

Union of BC Municipalities Small Water System Working Group
Recommendations for
Addressing Key Small Water Systems Challenges
August 2013

Background

Everyone in British Columbia deserves access to an adequate, reliable and safe supply of clean drinking water. Provincial legislation including the *Drinking Water Protection Act*, *Water Act*, *Water Utility Act*, *Local Government Act* and *Strata Property Act* provide the regulatory framework for the establishment, construction and operation of Small Water Systems (SWS). Under this regulatory framework, water suppliers have the responsibility to deliver water services including potable water to their users.

While large water systems supply most of the BC population with treated drinking water, there are over four thousand known SWS providing water to a much smaller percentage of the population. Due largely to a lack of economies of scale, SWS owners are challenged in meeting obligations to their water users. These challenges include financing, provision of potable drinking water, inadequate infrastructure, governance, management capacity and staffing.

In response to resolutions made by local governments regarding SWS challenges, the Union of BC Municipalities (UBCM) Small Water System Working Group formed to develop recommendations for government for the creation of a new approach to address the sustainability of SWS.

The UBCM SWS committee of local government representatives present to the provincial and local governments three key SWS challenges along with proposed recommendations and options for a new approach to regulating SWS that encourages their sustainability. These recommendations include redefining SWS and identifying what is needed to ensure sustainable systems in the future.

Challenge: #1: Different sizes and types of systems face different challenges

The UBCM SWS Working Group recommended taking a risk and cost management approach to address SWS challenges, where the degree of regulatory oversight and expenditures are commensurate with the health risk. The committee has also recommended that any changes should be part of a well thought-out process so that they do not inadvertently make the SWS situation worse by furthering the proliferation of unsustainable SWS or by increasing the risk of human illness.

The *Drinking Water Protection Act (DWPA)* defines a water supply system as a domestic water system serving anything other than a “single-family residence”.

Local governments, UBCM, Health Authorities, and some BC residents have expressed concern that in relation to SWS the existing provisions under the *DWPA* create an unreasonable expense to homeowners and impractical demands on health authority resources.

Proposed Recommendation For Challenge #1: Create new water system definitions according to size and specify the regulatory requirements for each.

The UBCM Small Water Systems Working Group recommends that the Ministry of Health define specific classes of SWS according to size, and exempt some from selected regulatory requirements under the *DWPA*. The proposed options for new categories of systems are:

- Nano System (ns)(2-4 domestic connections)
- Micro System (ms)(5-24 domestic connections)
- Small Water System(sws) (25-124 domestic connections)
- Water System (ws) (125 or more domestic connections)

For details on the proposed new definitions, health promotion tools and relation to existing other regulated size categories, see Appendix A.

Challenge #2: Fiscal viability is a challenge for small water systems

SWS face the same complexities in delivering adequate, safe and reliable water as larger systems; however, due to lack of economies of scale, the cost to provide water through small systems is often higher than the per-user cost of larger systems.

While sources of water may be inexpensive, the infrastructure, operator training, materials and supplies, regular maintenance, component replacement, water testing, and other aspects of managing, operating and maintaining water systems all require investment and ongoing funding.

As with any other product or service delivered to homes, people who use the service should pay for the service. Many SWS are challenged in raising sufficient funds. Many SWS users are not paying the true value for the services and/or treatment infrastructure needed to meet regulatory requirements and many resist rate increases to cover the full cost of providing the service.

While local government owned and private regulated water utilities (under the *Water Utility Act*) in BC have requirements for oversight of rates and other financial considerations, the majority of SWS (which do not fall under the *Local Government Act* or *Water Utility Act*) have no such requirements or oversight.

Proposed Recommendation For Challenge #2 – Develop and support implementation of financial tools

The UBCM Small Water Systems Working Group recommends supporting small systems in sound financial planning to ensure they charge appropriate rates and funds are put aside to replace aging infrastructure such as pipes, pumps and reservoirs, or to make upgrades when necessary. To support this proposed recommendation, some or all of the options should be considered:

- Encourage the development of policies and practices by local governments to assess and support coordination among existing Small Water Systems.
- Provide Small Water Systems with information on Financial Best Management Practices.
- The Province to continue financial oversight as a requirement for all existing private water utilities and for the creation and ongoing management of new private water utilities.
- In the permitting and approval processes, require system owners to implement the Financial Best Management Practices.

