

Rural Drinking Water Project Interview Guide

*It is likely there will be overlap between the questions, be conscious of linking questions together and following up on comments.

Section A:

Background Information on Respondent

1. What town do you live in?
 - How long have you lived in your town?
2. What is your profession? What is your role in your community that relates to drinking water?
 - Are you a paid part time/full time position? A volunteer? A user?
3. How long have you been working/associated [with the subject town]?
4. Are you involved in any other organizations in your town not covered above?

Section B:

General Drinking Water Information

***To be collected from all participants**

1. How would you describe the quality and quantity of your local drinking water?
 - Are you content with the drinking water quality in your community?
 - Do you like the taste/appearance?
 - Has your opinion on the drinking water quality changed overtime?
2. In your opinion what is the general resident's perception of the drinking water quality in your community?
 - In your opinion, are there any (widely held) misconceptions?
3. Do you think your town's drinking water is safe?
 - Are there any factors that you think may be affecting the safety or quality of drinking water in your community?
4. Have you ever felt that the water system/source in your community as being vulnerable/facing particular threats? (If the respondent struggles with this--e.g. presence of disinfectant by-products, point or non-point pollution, physical obstructions in water source, aging or inadequate infrastructure)

NB- It is key here to have a good working knowledge of those risks/threats for community in question based on the community profile at the Water Resources Portal
 - Under what circumstances did these threats emerge? (e.g. after a particular evident, access to a new information, speaking with a public official etc.)
 - To what extent do any threats apply to you individually as opposed to a risk for the entire community?
5. How do you determine whether your current water system is safe, or conversely under threat? I.e. What sources of information (people, government, scientific lit..) would you regularly use in determining the safety and quality of your water system/source?
 - Has government been helpful in identifying threats within your water system/water source?

6. Have your perceptions towards the risks associated with water quality changed over time? If yes, how so?
7. What are the positive aspects of the publicly supplied water in your town?
8. Name any negative impacts of the public drinking water on your town? (impacts can be economic, social, environmental etc)
9. What other sources of drinking water do people in your town use other than the publically supplied drinking water (e.g. spring water, bottled water)?
10. What have been the challenges your community has faced in the past regarding drinking water?
 - Does the number of Boil Water Advisories in your community concern you?
11. What would you consider the emerging or more recent challenges for your community's drinking water supply?
12. What kind of development/land use is there in the vicinity of your community's water suppl(y/ies)?
 - In the greater watershed/catchment?
13. Is your water source designated as a protected public water supply area?
 - Are there any activities that are prohibited in or around your water supply?
 - If so, do you think these prohibited activities are appropriate?
 - Are they enforced? Are they violated?
 - Are there any activities that should be prohibited in your town's drinking water source that pose a risk to human health?
14. Have there been problems with the water supply and/or delivery system(s)? Including source water, the pump house, treatment/ filtration or distribution systems?
 - Have they been addressed/resolved? If so, how? If not, why?
 - Is this problem(s) a reoccurring problem?
15. Are you aware of any research that has been done on the local water supply?
 - Has there been an evaluation of the sustainability/capacity of the water supply? Hydrological surveys? Other studies?

16. Do changes in weather ever impact your town's drinking water supply?
- If so, in what ways?
 - Is there a plan to mitigate these impacts? Are there adaptation strategies in place?
 - Describe any changes in water quality/availability that occurs seasonally and/or after extreme weather events.
17. In what ways do you think being "rural" affects your community's drinking water quality and supply?

Section C:

Role Specific Questions

Water Operator

Water System, Maintenance and Operations

1. What is the local source of drinking water?
 - Is it the only one? Is there a back-up supply?
2. If your town is designated as a protected public water supply area:
 - Why did your town choose to designate as a protected public water supply area?
 - How is the water supply managed/protected?
 - Do you think source protection measures are adequate?
 - Has the council tried any new methods of reducing violations of the town's rules/regulations?
3. How long ago was your town's public water supply (source) developed? Can you tell me anything about the historical development of the drinking water suppl(y/ies) locally?
4. How would you describe the level and quality of water infrastructure in your community?
 - Type of infrastructure
 - Scale appropriate for design capacity?
 - What year was it installed? Have upgrades been made since installation?
5. Do you have water treatment?
 - How long have these systems been in place? Is everything currently working?
 - What kind of treatment system do you use?
 - Are you happy with it?
 - Is there sufficient disinfecting agent available? Has the disinfecting agent expired?
6. Do you have water filtration do you use?
 - How long have these systems been in place? Is everything currently working?

