



## Small Drinking Water Systems: Who Does What in British Columbia?

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### 1.0 Source Water Protection

#### 1.1 Who has a stewardship role related to water source protection (lead agency)?

The *Action Plan for Safe Drinking Water* (2002)<sup>1</sup> assigns shared responsibility for source protection to the various ministries that make land use decisions that may impact drinking water.

Because of its broad mandate with respect to land and natural resource management, the *Ministry of Forests, Lands and Natural Resource Operations* (MFLNRO) has a large role in managing activities that affect source waters. The strongest powers to protect drinking water are with the *Ministry of Health's Drinking Water Protection Act*,<sup>2</sup> yet rarely, if ever, are used for drinking water source protection.

*Examples of roles:*

The *Ministry of the Environment* is responsible for:

- environmental protection (development of policies and regulations);
- information respecting water source quantity and quality.<sup>3</sup> Protection planning details are provided in Appendix 1.

*MFLNRO* is responsible for the establishment, regulation, and dissolution of certain private water systems,<sup>4</sup> regulation of resource management on Crown lands, and coordination of major projects:

- Licensing of surface water (*Water Act*);
- Ground water management and well protection (*Water Act* & Ground Water Protection Regulation)
- Regulation of utilities (*Water Utility Act*);

<sup>1</sup> [http://www.health.gov.bc.ca/cpa/publications/safe\\_drinking\\_printcopy.pdf](http://www.health.gov.bc.ca/cpa/publications/safe_drinking_printcopy.pdf)

<sup>2</sup> [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/00\\_01009\\_01](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_01009_01)

<sup>3</sup> Relevant legislation includes the Drinking Water Protection Act, Part 4 - Drinking Water Protection and Part 5 – Drinking Water Protection Plans.<sup>3</sup> Part 4, Section 25 addresses Hazard Abatement and Prevention Orders.

<sup>4</sup> [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/00\\_96483\\_01](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96483_01)

- Incorporation of Water User Communities;
- Legislation, regulations, and policies for forest and land use management;
- Licensing and administration of resource tenures, including forest, land, mineral, range, fish, wildlife, and water tenures, resource roads, permits and authorizations;
- Establishment of community watersheds under the *Forest and Range Practices Act*.

The *Ministry of Health* is responsible for Drinking Water Quality and the Drinking Water Program which involves administering and enforcing the *Drinking Water Protection Act*, the Drinking Water Protection Regulation and the *Public Health Act*, and providing interventions to minimize health and safety hazards.<sup>5</sup> The *Ministry of Health (regional health authorities)* ensures that drinking water is safe from source to tap, including from resource management and development activities.

## 1.2 Who oversees liquid and solid waste management?

The *Ministry of the Environment* has authority for regulatory regimes affecting drinking water: waste management, pollution prevention, pesticide control (see the *Environmental Management Act* and regulations).<sup>6</sup>

The *Ministry of Health* provides guidance to health authorities and develops legislation, policy, and guidelines regarding waste management. An onsite sewerage system is usually located on the land from which sewage originates. This type of system locally treats effluent that is not serviced by a larger municipal or regional sewerage system.<sup>7</sup>

The *Sewerage System Regulation*, under the *Public Health Act*, covers holding tanks for sewage effluent or onsite sewerage systems that:

- process a sewage flow of less than 22,700 litres per day;
- serve single-family systems or duplexes;
- serve different buildings on a single parcel of land;
- serve one or more parcels on strata lots or on a shared interest of land.

The *Ministry of the Environment* is responsible for the *Environmental Management Act* (replaces the *Waste Management Act*) – the primary statute for regulation of waste discharge and pollution prevention in British Columbia. A significant number of regulations may also have relevance to drinking water protection – contaminated sites, animal waste control, organic matter recycling. (Note: also applicable for 1.3) *The Public Health Act* covers on-site sewage treatment.

## 1.3 Who is responsible for land use planning activities (from livestock to farming practices, including activities addressing drinking water concerns)<sup>8</sup>?

Water Management Plans under Part 4 of the *Water Act* allow for the development of plans to address water quality issues and conflicts between water users.

Drinking Water Protection Plans are enabled under the *Drinking Water Protection Act* to undertake planning to protect drinking water sources and systems.

<sup>5</sup> [http://www.health.gov.bc.ca/protect/dw\\_index.html](http://www.health.gov.bc.ca/protect/dw_index.html)

<sup>6</sup> <http://www.env.gov.bc.ca/epd/main/ema.htm>

<sup>7</sup> [http://www.health.gov.bc.ca/protect/lup\\_onsite.html](http://www.health.gov.bc.ca/protect/lup_onsite.html)

<sup>8</sup> There are a number of historical (applicable) LRMPs (Land and Resource Management Plans) that were done by Ministry of Forests (now [Forests, Lands and Natural Resource Operations](#) – MFLNRO). They are higher-level plans and are more strategic in scope.

Range tenure holders are encouraged to complete Range Use Plans, which address a number of issues including water quality protection.

The *Ministry of the Environment's* Environmental Sustainability and Strategic Policy Division is involved with planning, protection, and sustainability.<sup>9</sup> Ministry of Environment has responsibilities for:

- environmental protection<sup>10</sup>;
- information respecting water source quantity and quality (Environmental Protection Division).<sup>11</sup>

The *Ministry of Agriculture*

- Farmers in the agriculture sector are encouraged to develop voluntary Environmental Farm Plans that outline best management practices to support environmental protection.

There are a number of community-led water and watershed plans that are voluntary and not legally binding.

#### **1.4 Who is responsible for ensuring that activities such as construction of highway infrastructure, logging, or mining neither degrade source waters nor introduce contaminants into the water supply?**

The *Ministry of Transportation and Infrastructure's*<sup>12</sup> approving officers have responsibility for subdivision approvals in rural areas and servicing issues, and highways infrastructure.

The *Ministry of Energy and Mines*<sup>13</sup> has a role in ensuring that mining and energy activities do not degrade source waters or introduce contaminants into the water supply. Also the *Oil and Gas Commission* has responsibility with respect to oil and gas development.