For further information on the Financial Best Management Practices, see Appendix B.

Challenge #3: The creation of new SWS should be based on their ability to be sustainable, i.e., a system is sustainable when it has a viable plan to ensure the long-term ability to provide appropriate and adequate water services while having the flexibility to adapt to changes in requirements and customer demands.

SWS face considerable financial and technical capacity challenges, which over time can result in system deterioration, non-compliance with existing standards and boil water notices in the case of unsafe drinking water quality. These challenges can include issues such as remoteness, population density, durability of materials, quality and quantity of source water, SWS size, how SWS's are built and/or how they are managed. Some regional districts have already acknowledged this and have, through local policy, managed development of systems based on size, location and other factors.

Existing systems can be assisted through the financial tools in Recommended Solution #2, but continuing to allow the creation of unsustainable water systems will further exacerbate issues faced by the province, local governments and SWS owners and users.

Reducing regulatory oversight for SWS under Recommended Solution #1 may encourage the proliferation of new unsustainable SWS. Action will be required to control the creation of unsustainable SWS if Recommended Solution #1 is implemented. It will be critical to ensure that when a new system is created, whether through subdivision or other means, it is created based on the principles of sustainability.

Proposed Recommendation For Challenge #3 - Control the Creation of Small Unsustainable Water Systems

- Best Practice Guidelines for Approving New Small Water Systems be adopted by Provincial Approving Officers, Health Authorities and local governments.
- Encourage cooperation, amalgamation or expansion of existing systems to build economies of scale within systems as an alternative to creating new systems.
- In the permitting and approval processes, create a range of requirements for new Small Water Systems.

For further information on Best Practice Guidelines for Approving New Small Water Systems, see Appendix C.

Appendix A: New Definition of Water System Sub- Categories

Category	Number of Connections	Conditions
A. Nano Water System (<i>ns</i>)	2 to 4	<p>Exempt from most <i>DWPA</i> requirements.</p> <p>Exempt from all <i>Water Utility Act</i> requirements.</p> <p>Eligible for point of entry/point of use (POE/POU) system.</p> <p>Whenever there is a POE/POU agreement, the agreement shall be registered on title.</p> <p>Ineligible to become Water User Community.</p> <p>No financial oversight.</p>
B. Micro Water System (<i>ms</i>)	5 to 24	<p>Exempt from some <i>DWPA</i> requirements. Potability requirements would remain.</p> <p>Eligible for point of entry/point of use (POE/POU) system.</p> <p>Whenever there is a POE/POU agreement, the agreement shall be registered on title.</p> <p>All <i>Water Utility Act</i> requirements continue to apply.</p> <p><i>Strata Property Act</i> requirements apply for stratas owning water systems.</p> <p>Water User Communities may be</p>

		incorporated under the <i>Water Act</i>.
C. Small Water System (sws)	25- to 124	<p><i>DWPA</i> applies.</p> <p>Eligible for point of entry/point of use (POE/POU) system.</p> <p>Whenever there is a POE/POU agreement, the agreement shall be registered on title.</p> <p>All <i>Water Utility Act</i> requirements apply.</p> <p><i>Strata Property Act</i> requirements apply.</p> <p>Water User Communities may be incorporated under the <i>Water Act</i>.</p>
D. Water System (ws)	125 or more	<p>Must meet <i>DWPA</i> requirements.</p> <p>All <i>Water Utility Act</i> requirements apply.</p> <p><i>Strata Property Act</i> requirements apply.</p> <p>Generally too large for Water User Communities.</p> <p>Tend to be local government owned.</p>

Domestic water system

- The definition of a water system will remain the same within the *DWPA* legislation, i.e., a domestic water system, other than a domestic water system that serves only one single residence.
- However subcategories of systems can be created that have exemptions from certain sections of the regulation as follows:

Nano- Systems (ns): 2 – 4 connections

- Will include multiple dwellings on single lots as long as there are less than four connections (basement and inlaw suites, external buildings for other family members, garages, etc.) fed by a single water source. Will be exempted from many of the permitting requirements of the *DWPA*.
- *Would not apply to commercial enterprises.*
- The *DWPA* will continue to require that tenants be supplied with potable water by landlords.
- *Water Utility Act* and Water User Community sections under *Water Act* do not apply.

