

Chapter 27

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BLUE COMMUNITIES IN QUEBEC: UPHOLDING THE HIGHEST WATER STANDARDS IN UNCERTAIN TIMES

There are 23 certified Blue Communities in the province of Quebec, Canada – all of which are committed to defending water as a common good. *Eau Secours*, a non-profit organization that works to protect public water in Quebec, carried out a study with 60% of these Blue Communities to highlight the challenges they have encountered since the start of the Covid-19 pandemic. This chapter reveals that managers and their work teams have adapted their procedures and working methods according to public health directives and their respective situations. Blue Communities have performed well and have managed to carry out their daily tasks to serve their populations while protecting their employees. Managers of Blue Communities also learned valuable lessons during the first wave of the pandemic that should make managing a potential second wave easier

INTRODUCTION

The purpose of this study is to highlight the efforts and difficulties encountered by Blue Communities in the province of Quebec, Can-

ada, since the start of the Covid-19 pandemic. In Quebec, 17 administrative regions are divided into regional county municipalities (RCMs) and non-RCM territories. These are subdivided into municipalities, cities, Indigenous and Inuit territories, and unorganized territories that provide public water services to all citizens. This study focuses on municipalities that have received Blue Community status over the years (see Box 1 for a definition) because they recognize water as a common good and a public resource to be protected. To date, there are 23 certified Blue Communities in Quebec (Blue Planet Project 2019).

Since the start of the pandemic, Blue Communities have faced several major challenges in producing drinking water and treating wastewater. To help inform the discussion about possible future action, Eau Secours conducted a telephone survey of water service operators in Blue Communities between June and July 2020 to discuss problems they encountered during the first months of the pandemic. Water service managers in 60% of the province's Blue Communities participated in the survey. At the time of the interviews, the municipalities did not have any data compiled on the issues discussed; hence, no statistics appear in the research results. The identity of the respondents is confidential.

Box 1

What is a Blue Community

A Blue Community is one that adopts a water commons framework that treats water as a common good, shared by everyone and the responsibility of all. Municipalities, Indigenous communities, educational institutions, religious communities and other collectivities can sign up to become a Blue Community (Eau Secours 2019). To become a Blue Community, three actions must be taken: recognize the human right to water and sanitation services; promote publicly funded, owned and operated drinking water and wastewater services; and prohibit the sale of bottled water in public buildings and at events. In early 2020 there were approximately 85 Blue Communities around the world, including 44 in Canada and 23 in Quebec.

In the interviews, managers identified several priority issues: the management of human resources, drinking water production, wastewater treatment, sampling and analysis, and scientific collab-

oration with universities. This study aims to get a clearer picture of the adjustments water service operators in Blue Communities have made to their daily operations, including the measures they have taken to protect the health and safety of their workers, to preserve the quality and quantity of drinking water and to continue to treat wastewater in the public interest.

BEING A BLUE COMMUNITY DURING A PANDEMIC

Blue Communities all share a common goal of defending water as a common good, but they vary widely in terms of their population size and the resources they have at their disposal. Management structures are diverse, with larger municipalities having much more complex management structures than smaller ones. As such, municipalities with a large workforce, multiple sites to manage, and a sizable population to serve reported that management during the pandemic has been much more cumbersome than normal. Smaller municipalities, on the other hand, said that while they had to make some adjustments, everything was going relatively well.

Municipalities noted that they applied an integrated management approach to the crisis, taking into account the interests of various stakeholders, the resources required, and the constraints for the production of drinking water and treatment of wastewater. Also, some cities are helping each other by engaging in sporadic exchanges about the different ways they carry out their tasks.

Although Blue Communities are well aware of the importance of offering high-quality service at all times, the Covid-19 crisis has posed a major challenge in the daily operations of water operators who must continue to provide essential services without compromising the health and safety of their employees. The following sections highlight some of the difficulties Blue Communities have faced, but also their successes, including good decision-making and the hard work that water operators continue to perform on a daily basis to ensure the delivery of high-quality water and sanitation.

Human resource management

While water services are essential during a pandemic, worker health and safety is also a priority to ensure service continuity. Municipal water and sanitation workers face increased risks of contracting Covid-19 in performing their duties. In the survey, water service managers reported that employees were facing increased levels of anxiety and that management had become more complex.