The *Ministry of the Environment*<sup>14</sup> has responsibilities for environmental protection, regulating waste discharges, and information respecting water source quantity and quality;

The *Ministry of Forest Lands and Natural Resource Operations (MFLNRO)*<sup>15</sup> authorizes a broad range of resource management activities – forestry, land use, mineral tenures, range use, and resource roads. Generally, terms and conditions for a range of permits and authorizations outline responsibilities for managing environmental contamination associated with those activities.

Under Section 9 of the *Water Act*, “changes in and about a stream” require an Approval.

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<sup>9</sup> [http://www.env.gov.bc.ca/wsd/plan\\_protect\\_sustain/](http://www.env.gov.bc.ca/wsd/plan_protect_sustain/)

<sup>10</sup> <http://www.env.gov.bc.ca/epd/>

<sup>11</sup> <http://www.env.gov.bc.ca/wat/wq/>

<sup>12</sup> <http://www.gov.bc.ca/tran/>

<sup>13</sup> <http://www.gov.bc.ca/ener/>

<sup>14</sup> <http://www.gov.bc.ca/env/>

<sup>15</sup> <http://www.gov.bc.ca/for/>

## 1.5 Who issues permits to draw water from surface water sources?

**MFLNRO** is responsible for water allocation. Authority to divert and use surface water is obtained by a licence or approval in accordance with the statutory requirements of the *Water Act*.

The **Regional Water Manager** or **Comptroller of Water Rights** reviews the assessment of the application considering potential impacts and the availability of water and will either grant a water licence or refuse the application.

Water allocation plans are established through **MFLNRO**.

## 1.6 Who has control over watersheds and delineates the watershed/aquifer area?

Ninety-four percent of the province, which is Crown land; **provincial technical staff** delineate the watersheds and aquifers.

**MFLNRO** is responsible for the designation of Community Watersheds. Section 8 of the Government Actions Regulation (*Forest and Range Practices Act*) enables the minister responsible for the *Land Act* (**MFLNRO**) to designate as a community watershed.<sup>16</sup> There are currently 467 approved Community Watersheds. Interim Guidelines and Procedures on the Designation, Amendment and Cancellation of Community Watersheds under the *Forest and Range Practices Act* were developed in 2008.

The **Lieutenant Governor in Council** has the ability to make regulations:

- allowing the Minister Responsible for the *Land Act* to designate an area of land in a watershed as a community watershed and the Minister Responsible for the *Water Act* to establish water quality objectives in relation to a community watershed (Section 150);
- allowing the Minister Responsible for the *Wildlife Act* to designate areas and set objectives generally in watersheds with significant downstream fisheries values and significant watershed sensitivity (Section 150.1);
- allowing the Minister Responsible for the *Forest and Range Practices Act* to designate areas as lakeshore management zones, and to set objectives in relation to those zones (Section 150.2);
- to classify streams, wetlands and lakes, and make regulations respecting riparian zones (Section 150.5).

## 1.7 Who is responsible for the watershed/aquifer management plan? (The plan establishes measures to reduce risks. The watershed management plan may also include an incident and emergency response plan, plan for water conservation, and contingency plans for dealing with water scarcity emergencies).

**MFLNRO** has responsibilities set out by the *Water Act*.

Water Management Plans under Part 4 of the *Water Act* allow for the development of plans to address water quality issues. One plan has been drafted but not completed.

The *Forest and Range Practices Act* (**MFLNRO**) sets a number of stewardship planning and other protection measures, including protecting water quality and licensed waterworks, as well as regulations for forestry, range planning and practices, and woodlot licence planning and practices.

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<sup>16</sup> <http://www.env.gov.bc.ca/wld/frpa/cwwqo.html>

The *Ministry of the Environment* has responsibilities for:

- environmental protection;
- information respecting water source quantity and quality.

Drinking Water Protection Plans are the responsibility of the *Ministry of Health* and are enabled under the *Drinking Water Protection Act* to undertake planning to protect drinking water sources and systems, but to date none have been started.

## 1.8 Any source vulnerability assessment and ranking?

Water suppliers can use one of the following:

- Drinking Water Source-to-Tap Screening Tool;
- Water System Assessment;
- Comprehensive Drinking Water Source-to-Tap Assessment Guideline (which is not in a revision phase).

The *Ministry of Health* has revised the “Comprehensive Drinking Water Source-to-Tap Assessment Guideline,” which is presently being used wholly, partially, or not at all in each health authority.

*Waterproof 3* (2011), prepared by Ecojustice,<sup>17</sup> rated British Columbia with a “C+” and noted that the province “has some of Canada’s lowest standards for water treatment and source water efforts and is undertaking an ambitious water law overhaul, but it does not touch directly on drinking water.”

## 2.0 Water Treatment and Distribution

### 2.1 Any lead funding organization for water system planning and infrastructure improvements?

The *Ministry of Community, Sport and Cultural Development* administers grant funding available to local governments only. Local governments can acquire grants needed in some cases to take over ownership of private small drinking water systems.

### 2.2 Any construction permits?

A construction permit must be obtained in relation to the construction, installation, alteration, or extension of any water supply system or any works, facilities, or equipment that are intended to be a water supply system or part of a water supply system. If the system is a regulated private water utility, a Certificate of Public Convenience and Necessity (CPCN) is required.

Authorized to issue construction permits are the following:

A *drinking water officer* who is a professional engineer or working under the direction of such engineer, or a *professional engineer* (approved by a drinking water officer) needs to consult with the person responsible for considering an application for an operating permit prior to issuing a construction permit.

The issuing officer should also consult with the *drinking water officer*, *medical health officer*, and other agencies that may have an interest in the matter, such as *MFLNRO*, which administers the *Water Act*.

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The *Comptroller of Water Rights* is authorized to issue CPCNs.

A construction permit is issued to a person after an issuing officer receives an application in a form satisfactory to the *drinking water officer*.

