

2021 Biennial Drinking Water Plants Survey

CONFIDENTIAL once completed.

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This information is collected under the authority of the Statistics Act, Revised Statutes of Canada, 1985, Chapter S-19.
COMPLETION OF THIS QUESTIONNAIRE IS A LEGAL REQUIREMENT UNDER THIS ACT.

Introduction

Survey purpose

This survey collects information on the quantity of water processed by plants that draw raw water from the environment to produce potable water. The plants in the survey range from ones that use complex treatment processes for surface water to ones that use minimal treatment for groundwater. This data will be used to track the state of water supply and demand on a regional basis in Canada and to develop environmental accounts.

Your information may also be used by Statistics Canada for other statistical and research purposes.

Security of emails and faxes

Statistics Canada advises you that there could be a risk of disclosure during facsimile or email. However upon receipt, Statistics Canada will provide the guaranteed level of protection afforded all information collected under the authority of the *Statistics Act*.

Note: our online questionnaires are secure, there is no risk of data interception when responding to Statistics Canada online surveys.

Confidentiality

The *Statistics Act* protects the confidentiality of information collected by Statistics Canada.

Data sharing agreements

To reduce respondent burden, Statistics Canada has entered into data-sharing agreements with provincial and territorial statistical agencies and other government organizations, which have agreed to keep the data confidential and use them only for statistical purposes.

Information on confidentiality, data-sharing agreements and record linkages can be found on the last page of this questionnaire.

Please return the questionnaire within 60 days.

Please mail the completed questionnaire in the enclosed envelope or fax it to Statistics Canada at 1-888-883-7999.

If you are unable to complete within 60 days **OR** if you need help, call us at **1-877-949-9492** or **TTY 1-800-363-7629**.

Statistics Canada
Operations and Integration Division
150 Tunney's Pasture Driveway
Ottawa, Ontario K1A 0T6

Visit our website, www.statcan.gc.ca

Reporting instructions

- Please print in ink.
- Report dollar amounts in **Canadian dollars**.
- **Exclude** sales tax.
- Percentages should be rounded to whole numbers.
- When precise figures are not available, provide your best estimates.

Business or organization and contact information

1. **Verify or provide** the business or organization's **legal and operating name** and correct where needed.

Note: Legal name modifications should only be done to correct a spelling error or typo.

Legal name

Operating name (if applicable)

2. **Verify or provide the contact information** of the designated business or organization **contact person** for this questionnaire and correct where needed.

Note: The designated contact person is the person who should receive this questionnaire. The designated contact person may not always be the one who actually completes the questionnaire.

First name

Last name

Title

Preferred language of communication

☐

English

☐

French

Mailing address (number and street)

City

Province, territory or state

Postal code or ZIP code

Example: A9A 9A9 or 12345-1234

Country

Email address

Example: user@example.gov.ca

Telephone number (including area code)

Example: 123-123-1234

Extension number
(if applicable)

Fax number (including area code)

Example: 123-123-1234

3. **Verify or provide the current operational status** of the business or organization identified by the legal and operating name above.

B00323

1 ☐ Operational → **Go to question 4**

2 ☐ Not currently operational

e.g., temporarily or permanently closed, change of ownership

Why is this business or organization not currently operational?

B00309

2 ☐ Seasonal operations → **Go to question 3a**

3 ☐ Ceased operations → **Go to question 3b**

4 ☐ Sold operations → **Go to question 3c**

5 ☐ Amalgamated with other businesses or organizations → **Go to question 3d**

6 ☐ Temporarily inactive but will re-open → **Go to question 3e**

7 ☐ No longer operating due to other reasons → **Go to question 3f**

3a. Seasonal operations

When did this business or organization close for the season?

Date
B00217
YYYY MM DD

When does this business or organization expect to resume operations?

Date
B00218
YYYY MM DD → **Go to question 4**

3b. Ceased operations

When did this business or organization cease operations?

Date
B00211
YYYY MM DD

Why did this business or organization cease operations?

B00311

1 ☐ Bankruptcy

2 ☐ Liquidation

3 ☐ Dissolution

4 ☐ Other
Specify the other reasons why the operations ceased

B00312

→ **Go to question 4**

3c. Sold operations

When was this business or organization sold?

YYYY MM DD
B00212
Date

What is the legal name of the buyer?