According to several water managers, human resource management has been the biggest daily challenge since the start of the pandemic. A large majority have completely rethought staff schedules and work plans to reduce the stress on operators and prioritize health. Managers reported higher-than-normal levels of anxiety among operators related to fears about contact with colleagues, the use of common rooms and shared computers, and the handling of common work instruments. The treatment of wastewater was an additional source of stress given that when the pandemic was first declared, little was known about the presence of residual fragments of the virus in wastewater. Managers responded by reorganizing and shifting schedules of work teams to reduce the number of personnel working together at the same site at the same time to lower the risks of contamination. Notwithstanding these measures, uncertainty about the vectors of transmission of the virus contributed to high levels of anxiety among employees.

The reorganization of teams was challenging because they had to take into account several factors, including the safety of water operators, the hygiene measures established by the government, the needs of citizens, the preservation of the quality of drinking water and the quantity to be produced, and the wastewater treatment service to be performed, all in the context of great uncertainty created by the pandemic. Whenever possible, and depending on the position held, some team members also worked from home. A few municipalities suffered labour shortages due to illness. Others set up teams of employees on standby to replace workers when necessary. Finally, some municipalities dedicated a permanent monitoring

station on each of their sites to increase security and the continuity of operations.

Hygiene measures

To protect their water operators, the municipal directorates of Blue Communities adopted increased and appropriate hygiene measures in accordance with government recommendations and those of the National Institute of Public Health of Quebec. Frequent sanitation of all equipment and premises has been carried out to reduce the risk of contamination. Social distancing has been in place at all work sites since the start of the pandemic. The managers have also reorganized work teams to cover different sites to reduce cross-contamination. The use of respirator masks or face coverings has become a mandatory practice in all Blue Communities to further protect water operators. The use of protective gloves is often required. Finally, frequent handwashing after performing all tasks is the preferred measure to reduce the risk of the virus spreading.

Management of the production and consumption of drinking water

During discussions with the Blue Communities, some reported that they had encountered problems with the management of drinking water, while others reported none. Overall, the actual production of drinking water has not been an issue raised by Blue Communities. So far, the treatments required to produce drinking water have been going well. Concerns were raised, however, about rising levels of water consumption compared to previous years, with the vast majority of Blue Communities having experienced higher levels of drinking water consumption, particularly in residential and agricultural sectors – with demand dropping in industry. Residents consumed more water than usual because they stayed at home, cancelled their trips abroad, went less frequently to restaurants, bought more swimming pools and did more home renovation projects. In addition, citizens were more engaged in gardening, which requires

frequent and sustained watering. The increased washing of outdoor and indoor items, such as cars, garden items, furniture and food, all contributed to significant increases in the consumption of drinking water. In addition to these non-essential water uses, recommended hygiene measures to combat Covid-19 such as cleaning surfaces and frequent handwashing have also increased the demand for potable water.

With the lockdown, people also transferred their usual work and business activities from their offices to their homes. Water usually consumed in the workplace, which is often located in a commercial or industrial district, has instead been consumed in the residence. Thus, for municipalities with one or more residential areas, the quantity of drinking water that needed to be produced increased considerably.

Unusual weather patterns are also to blame for increased levels of water consumption. Heatwaves in Quebec normally start in the month of July, but in 2020 the first heatwave arrived in May. During heatwaves, citizens consume more water for hydration and personal care. Also, due to warmer weather, private and public swimming pools were opened earlier, and more people were gardening and watering their lawns. All these activities have further increased water consumption on municipal meters.

For a few communities, these higher-than-normal levels of consumption only took place during the heatwaves, and when the heat broke, consumption levels returned to normal. Other municipalities have experienced higher levels of consumption since the start of the pandemic. Intense heat and reduced rainfall in the months of May and June 2020 reduced the water level of rivers, putting further pressure on water operators. Some communities had to double the production of water, approaching their maximum production capacity. This situation alarmed officials in some municipalities who expressed fear that citizens' demand for water could outstrip supply.

Despite the increased levels of consumption of drinking water

in most of the Blue Communities and the drop in water levels in the rivers, water quality has consistently met standards since the start of the pandemic. While increased demand made some municipalities fear the worst, with some contemplating issuing boil water advisories, none had to implement them. They are closely monitoring the situation and are engaging in public education campaigns around the sustainable use of water through social media and their websites. It is important to note that in Quebec the fees for water services are payable per building in the form of an annual water tax, which does not take into account individual consumption. Without an immediate financial incentive prompting responsible use of water, this type of awareness was essential.