A person does not require a construction permit:

- if the person is undertaking emergency repairs to a water supply system;
- for a water supply system that is a tank truck or a vehicle water tank;
- for a small system, provided an issuing official waives the requirement for a permit.

A supplier should always seek advice pertaining to construction permits from the *local health authority* before initiating any sort of change or construction even if the supplier believes that an exemption exists for that particular circumstance.

Information to be considered when issuing a construction permit includes:

- information set out in the application form;
- results of a water analysis;
- relevant technical reference and best practices documents;
- operational history of system;
- existing operating permit conditions;
- information relevant to that specific system.

Fundamental consideration, when issuing a construction permit, should be whether the proposed system meets appropriate public health engineering standards for that type of system and whether that system will have sufficient ability to provide appropriate water to the intended user.

A construction permit is valid for one year unless a different period is specified in the permit.

### 2.3 Any fee collected for water distribution?

Water license application fees are provided in Schedule A of the Water Regulation.<sup>18</sup> The *Drinking Water Protection Act* (Drinking Water Protection Regulation) Schedule C provides a fee schedule as follows<sup>19</sup>:

(a) for 1 – 14 connections	no charge
(b) for 15 – 300 connections	\$150
(c) for 301 – 10,000 connections	\$250
(d) for 10,001 – 20,000 connections	\$500
(e) for more than 20,000 connections	\$1,000

Additional information on fees is available at:

[http://www.env.gov.bc.ca/wsd/water\\_rights/licence\\_application/fees\\_info.html](http://www.env.gov.bc.ca/wsd/water_rights/licence_application/fees_info.html)

Rates charged by private water utilities are regulated by the *Comptroller of Water Rights*.

### 2.4 Any operator permit? Any training? How are new policies disseminated?

A person is qualified to operate, maintain, or repair a water supply system if the person has the appropriate level of certification for that particular system as awarded by the *Environmental Operators Certification Program (EOCP)* (program of classification and

<sup>18</sup> [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/12\\_204\\_88#ScheduleA](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/12_204_88#ScheduleA)

<sup>19</sup> [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/200\\_2003](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/200_2003)

certification for water supply system operators established in British Columbia by the Environmental Operators Certification Program Society). This certification does not apply to a person with specialized knowledge immediately relevant to maintenance or repair of a water supply system following procedures approved by a person with the program qualifications.

Although the legislation does not directly impose any operator qualification requirements for small systems, an operating permit may require a person to be certified to operate, maintain, or repair a small system.

Water suppliers are required under the *Drinking Water Protection Act* to deliver safe potable water to their clients, yet they rarely have any authority over activities taking place upstream in their watersheds because 94% of the province is Crown land, much of which is administered by *MFLNRO*. However, there is no land use or watershed planning to speak of to address water suppliers' concerns at this point in British Columbia.

#### Operating permits and requirements for water supply system

The *drinking water officer* may issue an operating permit to a *water supplier* after receiving:

- an application for an operating permit (satisfactory to the drinking water officer);
- an appropriate fee.

An operating permit is for one year or to a specified date, if less than 12 months, and must bear a current decal (not transferable).

The *drinking water officer* may renew an operating permit if:

- the permit was in force any time during the 12 months prior;
- the appropriate fee is paid before the effective date of renewal.

The *water supplier* must:

- not operate the water supply system without holding a valid operating permit issued in accordance with the regulations;
- comply with all terms and conditions of its operating permit;
- operate the water supply system in accordance with any applicable regulation.

The *issuing official* (the *drinking water officer* who is a professional engineer, or working under the direction of such engineer, or a *professional engineer* approved by the drinking water officer) may include in an operating permit terms and conditions the official considers advisable, such as:

- treatment requirements;
- equipment, works, facilities, and operating requirements;
- qualifications and training of persons operating, maintaining, or repairing the water supply system;
- monitoring of the drinking water source and the water in the water supply system;
- standards applicable to the water in the supply system;
- reporting and publication of monitoring results or other information respecting the water supply system.

When considering applications for operating permits, *issuing officials* should consult with the person who issued the construction permit.

The *drinking water officer* or *issuing official* may change the terms and conditions of an operating permit if advised by the officer or issuing official but must first consult with the *water supplier* regarding the proposed changes and must consider any response comments of the water supplier (terms and conditions may set requirements and standards that are more stringent than those under the *Drinking Water Protection Act*).

The *drinking water officer* may order the *water supplier* to undertake additional monitoring or testing, report the results, and make them public if further information is considered necessary to determine whether a water supply system provides potable water or meets the requirements and standards established by the regulations and operating permit.

*Drinking water officers* and *public health engineers* should be contacted prior to the creation or alteration of drinking water systems

#### Qualification standards for persons operating a water supply system

A person must not operate, maintain, or repair a prescribed water supply system unless qualified in accordance with regulations, or is doing this under the supervision of a person who is qualified.

Note: Small systems are not required to meet any operator training certification requirements unless their operating permit so specifies.

## **2.5 Any assessment of treatment system? Any licence of treatment system? By whom?**

The *drinking water officer* inspects systems for compliance (regular inspections are done by Health Authorities).

#### Assessment authority

The *water supplier* must prepare an assessment, if ordered by the *drinking water officer*, to identify, inventory, and assess:

- the drinking water source for the water supply system (including land use and other activities and conditions that may affect the source) (see also 1.7);
- the water supply system (including treatment and operation);
- monitoring requirements for the drinking water source and water supply system;
- threats to drinking water provided by the water supply system.

The *drinking water officer* may order a *water supplier* to prepare an assessment if:

- the drinking water officer believes an assessment is necessary to properly identify and assess threats to the drinking water in relation to the water supply system;
- more than the prescribed number of years has passed since the previous assessment;
- more than one water supplier uses the same drinking water source or related drinking water source and at least one of the water suppliers is required to prepare an assessment (the drinking water officer may order two or more water suppliers to prepare a joint assessment).

