Small Drinking Water Systems: Who Does What in New Brunswick?

1.0 Source Water Protection
2.0 Water Treatment and Distribution
3.0 Water Quality and Monitoring
4.0 Waste Management
5.0 Surveillance
6.0 Community Involvement

References/Notes

The minister refers to the Minister of the Environment and Local Government.

1.0 Source Water Protection

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

The Department of the Environment is the lead agency for water source protection in New Brunswick.

1.2 Who oversees liquid and solid waste management?

The minister oversees liquid and waste management.

1.3 Who is responsible for land use planning activities (from livestock to farming practices, including activities addressing drinking water concerns)?

The Watershed & Wellfield Protected Area Designation Orders prohibit and/or limit activities and facilities such as septic tanks, sewers, chemicals, motorized watercrafts, fishing and forestry, and industrial and agricultural practices within a drinking water supply watershed or wellfield that is protected through designation by the minister.

Through the EIA process, it is required that wellfields for all new municipal production wells be designated within one year.

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 minister has oversight and control of these activities through the EIA process and other regulatory tools such as wellfield and watershed designation orders.

The Department of the Environment also requires approvals before any contaminant is permitted to be discharged to the environment:

- No person shall, without an approval, emit, discharge, deposit, leave or throw any contaminant into or upon the environment in any location such that it may, directly or indirectly, cause water pollution to any waters of the province.
• No person shall, without an approval, cause or permit a source to emit, discharge, deposit, leave or throw any contaminant into or upon the environment in any location such that it may, directly or indirectly, cause water pollution to any waters of the province.
• No person shall, without an approval, construct, modify or operate or permit the construction, modification or operation of a source.
• No person shall, without an approval, which must include approval of the discharge point, construct, modify or operate or permit the construction, modification or operation of any wastewater works.
• No person shall, without an approval, which must include approval of the supply and quality of water, construct, modify or operate or permit the construction, modification or operation of any waterworks.
• No person shall, without an approval, join or permit the joining of the pipes of a distribution system of a municipality or rural community to any other system for the distribution of water.
• No person shall construct, modify or operate or permit the construction, modification or operation of any source, wastewater works or waterworks except in accordance with the terms and conditions of the approval issued for such source, wastewater works or waterworks.
• No owner of land shall knowingly permit any construction, modification or operation of any source, wastewater works or waterworks on his or her land which is in contravention of this Regulation.

No well shall be located within ten metres of the right-of-way of any highway or public road unless approved by the minister.

1.5 Who delivers permits to draw water?

The minister delivers permits to draw water.

A wetland/watercourse alteration permit is required for any project or structure that alters a watercourse or a wetland or diverts all or part of a watercourse or the water flowing in a watercourse or a wetland. An Environmental Impact Assessment (EIA) is required for all waterworks with a capacity greater than 50 cubic metres per day.

A person who engages in the business of well-drilling, undertakes the boring, drilling, digging, or redrilling of a well on lands of which that person is not the owner or lessee, or undertakes an operation incidental to the reconditioning or abandonment of a well on lands of which that person is not the owner or lessee shall obtain a well contractor’s permit.

A person who operates a machine for the purpose of drilling, altering, or repairing a well shall obtain a well driller’s permit.

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

Protection of the aquifer is controlled by the minister.

The minister, with approval of the Lieutenant-Governor in Council, by a Designation Order may designate as a protected area all or any portion of a watershed, aquifer, or ground water recharge area that is used as a source of water for a public water supply system. The Minister shall provide for a commencement date and impose requirements in a Designation Order respecting one or more of the following:
• the prohibition, control, or limitation of any activity or thing that might impair the quality or quantity of the water in a protected area;
• the allocation of the use of water in a protected area;
the prohibition, control, or limitation of the use of the land in a protected area;
• terms and conditions respecting the land or the water in a protected area;
• standards for the purpose of protecting the quality and quantity of the water in a protected area and methods of enforcing the standards.

