

Environmental Public Health Services
In First Nations communities

Services de santé environnementale et publique
dans les communautés des Premières Nations



Environmental Public Health Services – Safe Drinking Water Program Overview



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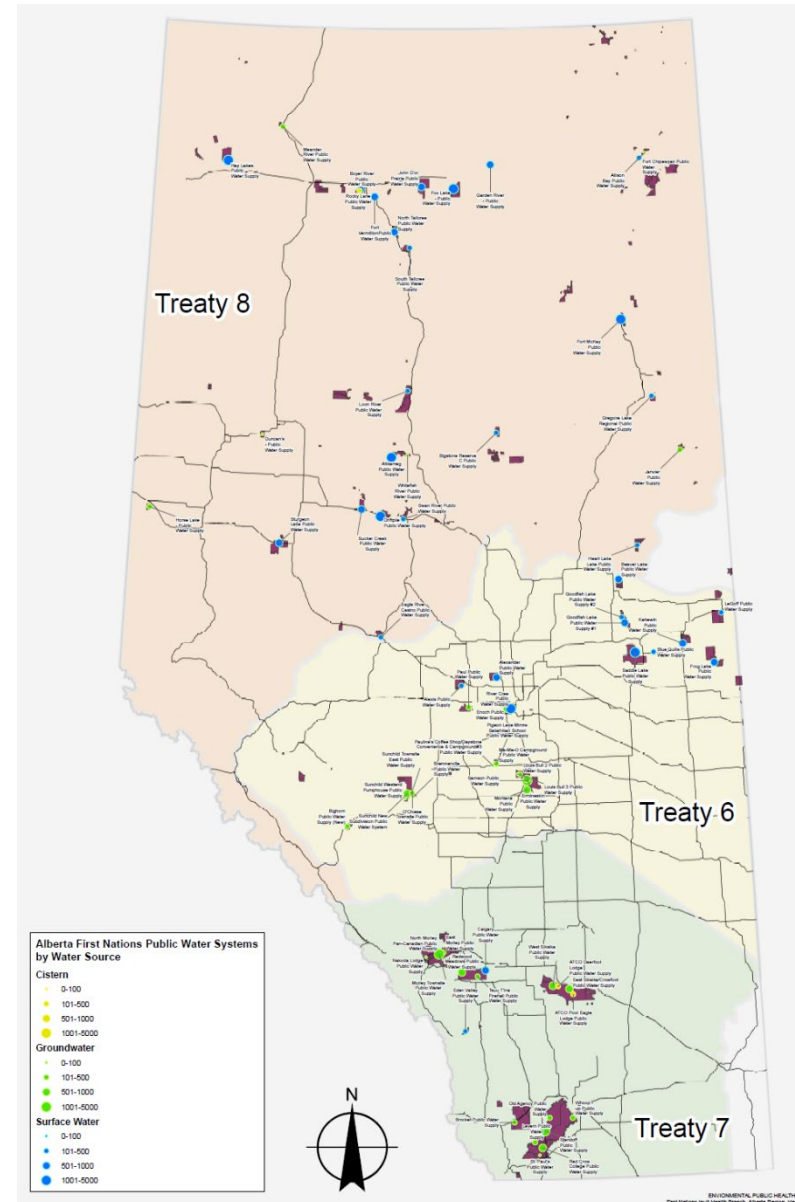
Presentation Outline

- Environmental Public Health Services (EPHS) Alberta Region
- Drinking Water Safety Program (DWSP)
 - Multi-barrier approach
 - Water System Classifications
 - Sampling
 - 2025/2026 Baseline Sampling (PFAs)
 - Alberta Region Drinking Water Advisory Picture
 - Regional Drinking Water Advisory Team



EPHS Alberta Region

- 48 First Nations
- 150+ Communities
- 3 Treaty Areas
- 1 Regional Manager
- 3 Senior EPHOs (Supervisors)
- 22 Field Environmental Public Health Officers
- 3 Admin. Staff
- 4 Technical Support Team staff
- Offices in Calgary (Tsuut'ina) & Edmonton (Canada Place)