The *drinking water officer* may postpone, extend, limit, or expand the scope of the ordered assessment.

#### Assessment process

The *drinking water officer*:

- directs the process, preparation, form, content, area of coverage, and time for completing an assessment;
- must consult with the *Medical Health Officer* to determine direction;
- may establish a technical advisory committee to provide advice respecting direction, reviewing the draft assessment before it is filed.

The *water supplier*:

- must file the assessment with the *drinking water officer*;
- is required to prepare an assessment and give advance public notice that the assessment is being prepared;

- must make the assessment public, after it has been filed.

#### Assessment response plans

The *drinking water officer*:

- may provide direction for an assessment plan that must be prepared to include provisions to identify, eliminate, and prevent cross connections with non-potable water sources;
- may order the *water supplier* to prepare an assessment response if:
  - an assessment has identified threats to the drinking water system provided by the water supply system
  - the water supply system is of a prescribed class
- may require an assessment response plan to include provisions respecting any or all of the following:
  - public education and other means of encouraging drinking water source protection
  - guides to best management and conservation practices
  - infrastructure improvements
  - cooperative planning and voluntary programs
  - input respecting local authority zoning and other land use regulation
- may order a *water supplier* to review and revise its assessment response plan.

## 2.6 Who is responsible for the maintenance and upgrade of the water treatment?

*Water system owners*:

- provide safe drinking water and notification of water quality problems;
- are required to have the water from their systems analyzed for the presence of microbiological pathogens and other indicator organisms by a laboratory approved by the *Provincial Health Officer*.

*Drinking water officers* administer and enforce the acts and regulations and provide interventions to minimize health and safety hazards.

*Drinking water officers* are encouraged to establish a prioritization policy to categorize systems as low, medium, or high priority for purposes of Drinking Water Officer activity, to ensure that resources are allocated based on a principled/risk-based policy. The final risk rating is for the Drinking Water Officer to make at his/her discretion.

The *water supplier* must have a written emergency response and contingency plan to be implemented in the event of an emergency or abnormal operational circumstances affecting the water supply system or drinking water source (in the case of a prescribed water supply system).

The *drinking water officer* may order a *water supplier* to review and update its emergency response and contingency plan.

The *water supplier* must prepare an assessment if required by regulations or ordered by the *drinking water officer* to identify, inventory, and assess the drinking water source for the water supply system (including land use and other activities and conditions that may affect the source). This assessment is done for the purpose of determining potential threats to drinking water.

## 2.7 Any requirements for the water supply system?

Drinking water from a water supply system must be disinfected by a *water supplier* if the water originates from:

- surface water;
- ground water that is at risk of containing pathogens.

A small system is exempt from section 6 of the *Act* if:

(a) the system does not provide water for human consumption or food preparation purposes, and is not connected to a water supply system that provides water for human consumption and food preparation purposes; or

(b) each recipient of the water from the system has a point of entry or point of use treatment system that makes the water potable.

[en. B.C. Reg. 352/2005, s. 3.]<sup>20</sup>

The *owner* of a well for the purpose of supplying a water supply system must floodproof to protect the well or wellhead from physical damage due to flood debris, ice, or erosion.

The *drinking water officer* may require the *owner/operator* of another well, in the same well recharge zone or which may otherwise affect the drinking water well, to floodproof the other well in order to protect the drinking water supply system.

For water quality, the *Drinking Water Protection Act* sets out prescribed water quality standards for potable water in Schedule A.<sup>21</sup>

### **3.0 Drinking Water Quality and Monitoring**

#### **3.1 Who is the lead agency for drinking water quality?**

The *Ministry of Health*:

- works with the *regional health authorities* to set out objectives/expectations for drinking water quality;
- provides funding to health authorities for drinking water protection.

The *Minister of Health* is responsible to government and legislature for the overall administration.

#### **3.2 Who defines water quality standards?**

The *Minister of Health*:

- may establish “guidelines” and “directives” concerning drinking water protection;
- oversees implementation and administration by *regional health authorities*;
- appoints *drinking water officers*.

The *Drinking Water Protection Act* puts discretion into the hands of the *drinking water officer*, and it is “guidelines” that must be considered. A DWO must consider the guidelines but could choose not to follow the guidelines should there be good reason not to (the drinking water officer has discretion). A “directive” from the *minister* must be followed.

#### **3.3 Who is responsible for administering drinking water regulations, if any?**

<sup>20</sup> Section 3(1) Drinking Water Protection Regulation –

[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/200\\_2003-section6](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/200_2003-section6)

<sup>21</sup> [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/200\\_2003-section2](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/200_2003-section2)

*Regional health authorities* are responsible for implementing most aspects of the *Drinking Water Protection Act*; each authority employs *drinking water officer(s)* as statutory officials to follow “guidelines” and “directives” in exercising powers and performing duties/functions.

### 3.4 Who enforces regulations, if any?

The *provincial health officer* employs a person in the position of *Provincial Drinking Water Officer* to facilitate consultation, cooperation, and leadership as it relates to the role of the Provincial Health Officer.

The *provincial health officer* must monitor compliance of *drinking water officials*.

*Regional health authorities* are responsible for overall management and performance monitoring of their *drinking water officers*.

The *drinking water officer*:

- has most of the discretionary decision-making power;
- can, in writing, delegate any or all power to the *Ministry of Health Officers, public health inspectors, environmental health officers, and public health engineers*;
- can delegate specific powers to officials from other ministries and individuals;
- is encouraged to consult with *MHOs* and other officials, when appropriate.

### 3.5 Who ensures the accountability of government and water suppliers?

The *provincial health officer* must prepare and deliver an annual report regarding activities.

The *minister* lays a report before the *Legislative Assembly* (if in session).

The *minister* must file a report with the Clerk of the Legislative Assembly (if not in session).

#### Report problems

The *provincial health officer* must report to the *minister* any situation that:

- significantly impedes the protection of public health;
- arises in relation to actions/inactions of ministries, government corporations, or agents of government.

