



## SMALL WATER USERS ASSOCIATION OF BRITISH COLUMBIA

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### INSIDE THIS ISSUE

	<u>PAGE</u>
Executive Director's Report	1
Upcoming Events	2
Small Water Systems Guidebook	2
Drinking Water Protection Regulation	3
UBCM Financial Best Management Practices	3
A Tip for Financial Reporting	4
Boil Water Notices	4
Longest Serving Member Award	4
Waterborne Disease Outbreaks	4
Challenges of Enforcing Drinking Water Legislation	5
Interior Health: Drinking Water Systems	6
Membership Survey: Results	7
New Affiliate Members	8
Items for Sale	8
2013 BCWWA SWS Symposium agenda	Appendix 1
Waterborne Illnesses and their Effects	Appendix 2

### EXECUTIVE DIRECTOR'S REPORT

This year marks the 10<sup>th</sup> anniversary of the Small Water Users Association of BC, which was incorporated as a non-profit association in June, 2003. Our Association continues to be dedicated to serving the interests of the small and micro water supply systems throughout the province (~ 1-300 connections).

This edition is our 14<sup>th</sup> newsletter. As you may have noticed, the content is not strictly 'news'; instead, we try to include a broad cross-section of information, news, and miscellaneous items that we think will be of interest to our members. Hopefully you will all find at least one or two items in each newsletter that are informative and relevant to the operation or management of your water system. Curiously (to me) we have never received any feedback from members regarding the newsletters, so if any of you would like to see a different format or have ideas for what should (or should not) be included please send us an email.

Since the publication of our last newsletter I have:

- Attended a Board of Directors meeting of Res'Eau WaterNet. The group of universities and private companies that comprise Res'Eau are in their 5<sup>th</sup> and final year of a federal

government funded \$5 million research program to develop 'robust, affordable treatment technologies for (small) water systems'.

- Served on a financial sub-committee of the Union of British Columbia Municipalities (UBCM) charged with overseeing the development of financial Best Management Practices for small water systems (see page 3).
- Attended the Canadian Water & Waste Association 15<sup>th</sup> Canadian Drinking Water Conference in Kelowna.
- Participated on the British Columbia Water & Waste Association (BCWWA) Small Water Systems Committee. In an effort to reach out to small systems BCWWA delivered a one day SWS mini-conference in Kamloops last October. Unfortunately very few (~5) small systems attended, since the course was an excellent one.

Denny Ross-Smith  
Executive Director

## UPCOMING EVENTS (2013)

British Columbia Water & Waste Association ([www.bcwwa.org](http://www.bcwwa.org)):

- Small Water Systems Symposium, April 21, Kelowna (see Appendix 1)
- Source Water Protection Course:
  - April, Squamish
  - May, Vancouver, Cranbrook & Smithers
  - June, Salmon Arm

Coastal Water Suppliers Association ([www.cwsa.net](http://www.cwsa.net))

- 2013 AGM, Conference & Trade Show, May 23-25, Parksville

MTS Maintenance Training Services ([www.mtsinc.ca](http://www.mtsinc.ca))

- Various courses at its training facility in Vernon, including quite a few specific to small water systems.

## SMALL WATER SYSTEM GUIDEBOOK

Once again there is very little to report regarding the ongoing saga of the long promised "Small Drinking Water System Guidebook", which you may recall was contracted for by the Ministry of Health back in early 2011. Sources within the Ministry tell us that the guidebook is still under review. When I worked for the Alberta government many years ago, 'under review' meant they had lost the file. 'Under active review' meant they were looking for it.

## DRINKING WATER PROTECTION REGULATION

On March 19, 2013 section 3.1 of the Drinking Water Protection Regulation was repealed and replaced with the following:

**Exemptions:**

3.1 *The following are exempt from section 6 of the Act:*

*(a) a small system, if*

- (i) each recipient of the water from the small system has a point of entry or point of use treatment system that makes the water potable, and*
- (ii) the water supplier ensures that the location of non-potable water discharge and non-potable water piping are identified by markings that are permanent, distinct and easily recognized;*

*(b) a water supply system, including a small system, if*

- (i) the system does not provide water for human consumption or food preparation purposes,*
- (ii) the system is not connected to a water supply system that provides water for human consumption or food preparation purposes, and*
- (iii) the water supplier ensures that the location of non-potable water discharge and non-potable water piping are identified by markings that are permanent, distinct and easily recognized.*

The Ministry of Health is still considering other possible changes to the Drinking Water Protection Act/Regulation that, if enacted, would affect how micro systems are to be regulated. You will be advised as soon as we have more information.