- What kind of filtration is used?
 - Are you happy with it?
7. How is drinking water currently delivered in the community? Do all residents have piped services?
- What proportion of your community households rely on private wells?
8. Are there any high risk public facilities supplied by the public drinking water system?
- Daycare facility?
 - Hospital?
 - Seniors home, long-term facility?
 - School (K-12)?
9. Are there any high water users using the public supply?
- Fish plants, other industry?
 - Does this impact the quality or quantity of the drinking water?
10. Is there a designated workshop area for drinking water system operation and maintenance?
- Are there appropriate tools in the workshop to perform basic maintenance?
 - Are there operating and maintenance manuals for the treatment equipment, pumps, etc readily available?
 - Do you have spare parts, consumables, maintenance kits, etc?
11. How often do you check for chlorine residual?
12. Do you have a regular system cleaning program?
13. How many (if any) emergency repairs have been required completed in the last 2 years?
- Is any emergency repair kit readily available to keep the system operational in an emergency situation (such as back-up pumps?)
14. Are there any re-occurring operational problems?
15. Do you have a cross-connections control program (Connection to prevent back-siphoning and/or backpressure into the town water mains)?

16. Do you have the resources to prepare and maintain up-to-date water treatment system/plant and distribution systems documentation such as As-Built drawings, Process diagrams, Operations Manuals, Log Books, Lab Results, etc?
 - Could you easily locate As-Builts for:
 - Water Treatment System/Plant
 - Distribution System
 - Water Storage Tank
17. Do you feel the water treatment facility, water source area, and/or water storage tank have adequate security to prevent unauthorized entry?
18. How is the municipality currently track potential threats to source water (e.g. point pollution, physical obstructions within the watershed, levels of DBPs, cabin development, flooding etc.), if at all?
 - Would you be interested in mapping these things to assist in strategic planning and development in the future?
19. What other innovative strategies have you used in attempt to address your water challenges (e.g. the Regional Water Operator)?
 - In the case of the Regional Water Operator, how did this come about? Please describe.
 - What were/are the benefits? Drawbacks?
 - How was this funded?
 - What are the future plans in terms of regional strategies to manage water infrastructure/source water?

Certification and Training

1. What is your level of water operating training/certification?
 - Years of experience?
2. What are your typical hours of work as operator?
 - How many hours are spent on work/maintenance related to the water treatment system/plant and distribution system, etc?
3. Are you happy with your compensation?

4. Is there only one water operator in your town?
 - Does anyone replace you while on vacation, training or sick?
 - Does this person have the same training as you?
5. Were you trained with the Operator Education, Training and Certification (OETC) Program provided by the DOEC (Department of Environment and Conservation)? If not, proceed to question 8.
 - What were the benefits of this program?
6. Are there any limitations with operator training in NL?
 - Travel costs?
 - No replacement while on training?
 - Other?
7. Do you have any suggestions on how the province can improve the OETC program?
 - Can you suggest any alternative ways of delivering training sessions?

Complaints and Reporting

8. Do you keep record of your daily activities (flows, chlorine residuals, maintenance activities, etc)?
9. Do you receive complaints about the drinking water either directly from residents or from the town office?
 - What types of complaints?
 - How often?
 - What is the range of response times to these complaints?
10. Have there been Boil Water Advisories issued in the past 2 years?
 - What protocols are there for notification about a boil water advisory when it is communicated from government services/DOEC to your town?
 - What protocols are there for notification at the town level for communicating the advisory to residents?
11. Have you been in contact about water quality issues over the last 12 months with the Department of Environment and Conservation, Municipal Affairs or Government Services?
 - What spurred the contact?

