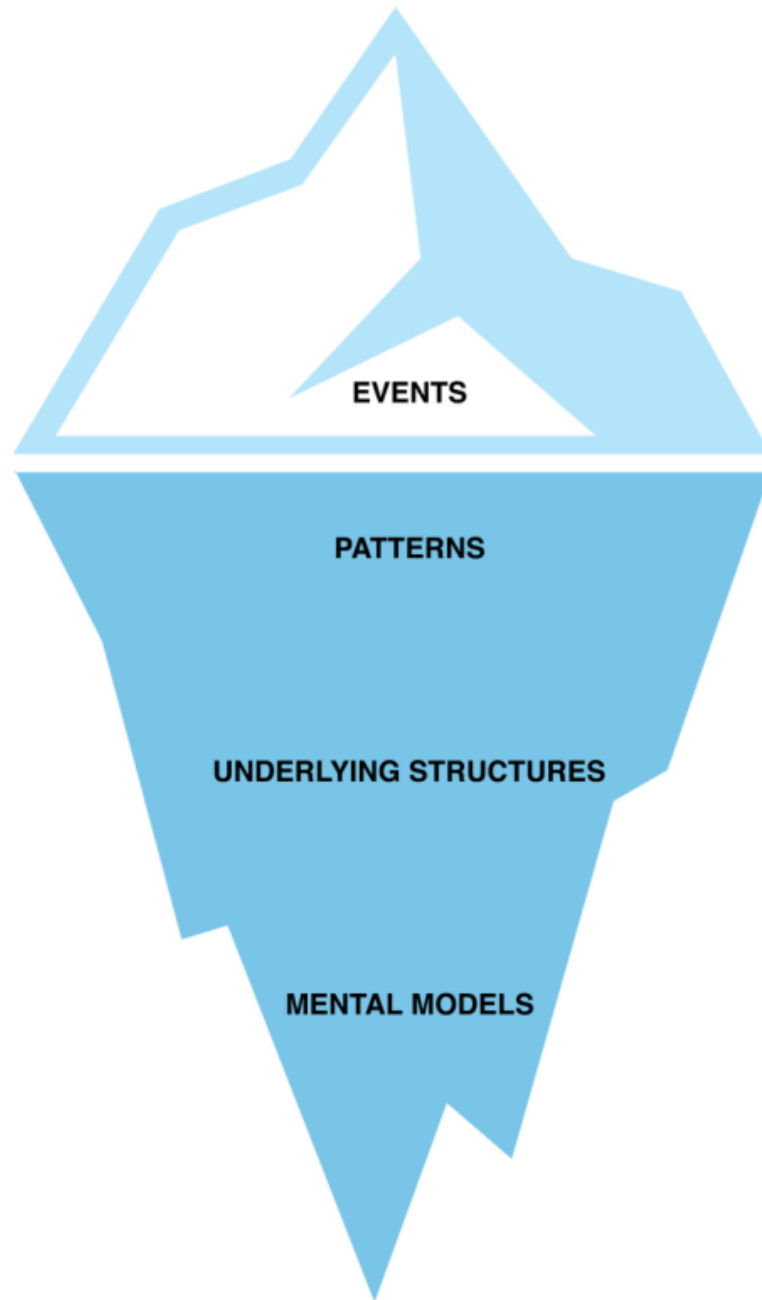












REACT

ANTICIPATE

DESIGN



TRANSFORM

Iceberg Model Resources

- For those interested in learning more, here are some resources on the Iceberg Model for Systems Thinking/Social Change:
 - <https://ecochallenge.org/iceberg-model/>
 - <https://systemsinnovation.io/iceberg-model/>
- It can be used as a facilitated activity, if you would like to learn more, please contact me and we can chat about it!

Dams and Streams



Types of Capacity

- **Financial capacity:** is defined as the ability of a community to access and generate funding, obtain adequate resources to maintain water supplies, use financial resources sustainably, and demonstrate financial flexibility.
- **Human resource capacity:** includes the ability of a community to have dedicated water management employees, to have or have access to individuals with the needed technical training, knowledge, and skills required to manage drinking water, provide education and training opportunities for staff, as well as access to individuals with the expertise needed to complete the technical assessments and activities required to implement source water protection plans.
- **Institutional capacity:** involves the ability of communities engaging in source water protection planning to create policies, legislation, by-laws, and strategies that provide guidance for protecting source water or that legally protect drinking water sources.
- **Social capacity:** involves leadership, partnerships, and communication. Social capacity is high if there are leaders who provide clear vision and direction, if partnerships exist between the various levels of government (vertical linkages) and between the community and other municipalities and organizations (horizontal linkages), and if community awareness and support has been developed through education, outreach, and involvement in water management decisions.
- **Technical capacity:** the technical capacity of a community to protect drinking water supplies relies upon the ability to access water data (quality, flow, geochemistry, etc.), monitor source waterbodies, delineate water supplies, inventory potential contaminants, and to develop management plans focused on protecting drinking water sources.

Barriers to SWPP Implementation

- **Financial** – lack of funding, specifically funding that First Nation communities can put towards source water protection planning implementation actions of their choice as well as dedicated funding for source water protection plan implementation.
- **Human Resources** – lack of dedicated staff to work on implementation of the plan, staff feel overwhelmed from “wearing many hats”, often lack staff with necessary technical backgrounds or the workload of technical staff is too high to accommodate source water protection plan implementation activities.
- **Institutional** – while First Nations often have high institutional capacity on-reserve, there is a lack of clear jurisdiction outside of reserve boundaries. Roles and responsibilities of various governments and agencies are not clear. The structure of policy, funding, regulations, etc. are often barriers to water protection.
- **Social** – lack of community engagement, inability to find dedicated people, lack of Chief and Council support for source water protection initiatives, a shortage of human resource capacity results in staff not having the time required to form and maintain partnerships to assist with source water protection plan implementation.
- **Technical** – lack of access to water information and data. The data is often time consuming to collect as it is spread out between various governments and agencies and is often hosted on government websites that are difficult to navigate. It is time consuming to compile data into formats that are useable to inform source water protection planning.

Community-Driven Solutions

- Hiring of an Implementation Coordinator
- Hiring of a Funding and Proposal Coordinator
- Dedicated funding for source water protection plan implementation
- Co-ordinate source water protection planning initiatives with other community projects and plans
- Strategies to build partnerships and increase collaboration
- Stronger cultural connections to water

“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?

For more information:

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