## UBCM – FINANCIAL BEST MANAGEMENT PRACTICES

The Union of British Columbia Municipalities (UBCM), with government funding, commissioned the preparation of a series of six financial best management practices (BMPs) for small water systems. The BMPs provide guidance on how to:

- Create a basic asset inventory
- Build an asset management plan
- Create a five-year operating plan
- Establish a long term financial plan
- Determine sustainable water rates and charges
- Develop a communications plan

Many, if not most, small systems either do no long range financial planning, or else do it in a very casual manner. As a result when major assets suddenly fail and have to be replaced, they have insufficient funds set aside to cover the unexpected costs. These BMPs will provide a fairly simple framework for you to:

1. Develop water rates that reflect the true cost of service and justify these rates to your users
2. Budget for future infrastructure replacements and upgrades

The final versions of these financial BMPs will be available soon on various Internet sites as well as in hard copy and/or by dvd. A simplified version for very small (micro) systems may also be forthcoming. While some time and effort will be required to undertake the financial planning involved, the result will help you to better manage your water system and plan for the future.

## A TIP FOR FINANCIAL REPORTING

Small water systems may have to provide annual financial statements to the government, financial institutions and/or their users. Improvement Districts, for example, are required by the Local Government Act to provide annual audited financial statements. This can be very expensive for smaller IDs with limited budgets. Two other methods of financial reporting are:

1. A Review Engagement Report, which is considerably less expensive, and may sometimes be accepted in lieu of audited statements, and,
2. A Notice to Reader, which is the least expensive but might sometimes be an acceptable method of reporting for very small (micro) systems.

## BOIL WATER NOTICES

The total number of reported boil water notices (525) and water quality advisories (70) in British Columbia in February has declined slightly from our last report, indicating some progress by the Health Authorities in their efforts to meet the Ombudman's directions. This is hardly a cause for celebration however, as many small systems with no treatment or ineffective treatment are unknown to the health inspectors. Should they be located and inspected there would undoubtedly be a sizeable increase in the number of boil water notices.

The province of Ontario continues to lead the nation with the most boil water notices. First Nations water systems on boil advisories continue to get the most attention from the press, even though the total number across Canada (approximately 168) is far less than the number of (non First Nation) advisories in B.C. alone.

## LONGEST SERVING MEMBER AWARD

On our 10<sup>th</sup> anniversary, the Small Water Users Association of British Columbia would like to recognize two water systems that have maintained their membership status since our inception. They are:

1. Bourke Creek Improvement District
2. Eagle Creek Water Users Community

As a token of our appreciation, both of these members will receive a personal letter of thanks and we will waive their membership fee for the 2013/14 year.

## WATERBORNE DISEASE OUTBREAKS

Many, if not most, outbreaks of waterborne diseases in small systems go undetected. This may lead people on small systems to question the need to pay for adequate or additional treatment, believing their drinking water to be safe. However we can look at reported outbreaks

in large systems as an indicator of what can go wrong, and the possible consequences. Here are some fairly recent examples:

YEAR	LOCATION	PATHOGEN	CONSEQUENCE
1989	Cabool, Missouri	E.Coli 0157:H7	243 confirmed cases, 4 deaths
1993	Gideon, Missouri	Salmonella	850 cases, 7 deaths
1999	Washington County, New York	E.Coli 0157:H7	3,000 cases, 2 deaths
2000	Walkerton, Ontario	E.Coli 0157:H7	4,800 cases, 7 deaths
2001	North Battleford, Saskatchewan	Cryptosporidium	5,800-7,000 cases
2004	Bergen, Norway	Giardia	4,000-6,000 cases
2007	Nokia, Finland	Mixed pathogens	6,500 cases
2008	Alamosa, Colorado	Salmonella	422 reported illnesses
2009	Swedish village	Norovirus	200 cases

Appendix 2 contains a table of various waterborne illnesses and their effects, including both acute effects and chronic/ultimate effects. Anyone seeking more information on waterborne illnesses, particularly with reference to their own water system should contact their Drinking Water Officer.

## CHALLENGES OF ENFORCING DRINKING WATER LEGISLATION

Dave Tamblyn, the Public Health Engineer for Northern Health, gave a presentation at last year's CWWA conference in Kelowna. The topic was 'Risk Triggers for Infection', however part of his talk addressed the challenges a drinking water officer faces when attempting to regulate a small water system. We have taken the liberty of reproducing the text from several of his PowerPoint slides in order to show how things sometimes appear from the 'other side':

### THE SCENARIO:

- You are a DWO (Drinking Water Officer) charged with regulating a small water system. The source is a well in a confined aquifer, and has always tested clean. However, in the last 12 months, there have been 2 detections of coliforms in the distribution system. What action(s) should you take?

1. Ask the operator if they know what is happening. → “No.”
2. Invoke a “boil water notice”.
3. Ask the operator what they plan to do to correct the problem. →”Dunno. ....Isn’t that your job?”.
4. Consult the law: → coliforms definitely not allowed, but no mention of what to do.
5. Consult internal decision support tools: Progressive enforcement: Discuss→Request→Order→Fine→Prosecute.
6. Consult the BC Drinking Water Officers’ Guide (2007):
  - *The DWO should consider whether, and at what levels, disinfectant residuals are to be present in the distribution system, In making this decision, the DWO may wish to consider the particulars of the system, Canadian and B.C. best practice documents and requirements by other Canadian and international regulators.*  
→ *i.e wide discretion, a.k.a. ‘carte blanche’.*
  - Think it through!