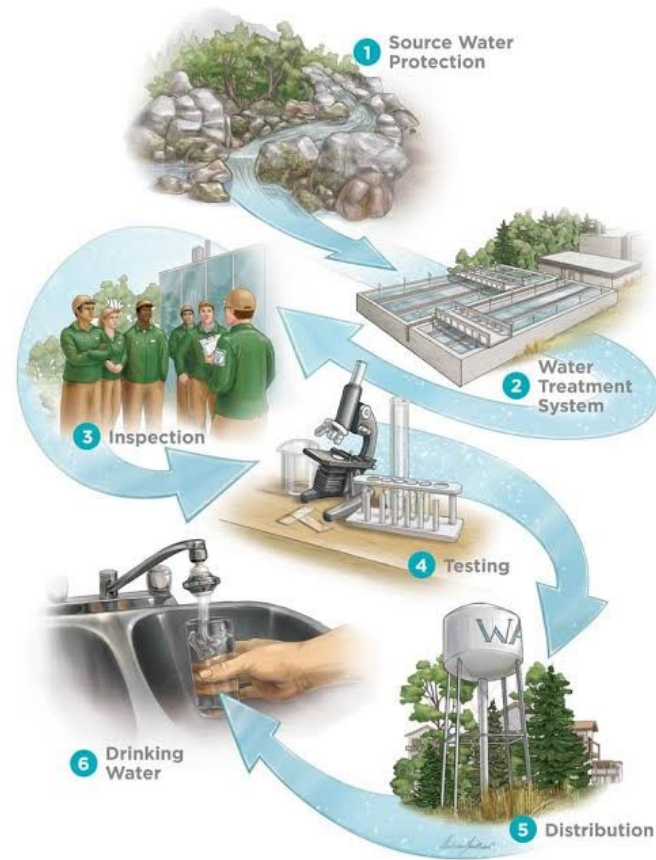


Drinking Water Safety Program

- EPHS' mandate is to implement and oversee a drinking water monitoring program in First Nation (FN) communities across Canada (the final barrier in the multi-barrier approach). This is in partnership with FNs and carried out by Community Health Representatives (CHR) and/or Community-Based Water Monitors (CBWM).



Drinking Water Safety Program – The Multi-Barrier Approach



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Drinking Water Safety Program – Systems Classifications