No well shall be located so near to a source of contaminant that contamination of the well by groundwater flow or seepage may take place.

No well shall be located so near to a sanitary landfill, garbage dump, or other massive source of contaminant so that the well might become contaminated unless the written approval of the minister and the Minister of Health is obtained and the well is constructed in accordance with any requirement established by the Minister and the Minister of Health in their approval.

No well shall be located within ten metres of the right-of-way of any highway or public road unless approved by the minister.

Where a well is located at a place where surface water will pass over or near the opening of the well, the area immediately surrounding the opening of the well shall be filled with clay or clean earth for a distance of at least five metres in all directions from the opening and graded at the opening to an elevation at least six hundred millimeters above the ground.

Where a well is not in use and its continued existence might constitute a safety hazard or allow a contaminant to enter the aquifer, the owner of the well shall fill and seal the well using a method approved by the minister, sufficient to prevent the vertical movement of water in the well.

No well shall be used for waste disposal without the written approval of the minister and any such use shall be in accordance with any requirement established by the Minister in the approval.

The Potable Water Advisory Committee makes recommendations respecting the designation of all or any portion of a watershed, aquifer or ground water recharge area as a protected area and the prohibition of, control of, limitation of, allocation of or imposition of terms, conditions or standards respecting any activity, thing or water or land use within the area so designated, for the purpose of protecting the quality or quantity of the water in the protected area.¹

The Potable Water Advisory Committee shall consist of six persons, of whom
(a) one shall be the Chief Medical Officer, who shall be chairperson,
(b) two shall be employees of the Department of the Environment and Local Government, who shall be appointed by the Minister,
(c) two shall be employees of the Department of Health, who shall be appointed by the Minister of Health, and
(d) one shall be a member of the New Brunswick Medical Society, who shall be appointed by the Minister of Health.

13.1(4) The Committee shall make recommendations to the Minister of Health and to the Minister.²

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.)

The minister is responsible for wellfield and watershed designations.

1.8 Any source vulnerability assessment and ranking?

New water supplies, involving extraction or withdrawal of groundwater or surface water at a rate greater than 50 m³ per day, are subject to a water supply source assessment process. All waterworks with a capacity of greater than 50 m³ per day are required to be registered for review with the Department of the Environment.

Subdivisions of a certain size are also subject to a water supply and source water assessment. Through the Planning Commissions, an Abbreviated Assessment for 10–25 lots is necessary (which is basically a small desktop exercise). For 25–50 lots, a Comprehensive Assessment is necessary, which involves a short pumping test and water quality analysis. At 50 lots, the EIA process begins.

The Department of the Environment and local government review any reports that are sent in by the Planning Commissions and makes recommendations. The Planning Commissions, however, are not required to send in reports.

2.0 Water Treatment and Distribution

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

The Ministry of Environment is the lead organization, through federal/provincial infrastructure programs.

2.2 Any construction permits?

No person shall construct, modify or operate or permit the construction, modification or operation of any source, wastewater works or waterworks except in accordance with the terms and conditions of the approval issued for such source, wastewater works or waterworks. An approval shall be valid only for construction or modification completed within two years from the date of approval.

2.3 Any fee collected for water distribution?

Fee is collected at the municipal level; some are flat rate, some metered.

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

All regulated water systems are required (through their Approval to Operate) to have trained operators. Training must meet the minimum requirements as approved by the Department of the Environment.

All regulated water systems must also have a minimum number of certified operators. Operator certification is based on Association of Boards of Certification (ABC) standards; certification exams reference the Guidelines for Canadian Drinking Water Quality. Certification is mandatory for at least the operator in charge.

Any person responsible for a waterworks shall ensure that the waterworks is maintained in a clean and sanitary condition, in a good state of repair, and under the control of a competent person. The minister may, by notice to a person responsible for a source, wastewater works
or waterworks, prescribe a training program or programs for any person in control of or who is to be in control of the source, wastewater works, or waterworks, or any part thereof.