Micro- Systems (*ms*): 5 - 24 connections

- A micro-system will be defined as having the number of domestic/residential connections between 5 and 24 provided they are not commercial enterprises (campgrounds, motels, service stations) providing water to the public.
- May be exempted from some parts of the *DWPA* (some operating requirements and operator qualifications).
- Health authorities will take a health promotion approach where appropriate.
- To qualify as an *ms* under the *DWPA* Regulation may require:
 - a. an identifiable 'responsible party(s)' who will take charge and care for the water system and provide potable water;
 - b. informed consent from users with respect to the treatment system, sampling regime, and the risks;
 - c. a recurring process for re-establishing informed consent from users on a yearly basis;
 - d. water that is free of indicator organisms (pathogens or *E. coli*) at start-up (i.e., indication of low health risk at time of sampling);
 - e. a sampling regime to show the water is free of indicator organisms and provide users with sampling results;
 - f. comply with provincial treatment guidelines;
 - g. adoption of Financial Best Management Practices.
- *Water Utility Act* requirements would apply to private water utilities.
- Water User Communities of 6 or more water licensees may be incorporated under the *Water Act*.

Small Water Systems (*sws*): 25 - 124 connections

- The definition of a small water system (SWS) within the *DWPA* regulation will be changed to reflect the number of connections. A SWS will be defined as 25-124 connections (based on ~3 individuals per household).
- Current exemptions and provisions for SWS (that are not commercial enterprises providing water to the public) will remain as they currently exist (operator qualifications, POE/POU);
- All requirements under the *Water Utility Act and Water Act* would apply.

Water Systems (ws): 125 + connections

- All other definitions will remain the same.

Health Promotion Approach and Tools

- MoH will promote current and develop new Health Promotion Tools to help the various sized small water systems. Also, MoH will:
 - support the continuation of the Environmental Operators Certification Program's Training Registry to provide a much greater number of training opportunities to SWS operators;
 - promote the Water System Assessment Tool to help operators of water supply systems identify hazards, assess and prioritize risk, and develop timelines for improvement;
 - develop and promote a Small Water System Guidebook and Technical Workbook;
 - promote the Financial Best Management Practices developed by UBCM.
- Health Authorities will take a health promotion approach to assist MS owners as resources allow, by:
 - review and approve applications to qualify as a micro-system;
 - identifying the treatment objectives/options, provide guidance on continuous improvements to the system, and provide guidance on addressing challenges;
 - advising on treatment needs based on knowledge of the watershed, water samples taken, to help system owners address specific problems;
 - participating in subdivision approval processes as appropriate to help identify red flags for future systems; and
 - promoting tools for delivery of safe water.

Appendix B – Financial Best Management Practices and Requirements for SWS Financial Oversight

Financial Best Management Practices

Tools and worksheets, known as Best Management Practices (BMPs) to help with implementing sound financial management will be posted on the UBCM , MoH, MFLNRO and MCSCD websites. These include:

- BMP A. Create a basic asset inventory
- BMP B. Build an asset management plan
- BMP C. Create a five-year operating plan
- BMP D. Establish a long-term financial plan
- BMP E. Determine sustainable water rates and charges
- BMP F. Develop a communications plan.

Appendix C – Best Practice Guidelines for Approving New Small Water Systems

The draft guidelines address the following topics:

BPG #1: Long Range Land Use Planning

BPG #2: Current Planning Regulations

BPG #3: Design and Construction Standards

BPG #4: Application Information

BPG #5: Water System Ownership Policies for Local Governments

BPG #6: Financial Sustainability

BPG #7 Coordinated Communications