Public Water Systems (PWS): 72

Semi-Public Water Systems (SPWS): 45

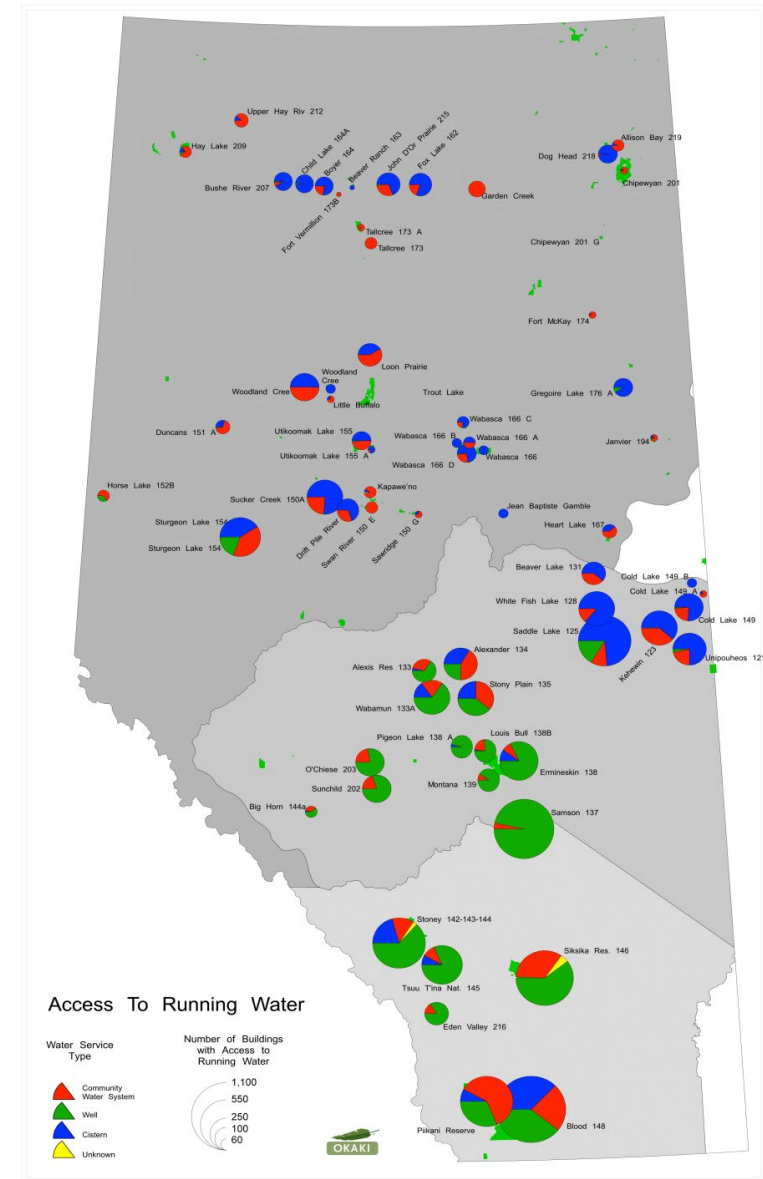
Bulk Water Haulers: 175

Private Water Systems (PrWS):

Wells: 3792

Cisterns: 5585

Total 9377



Drinking Water Safety Program - Sampling

- The purpose of the monitoring program is to ensure safety of the drinking water supply and to protect public health. Therefore, routine sampling must occur at the required levels:
 - Weekly sampling for microbiological and chlorine parameters of public water supplies at selected sites. Sites are selected in consultation between EPHS and the FN community.
 - Comprehensive chemical analysis also done on PWS, SPWS twice per year (quarterly for Disinfection By Products where required) from samples collected by EPHOs.



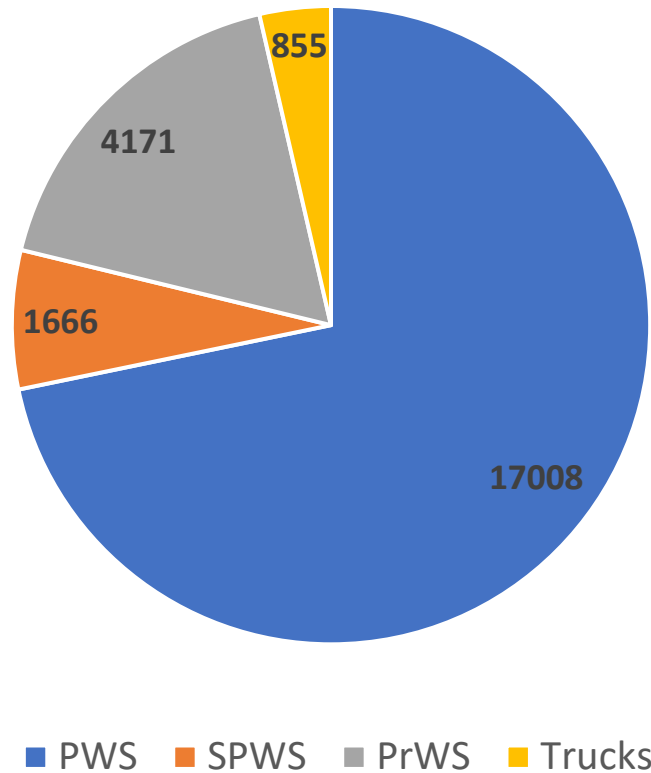
Drinking Water Safety Program – Sampling

- Roughly 22,000 – 30,000 samples per year are submitted for microbiological analysis in AB Region.
 - Microbiological sampling tests for the presence of indicator bacteria:
 - Total coliform
 - Escherichia coli (E.coli)
- CBWM regional sampling rate of 85% last year ranks as one of the highest in the country.