B00406

→ Go to question 4

3d. Amalgamated with other businesses or organizations

When did this business or organization amalgamate?

YYYY MM DD
B00213
Date

What is the legal name of the resulting or continuing business or organization?

B00407

What are the legal names of the other amalgamated businesses or organizations?

B00408

→ Go to question 4

3e. Temporarily inactive but will re-open

When did this business or organization become temporarily inactive?

YYYY MM DD
B00214
Date

When does this business or organization expect to resume operations?

YYYY MM DD
B00215
Date

Why is this business or organization temporarily inactive?

B00313

→ Go to question 4

3f. No longer operating due to other reasons

When did this business or organization cease operations?

YYYY MM DD
B00216
Date

Why did this business or organization cease operations?

B00314

Drinking water plant information for 2021

1. In 2021, did your organization own and/or operate drinking water facilities that withdraw water from the environment, in order to treat and/or convey potable water to a permanent community of 300 or more people?

B00326

1 ☐ Yes

2 ☐ No

- Please indicate the reasons why your organization does not own and/or operate drinking water facilities that withdraw water from the environment, in order to treat and/or convey potable water to a permanent community of 300 or more people?

Select all that apply.

B00327_r1

☐ Your water system serves less than 300 people

B00327_r2

☐ You own and/or operate a distribution system only

↳ What organization provides water to your distribution system?

B00328

B00327_r90

☐ Other reason

↳ Specify other reason.

B00327_r80

Drinking water plant information for 2021

2. Indicate which drinking water facilities and/or sources listed below were operational in 2021 (facilities that withdraw water from the environment, in order to treat and/or convey potable water to a permanent community of 300 or more people). In some cases, such as groundwater supplies, there can be multiple water facilities and/or sources associated with a well as opposed to listing each well.

Note: Any corrections to facility and/or source name (spelling or name changes) can be made in the comments section at the end of the survey.

Other facilities and/or sources can be added to this list on the following page.

Select all that apply.

B00329_I1

☐

B00329_I2

☐

B00329_I3

☐

B00329_I4

☐

B00329_I5

☐

B00329_I6

☐

B00329_I7

☐

B00329_I8

☐

B00329_I9

☐

B00329_I10

☐

B00329_I11

☐

B00329_I12

☐

B00329_I13

☐

B00329_I14

☐

B00329_I15

☐

B00329_I16

☐

B00329_I17

☐

B00329_I18

☐

B00329_I19

☐

B00329_I20

☐

C

B00329_I21

☐

☐ None of the water facilities and/or sources listed above were operational in 2021

3. Are there other drinking water facilities and/or sources to be added?

B00331

1 ☐ Yes

How many other drinking water facilities and/or sources need to be added to the list?

B00332

2 ☐ No

Drinking water plant information for 2021

4. Please provide the following information for the drinking water facilities and/or sources that need to be added to the list. If there are multiple water facilities and/or sources being reported for the facility and/or source name being added, enter the location and coordinates for the facility that produced the largest volume of potable water in 2021.

Note: In some cases, such as groundwater supplies, there can be multiple water facilities and/or sources associated with a name.

Note: If more than one facility/source is being added, use the comments section on page 15.

► Additional facility and/or source

What is the facility name?

B00444_I

Is there a civic address for this water facility and/or source?

B00445_dt1_I

1 ☐ Yes

↳ Please report the address of the water facility and/or source.

Address number

B00445_dt2_I

Street or road name

B00445_dt3_I

Street type (Rd, Ave, etc.)

B00445_dt4_I

Name of city

B00445_dt5_I

Postal code Example: A1A 1A1

CB00445_dt6_I

2 ☐ No

How would you report the water facility and/or source coordinates?

B00445_dt7_I

1 ☐ In decimal degrees

↳ Please provide the water facility and/or source coordinates.

Latitude

B00445_dt8_I

Longitude

B00445_dt9_I

2 ☐ In degrees, minutes and seconds

↳ Please provide the water facility and/or source coordinates.

Latitude N - Degrees

B00445_dt10_I

Latitude N - Minutes

B00445_dt11_I

Latitude N - Seconds

B00445_dt12_I

Longitude W - Degrees

B00445_dt13_I

Longitude W - Minutes

B00445_dt14_I

Longitude W - Seconds

B00445_dt15_I

3 ☐ In Universal Transverse Mercator (UTM) zone, eastings and northings

↳ Please provide the water facility and/or source coordinates.