No person responsible for a source, wastewater works, or waterworks shall permit a person to be in control of a source, wastewater works, or waterworks, or any part thereof, who:

- fails or refuses to take any training program prescribed by the minister;
- fails to successfully complete, to the satisfaction of the minister, such training program and all tests and examinations which may be given.

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

No person shall, without an approval, which must include approval of the supply and quality of water, construct, modify or operate or permit the construction, modification or operation of any waterworks.

The system owner is required to have any treatment system designed by a professional engineer. Design is reviewed and approved by the Department of the Environment with input from the Department of Health.

The minister may inspect a source, a wastewater works or a waterworks and, during the inspection, may make the tests and measurements and take samples required.

The minister may require a person responsible for a source, wastewater works or waterworks to monitor and maintain records of parameters of operation on the source, wastewater works or waterworks and discharge therefrom.

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

The system owner is responsible for the maintenance and upgrading of any water treatment works.

Any upgrades of a water treatment plant are the responsibility of the system owner and must be designed by a professional engineer.

No person shall, without an approval, which must include approval of the supply and quality of water, construct, modify or operate or permit the construction, modification or operation of any waterworks.

2.7 Any requirements for the water supply system?

No person shall, without an approval, which must include approval of the supply and quality of water, construct, modify or operate or permit the construction, modification or operation of any waterworks.

Municipally and provincially owned and operated water systems are required to sample their water according to the Clean Water Act (NB). Regulated water supplies must test for the specific parameters outlined in their sampling plans. Results that exceed these limits will be subject to a health risk assessment which may result in the issuance of an interdiction (boil water advisory, do not consume order, or other directive), to ensure the safety of citizens.

Approvals for waterworks and sewage works must be renewed every five years.

Regarding wells, the Welling Drilling Advisory Board advises the minister in relation to (a) the location, spacing, construction, testing, alteration, repairing, sealing, capping and abandoning of wells, and
(b) the issue, transfer, suspension, cancellation, renewal and reinstatement of registrations, licences, permits and approvals for the construction, testing, altering, reconditioning, repairing, sealing, capping or abandoning of wells.3

3.0 Drinking Water Quality and Monitoring

3.1 Who is the lead agency for drinking water quality?

The Department of Health and the Department of the Environment and Local Government lead co-operatively to regulate public drinking water supplies.

3.2 Who defines water quality standards?

Water quality standards are defined by the Minister of Health, including the minimum system sampling requirements.

Where a medical officer of health or public health inspector has reasonable and probable grounds to believe that a health hazard may exist in or on any premises, the medical officer of health or public health inspector shall investigate or cause an investigation to be carried out to determine whether a health hazard exists.

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

The Department of the Environment and Local Government is responsible for regulating and protecting water systems from source to tap. The Department of Health has responsibility for assessing the risk to public health and ensuring appropriate response is taken to a health risk.

The Department of Health works in cooperation with the Department of the Environment and Local Government to regulate public drinking water supplies.

3.4 Who enforces regulations, if any?

The Department of the Environment and Local Government is the lead on enforcement activities related to compliance with Approvals to Operate. The Department of Health is responsible for directing system owners to notify customers of public health risks and has the authority to discontinue or revoke any health-related interdiction.

3.5 Who ensures the accountability of government and water suppliers?

Systems over 50 m3 per day require approvals from the Minister of the Environment. These systems are audited (Approval Compliance Evaluation) by drinking water engineers and public health inspectors. The Department of the Environment also reviews Annual Reports that are submitted as required by the system’s Approval to Operate.

The results of all water quality samples are required to be submitted electronically to a drinking water data management system.

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 Department of the Environment and Local Government is responsible for regulating and protecting water systems from source to tap. The Department of Health has responsibility for assessing the risk to public health and ensuring appropriate response is taken to a health risk.

No person shall, without an approval, which must include approval of the supply and quality of water, construct, modify or operate or permit the construction, modification or operation of any waterworks.

