



SWS on long-term **boil** order:

suggestions to comply with provincial drinking water legislation

By Denny Ross-Smith, *Small Water Users Association of British Columbia*

Many small water systems throughout British Columbia, particularly those on a surface water source, have no effective or minimum treatment in place, and have chosen to remain on a boil order, often for many years. This situation may not be permitted to continue for much longer, and I would urge all small systems in this position to begin planning now to take the steps necessary to comply with the *Drinking Water Protection Act and Regulation*, as well as with other requirements of their Drinking Water Officer.

For very small systems, it is often difficult to know how to get started. We highly recommend that you discuss your current situation and your plans with your Drinking Water Officer. Most are very experienced, can offer practical advice,

and let you know their expectations. The following is a summary of some of the steps your water system might consider taking in order to get started. It is not intended to be complete. For more comprehensive guidance, we refer you to the *Small Water System Strategy Booklet* mentioned at the end of this article.

1. Utilize the 'Source-to-Tap Screening Tool,' available at www.hls.gov.bc.ca/protect/source.html or from your Drinking Water Officer, to assess the current state of your water system.
2. Inform all of the users on your system of the reasons why it is important to install a treatment system and to make other necessary improvements to the

system. (For example: risk of illness from untreated water, potential liability, possibility of fines, etc.)

3. Have a certified water test laboratory do a complete analysis of your raw water. A list of approved laboratories may be obtained from your Drinking Water Officer.
4. Discuss your current situation with your Drinking Water Officer and, if possible, your Public Health Engineer. Ask about their expectations regarding treatment and other related requirements and, if financing is a problem, whether or not they will consider approving construction permits for staged improvements.
5. Invite one or more qualified equipment vendors or engineering

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firms to prepare a proposal to provide a treatment system and the related improvements that will be required. The proposal should include a firm cost estimate. Both the British Columbia Water & Waste Association and the Small Water Users Association of BC can provide information on local vendors and engineering firms.

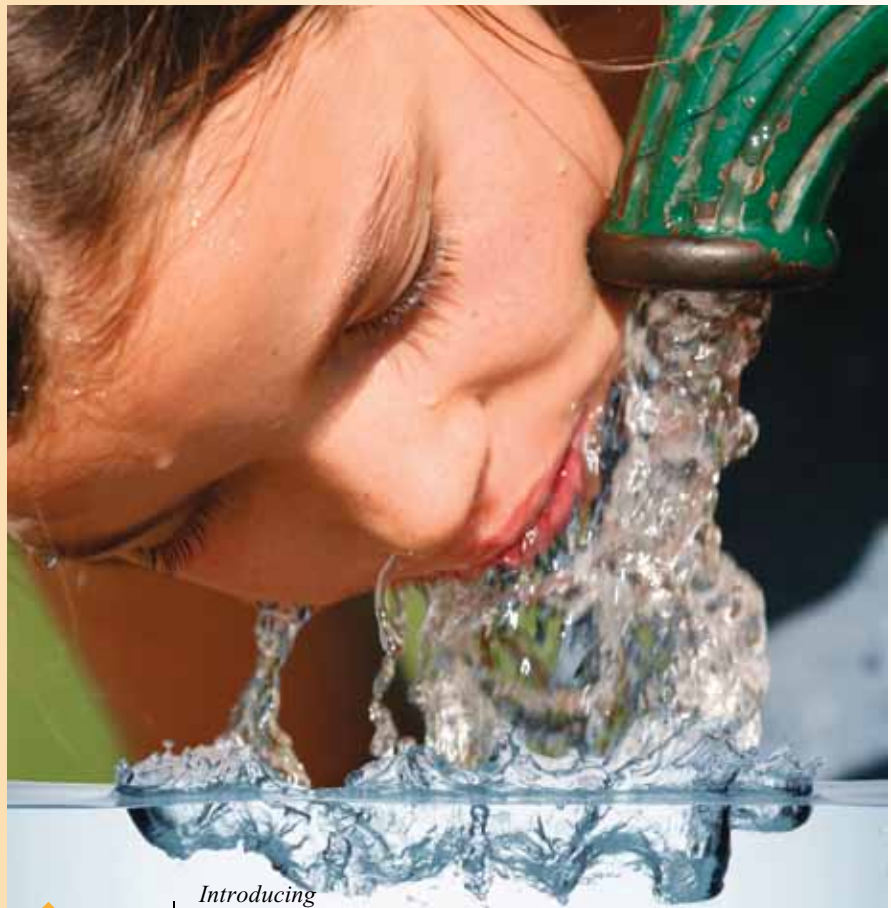
6. Consider applying for an infrastructure planning grant of up to \$10,000 to help pay for the proposal and cost estimate. Your Regional District or the Ministry of Community Development can provide information on the application process.
7. After you have selected a vendor or engineering firm, and are satisfied with their proposal, ask them to prepare a construction permit application and present it on your behalf to your Public Health Engineer for approval.
8. Determine how you are going to finance the required improvements, plus ongoing operations and maintenance. If necessary, propose an immediate increase in water fees sufficient to accrue the funds required to complete the project within a reasonable timeframe (e.g., 2-4 years).
9. Consider other possible sources of funding. For example, Improvement Districts may be able to arrange long-term debt financing through the Ministry of Community Development.
10. Negotiate acceptance of your proposed timeframe with your Drinking Water Officer.
11. If sufficient funds cannot be raised, consider the option of asking your Regional District to take over your system. Carefully consider the pros and cons: for example, while the Regional District is able to apply for an infrastructure grant for your water system, approval is not always guaranteed.
12. Ensure that you have at least one qualified operator. Your Drinking Water Officer can advise you as to the required level of operator training for your system.
13. Review the overall governance of your system, (e.g., record-keeping, legal structure, liability insurance, decision-making process, etc.), since