Zone

B00445_dt16_I

Eastings

B00445_dt17_I

Northings

B00445_dt18_I

Drinking water plant information for 2021

5. Why are any facilities and/or sources, not selected in question 2, no longer operational?

Comments

B00333

6. Please provide a reason for the new water facilities/sources you added to your list.

Comments

B00334

Potable water volumes for 2021

7. Which unit of measure will be used to report volumes of potable water for all facilities and/or sources listed previously in the questionnaire?

B40271

EQ_VOL_M3

☐

Cubic metres

EQ_VOL_L

☐

Litres

EQ_VOL_ML

☐

Megalitres

1 million litres

EQ_VOL_IMPGAL

☐

Imperial gallons

1 imperial gallon equals 4.5 litres

EQ_VOL_USGAL

☐

U.S. gallons

1 U.S. gallon equals 3.8 litres

Potable water volumes for 2021

8. What were the **monthly volumes** of potable water produced in 2021 for all water facilities and/or sources listed previously in this questionnaire?

- a. January
- b. February
- c. March
- d. April
- e. May
- f. June
- g. July
- h. August
- i. September
- j. October
- k. November
- l. December

Monthly Volumes

E45181_tp1

E45181_tp2

E45181_tp3

E45181_tp4

E45181_tp5

E45181_tp6

E45181_tp7

E45181_tp8

E45181_tp9

E45181_tp10

E45181_tp11

E45181_tp12

E45181_tp100

Total volume of potable water produced in 2021

9. Are the potable water volumes reported metered or estimated?

B00518

1 ☐

Metered

2 ☐

Estimated

Source water types for 2021

10. Of the total volume of potable water produced in 2021, what is the breakdown of the **volume of potable water produced by source water type** and the **number of production facilities** where raw water is withdrawn from the environment and treated and/or conveyed as potable water?

Note: • **Report** the combined total for all water facilities and/or sources listed previously in this questionnaire.

- Indicate the number of production facilities and wells where raw water is withdrawn from the environment to treat and/or convey potable water.

Source water type	Volume of potable water produced by source water type	Number of production facilities
a. Surface water	E45181_sr1	B15006_sr1
b. Groundwater	E45181_sr2	B15006_sr2
c. Groundwater under direct influence (GUDI) of surface water GUDI refers to groundwater supply sources under conditions where microbial pathogens are able to travel from surface water to the groundwater source.	E45181_sr3	B15006_sr3
Total	E45181_sr100	B15006_sr100

Sector use and population served for 2021

11. Of the total volume of potable water produced in 2021, what is the breakdown of the volume of potable water consumed by the following sectors for all facilities and/or sources listed previously in this questionnaire?

Note: • If your organization is a water wholesaler to other jurisdictions please consult with them to provide the volumes of water for lines a., b., and c. below.

- **Report** the combined total for all water facilities and/or sources listed previously in this questionnaire.
- When precise figures are not available, please provide your best estimates.
- Consult with other departments within your organization if necessary.

	Volume of potable water consumed
a. Residential	E61331_sc1
b. Non-residential e.g., industrial, commercial, institutional, agriculture, municipal services and other non-residential uses	E61331_sc2
c. Losses from the distribution system e.g., leaks, system maintenance and flushing	E61331_sc3
d. Wholesale water provided to other jurisdictions e.g., water transferred to other municipalities or towns, that distributed the water to consumers	E61331_sc4
Total potable water consumed	E61331_sc100

Sector use and population served for 2021

12. What sources of information were used to report the potable water consumption?

Select all that apply.

B00519_md1

☐

Specific study and/or analysis for this facility

B00519_md2

☐

Water billing accounts

B00519_md90

☐

Other sources of information

Specify other sources of information.

B00519_md80

13. In 2021, what was the number of people served by all the water facilities and/or sources listed previously in this questionnaire?

When precise figures are not available, please provide your best estimates.

Number of people

E61332

14. Does the number of people provided in question 13 include those served by wholesale water sent to other jurisdictions?

B00335

1 ☐

Yes

2 ☐

No

15. What sources of information were used to report the size of the population served?

Select all that apply.