Town Administrator/Staff / Councillor

System

1. What is the local source of drinking water? Is it the only one? Is there a back-up supply?
2. How long ago was this supply developed? Can you tell me anything about the historical development of the drinking water supply(ies) locally?
3. How is drinking water currently delivered in the community?
 - Do all residents have piped services?
 - What proportion of community households rely on well and septic systems?
4. How would you describe the level and quality of water infrastructure in your community?
 - Type of infrastructure
 - Scale appropriate for design capacity?
 - What year was it installed? Have upgrades been made since installation?
5. Heading into the future, how do you see the drinking water system developing?
 - Expansion? (Drivers?)
 - Taking on new systems?
 - Replacement? New Approaches?
6. Do you have any comment on private wells in the area?
7. Within your area can you think of any examples of innovative or unique technology?
 - E.g., Point of entry treatment, mobile treatment units
8. Are there any public facilities supplied by the town water system? For example:
 - Daycare facility
 - Hospital
 - Seniors home
 - School (K-12)
9. Are there any high water users using the public water supply?
 - Fish plants, other industry?
 - Does this impact the quality or quantity of water?

Management/Financials/Policies

10. If your water source is a designated protected public water supply area:
 - Why did your town choose to designate as a protected public water supply area?
 - How is your water supply managed/protected
 - Do you think source protection measures are adequate?
 - Has the council/town tried any new methods of reducing violations of the town's rules/regulations?

11. Do the household water tax rates cover water operation and maintenance expenses in your town?

12. Is either of the following available for the current water system(s)?
 - Inventory/As-Builts/GIS mapping
 - Infrastructure assessment/evaluation
 - Planning document/SOPS

13. Do you have the resources to prepare and maintain up-to-date water treatment system/plant documentation such as As-Built drawings, Process diagrams, Operations Manuals, Log Books, Lab Results, etc?

14. Do you feel that the current water infrastructure is planned and managed sustainably?
 - If no, is this a future goal?
 - Have you made progress toward sustainable infrastructure goals? Is sustainable infrastructure included in your ICSP(Integrated Community Sustainability Plan) or capital works plan?

15. Have you requested and/or received capital works funding in the last 5 years for a drinking water related project(s)?
 - For what?
 - Was it received?

16. Have you requested and/or received operation and maintenance assistance related to your water treatment system/plant and/or distribution system in the last 5 years?
 - What was requested?
 - Was it received?

17. Do infrastructure funding programs allow for consideration of local context?

- If yes, how? If no, what challenges does this present? How do you deal with these?
18. Are there any programs, policies, or standards you consider to be critical or influential when it comes to household/drinking water infrastructure?
- Foundational
 - Last 5 years
 - Last 10?
 - Last 20?
19. Is there a town/regional/provincial water management plan?
- Is infrastructure included in this?
20. Do you have the ability within the current regulatory framework to accommodate unique local elements/challenges?
- If yes, how? If no, what challenges does this present? How do you deal with these?
21. Is there a difference between what is mandated and what occurs on the ground in the provincial policies/regulations?
22. Does your town have difficulty with the availability of qualified water operators?
- How many replacements have you hired in the last 5 years
23. Has your town ever considered a regional water operator?
- If so, why?
24. Does your office receive complaints about the drinking water?
- What types of complaints?
 - How often?
 - What is the range of response times to these complaints?
 - Are these complaints recorded/logged?
25. Have there been Boil Water Advisories issued in the past 2 years?
- What protocols are there for notification about a boil water advisory when it is communicated from government services/DOEC to your town?

- What protocols are there for notification at the town level for communicating the advisory to residents?
26. Does your town have an emergency response plan and is drinking water considered in this plan? Please explain.
- Has this been updated in the last 5 years?

Jurisdiction and Integration

27. Could you please describe the jurisdiction/level of authority you have?
28. Are there other agencies whose jurisdiction overlaps/overrides/conflicts with yours?
- Do you work with these agencies? If yes, how?
 - Conflicts? Challenges? Please explain.
29. Are there recognized connections between household/drinking water infrastructure and other aspects of water management: water stewardship, source water protection, conservation, regional development?
30. Do you see an obvious link between household/drinking water infrastructure and regional planning and development?
- If yes, please describe how state of infrastructure influences development (or vice versa).
 - If no – discuss.
31. How is the municipality currently track potential threats to source water (e.g. point pollution, physical obstructions within the watershed, levels of DBPs, cabin development, flooding etc.), if at all?
- Would you be interested in mapping these things to assist in strategic planning and development in the future?

32. What other innovative strategies have you used in attempt to address your water challenges (e.g. the Regional Water Operator)?
- In the case of the Regional Water Operator, how did this come about? Please describe.
 - What were/are the benefits? Drawbacks?
 - How was this funded?
 - What are the future plans in terms of regional strategies to manage water infrastructure/source water?
33. Describe your relationship with provincial and federal government departments/agencies, NGOs or private industry regarding drinking water quality? Has the relationship changed over time?
- Are there any challenges that need to be overcome to ensure effective collaboration/a better relationship? Please explain.