Drinking Water Safety Program in AB Region - Sampling

Number of Samples Analyzed for Bacteriological Parameters 2025/2026



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Drinking Water Safety Program – Unsatisfactory Microbiological Results and Water System Type 2025-2026

Water Supply Type	Total # of Samples Submitted	Total # of Samples that Tested Positive for Total Coliforms (%)	Total # of Samples that Tested Positive for <i>E.coli</i> (%)
Public	17008	149 (0.88%)	8 (0.05%)
Semi-Public	1666	45 (2.70%)	5 (0.30%)
Private Water - Cistern	2578	426 (16.52%)	24 (0.93%)
Private Water - Well	1593	319 (20.03%)	19 (1.19%)



Drinking Water Safety Program – Sampling

- Chemical Sampling Summary:
 - 306 sets collected from public water systems
 - Nearly 400 DBP samples also collected and analyzed
 - 39 sets collected from semi-public systems
 - 86 sets collected from private wells
- Additional (baseline) sampling 2025/2026
 - Per- and polyfluoroalkyl substances (PFAs) - New
 - Gross Alpha/Beta (return to baseline)
 - Pesticides (return to baseline)



Drinking Water Safety Program – Sampling PFAs

- Group of human-made chemicals around since the 1940s used as surfactants, lubricants and repellents for dirt, water and grease.
 - Found in fire fighting foams, food packaging materials, cosmetics, vehicles, electronics textiles and more.
- Now found everywhere in the environment, and don't break down easily - nicknamed "Forever Chemicals"
- In addition to drinking water, can also be exposed to PFAs in indoor/outdoor air, house dust and food.
- Potential health impacts to the liver, kidney and thyroid and affects to metabolism, immune/nervous/reproductive systems.



Drinking Water Safety Program – Sampling PFAs

- August 9th, 2024: Health Canada published the final version of the PFAs **objective** in drinking water
- 30 ng/L for the sum of 25 specific PFA substances detected in drinking water with an “As Low As Reasonably Achievable” (ALARA) statement.
- This is not a Maximum Allowable Concentration (MAC) and not a Health Based Value.
- Treatment technologies for public water systems include:
 - Granular Activated Carbon (GAC) adsorption
 - Membrane filtration (Reverse Osmosis (RO) and Nanofiltration (NF))
 - Anion Exchange Systems (AIX)



Drinking Water Safety Program – Baseline Sampling Results

- Gross Alpha/Beta and Pesticide Screens were similar to results found during original baseline sampling conducted in 2014. No exceedances or issues were identified during 2025-2026 sampling.
- No PFA samples exceeded the HC objective.



