

<https://nextcity.org/features/flint-lansing-michigan-replaced-lead-water-pipes>

“We just asked ourselves what we’d hope someone would do for us,” Bernero says. “That’s how this country responds to crisis.”

<https://www.aptnnews.ca/national-news/tests-in-b-c-find-unsafe-lead-levels-in-water-of-35-first-nations-schools/>

“If Stein Valley Nlakapamux School were to discover lead in its water, it would be important to respond quickly. But a cumbersome process stands in the way.

The school wouldn’t be able to get funds from the same provincial annual facilities grant that non-First Nation schools can access. Instead it would have to apply to Indigenous Services Canada in a process that also looks at the needs of the entire community and is reviewed every three years.

It’s as if B.C. public schools were made to compete with municipalities for capital investments, explains Loring-Kuhang. And if you miss your funding opportunity, you have to wait three more years to re-apply.

“When you have competing needs in the community, it’s really difficult because you’re competing against each other.”

...

“The long-term solution, says Zachariah, is “First Nations control.”

The Atlantic First Nations Water Authority signed a framework agreement in June to transfer water and wastewater services to 15 First Nations in Atlantic Canada from Indigenous Services Canada.

Now the Southern Chiefs’ Organization is working on a proposal to create a First Nations water authority for their communities.

“Generations of neglect have got us into this situation,” says Zachariah. “It’s going to take generations of investment, generations of capacity building and generations of handing over the keys of the things that you took.”

Who is responsible for the infrastructure?

What are the outcomes and results?

How would we design an educational testing program?

How did this happen and what is the scope?

What laws govern lead control?

Who installed the infrastructure and maintains it?

Transparency in management?

Who provides information and investigates the current health of the communities?

How do we ensure that poisoned communities are heard? Not just now, but having a platform going forward

Brown water and boil water advisories; did they correspond to any health issues? What caused it directly?

Is there a long-term epidemiological impact?

Class action? Human rights? Discrimination?

Make resources more easily accessible by Indigenous communities

Class action - Community management fund controlled by Indigenous communities

Watershed quality and infrastructure

Anti-corrosion programs? Water treatment plants?

What costs would be placed on individuals to replace the lines?

Lansing - graceful method of replacing pipes

“Lansing has also sent mechanical crews east on I-69 to train their counterparts in Flint. It has shared its tool for efficient pipe replacement with Flint, and offers it to others: “We make them and provide them to any utility that wants one,” Serkaian says. And Bernero has spent many hours talking with Flint Mayor Karen Weaver, on the phone and in person, offering strategic advice to help her steer through what may be the toughest first 12 months that any American mayor has ever seen.”

Rebates and reimbursements for replacing own pipes?

Lead law or testing loopholes?

How much control do Indigenous communities have over their own water?

How would you structure a response to this situation? Inter-departmental and inter-community cooperation?

There’s already an existing network. Raise them up. Community and individual case-studies.

Water Champions:

Southern Chiefs’ Organization

The Council of Canadians

Carina Xue Luo

Open Record Laws

Lead in the current environment; regulation of lead entering the environment

How do you mitigate lead poisoning, when and if it is found?

<https://canadians.org/fn-water>

“July 2010 - In 2010, the United Nations declared water and sanitation human rights, acknowledging they are essential to the realization of all other rights.”

<https://firstnationsdrinkingwater.ca/index.php/about-us/>

2019 - “Neskantaga First Nation, Curve Lake First Nation and Tataskweyak Cree Nation with the help of law firms Olthuis Kler Townshend LLP (OKT) and McCarthy Tétrault LLP (McCarthy Tétrault) started national class action lawsuits to address drinking water advisories in their communities and other First Nations across Canada.

The lawsuits addressed Canada’s failure to take all reasonable steps to ensure that First Nations communities have adequate access to safe drinking water.”

<https://firstnationsdrinkingwater.ca/index.php/about-us/>

What has the First Nations Advisory Committee on Safe Drinking Water done or been constituted to do? Has it been created or are we still waiting on it?

<https://www.sac-isc.gc.ca/eng/1634585671512/1634585697784>

“Each eligible First Nation that accepts the settlement will receive \$500,000 plus half the amount paid to eligible individuals who ordinarily resided on that First Nation's reserve during a long-term drinking water advisory. Additionally, Canada will commit to make reasonable efforts to help ensure that eligible individuals have regular access to safe drinking water in their homes, and Canada will spend at least \$6 billion on water and wastewater infrastructure on reserves.”

<https://storymaps.arcgis.com/stories/52a5610cca604175b8fb35bccf165f96>

Who manages the water infrastructure when it’s not controlled by Indigenous Services Canada?