Business Owner

1. Are there any regulations/policies/laws you have to adhere by related to water?
 - Who imposes these policies: federal/provincial/municipal government?
 - Who enforces these policies?
 - Do you feel these policies are appropriate?
2. Is your business ever impacted by the drinking water quality in your town?
 - Please explain.
3. If in food service/food and drink retailer, do you provide patrons with water products other than publicly supplied drinking water? Why or why not?
4. If a food/drink retailer who sells bottled water, is bottled water a common purchase in your town?
5. How would you describe your business' level of water use in your community? (Higher than average, average etc...). Please explain.
6. Describe any attempts within your business and/or with community partners to promote the protection/better management of drinking water.

Environmental and/or Watershed Group

1. What is the mandate of your organization?
 - Are there any mandates specific to drinking water?
 - Do you have any drinking water related programs/educational opportunities?
2. Describe your relationship with provincial and federal government departments/agencies, other NGOs or private industry regarding drinking water quality?
 - Has the relationship changed over time?
3. Is your water source designated as a protected public water supply area?
 - Why did your town choose to designate as a protected public water supply area?
 - How is the water supply managed/protected?
 - Do you think source protection measures are adequate?
 - Has the council tried any new methods of reducing violations of the town's rules/regulations?
4. Have you partnered with any groups/organizations regarding water-quality management?

Environmental Health Officer

****Ask intro/general questions as much as they pertain to a regional jurisdiction****

1. Please briefly describe your mandate as an Environmental Health Officer.
 - What communities do you serve?
2. How much interaction do you have with the municipalities in “your region”?
 - Who, at the municipal level, do you interact with the most?
 - Describe the level of interaction your field staff have with water operators/staff in municipalities.
3. What is the greatest health risks associated with the water quality in (subject town)?
 - Are measures being implemented to reduce these risks?
 - What can be done to reduce these risks?
 - Where does your department stand with DBPs and other ‘chemical and physical’ parameters as far as the potential health risk they represent from a municipal perspective?
4. At what point do you intervene with respect to drinking water safety?
 - Do you monitor the Drinking Water Quality Reports issued by DOEC?
 - Do towns ever approach you to help interpret these reports?
 - To what degree do you help municipalities mitigate their specific environmental health risks/concerns?
5. Describe your relationship with other provincial and federal government departments/agencies, NGOs or private industry regarding drinking water quality? Has the relationship changed over time?

General Resident

1. Are you aware of any laws/policies surrounding your source water supply?
 - Do you think these laws/policies are adequate/appropriate?
2. As a resident, do you have faith in your government (local, provincial, federal) to provide your town with clean and safe drinking water? Why or why not?

Operating and Training- Department of Environment and Conservation

1. What is your role and jurisdiction within the DOEC?
2. What services/approaches do you provide to train water operators?
3. Do you feel you are given enough resources (financial, human, technical) to fulfill your mandate?
4. Do you feel there are barriers for water operators to get trained?
 - a. Are more operators trained than actually certified problem?
 - b. Would you like to see more operators trained and certified?
 - c. How do you log who has been trained and certified?
 - d. Is the infrastructure itself an issue?
5. Would you like to see certification mandatory for water operators?
6. How many municipalities were involved in the regional operator pilot program?
 - a. What has been the opinion of the municipalities involved?
 - b. What have been the successes and challenges of this program?
7. Describe your relationship with other provincial and federal government departments/agencies, NGOs or private industry regarding drinking water quality and operator training? Has the relationship changed over time?
 - a. Do you have frequent communications with the federal government, in regards to federal level online training options?
8. What would you like to see changed (if anything) going forward with Operator Education, Training and certification in NL?
9. Is there anything else you would like to add? Documents you would like to suggest?
10. Is there anything I can provide back in terms of information that you would be interested in? Get contact information, if not already recorded.

NL Services

General

1. What is role within NL Services?
 - a. Could you please describe the jurisdiction/level of authority you have?
 - i. What communities do you serve?
2. Please describe NL Services responsibilities in regards to drinking water.
3. Do you feel NL services is given enough resources (financial, human, technical) to fulfill their mandated responsibilities?
4. How much interaction does NL services have with municipalities?
 - a. Who, at the municipal level, do you interact with the most?
 - b. Describe the level of interaction your field staff have with water operators/staff in municipalities.