If the situation cannot be resolved, the *minister* must bring it to the attention of the Executive Council.

The *minister* (in consultation with the *provincial health officer*) may establish an advisory committee to provide advice and recommendations with respect to drinking water matters referred to the committee by the *minister*.

The *Drinking Water Leadership Council* coordinates discussion and fosters cooperation among all agencies involved (*health authorities, Ministry of Health, provincial health officer*); includes representation by *Ministry of Environment*.

### 3.6 Who is responsible for the assessment of public water supply systems? (Identify critical points within the treatment process for effective monitoring, control, and management including determining treatment efficiency in the removal or inactivation of harmful agents found in the source water.)

The *Minister of Health* has powers and functions to:

- appoint *drinking water officers*;
- issue guidelines and directives;

- advise Cabinet of problems;
- establish advisory councils;
- prescribe areas where decision-makers must consult drinking water officers;
- designate an area for development of a drinking water protection plan and establish a plan process.

*Local health authorities* administer and enforce the legislation/regulation. In the administration of the *Drinking Water Protection Act*, a *Drinking Water Leadership Council* coordinates discussions and fosters cooperation among *health authorities*, the *Ministry of Health*, the *provincial health officer*, and representatives from the *Ministry of Environment, MFLNRO*, and the *Ministry of Community, Sport and Cultural Development*.

*Water system owners and operators* provide safe drinking water and notification of water quality problems.

*Ministry of Health's* Drinking Water Program is a guideline that is administered locally by *drinking water officers* (monitored by the *provincial health officer*), *public health engineers*, and *medical health officers* (responsible for direct service delivery in BC's health authorities). The Ministry's program is concerned with developing policies and guidelines to aid the health authorities in administering the *Drinking Water Protection Act* and Drinking Water Protection Regulation.

*Drinking water officers* and *public health engineers* should be contacted prior to the creation or alteration of drinking water systems.

The *drinking water officer* has the authority to conduct inspections and, with respect to drinking water issues, has the powers of a *Medical Health Officer*.

*Drinking water officers* are encouraged to establish a prioritization policy to categorize systems as low, medium, or high priority for purposes of drinking water officer activity to ensure that resources are allocated based on a principled/risk-based policy. The final risk rating is for the drinking water officer to make at his or her discretion.

Note: There is no specific requirement that all systems be inspected, and there is no specific requirement regarding the timing and frequency of inspections; however, *drinking water officers* are encouraged to develop and document an inspection policy appropriate to the nature and circumstances of the systems within their area of responsibility – in consultation with the management of each *health authority*.

#### Prohibition against contaminating drinking water or tampering with the system

The *owner of domestic water system* would have to limit the use of the water provided by the system if there is a risk of a drinking water health hazard – that is, if a person:

- introduces, causes, or allows anything to be introduced into a domestic water system, a drinking water source, a well recharge zone, or an area adjacent to a drinking water source;
- does or causes any other thing to be done or to occur if this is likely to result in a drinking water health hazard.

#### Requirement to report threats

If a person considers any event they observe, or of which they become aware, may be a threat to drinking water, that person should promptly make a report to the *drinking water officer*.

#### Hazard abatement and prevention

The *drinking water officer* may issue an order if he or she has reason to believe that:

- a drinking water hazard exists;

- there is significant risk of an imminent drinking water hazard.

An order may be directed to:

- a person whose action or omission resulted in or significantly contributed to the drinking water health hazard or risk;
- a person who had possession, charge, or control of a condition or thing that caused or significantly contributed to the drinking water health hazard or risk.

The order must be served on the person to whom it is directed and may require that person, at the person's expense, to do one or more of the following (under direction, approval, request of the *drinking water officer*):

- provide to the drinking water officer information relating to the conditions of things that resulted in or contributed to the drinking water health hazard risk;
- undertake investigations, tests, surveys, and any other action necessary to assess and determine how to address or prevent the drinking water health hazard;
- abate the drinking water health hazard;
- acquire, construct, or carry out any works or do/cease any other thing if this is reasonably necessary to control, abate, stop, remedy, or prevent the drinking water health hazard;
- adjust, repair, or alter any works to the extent that is reasonably necessary to control, abate, stop, or prevent the drinking water health hazard;
- give public notice;
- prepare and implement a hazard remediation plan or hazard prevention plan.

If the order is directed to a person who is not the registered owner of the property on which the action is required to be taken, a copy of the order must also be served on the registered owner.

Note: In the event of a conflict between an order under the *Drinking Water Protection Act* and an order of a *health officer* under the *Public Health Act*, the order of the health officer prevails.

Orders respecting contraventions:

The *drinking water officer* may make an order directed at a person if there is reason to believe that person is in contravention of the *Drinking Water Protection Act* or regulations. It must be served on the person to whom it is directed, set out the reasons why it was made, what the person is required to do, and the time within which this must be done.

Direct action by the drinking water officer:

The *drinking water officer* may authorize any designated persons to enter on or into property and take the necessary actions if:

- there is reason to believe that a drinking water health hazard exists or that there is a significant risk of an imminent drinking water health hazard;
- is not aware of a person against whom an order may appropriately be made.

Request for investigation:

The *drinking water officer*, upon a written request by a person who considers there is a threat to the drinking water, must review the request and consider whether an investigation is warranted. If the drinking water officer decides against undertaking an investigation, the officer must advise the requesting person. If the drinking water officer undertakes an investigation, the officer must advise the requesting person of the results of the investigation.

### **3.7 Any approval process for newly built water treatment systems?**

A construction permit is necessary for construction, installation, alteration, or extension of a water supply system or works, facilities, or equipment intended to be a water supply system

(or part of). The permit is valid for one year, not transferable (unless approved by an issuing official) and cannot be varied except by issuance of a new construction permit.

The *issuing official* (drinking water officer who is a professional engineer, or working under the direction of such engineer, or a professional engineer approved by the drinking water officer) or the *drinking water officer* receives the application submitted with:

- results of water quality analyses (in accordance with regulation – i.e., fecal coliform bacteria, *Escherichia coli*, total coliform bacteria);
- results of water quality analyses required by issuing official or drinking water officer.