An owner of a water system is responsible for monitoring, control, and management of the treatment processes. Any treatment systems must be designed by a professional engineer and are reviewed and approved by the Department of the Environment with input from the Department of Health.

3.7 Any approval process for newly built water treatment systems?

All waterworks with a capacity greater than fifty cubic metres of water daily are required to register an EIA with and receive a determination from the minister.

No person shall, without an approval, which must include approval of the supply and quality of water, construct, modify or operate or permit the construction, modification or operation of any waterworks.

An owner of a regulated water supply system shall:
- have a “sampling plan” approved by the Minister of Health;
- ensure the water in the system is collected and tested in accordance with the “sampling plan.”

If an owner does not have an approved “sampling plan,” the Minister of Health may make a “sampling plan” for the system.

A “sampling plan” shall be on a form provided by the Minister of Health and include:
- frequency with which samples are to be collected from the regulated water supply system for the purpose of testing;
- list of substances the water system is to be tested for;
- description of each location in the water supply system where samples of water are to be collected;
- name or title of the position of the person who is to collect the samples and description of the relevant training of that person;
- name and address of the laboratory performing the testing;
- date the water sampling is to commence;
- other information the minister (Environment) considers necessary.

An owner may make written application to the Minister of Health to amend the “sampling plan” that applies to that system subject to approval from the Minister of Health; the amendment is to take effect on the date of approval.

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

4 The Government of New Brunswick is in the process of transferring the sampling plan responsibility outlined here from Health to Environment and Local Government. At this time the regulation has not been changed but it is expected in the near future.
**System owners** are responsible for monitoring the water system as prescribed in their sampling plan and Approval to Operate, which includes drinking water samples as well as operational requirements such as chlorine residuals.

If the **Minister of Health** determines upon testing or believes, based on other reasonable and probable grounds, that water in a well, public water supply system, or water supply system poses a significant health risk because of the presence of a contaminant in the water at the source, the **minister (Environment)**:

- shall make such order as the **minister** considers advisable and necessary in order to ensure that:
  - access to the source of the water is closed or barred, temporarily or permanently,
  - water is temporarily or permanently provided,
  - the significant health risk is eliminated, if the Minister is satisfied, after consulting with the Minister of Health, that it would be possible or practicable to do so, and

- may order the owner of the well, public water supply system, or water supply system:
  - to install a new permanent well or to provide an alternate source that provides water of a quality and quantity at least equivalent to and that is as convenient as the water provided before the significant health risk occurred for all **consumers** of the water, if the **minister** is satisfied, after consulting with the Minister of Health, that it would be impossible or impracticable to eliminate the significant health risk,
  - to take such further measures as the **minister** considers advisable and necessary.

With respect to source water, the **minister**, with the approval of the **Lieutenant-Governor in Council**, may, by a Designation Order, designate as a protected area all or any portion of a watershed, aquifer, or ground water recharge area that is used as a source of water for a public water supply system. The Minister may impose requirements in a Designation Order respecting one or more of the following:

- the prohibition, control, or limitation of any activity or thing that might impair the quality or the quantity of the water in a protected area;
- the allocation of the use of the water in a protected area;
- the prohibition, control, or limitation of the use of the land in a protected area;
- terms and conditions respecting the land or the water in a protected area; or
- standards for the purpose of protecting the quality and quantity of the water in a protected area and methods of enforcing the standards.

The **minister** may designate persons as inspectors for the purposes of the **Clean Water Act**.

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

**System owners** (i.e., The Approval Holder) must **immediately** notify the **Department of Health** of any actions or events that lead or may lead to the deterioration of water quality in the distribution system and impact the health and/or safety of the users of the system. The Approval Holder also must contact a **Department of the Environment Drinking Water Engineer** within **one business day** of the emergency.