proper management will be even more important once an effective treatment is in place.

14. Discuss with your Drinking Water Officer other things that must be done in order to comply with the Drinking Water Protection Act and Regulation. (For example, water quality monitoring, preparation of an emergency response plan, annual reporting requirements, etc.)

For a much more comprehensive guide, Interior Health recently published a document entitled the *Small Water*

System Strategy Booklet. It is available on the website www.interiorhealth.ca by clicking on 'Health & Safety,' then on 'Drinking Water,' and finally on 'The Small Water System Strategy Booklet' (under 'Brochures'). For those without Internet access, Interior Health may be willing to mail you a copy. Most small systems will find this booklet an excellent source of information to help them plan to remove a boil order or simply to improve the overall operation of their system. 



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Turf wars: Kentucky Bluegrass versus peak demand

By Neal Klassen

This year, I ripped out my lawn and installed Synlawn. It is synthetic grass that looks like the real thing, but I do not have to water it, fertilize it, or mow it. Finally, I have the greenest lawn on the block.

The impact of *real* turf grass on Kelowna's water utility is significant. In 2008, peak day demand was 90,763 m³, while the average winter demand was around 30,000 m³. We estimate that close to 60,000 m³ – about 66% – of the water we pump in the summer months goes on the grass. (There is no agriculture or golf course connected to the city system). However, because peak demand is created by residential, multi-family, and the ICI sector, this is just a rough estimate.

Then we looked at data from residential water meters and found that water use in the winter months averaged 211 liters per capita, per day (lpcpd) in 2008; in July, it was 919 lpcpd. If we assume the difference between the two numbers is due to irrigation, 708 lpcpd – or 77% of the water used by residents in the summer months ends up on the lawn.

From a water supply perspective, Kentucky Bluegrass is not our friend. But people love it, and it is easy to see why. It is easy to plant and it grows fast. It cools the surrounding environment, and it provides areas for children to play. According to a newsletter from a local lawn care company, turf grass is a

“terrific ground cover with no equal.”

While it is natural for a lawn care company to promote lawns, some of its claims about the benefits of turf grass are a bit shaky. Among those claims:

1. Turf grass traps and removes pollution like carbon dioxide.

Comment: Turf grass also adds carbon dioxide to the atmosphere via gas-powered lawnmowers. The US EPA estimates that gas-powered mowers may contribute up to 5% of the nation's air pollution.

2. Turf grass acts like an organic filter, allowing ground water to recharge naturally.

Comment: Turf grass also contributes to urban runoff via inefficient irrigation systems. Drive through a Kelowna neighbourhood on a summer morning and you will see irrigation water streaming down the road, carrying fertilizer and pesticides into the storm sewer.

3. Turf grass improves water quality.

Comment: Turf grass also degrades water quality. See comment in point 2.

4. Turf grass decreases noxious pests and disease.

Comment: Turf grass, or any form of monoculture, increases the potential for noxious pests and disease, resulting in increased pesticide use.

5. Turf grass improves soil health.

Comment: Many lawn care products,

particularly high-nitrogen fertilizers, degrade soil health and excessive irrigation increases soil salinity.

For every argument the lawn-care industry makes about the benefits of turf grass, there is a counter argument. And we have not even considered the grass clippings filling our landfills and generating greenhouse gases as they decompose.

The problem is there are few viable alternatives to turf grass in suburban neighborhoods. In Kelowna, we have had mixed results experimenting with drought tolerant grasses and ground covers like woolly thyme. For all but a handful of dedicated gardeners, the word 'xeriscape' conjures up images of rocks and boring, brown plants. And not everyone is willing to put in a synthetic lawn like I did.

The solution, I believe, is more imaginative landscapes. Yes, we should have turf grass, just less of it. There is a place for rocks and mulch, but a landscape with nothing but rocks and mulch looks more like a moonscape. And partial xeriscaping, in a landscape that includes turf grass, rocks and mulch, is a great idea if the public can get beyond the perception that xeriscape means 'zero-scape.'

As for me, I will spend my summers relaxing on my Synlawn, watching my neighbors water and mow, water and mow, water and mow...💧