What Mr. Tamblyn seems to be saying is that the ‘rules’ for enforcement of the drinking water legislation are by no means clear cut, and much is left to the discretion of the DWO. The legislation (Drinking Water Protection Act & Regulation) requires the supply of potable water (defined somewhat inadequately as ‘safe to drink and fit for domestic purposes without further treatment’). It further stipulates limits for fecal coliform and total coliform bacteria, as well as *Escherichia coli*, but does not stipulate what is to be done if these limits are exceeded. This allows for a lot of flexibility in enforcement which, if combined with good common sense plus experience on the part of the DWO, is a reasonable approach to take. However it can also lead to widely differing interpretations and sometimes to uneven enforcement.

Our reason for reproducing Mr. Tamblyn’s ‘scenario’ is simply to show that it is not always easy for your DWO to know what to do, and that there will almost always be room for some negotiation in order to arrive at a solution that is acceptable to both parties.

## INTERIOR HEALTH DRINKING WATER SYSTEMS

Those of our members within IHA’s jurisdiction might be interested in knowing about the number and types of small water systems that IHA has responsibility for. As of late 2012 they recognized\* 1,762 water systems, including 534 residential systems and 1,228 private systems. Of these, 511 have between 15-300 connections while 1,251 have fewer than 15 connections. The breakdown by system type and number of boil advisories was as follows:

\* 'Recognized' means systems they know about – in actuality there are many more small systems that the health inspectors suspect are 'out there', but they do not have the time and resources to find them to regulate.

SYSTEM TYPE	NUMBER	# ON A BOIL ADVISORY
Regional District systems	91	23
Utilities	92	13
Improvement Districts	95	35
Water Users Communities	46	35
Stratas	73	23
Joint systems	48	27
Water societies	120	27
Private systems	1021	188
Government systems	132	26
School Districts	<u>44</u>	<u>5</u>
	1762	402 (23%)

## MEMBERSHIP SURVEY RESULTS

We would like to thank the 46 members who took the time to complete our recent survey. You were asked to rate each topic in the table in order of importance to your water system, e.g. is it a current or anticipated future concern? Is it one that you would like to receive more training or information on? The topics that were of highest overall interest were:

1. Risk management: emergency response plans, liability issues, liability insurance, safety program.
2. Disinfection: chlorination, UV, ozonation, advantages, limitations.
3. Water sampling: proper sampling procedures, do's & don't's; meaning of sample test results, costs.
4. Government legislation & regulations: Drinking Water Protection Act & Regulation; groundwater regulations, etc.
5. Source water protection: contaminants, risks, contingency plan, determining source water protection area.
6. Waterborne diseases: pathogens, risks, consequences.

The ones of lowest overall interest were:

1. Consultant selection: request for proposal, costs, experience.
2. Administration: record-keeping, governance, water fee collection.
3. Cross connection control & backflow prevention.
4. Supervisory control & data acquisition (SCADA) for monitoring small systems: advantages, costs.
5. Disinfection byproducts (DBPs) & trihalomethane (THM).
6. Pumps: types, maintenance, operational & replacement costs.

## NEW AFFILIATE MEMBERS

Our affiliate members include equipment vendors, consulting engineering firms, water test laboratories and reservoir cleaning firms. We appreciate their support for our Association. Each affiliate member has a listing on our website with information about their products or services and we encourage you to take a look at what they have to offer you. You are also welcome to give us a call if you are looking for a particular product or service, since we can usually direct you to the appropriate affiliate member(s) or other companies.

We would like to welcome the following new affiliate members to our Association:

EDS Pumps & Water Treatment Ltd.	Surrey
Oasis Filter International Ltd.	Calgary
Kalwij Water Dynamics Inc.	Port Coquitlam

## ITEMS FOR SALE

The Belcarra Water Users Society still has a number of items to sell at attractive prices, including submersible pumps, timer mechanisms, concrete meter boxes c/w steel covers,  $\frac{3}{4}$  & 1 inch Invensys meters, an Invensys remote meter reader, 6 inch cast iron valve boxes c/w covers, test kits, a hydrant wrench, a 4 ft curb stop key (wrench), a 45,000 litre (2.8 m. diam. X 8.4 m. long) aluminum storage tank, an assortment of various brass and other fittings and a 4<sup>th</sup> edition of the Small Water System Operation & Maintenance field study training manual prepared by California State University.

Anyone with an interest in acquiring any of these items should contact Don Reid at 604-939-2339, or by email to [djwreid@shaw.ca](mailto:djwreid@shaw.ca).

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*"Bottled water costs about 2,000 times more than tap water. Can you imagine paying 2,000 times the price of anything else? How about a \$10,000 sandwich?"*

-Annie Leonard

*"At the Olympics in China every color was represented... and that was just the drinking water."*

-Evan Sayat

APPENDIX 1

APPENDIX 2