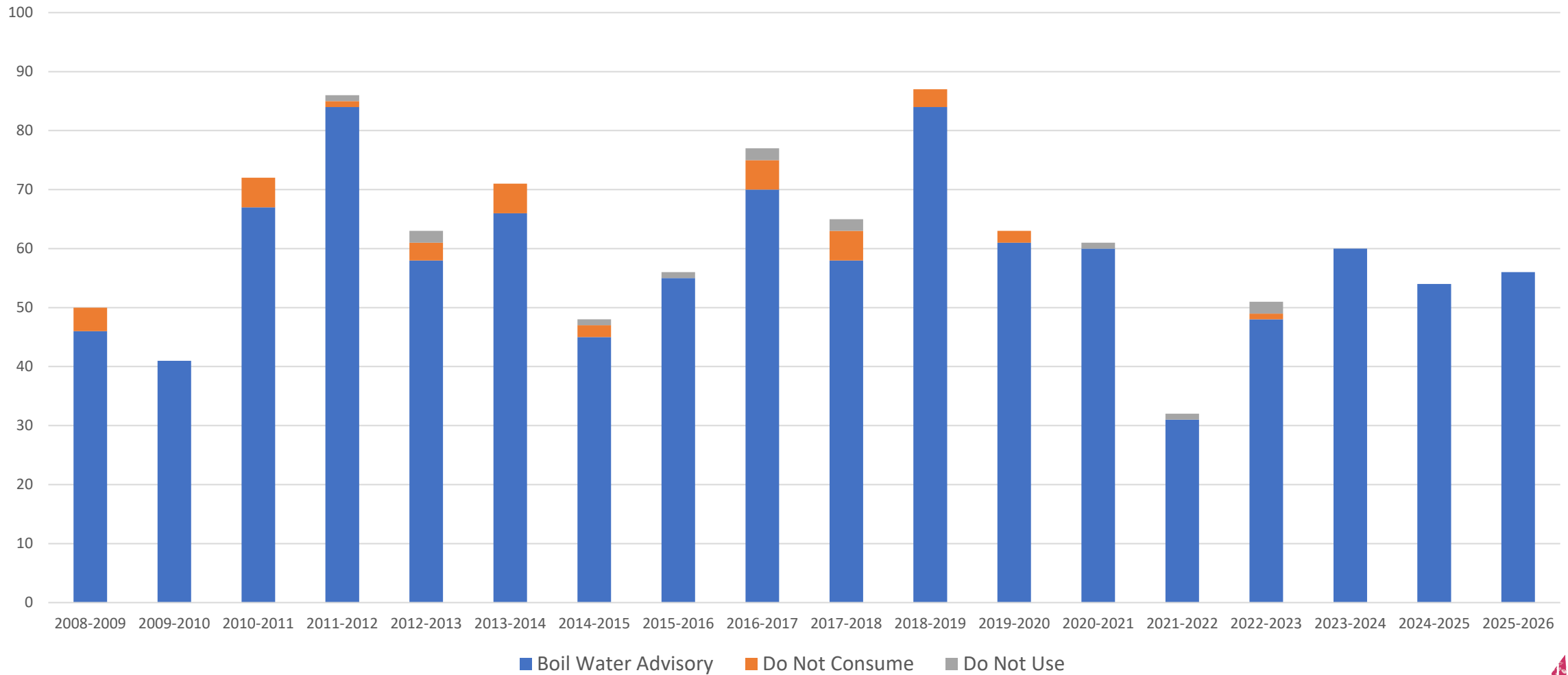
Types of Drinking Water Advisories

- Boil Water Advisory (BWA)
- Do Not Consume (DNC) Advisory
- Do Not Use (DNU) Advisory

- All public and semi-public advisories are tracked in a centralized database hosted by the Canadian Network for Public Health Intelligence (CNPHI)
 - Allows real time reporting for advisories
 - Instant notifications sent to key partners
 - Data source for populating national and regional reports on advisories
- All private water advisories are tracked internally



Drinking Water Advisory in Alberta First Nations Communities by Advisory Type (2008 – 2026)