An owner or operator of a public water supply system shall, when required by the minister, ensure that persons who consume water from the system are provided forthwith with such information in relation to the water from the system and such other information as the minister may require the owner or operator to provide.
4.0 Waste Management (part of source water protection as well)

The minister oversees liquid and waste management.

Approvals for waterworks and sewage works must be renewed every five years.

No person shall, without an approval, which must include approval of the discharge point, construct, modify or operate or permit the construction, modification or operation of any wastewater works.

No approval is required for the construction, modification or operation of a private system of wastewater works which is regulated under the Health Act, unless the system discharges industrial waste. The minister, after consultation with the Minister of Health, may designate areas and restrict or prohibit the construction of private wastewater works, as regulated under the Health Act if, in his opinion, water pollution would otherwise result.

5.0 Surveillance

5.1 Any process in place to respond to health complaints?

Each system owner is encouraged to maintain a complaint record and have laboratory-testing results for water quality. The Department of Health must be immediately notified of any actions or events that lead or may lead to the deterioration of water quality in the distribution system and impact the health and/or safety of the users of the system.

The Department of Health has responsibility for assessing the risk to public health and ensuring appropriate response is taken to a health risk. Public health inspectors would respond to complaints (including those from the public) related to public health.

5.2 Any outbreak surveillance system in place?

All drinking water quality results must be reported electronically to a drinking water data management system. Exceedances of any sampling plan parameter trigger automatic notification to public health inspectors.

Compliance evaluations (audits) of water systems are also completed jointly by drinking water engineers and public health inspectors.

The Department of Health is responsible for monitoring and surveillance of health trends in the general population as a means of identifying potential water contamination. The Department of the Environment and Local Government is responsible for monitoring source water quality and assessing the potential impacts of environmental issues on drinking water.

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

The Department of Health has responsibility for assessing the risk to public health and ensuring appropriate response is taken to a health risk. If required, a drinking water interdiction will be issued and system owners will be ordered to advise their residents/customers.

All drinking water quality results are required to be submitted electronically to a drinking water data management system.
5.4 Who is responsible for managing outbreaks?

*Department of Health* has primary responsibility for assessing the risk to public health and ensuring an appropriate response is taken to a health risk. *Department of the Environment and Local Government* may assist the Department of Health in assessing health risk. The Department of Health has the sole authority for discontinuing or revoking any interdiction.

If an interdiction is required, the *Department of Health* will issue it and require system owners to get notices out to the public.

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

*System owners/operators must immediately* notify the *Department of Health* of any actions or events that lead or may lead to the deterioration of water quality in the distribution system and impact the health and/or safety of the users of the system.

*Members of the community* may also notify system owners/operators or directly contact the *Department of Health* or the *Department of the Environment and Local Government* with any drinking water concern.

References/Notes

  - Potable Water Regulation, N.B. Reg. 93-203
  - Water Well Regulation, N.B. Reg. 90-79

  - Water Quality Regulation, N.B. Reg. 82-126
  - Environmental Impact Assessment Regulation, N.B. Reg. 87-83

With reference to:
  - *Understanding Water Quality Results* (Department of Health)
  - *Drinking Water Quality Guidelines in New Brunswick* (Department of Health)

Notes:
  - The *minister* refers to the *Minister of the Environment and Local Government*.
  - New Brunswick defines “waterworks” to include cisterns, reservoirs, and tanks.
  - While all registered water systems in New Brunswick are required to have a capacity of greater than 50 m3 per day, there is also a distribution classification for population served:

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<thead>
<tr>
<th>Distribution Classification</th>
<th>Population Served</th>
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<tbody>
<tr>
<td>Class 1</td>
<td>0 – 1500</td>
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<tr>
<td>Class 2</td>
<td>1500 – 5000</td>
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<td>(2/3 of NB systems = 0 – 5000)</td>
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<tr>
<td>Class 3</td>
<td>5000 – 15000</td>
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<tr>
<td>Class 4</td>
<td>greater than 15000</td>
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<td>(6 systems in NB)</td>
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