The *issuing official* (drinking water officer who is a professional engineer, or working under the direction of such engineer, or a professional engineer approved by drinking water officer) may:

- refuse to issue a permit until satisfied that the applicant has identified an owner of the water supply system who is to be responsible for the ongoing operation of that system, or in charge of the managing operation;
- include advice in construction permit terms and conditions;
- set requirements more stringent than those established by the regulation.

### 3.8 Who is responsible for monitoring the water system? Any source water monitoring?

There is no water quality monitoring required under the *Water Act*. The *Ministry of the Environment* may do water quality monitoring and *MFLNRO* may do effectiveness monitoring of forestry areas.

For water systems and drinking water quality, *drinking water officers (Ministry of Health)* provide surveillance and monitoring of drinking water systems that may affect the public's health. They also administer and enforce the *Drinking Water Protection Act*, the Drinking Water Protection Regulation and the *Public Health Act* and provide interventions to minimize health and safety hazards.

The *water supplier* must (in the case of a prescribed water supply system):

- monitor its drinking water source, the water in its system, and the water it provides for the parameters, and at the frequency established by the regulations and its operating permit (e.g., fecal coliform bacteria, *Escherichia coli*, total coliform bacteria);
- have the sampling required for that monitoring carried out in accordance with the regulations and directions of the *drinking water officer* (including transport to a lab);
- have the analyses required for that monitoring carried out through *labs* that meet the requirements established by the regulations and by individuals who are qualified in accordance with the regulations;
- use a laboratory approved by the *provincial health officer*. The lab conducting monitoring analyses follows the applicable standards and requirements established by the regulations and operating permit for the water supply system.

The *water supplier and/or drinking water officer* must receive the *lab* reports:

- listing all water samples sent by water supplier to the lab;
- describing, for all samples analyzed, the results of any monitoring analyses for total coliform bacteria and *Escherichia coli*.

Note: Small systems are not bound by all the provisions of the *Drinking Water Protection Act* and Regulation. *Drinking water officers* have flexibility in applying these sections to small water systems and can involve more stringent terms and conditions or be less stringent in areas of frequency of sampling and dates by which operators must be certified.

Chemical testing: There are no specific requirements in the legislation. The *drinking water officer* can put conditions on the operating permit in place for testing and frequency. The *Ministry of Health* is presently working on a project to help regional authorities interpret legislation consistently across the province.

### 3.9 In case of adverse quality standards, who notifies whom (government, public, water supplier)?

The *water supplier*, *drinking water officer*, and *medical health officer* must be given immediate notice by the lab conducting the analyses if a monitored parameter fails to meet an established immediate reporting standard for that system.

The *water supplier* who receives notice must give immediate notice to the *drinking water officer* advising that the water supplier has been notified by the lab.

The *person giving the immediate notice* must:

- take all reasonable steps to give this notice by speaking directly to or by telephone with each person required to be notified, a person designated by the person required to be notified, or a person answering the telephone number designated for this purpose by the person required to be notified;
- follow with notice in writing to each person within 24 hours.

The *water supplier* must immediately notify the *drinking water officer* if the supplier considers there is a threat that is likely to result in the drinking water not meeting the regulations (i.e., provide potable water).

*Drinking water officers* should consider consulting with the *medical health officer* before requiring public notice, unless any delay would cause unacceptable risks to public health.

The *drinking water officer* may request or order a water supplier to give public notice in a manner approved by, or in accordance with the directions of, the drinking water officer if:

- the drinking water officer has received a report that the immediate reporting standard is not met;
- the drinking water officer has received a report of threats;
- the drinking water officer considers there is, was, or may be a threat to the drinking water provided by a water supply system;
- a *water supplier* has received a report of a standard not met or considers there may be a drinking water health hazard in relation to its water supply system, and is not able to immediately notify the drinking water officer – that the water supplier must immediately give notice of the possible hazard to the users of drinking water from that water supply system.

*Water suppliers* are required to provide public notice without any request or order by the *drinking water officer* if the water supplier has received a report that an immediate reporting standard is not met or they consider there may be a health hazard and are not able to contact a drinking water officer.

Public notice can be given in the form of water quality advisory, boil water notice, or “do not use” water notice.

Water Quality Advisory: used when the *drinking water officer* determines some level of risk but circumstances do not warrant a “boil water notice” or “do not use water notice”; addresses nature of the risk, steps being taken, steps water users may take.

Boil Water Notice: used when the *drinking water officer* determines there is a risk with consumption and that risk can be adequately addressed by boiling the water; contains specific instructions and steps the water supplier is taking,

Do Not Use Water Notice: used when the *drinking water officer* identifies a risk associated with consumption and that risk cannot be adequately addressed by boiling the water or issuing a “water quality advisory” (e.g., unacceptable levels of nitrate or lead, vandalism of water system, chemical spills, natural events – mudslides/earthquakes).

*Regional health authorities* are encouraged to consider designating a single, 24-hour contact number to ensure immediate contact with the drinking water officer or another appropriate official regarding potential problems with the water supply systems.

Site investigations of sewerage systems may be initiated in cases where systems are suspected to be negatively affecting a drinking water supply (e.g., as a result of system failure) or causing health hazard, as per the *Public Health Act* (see sections 57-61).

In general, these investigations are complaint driven and done locally by *environmental health officers*, who are responsible for service delivery in B.C.’s *health authorities* regarding<sup>22</sup>:

- onsite sewage disposal;
- health implications of solid and liquid waste disposal;
- land use activities and communicable disease;
- public health issues concerning subdivision assessment processes.

#### **4.0 Waste Management (also part of source water protection)**

The *Ministry of the Environment* has authority for regulatory regimes affecting waste management.