Communities with long-term boil water advisories not controlled by ISC:

Whispering Pines/Clinton (BC)

Skawahlook First Nation (BC)

Tsartlip (BC)

Ucluelet First Nation (BC)

Coldwater (BC)
Adams Lake (BC)
Dene Tha' (AB)
Sucker Creek (AB)
Stoney (AB)
Cumberland House Cree Nation (SK)
Kinookimaw (SK)
Zagime Anishinabek (SK)
Indian Island (NB)
Algonquins of Pikwakanagan First Nation (ON)
Zhiibaahaasing First Nation (ON)
Namaygoosisagagun (ON)
Aroland (ON)
Sandy Lake (ON)
Cat Lake (ON)
Slate Falls Nation (ON)
Ojibway Nation of Saugeen #1 (ON)

Communities with long-term boil water advisories controlled by ISC:

Lytton (BC)
Bridge River (BC)
Cayoose Creek (BC)
Lheidli T'enneh (BC)
Little Red River Cree Nation (AB)
Blood (AB)
English River Cree Nation (SK)
Ministikwan Lake Cree Nation (SK)
Pelican Lake (SK)
Montreal Lake (SK)
Little Pine (SK)
Okanese (SK)
Peter Ballantyne Cree Nation (SK)
Cowessess (SK)
Carry the Kettle (SK)
Peepeekisis Cree Nation No. 81 (SK)
Star Blanket Cree nation (SK)

Matthias Colomb (MN)
Tataskweyak Cree Nation (MN)
Shamattawa First Nation (MN)
Swan Lake (MN)
Mushuau Innu First Nation (NFL)
Chippewas of Nawash First Nation (ON)
Chippewas of Georgina Island (ON)
Mississaugas of Scugog Island First Nation (ON)
Mohawks of the Bay of Quinte (ON)
Oneida Nation of the Thames (ON)
Moose Cree First Nation (ON)
Sachigo Lake (ON)
Bearskin Lake #1 (ON)
Bearskin Lake #2 (ON)
Wapekeka (ON)
Wawakapewin (ON)
Nibinamik First Nation (ON)
Neskantaga First Nation (ON)
Eabametoong First Nation (ON)
Martin Falls (ON)
Ojibway Nation of Saugeen #2 (ON)
Mishkeegogamang #1 (ON)
Mishkeegogamang #2 (ON)
Wabaseemoong Independent Nations (ON)
Northwest Angle No. 33 (ON)
Animakee Wa Zhing #37 (ON)
Big Grassy (ON)
Anishinaabeg of Naongashiing (ON)
Wabigoon Lake Ojibway Nation (ON)
Lac Seul (ON)
Gull Bay (ON)
Muskrat Dam Lake
North Caribou Lake

“Note: The data used for this map consisted of 1) drinking water advisories in effect in First Nations south of 60 across Canada and reported by Indigenous Services Canada (ISC) as November 1, 2021; 2) drinking water advisories in

effect in First Nations communities in British Columbia reported by British Columbia's First Nations Health Authority as November 1, 2021 (excluding those classified as the "water quality advisories" to keep consistency with the ISC data).

Indigenous Services Canada collects data on long-term advisories that were issued on public water systems across the country, as well as on long-term advisories on private water systems and short-term advisories except for those issued in British Columbia and within the Saskatoon Tribal Council, as this data is managed by First Nations agencies or tribal councils. At the time of this study, the data on drinking water advisories from the Saskatoon Tribal Council were not available.

Most of these water advisories (73%) were on public systems (those serve 5 or more households and serve public facilities) that are funded by Indigenous Services Canada (ISC). There were still a considerable number of water advisories (n = 27) issued on private drinking water systems (e.g., wells and cisterns that serve individual households) which account for about one third of households on reserves yet do not receive government's funding (Auditor General of Canada, 2021)."

Health Canada and INAC developed and implemented **the First Nations Water Management Strategy**

2015 - The federal government committed to eliminating all long-term drinking water advisories on public water systems on First Nations reserves by 31 March 2021.

- The absence of a regulatory regime for safe drinking water in First Nations communities that ensures First Nations people to receive protections comparable with other Canadians (Auditor General of Canada, 2021)
- The deficiencies with First Nations water systems that had not been addressed by long-term solutions (Auditor General of Canada, 2021)
- Insufficient funding and ineffective allocation process for the operation and maintenance of First Nations water infrastructure (Auditor General of Canada, 2021)

- The limited engagement of First Nations in decision-making around resolving drinking water issues in their communities (David Suzuki Foundation, 2017)
- A lack of federal government support for private water and wastewater systems (Human Rights Watch, 2016)
- The degradation of source water (Human Rights Watch, 2016)
- A lack of consistent training and support for water operators (David Suzuki Foundation, 2017)

To Indigenous people, water is more than a commodity or a necessity for physical survival, rather, it has deep cultural and spiritual significance. From an indigenous worldview, water is considered to be the lifeblood of Mother Earth, a sacred gift from the Creator that connects all things, and a spiritual resource that must be respected, kept clean, and protected for the future generations of all life (Basdeo and Bharadwaj, 2013; Bradford et al., 2016).