B00521_md1

☐

Specific study and/or analysis for this facility

B00521_md2

☐

Water billing accounts

B00521_md3

☐

Census data

B00521_md90

☐

Other sources of information

Specify other sources of information.

B00521_md80

Water treatment processes for 2021

16. Of the total volume of potable water produced 2021, what is the breakdown, by type of source, of the volume of potable water for the following treatment categories for all water facilities and/or sources listed previously in this questionnaire?

Categories are based on main unit processes applied.

'Disinfection system' includes chlorination (hypochlorites or chlorine gas), chlorine dioxide, ozonation, uv-irradiation, ozonation. At least one is applied for primary and/or secondary disinfection.

If reporting for multiple facilities that fall under different categories, **report** the volume of potable water produced by each treatment category.

Volume of potable water
from surface water

Volume of potable water
from groundwater
and/or GUDI

Disinfection with filtration

a. Conventional treatment

Includes the unit processes (granular media filtration: single, dual or triple media), coagulation-flocculation, clarification-sedimentation, at least one disinfection system. Report integrated and sand ballasted systems that combine processes of coagulation-flocculation-sedimentation with granular media filtration in this category.

Excludes the unit processes (all membrane filtration systems).

E45181_sr1_m1

E45181_sr4_m1

b. Direct filtration

Includes the unit processes (granular media filtration: single, dual or triple media), coagulation-flocculation, at least one disinfection system.

Excludes the unit processes (all membrane filtration systems, all clarification-sedimentation processes).

E45181_sr1_m2

E45181_sr4_m2

c. Granular media filtration (single, dual or triple media) - without coagulation

Includes the unit processes (granular media filtration: single, dual or triple media), at least one disinfection system.

Excludes the unit processes (all other filtration processes, coagulation).

E45181_sr1_m3

E45181_sr4_m3

d. Membrane filtration

Includes the unit processes (any membrane system, i.e., ultra, micro, nano, reverse osmosis), at least one disinfection system.

Excludes the unit processes (all other filtration processes).

E45181_sr1_m4

E45181_sr4_m4

e. Membrane filtration with other filtration

Includes the unit processes (any membrane system i.e., ultra, micro, nano, reverse osmosis applied with any other filtration processes), at least one disinfection system.

E45181_sr1_m5

E45181_sr4_m5

f. Other filtration systems

Includes the unit processes (cartridge filter, bag filter, slow sand filtration used on their own or any combination together, or in combination with granular media filtration: single, dual or triple media), at least one disinfection system.

Excludes the unit processes (all membrane filtration systems).

E45181_sr1_m6

E45181_sr4_m6

...continues on next page

Water treatment processes for 2021

...continues from previous page

Volume of potable water
from surface water

Volume of potable water
from groundwater
and/or GUDI

Disinfection without filtration

g. Disinfection only

Includes the unit processes (at least one disinfection system).

Excludes the unit processes (all other chemical addition and treatment processes).

E45181_sr1_m7

E45181_sr4_m7

h. Disinfection with other chemical addition-treatment (unfiltered systems)

Includes the unit processes (at least one disinfection system) with any other chemical addition-treatment or non-filtration processes (e.g., greensand which is an ion-exchange process).

Excludes the unit processes (all membrane or non-membrane filtration processes).

E45181_sr1_m8

E45181_sr4_m8

No Disinfection

i. No treatment

Excludes the unit processes (all treatment processes and disinfection systems).

E45181_sr1_m9

E45181_sr4_m9

j. No disinfection with other treatment

Includes the unit processes (any non-disinfection treatment processes).

Excludes the unit processes (all disinfection systems).

E45181_sr1_m10

E45181_sr4_m10

E45181_sr1_m100

E45181_sr4_m100

Total of potable water by type of source

Grand total of potable water

Capital expenditures - Water acquisition and treatment 2020 and 2021

17. For the 2020 and 2021 calendar year (January to December), what were the **capital expenditures** related to the acquisition and treatment of raw source water for all water facilities and/or sources listed previously in this questionnaire?

Include:

- money spent to add, expand or upgrade physical assets such as property, buildings, machinery and processing equipment and infrastructure
- capitalized costs related to waste treatment processes (i.e., backwash and/or sludge processing and residuals disposal related to potable water production)
- construction and engineering costs such as installation, retrofitting, contingencies, contractor, engineering and legal and related administrative fees
- indirect costs related to capital expenditures such as housing, permitting, land, piloting and education.