Some municipalities came close to issuing boil water advisories during the pandemic, but water use restrictions prevented this by discouraging people from washing their cars, watering their lawns or refilling their private swimming pools. However, the majority of Blue Communities chose not to restrict the watering of vegetable gardens, believing that this activity promoted well-being and was much-needed during a period of confinement.

Among the environmentally responsible measures used by Blue Communities, one was to use river water to wash the streets in the spring in order to save drinking water. The discharge was directed to storm sewers, and this wastewater was subsequently treated in the plant. This initiative deserves to be highlighted since it would certainly benefit several other municipalities facing water stress.

Some Blue Communities had planned to install additional public drinking water fountains in 2020 as part of an effort to promote the consumption of tap water instead of bottled water, and to make it easier for residents to hydrate during outdoor activities in the city. Some were fortunate enough to be able to continue with these plans, but others had to pause them due to the pandemic. All municipalities carried out increased cleaning of water fountains to make drinking water accessible to residents in the context of the pandemic.

Wastewater treatment management

None of the managers of Blue Communities reported problems treating their wastewater. However, the pandemic has introduced new sources of solid waste that have found their way into the sewerage systems. Several municipalities have found cleaning wipes in their sewer screens, which has caused blockages and broken pumps. To this end, several Blue Communities have issued notices through social networks and their websites asking citizens to throw cleaning wipes in the household garbage rather than in the toilet. At the time of the interviews, the situation had significantly improved. In addition, some Blue Communities reported the presence of industrial cleaning wipes in sewer screens, but that situation was also rectified after they issued notices. Finally, protective gloves, transported by rainwater to storm sewers, have also occasionally been found in the wastewater of some municipalities. As with the wipes, notices to citizens have helped reduce this problem. Waste management notwithstanding, wastewater treatment has performed well for all municipalities, and wastewater test results have met environmental standards.

Treatments and analysis

Although the amount of water used in communities has increased since the start of the pandemic, no additional treatment has been required to produce drinking water and treat wastewater. All Blue Communities have said that everything is going well on this front. The results of the water analyses were within environmental standards for all the municipalities contacted since the start of the pandemic, whether for the production of drinking water or for the treatment of wastewater. Some municipalities reported carrying out some preventive chlorination treatments nonetheless. Regular monitoring of the quality and quantity of water produced and treated is maintained to prevent any problems.

A few municipalities reported encountering difficulties shipping water samples and test results to the proper authorities due to

increased volumes of traffic for shipping packages by commercial carriers. No penalties were recorded, however, and all sampling was completed within the regulatory time frame.

Research

In order to prepare better for a potential second wave of the Covid-19 pandemic in Quebec, some Blue Communities have joined a team of university researchers in a scientific study that aims to track the presence of the coronavirus in municipal wastewater. The researchers hope that monitoring the presence of the virus in wastewater may provide an early warning sign of a potential outbreak of the disease in the population, as a complement to individual testing. In the study, wastewater samples are being collected and analyzed twice a week. Another objective of the study is to help municipalities better detect the virus in wastewater and ensure adequate treatment.

CONCLUSION

Some municipalities are looking to the future with a glimmer of hope while continuing to be very vigilant. They argue that the second wave should be easier to manage. We know more now about the virus and its transmission vectors than we did when the pandemic was first declared, and water operators have learned valuable lessons that will help them manage the situation even better in the future. In addition, the second wave is expected to occur at a time when there will be less demand for water. Swimming pools and other water features will have closed at the end of the summer season, public drinking water fountains are shut down in the fall, and citizens use less water for outdoor activities such as gardening in the colder months. Water consumption is expected to decrease gradually in the coming months, and municipalities will have less to fear from higher-than-normal consumption and will be able to start managing water and staff more “normally.”

Given the prevailing pandemic situation, Blue Community municipalities have done well in managing their drinking water and wastewater treatment. The quality and quantity of drinking water and wastewater treatment have consistently met established standards. Citizens have enjoyed continual access to good quality drinking water in sufficient quantity. Blue Community municipalities have demonstrated that they are able to adapt to an unprecedented situation. Despite the fact that some have faced difficulties, especially larger municipalities and cities, they have shown initiative in the management of their human and material resources, while putting in place the hygiene and safety measures recommended by public health authorities. Some have innovated in their practices and worked together to develop better strategies and learn about what other municipalities are doing.

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