FLETCHER CREEK IMPROVEMENT DISTRICT
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A meeting of the Trustees and Members of the Fletcher Creek Improvement District was held on March 22, 2022.

The meeting was called to exchange ideas, concerns, and information to enable informed decision making by the membership in choosing the direction to be taken by the Fletcher Creek Improvement District with respect to water treatment.

The meeting was kicked off with a short slide presentation. (The slide show is attached here for the information of the members that were unable to attend.) The membership voiced their ideas, concerns, opinions and positions as summarized in the attached Appendix.

The board will prepare a response for the comments from the membership where appropriate and helpful. But before we do that, we want to get it right. If you have any corrections or additions to the items listed in the Appendix please bring them to the attention of Donna Butt at 250 353-8985.

Fletcher Creek Improvement District

- Treatment Options –

Information Meeting - March 22, 2022

THE GIST OF IT:

1) **We have options.**
2) **We're working on it!**
3) **EVERYTHING IN THE PRESENTATION TODAY IS PRELIMINARY. The cost estimates for Central Treating and Pipelines are +/- 50%.**

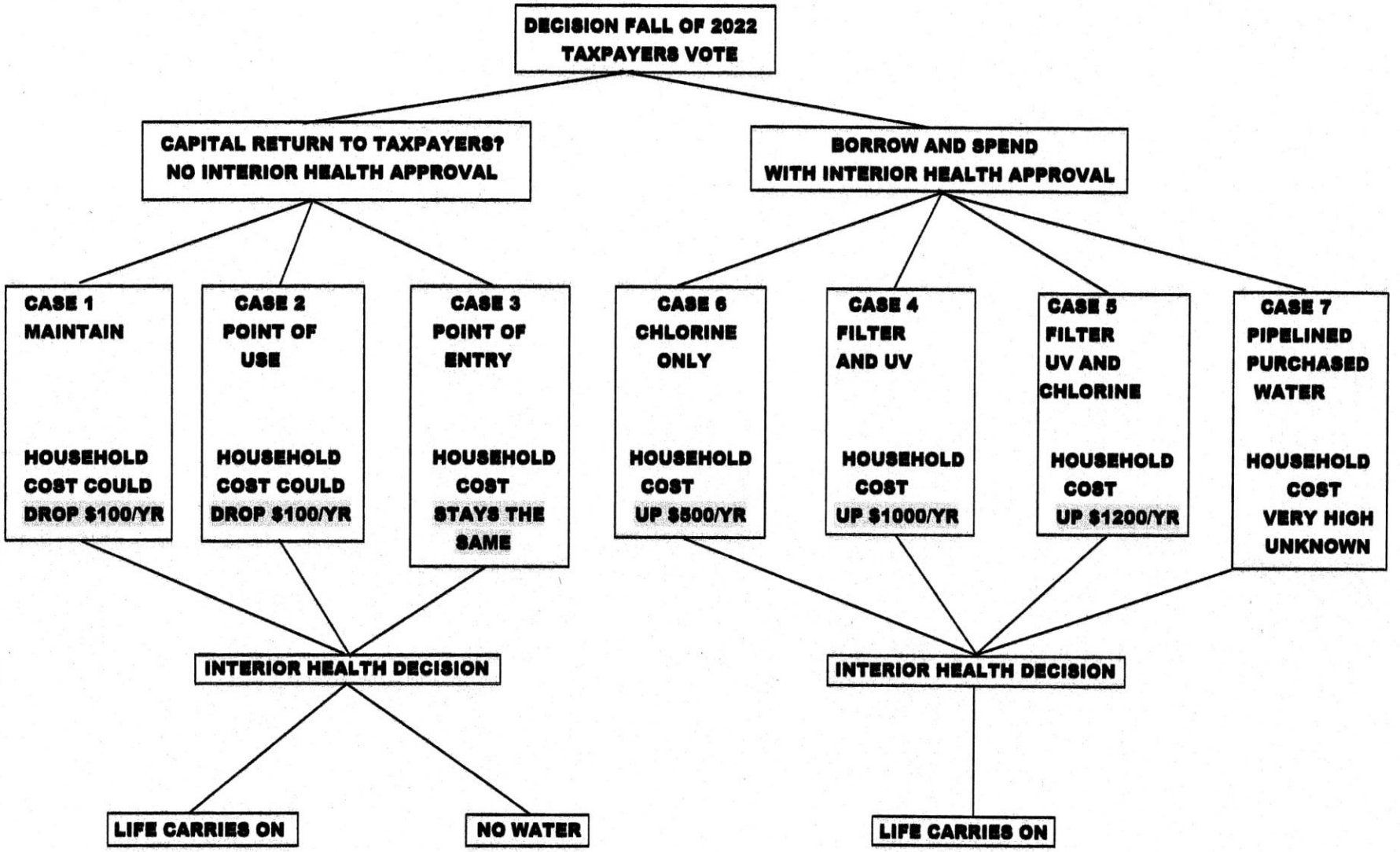
The Drinking Water Protection Act, article 6 states:

Subject to the regulations, a water supplier must provide, to the users served by its water supply system, drinking water from the water supply system that

(a)is potable water, and

(b)meets any additional requirements established by the regulations or by its operating permit.

A Ministry of Health publication states: A boil water notice is used in situations where the public health threat is significant and the nature of the threat is one that can be effectively addressed by boiling the water.


DECISION FALL OF 2022
TAXPAYERS VOTE
CAPITAL RETURN TO TAXPAYERS?
NO INTERIOR HEALTH APPROVAL
BORROW AND SPEND
WITH INTERIOR HEALTH APPROVAL
CASE 1
MAINTAIN
HOUSEHOLD
COST COULD
DROP $100/YR
CASE 2
POINT OF
USE
HOUSEHOLD
COST COULD
DROP $100/YR
CASE 3
POINT OF
ENTRY
HOUSEHOLD
COST
STAYS THE
SAME
CASE 6
CHLORINE
ONLY
HOUSEHOLD
COST
UP $500/YR
CASE 4
FILTER
AND UV
HOUSEHOLD
COST
UP $1000/YR
CASE 5
FILTER
UV AND
CHLORINE
HOUSEHOLD
COST
UP $1200/YR
CASE 7
PIPELINED
PURCHASED
WATER
HOUSEHOLD
COST
VERY HIGH
UNKNOWN
INTERIOR HEALTH DECISION
INTERIOR HEALTH DECISION
LIFE CARRIES ON
NO WATER
LIFE CARRIES ON

The Decision In Steps:

Step 1) Choose Either:

1.1) Maintain Current Operation with user's deciding how they make their water potable (boil, point of entry, buy bottled water, etc.)
Taxes don't go up! Taxes could drop! Household operating costs could drop[1].

1.2) Central Treating with Interior Health Making the decisions and taxes go up. The lowest cost option puts taxes at $1250/yr. The regulations require a certified operator which by itself contributes $730/yr to each connection! (Other contributing costs: current facilities, financing, incremental chlorine, power, pump maintenance)

Step 2) Choose a treating method. If you chose "Maintain" you can carry on with what you're doing and bank the potential savings in taxes[1]. If you chose "Central Treating" you can have a single barrier (chlorine or UltraViolet) or you can choose double barrier which is Interior Health's preference, and get ready for taxes to rise to $1730/yr.

Note 1: The taxpayers will decide if they want to continue banking excess revenue or reduce annual savings and by how much.