Risks and Boil Water Advisories

5. In your opinion, what is the greatest health risks associated with the water quality in NL?
 - a. Are measures being implemented to reduce these risks?
 - b. What can be done to reduce these risks?
6. At what point do you intervene with respect to drinking water safety?
 - a. Do towns ever approach you to help interpret the bacteriological testing NL services approach?
 - b. To what degree do you help municipalities mitigate their specific environmental health risks/concerns?
7. In your opinion what is the general resident's perception of the drinking water quality in NL?
 - o In your opinion, are there any (widely held) misconceptions?
 - o Do you ever receive complaints?

8. We heard sometimes getting off a boil water advisory is hard for rural and remote communities. What are your opinions on this?
 - a. We heard Labrador and other remote areas are given the responsibility of taking in their own samples to NL services, what is policy on this?
 - b. Do you see the policy ever changing so all communities could take one sample themselves when on BWA and then they only have to rely on NL services to take one more clear sample?
9. Once a community is on BWA, what are their responsibilities for treating the water?
 - a. Heard towns on long term BWA stop chlorinating their water and do not tell residents
 - b. Do towns on long term BWA have monthly bacteriological testing?

Integration

10. Are there other agencies whose jurisdiction overlaps/overrides/conflicts with yours?
 - a. Do you work with these agencies? If yes, how?
 - b. Conflicts? Challenges? Please explain.
11. Do you find there are recognized connections between household/drinking water infrastructure and other aspects of water management: water stewardship, source water protection, conservation, regional development?
12. Describe your relationship with provincial and federal government departments/agencies, NGOs or private industry regarding drinking water quality? Has the relationship changed over time?
 - a. Are there any challenges that need to be overcome to ensure effective collaboration/a better relationship? Please explain.

Closing

13. Is there anything else you would like to add? Documents you would like to suggest?
14. Is there anything I can provide back in terms of information that you would be interested in? Get contact information, if not already recorded.

Section D:

Gander Lake Stewardship Questions

1. What water related stewardship activities does your town take part in?
 - a. What spurred these activities (SAM program, watershed management plan, PPWSA, etc). Were there any leaders in this process?
 - b. What funding has supported these activities?
 - c. What kind of financial or technical support do you get from the Province?
2. How are stewardship activities implemented?
3. What has been the towns experience with CBPPL being in your PPWSA?
 - a. How do you work with CBPPL? Is there a joint committee that meets?
 - b. Do you ever have conflicts that need to be resolved? How is this done?
 - a. How are the requirements CBPPL have to follow enforced? Who conducts inspections?
 - b. Has there ever been any issues? Do you have any concerns?
4. Any advice for other towns considering letting commercial activity occur in their PPWSA?

Questions for CBPPL for Working in a PPSWA

2. How long has CBPPL been in your town's PPSWA?
3. What are some examples of the precautions that are taken in the PPSWA opposed to if you were working in a non-source water watershed?
 - a. How are these requirements enforced? Who conducts inspections?
 - b. How does CBPPL work with the Province when working in a PPSWA? What are everyone's roles and responsibilities?
4. What other certification standards and stewardship related commitments does CBPPL follow?
5. Have you had any issues with working in your town's water supply?
 - a. Do you ever have conflicts that need to be resolved? How is this done?
 - b. Is there a joint committee that meets with CBPPL to discuss the logging?
6. Does CBPPL work in any other PPSWA in NL?
 - a. Has your experience been different than in Steady Brook's? If so, how?
7. Do you have any advice for other commercial operations that would like to work in a PPSWA?

Section E:
Closing Questions for All Respondents

1. How would you like to see the water system in your town develop heading into the future?
 - Future opportunities? Concerns?
 - Links to sustainable development? Climate change?
2. Do you have any other recommendations on how the Department of Environment and Conservation, Water Resources Management Division and/or Department of Municipal Affairs and/or NL Services and/or Department of Health and Community Services can improve their drinking water policies or funding programs?
3. Is there anything else you would like to add? Documents you would like to suggest?
4. Is there anything I can provide back in terms of information that you would be interested in? Get contact information, if not already recorded.