Exclude costs associated with distribution.

Report all amounts in Canadian dollars.

2020 capital expenditures

F80133_tp13

\$.00

2021 capital expenditures

F80133_tp14

\$.00

Operation and maintenance costs – Water acquisition and treatment

18. For the 2021 calendar year (January to December), what were the **operation and maintenance costs** related to the acquisition and treatment of raw source water for all water facilities and/or sources listed previously in this questionnaire?

Include:

- purchases of materials, chemicals and replacement parts
- labour, internal and external staff including laboratory personnel
- energy costs
- waste disposal and residuals handling costs related to potable water production
- analytical / sampling costs
- any associated administration and service costs directly related to operation and maintenance such as consultants and contractors
- operation and maintenance costs related to waste treatment processes (i.e., backwash / sludge processing and residuals disposal related to potable water production).

Exclude costs associated with **distribution**.

Report all amounts in Canadian dollars.

	Operation and maintenance costs (CAN\$)
a. Materials (e.g., chemicals and replacement parts)	F61082_y1 \$00
b. Labour (e.g., internal and external staff)	F61082_y2 \$00
c. Energy (e.g., electricity, natural gas, diesel, other)	F61082_y3 \$00
d. Other operation and maintenance costs ↳ Specify operation and maintenance costs.	
F61082_y80	F61082_y90 \$00
Total	F61082_v100 \$00

Contact person

19. Statistics Canada may need to contact the person who completed this questionnaire for further information.

If the contact person is the same as on cover page, please check ☐ → **Go to "Feedback"**

Otherwise, who is the **best person to contact** about this questionnaire?

First name

Last name

Title

Email address (Example: user@example.gov.ca)

Telephone number (including area code)
Example: 123-123-1234

Extension number
(if applicable)

Fast number (including area code)
Example: 123-123-1234

Feedback

20. How long did it take to complete this questionnaire?

Include the time spent gathering the necessary information.

Hours

Minutes

21. We invite your comments about this questionnaire.

B00002

General information

Confidentiality

Your answers are confidential.

By law, Statistics Canada is prohibited from releasing any information it collects that could identify any person, business, or organization, unless consent has been given by the respondent, or as permitted by the *Statistics Act*. Statistics Canada will use the information from this survey for statistical purposes only.

Data-sharing agreements

To reduce respondent burden, Statistics Canada has entered into data-sharing agreements with provincial and territorial statistical agencies and other government organizations, which have agreed to keep the data confidential and use them only for statistical purposes. Statistics Canada will only share data from this survey with those organizations that have demonstrated a requirement to use the data.

Section 11 of the *Statistics Act* provides for the sharing of information with provincial and territorial statistical agencies that meet certain conditions. These agencies must have the legislative authority to collect the same information, on a mandatory basis, and the legislation must provide substantially the same provisions for confidentiality and penalties for disclosure of confidential information as the *Statistics Act*. Because these agencies have the legal authority to compel businesses to provide the same information, consent is not requested and businesses may not object to the sharing of the data.

For this survey, there are **Section 11** agreements with the provincial and territorial statistical agencies of Newfoundland and Labrador, Nova Scotia, New Brunswick, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Yukon. The shared data will be limited to information pertaining to business establishments located within the jurisdiction of the respective province or territory.

Section 12 of the *Statistics Act* provides for the sharing of information with federal, provincial or territorial government organizations. Under **Section 12**, You may refuse to share Your information with any of these organizations by writing a letter of objection to the Chief Statistician and returning it with the completed questionnaire. Please specify the organizations with which You do not want to share Your data.

For this survey, there are **Section 12** agreements with the statistical agencies of Prince Edward Island, the Northwest Territories and Nunavut as well as with Health Canada, Environment Canada and Infrastructure Canada.

For agreements with provincial and territorial government organizations, the shared data will be limited to information pertaining to business establishments located within the jurisdiction of the respective province or territory.

Record linkages

To enhance the data from this survey and to reduce the reporting burden, Statistics Canada may combine the acquired data with information from other surveys or from administrative sources.

Thank you for completing this questionnaire.

Please retain a copy for your records.

Visit our website, www.statcan.gc.ca