CASE 5: LIFT PUMPS, FILTERS, Ultraviolet & chlorination

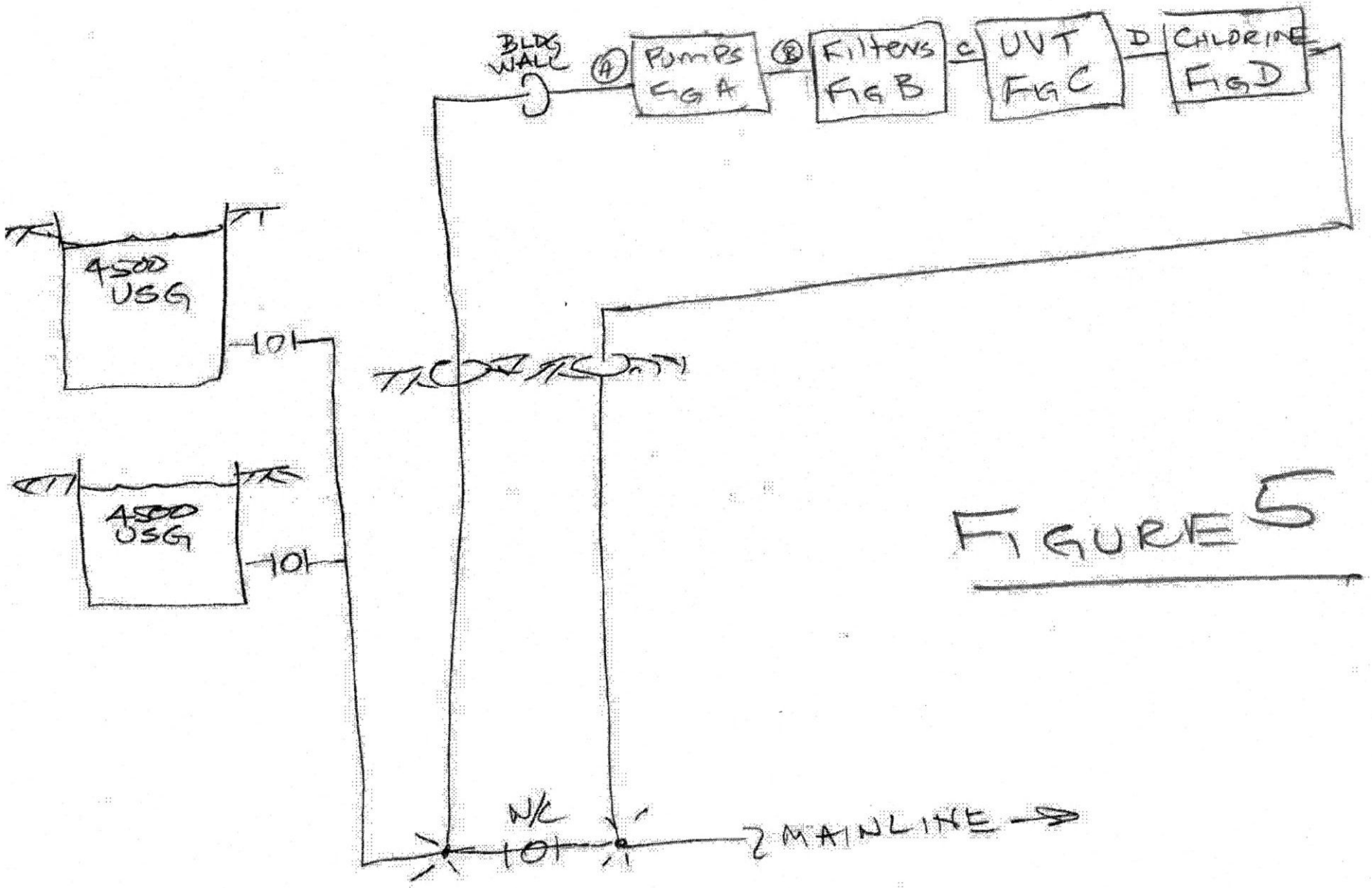


FIGURE 5

Pipeline From Kaslo - Class 5 Cost Estimate

pipeline cost $K/dia-mile			40	40	45
diameter	NPS		6	4	3
miles			4.6	4.6	4.6
		pipeline class 5 cost=	1,107,158	738,106	622,777
land			0	20	40
pump			0	25	75
power			0	3	6
building			0	10	20
opex		power	0	1	8
		pump	0	3	6
		sum	0	4	14
capitalized opex		at 6 x annual cost	0	24	84
		cost consideration>>>>	1,107,158	820,106	847,777
Mortgage cost per connection=			1,397	1,034	1,069

PLUS THE COST OF THE WATER

Why No Water Well Option?

- 20,000 gallons/day = three wells flowing 5 gallons/minute continuously
- Average 200 ft well at $70/ft is $14,000 per well or $52,000 for three wells. What if two are duds? Cost rises to $62,000 for well drilling (don't case the duds)
- Equip the wells: pump, electrify, land, controls, wellhead chlorine, plus 20000 gallon surface tank, charge pumps, and pressure tank totals $250,000
- Wells plus equipment capital cost is $312,000
- **We've got better options with less risk.**