It has been shown (data gap? Check HRW report) that although the most severe public health concerns like water-borne illness and related deaths were mostly avoided through issuing water advisories, the economic and social costs of drinking water problems among First Nations communities are considerable (Human Rights Watch, 2016) For example, the occurrence of a water advisory can cause businesses and services to close temporarily, which results in the subsequent loss of income. Recurring and lengthy advisories in a community may cause its residents to lose confidence in its drinking water quality, which could make them turn to unsafe alternative sources, such as untreated lake water, even after the advisory is eliminated (Auditor General of Canada, 2021). In addition, it has negatively impacted the culture life of First Nations people and contributed to the severe housing shortage on reserves (Human Rights Watch, 2016).

Case Study: The Mercury Poisoning in the Grassy Narrows and Wabaseemoong Communities

In addition, the health of Indigenous peoples overall remains poorer than that of non-Indigenous Canadians in terms of higher rates of infant mortality, suicides, chronic diseases and infectious diseases, especially for those residing on reserves in rural areas (Richmond and Cook, 2016). The life expectancy rates of Indigenous peoples in Canada are lower than that of non-Indigenous peoples in

Canada for both men (73 compared to 79) and women (78 compared to 83) (Public Health Agency of Canada, 2017).

Economic losses? Long-term health impacts? Testing capacity? Religious significance? Human rights implications? Resource availability and sovereignty to address problems? Accessible opportunities and resources under government funding models and land management? Government responsibility for differences in outcomes between water management strategies?

Statistically significant difference in length of boil water advisories?
Magnitude of people impacted?

How is ISP structured and run? Statutory framework?

How is ISP funding structured? Differences between Ontario and other provinces? Number of reserves in Ontario? How is funding in Ontario decided?

Number of Reserves in Ontario? ~210 Alberta? ~137 B.C.? ~319

NW#1 - All Provinces (Standard Deviation: 2388.65)

Non-ISC:

Average (Days): 1926.1

Range: 6-6962

Mode: 2722, 34, 6, 59

Median: ~560

37.5% above 1000

Standard Deviation: 2351.74635

ISC:

Average (Days): 2108.7

Range: 0-9770

Mode: 4757

Median: ~1002.5

50% above 1000

Standard Deviation: 2403.595033

NW#2 - Ontario

Non-ISC:

Average (Days): 2533.6

Range: 6-6962

Mode: 6

Median: 1606.5

ISC:

Average (Days): 2993.2

Range: 6-9770

Mode: 4757

Median: 2089

NW #3 - All Provinces Minus Ontario

Non-ISC:

Average (Days): 1561.6

Range: 13-6879

Mode: 34, 59, 2722

Median: ~323.5

ISC:

Average (Days): 765.7

Range: 0-5409

Mode: 35

Median: 123

NW#4 - Alberta

Non-ISC:

Average (Days): 54.3

Range: 13-96

Mode: 13, 54, 96

Median: 54

ISC:

Average (Days): 19

Range: 4-34

Mode: 4, 34

Median: ~19

NW #5 B.C.

Non-ISC:

Average (Days): 2225.7

Range: 195-5368

Mode: 195, 745, 923, 2722, 3401, 5368

Median: ~1822.5

ISC:

Average (Days): 909.8

Range: 35-3176

Mode: 35, 81, 347, 3176

Median: ~214

How do I map out pipelines in the city?

How do I map out rural pipeline infrastructure?

Who installs pipelines in Indigenous communities?

Infrastructure maps

<https://www.epcor.com/products-services/water/water-quality/Pages/replacing-lead-pipes.aspx>

<https://data.calgary.ca/Health-and-Safety/Public-Water-Service-Lines-map/h33q-z247>

http://www.pfra.ca/doc/Pipelines/Rural%20Water%20Pipeline%20Handbook_ALBERTA_LessCompleteAppendix_H.pdf

“Upon receiving a request to determine the feasibility of a rural pipeline project, PFRA will, subject to the availability of resources, undertake an office study using readily-available information such as 1:50,000 NTS maps, 1:20,000 digital provincial maps, surficial geological maps, etc.. Much of the work at the conceptual stage may be devoted to identifying an appropriate source of water for the project. This could involve a Phase I hydrogeologic investigation (an office study) and subsequent test drilling, if it appears as though groundwater is

the only viable possible source. Once a source is identified, a preliminary assessment of the treatment requirements, if any, should be made.”