The *Ministry of Health* provides guidance to health authorities and has responsibilities set out by the Sewerage System Regulation under the *Public Health Act*

### **5.0 Surveillance**

#### **5.1 Any process in place to respond to health complaints?**

*Local health authorities* are responsible for following up on health complaints from the *public* and from *medical doctors* who have received a complaint from a patient.

#### **5.2 Any outbreak surveillance system in place?**

*Local health authorities* follow a routine check on a daily basis to detect any problems.

The *provincial authority (BCCDC)* has very few outbreaks because of chlorination but compiles weekly alerts, as a detection procedure, using “Outbreak Summary Module” (developed by PHAC) as an application to summarize all outbreaks (not just potential water-related) and combines results with historical information.

#### **5.3 Any system in place to link outbreaks to source or system characteristics?**

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<sup>22</sup> [http://www.health.gov.bc.ca/protect/lup\\_onsite.html](http://www.health.gov.bc.ca/protect/lup_onsite.html)

The *local health authority* is responsible for identifying the source, during the process of a full investigation.

The *provincial authority (BCCDC)* is responsible for investigating, if the location is multi-jurisdictional.

#### **5.4 Who is responsible for managing and investigating outbreaks?**

*Local health authorities* are responsible for managing outbreaks. Each health authority has its own structure of investigation and how the appropriate people are engaged.

*Provincial authority (BCCDC)* is responsible for managing multi-jurisdictional outbreaks.

*Water supplier* must have a written emergency response and contingency plan which includes:

- the names/telephone numbers of management personnel for the water supply system: *drinking water officer*, *medical health officer*, *public health inspector*, other agencies and officials specified by the *drinking water officer* – all to be contacted in each type of emergency or abnormal operational circumstance;
- the steps to follow in the event of an emergency or abnormal operational circumstance;
- protocols to follow respecting public notice if an immediate reporting standard is not met.

*Water supplier* must:

- make the emergency response and contingency plan accessible to staff of the water supplier;
- provide a copy of the emergency response and contingency plan to the *drinking water officer*;
- make a summary of the emergency response and contingency plan accessible to the users served by its water supply system;
- make an annual report of monitoring and information concerning assessments available to the *public*;
- not include in the users' summary any information that may reasonably pose a risk to the water supply system.

#### **6.0 What is the Role of the Community in the Provision of Safe Drinking Water?**

*Water supplier* must ensure the following information is made public (in accordance with regulations and any requirement of the drinking water officer):

- The water supplier's emergency response and contingency plan.
- Results of the monitoring (required by regulations, its operating permit, or the drinking water officer) subject to any applicable time limits (less than 5,000 population served = 4 samples per month) and prepared in the form of an annual report within 6 months of the end of the calendar year.
- If applicable, current water source and system assessments.
- If applicable, current response plans.
- Other information required to be made public by the regulations, its operating permit or the *drinking water officer*.

*Water suppliers* are required to provide public notice without any request or order by the *drinking water officer* if the water supplier has received a report that an immediate reporting

standard is not met or they consider there may be a health hazard and are not able to contact a drinking water officer.

Public notice can be given in the form of a water quality advisory, boil water notice, or “do not use” water notice:

Water Quality Advisory: used when the *drinking water officer* determines some level of risk but circumstances do not warrant a “boil water notice” or “do not use water notice”; addresses nature of the risk, steps being taken, steps water users may take.

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Do Not Use Water Notice: used when the *drinking water officer* identifies a risk associated with consumption and that risk cannot be adequately addressed by boiling the water or issuing a “water quality advisory” (e.g., unacceptable levels of nitrate or lead, vandalism of water system, chemical spills, natural events – mudslides/earthquakes).

*Owner of public premises* that is served by a domestic water system, that may or may not be potable, must:

- notify the *public* that the water is not potable by posting a sign at every sink or drinking water fountain accessible to the public;
- verbally advise any persons who may use the domestic water system for a domestic purpose that the water is not potable (if normal business practices provide an opportunity).

The *drinking water officer*, upon a written request by a person who considers there is a threat to the drinking water, must review the request and consider whether an investigation is warranted. If the drinking water officer decides against undertaking an investigation, the officer must advise the requesting person. If the drinking water officer undertakes an investigation, the officer must advise the requesting person of the results of the investigation.

If a review is requested, it is to be conducted by the *provincial health officer* or a *medical health officer* designated by the Provincial Health Officer.

## **References/Notes**

For water, additional information by topic may be found at: <http://www.env.gov.bc.ca/wsd/>.

## **Legislation**

Drinking Water Protection Act [SBC 2001, chapter 9]