Table 8: Qualitative Issues

Preliminary: 2022-03-22

CASE >>	1	2	3	4	5	6	7
	Maintain	POU	POE	CWT with filters and UVT	CWT with filters, UVT and Cl	CWT with Cl only	Purchased Water by Pipeline
can eliminate the WATER QUALITY ADVISORY	NO	NO	NO	NO	YES	NO	YES
CAN BE INSURED	NO	NO	NO	NO	NO	NO	NO
EFFECTIVENESS TO ALL POINTS OF USE	NO	NO	YES	YES	YES	YES	YES
FCID operating cost per connection per year	$300-$400/yr	$300-$400/yr	$300-$400/yr	$1250/yr (Note 1)	$1310/yr (Note 1)	$1130/yr (Note 1)	VERY HIGH TBD
Financing cost per connection (Note 2)	$0/yr	$0/yr	$0/yr	$360/yr	$420/yr	$120/yr	VERY HIGH TBD
Homeowner operating cost	$100/yr (electricity to boil)	$50/yr	$200/yr	$0/yr	$0/yr	$0/yr	$0/yr
Total Combined Operating Cost per connnection	$470/yr	$420/yr	$570/yr	$1610/yr	$1730/yr	$1250/yr (Note 3)	VERY HIGH TBD
confined to a single source	NO	NO	NO	YES	YES	YES	YES
EASE OF USE	NEED TO BOIL WATER	NEED TO BOIL WATER	OK TO DRINK	OK TO DRINK	OK TO DRINK	OK TO DRINK	OK TO DRINK
+/- 50% CAPITAL SPEND $K	0	0	100	250	290	90	TBA
CAPITAL FINANCED $K	0	0	0	235	275	75	TBA

Notes:

1) Annual operating cost as $15k existing facilities, $40k for operator, $3k pump, $1k power, $5k for filter media, $5k for UV bulbs, $3k for Chlorine sum distributed to 55 users.
2) Financing cost calculated with 15 yr amortization at 3.42% pa (RBC Mortgage Calculator 2022-02-24) shared by 55 users
3) For the cost of a single charcoal filter ($200) and annual operating cost of $140 the Cl could be removed at the entry point to the residence.
4) Confined to a single source means that the treatment option would require a larger capital investment if Fletcher Creek was not the water source. Central Treating would require more construction dollars than POU, or POE. The cost to change water source is the same for each of Cases 1, 2, and 3.
5) POE takes $100k from reserve leaving $100K for emergency repair and replacement. CWT takes $15K from reserve in an effort to leave more in reserve to reflect the increased repair and and replacement. More equipment equals more risk.

Comments? Questions?

Or just want to talk?

Email nkelly1955@gmail.com

Please be patient. I will get back to you. I expect the concerns of one are likely the concerns of many and will put together a response to suit.

No email! No problem! Drop your written comments, questions and conversation items in the mail box on the step at 4749 Twin Bays Rd.

Thanks for coming out. Your participation makes a better result.

Appendix - Questions and Comments DRAFT

Question: What types of pathogens/coliforms are present in Fletcher Creek's water tests to date, with reference to fecal coliforms?

Question: Why are there only two options on the decision tree for capital to be returned to tax payers? Why there isn't a third choice to maintain the reserves?

Question: How would a Point of Entry system be managed?

Question: Would Interior Health approve a Point of Entry system?

Question: Could Interior Health shut the water system down? Are there other consequences if FCID's water doesn't meet their standards?

Question: If the representative from Interior Health assigned to FCID's water system doesn't approve the water system, could FCID be assigned a different authority along with other options?

Comment: FCID's water hardness is right on the line of not meeting the standards for the U.V. bulb to work for 9,000 hours but this issue can easily be resolved by washing the U.V. bulb biannually. It was noted that Interior Health is being kept updated with FCID's progress on a monthly basis.

Comment: A member would like it noted that he thinks FCID's investments saved over the years should be kept for deferred maintenance and not for Central Water Treatment or any other expensive upgrade. He feels that the system is under-capitalized.

Question: Why has Case 2 been left in the Decision Tree (page 3 of the handout) if it is not considered viable.

Question: What are the specifics of Site 1 of the pilot study handout?

Question: Does the number of people on the water system and the overall water usage affect filter size?

Question: Has a hydrologist ever assessed the risk of Fletcher Creek running out of water or water being diverted due to a natural or human-caused disaster?

Question: Why is the option of drawing water from the lake not being considered?