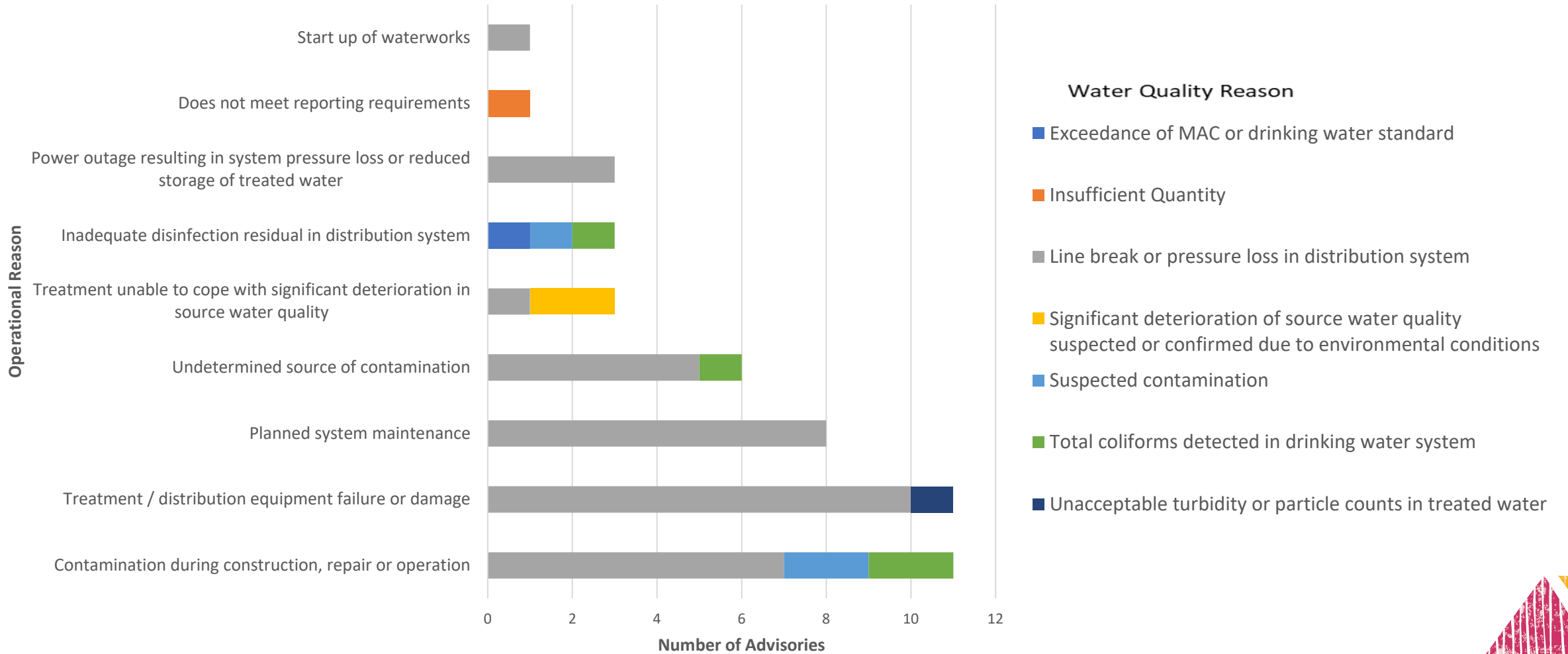


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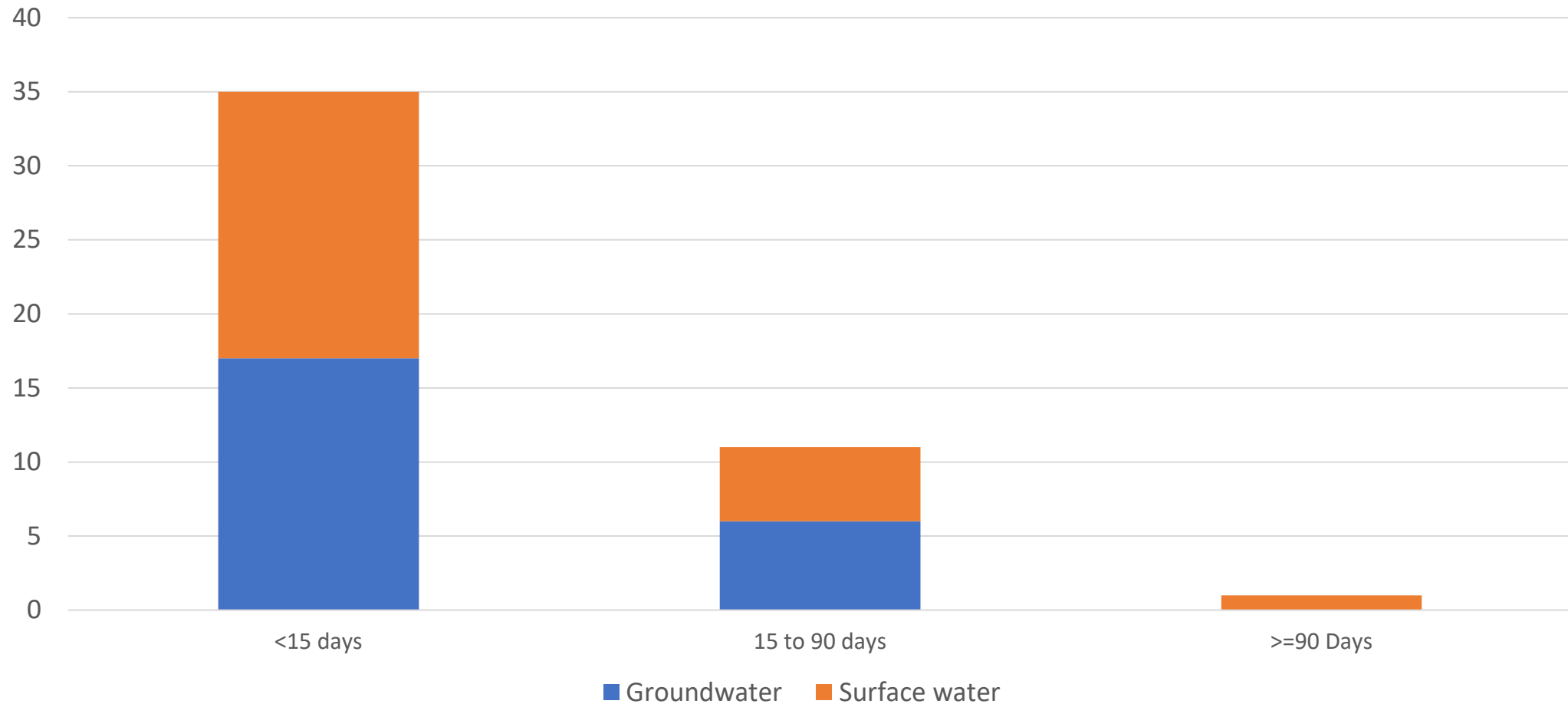
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Underlying Causes of Public Water Systems Drinking Water Advisories in First Nation Communities 2025-2026



Drinking Water Advisories on Public Water Systems in Alberta First Nation Communities, by Water Source and Duration of Advisory, 2025-2026



AB Regional DWA Team

- The regional DWA working group has been in place in 2007 as a way to bring stakeholders together on this common issue.
- Consists of representation from:
 - ISC Regional Operations (RO)
 - ISC First Nations & Inuit Health Branch (FNIHB)
 - TSAG Circuit Rider Training Program (CRTP)
- Meet weekly to discuss all DWAs in the region and collaborate towards potential solutions.
- Proactive and team based approach that has proven effective.



Contact Information

Simon Sihota – Regional Environmental Public Health Manager

Email: simon.sihota@sac-isc.gc.ca

780.717.8018

Geraldine Sawyer, Senior Environmental Public Health Officer

Email: Geraldine.sawyer@sac-isc.gc.ca

Kyle Wonsiak, Senior Environmental Public Health Officer

Email: kyle.wonsiak@sac-isc.gc.ca

Danny Thepsouvanh, Senior Environmental Public Health Officer

Email: Danny.thepsouvanh@sac-isc.gc.ca

24 Hour EPHO On-Call 780.719.8782



Discussion & Questions?



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