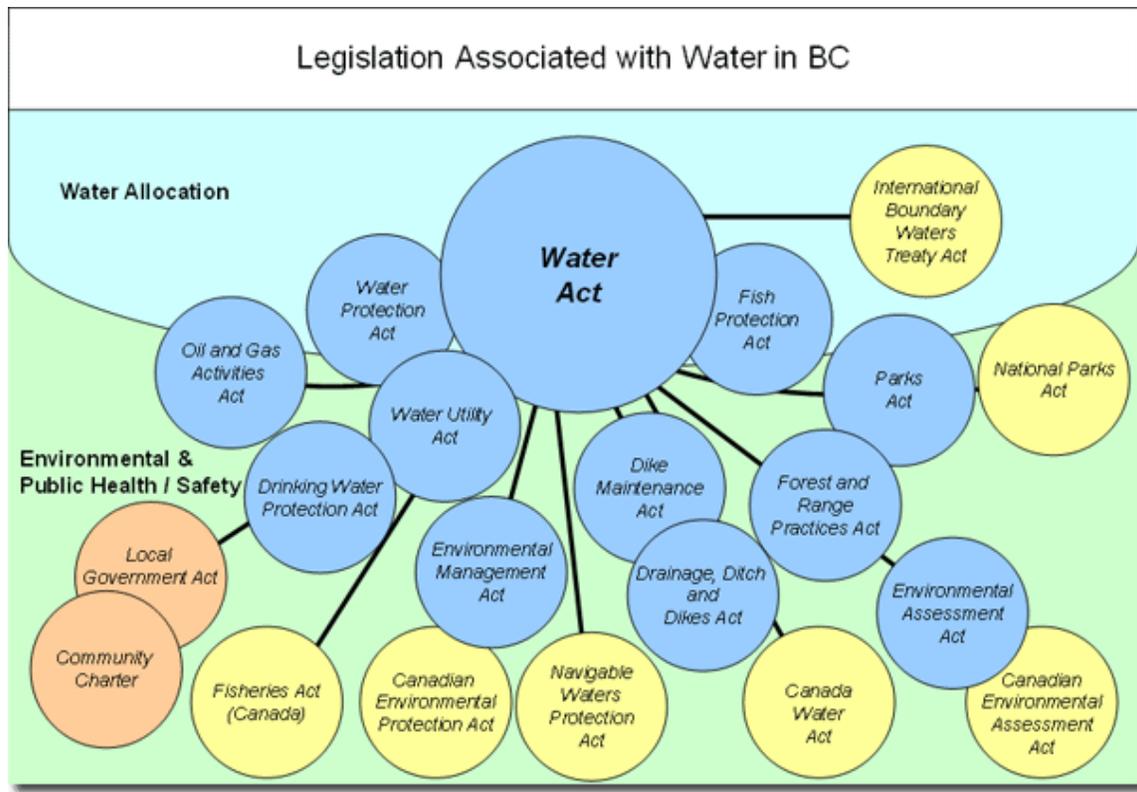
- Drinking Water Protection Regulation, Reg. 200/2003

Public Health Act [SBC 2008, chapter 28] Water Act (RSBC 1996, chapter 483)

- Ground Water Protection Regulation, 299/2004

Drinking Water Officers’ Guide (2007), with reference to:

- Environmental Management Act [SBC 2003, chapter 53]
- Forest and Range Practices Act [SBC 2002 c. 69]
- Ombudsman Report 2008



<http://www.livingwatersmart.ca/water-act/framework.html>

**Notes:**

1. Approximately 90% of the water systems in BC are small. One historical problem has been that such systems are often unknown to health authorities and consequently, they often operate without permits, unmonitored and unregulated. (Ombudsman Report 2008)
2. The Ministry of Health’s Small Water Systems Working Group is to develop a coordinated, provincial small systems strategy, report and implementation plan, and report publicly on this by January 1, 2010. (Ombudsman Report 2008)
3. The Ministry of Health ensures that a comprehensive drinking water information system that provides direct access to the Provincial Drinking Water Officer is developed, implemented, and accessible to the public by December 31, 2009. (Ombudsman Report 2008)
4. The British Columbia Ministries are presently undergoing significant changes. The information presented in this document is accurate to April 2011; adjustments will be made as new information becomes available.

*Note that while the National Collaborating Centre for Environmental Health has used its best efforts to ensure the accuracy and reliability of this information, it is provided as a general reference only. Please contact federal, provincial, municipal, and other agencies noted to verify the information provided.*

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## Appendix 1 - Drinking water protection plan.<sup>23</sup>

### *Provincial Health Officer (PHO)*

- makes a recommendation to the *minister* to designate an area for protection planning...this recommendation can only be made if a plan would assist in addressing/preventing a threat to drinking water that may result in a drinking water health hazard and no other practicable measures available are sufficient to address/prevent a drinking water health hazard (based on monitoring/assessment results).
- This recommendation from the *PHO* can be initiated by the *drinking water officer* (DWO) making a request BUT the request from the *drinking water officer* does not guarantee that a recommendation will be made, but only that the *PHO* must consider making a recommendation. The same can be said if a water supplier or local authority requests that the DWO make a request to the PHO. The DWO must consider the request, but is not obligated to actually make the request; in turn, the PHO must consider making the request to the minister, but is not required to do so. It is important to note that DWOs should consider all other options available under the *Act* before requesting the PHO to consider recommending a plan.

*Local water authority/supplier* may request a *drinking water officer* to make a request

The *Minister of Health* may order a designated area for developing a drinking water protection plan (for the area)

### Plan development:

The *Minister of Health* may establish the process for developing a drinking water protection plan (i.e., who, terms of reference, reference subject, establishment of technical advisory committee);

- consideration must be given to results/progress of *provincial or local government* strategic, operational, and land use or water use planning processes within the designated area;
- the plan may be prepared in conjunction with a proposed water management plan (under “water management plans” of the Water Act);
- The Drinking Water Protection Act, Part 3 – Water System Assessments and Plans, provides further detail.<sup>24</sup>

The *drinking water officer* may:

- order a *water supplier* to participate in the process;
- undertake investigations/tests/surveys the drinking water officer considers advisable;
- authorized persons to undertake investigations/tests/surveys.

### Plan approval:

Proposed plan must be submitted to the *Minister of Health*.

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The *provincial health officer* must review proposed plan.

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The *minister* must place proposed plan and comments of provincial health officer before lieutenant governor in council.

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The *Lieutenant Governor in Council* may approve all or part of proposed plan.

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The *minister* must arrange for plan to be made public (if approved).

### Implementing a plan:

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<sup>23</sup> Part 5 – Drinking Water Protection Plans, DWPA -

[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/00\\_01009\\_01](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_01009_01)

<sup>24</sup> [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/00\\_01009\\_01#part3](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_01009_01#part3)

When implementing a plan, the *Lieutenant Governor in Council* controls decisions regarding:

- effect of statutory decisions;
- relationship with other planning processes (*provincial/local government*);
- restrictions on well drilling (i.e., drilling of wells, alterations of wells, installation of well pumps, conduct of flow tests);
- enforcement of water source standards (i.e., prescribe exemptions from a requirement for a drilling authorization, prescribe requirements for giving notice respecting an application for a drilling authorization, prescribe classes of persons who may appeal a decision respecting such an application);
- *local government authority*; review and amendment of plan. The minister may direct that a current plan be reviewed for potential amendments upon recommendation from the PHO.