Question: Why has the operation and set up of the emergency pump at the lake been surrounded by secrecy?

Question: What would be the cost of paying a maintenance person for a CWT system?

Question: Why is there no adjustment for inflation in any of the cost estimates?

Question: Why are footnotes 2, 4, &5 not specified in Table 8 of the handout?

Question: How does the analysis of lake water compare to the analysis of Fletcher Creek water?

Question: How much money should be kept in reserve for pipe repairs and maintenance?

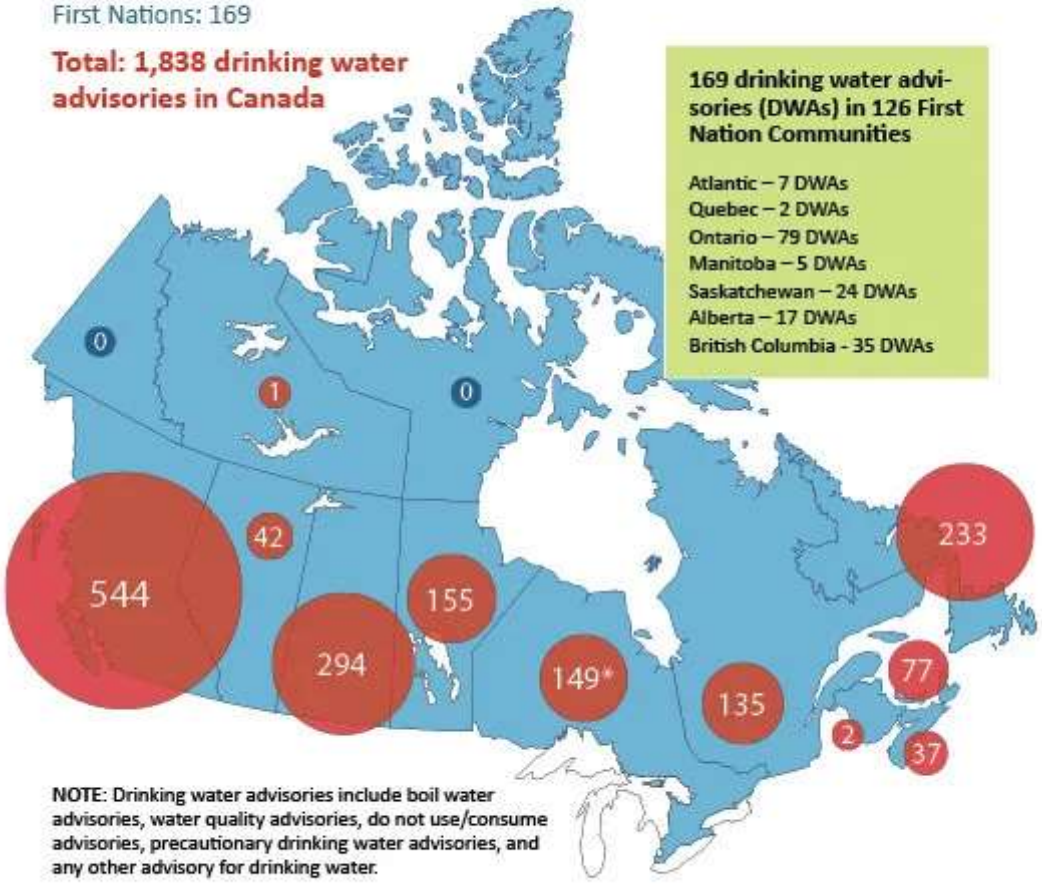
Comment: The system has worked well for 35 years but the amount in reserves compared to the number of users is low, especially when the rising property costs and assessments are factored in.

Drinking water advisories by jurisdiction

Provinces and territories: 1,669

First Nations: 169

Total: 1,838 drinking water advisories in Canada



169 drinking water advisories (DWAs) in 126 First Nation Communities

Atlantic – 7 DWAs
Quebec – 2 DWAs
Ontario – 79 DWAs
Manitoba – 5 DWAs
Saskatchewan – 24 DWAs
Alberta – 17 DWAs
British Columbia - 35 DWAs

NOTE: Drinking water advisories include boil water advisories, water quality advisories, do not use/consume advisories, precautionary drinking water advisories, and any other advisory for drinking water.

*Information for Ontario only includes Boil Water Advisories.