

# COVID-19

## Ontario Wastewater Fact Sheet

### What is COVID-19

COVID-19 (or SARS-CoV-2) was identified in late 2019 and is a form of coronavirus. On March 11, 2020, the World Health Organization (WHO) characterized the COVID-19 outbreak as a global pandemic.

Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV).

People are asking questions about COVID-19, public health, and potential risks related to the wastewater sector and the beneficial use of sewage biosolids in agriculture.

#### *How do we protect our health?*

Health Canada recommends the key to safeguarding public health is physical distancing and the use of enhanced hygiene practices: hand washing, clean and disinfect surfaces; cough and sneeze into an elbow; stay home if unwell; avoid touching eyes, nose, and mouth with unwashed hands, and avoid contact with others if they have cold and flu like symptoms.

The WHO recently stated that:

*“There is no evidence to date that COVID-19 virus has been transmitted via sewerage systems, with or without wastewater treatment. Furthermore, there is no evidence that sewage and wastewater treatment workers contracted SARS, another type of coronavirus that caused a large outbreak of acute respiratory illness in 2003.”*

#### *Are there any extra risks to those of us working in the wastewater sector?*

For those working in the wastewater treatment sector, including land application of biosolids, the WHO recommends continued health and safety practices to protect operators include wearing appropriate personal protective equipment (PPE): boots, gloves, safety goggles, face shields (or masks), as well as increased hand hygiene. Workers in the field already do this every day and continue to be diligent with these practices.

### Wastewater Treatment in Ontario

Wastewater treatment plants (WWTPs) in Ontario are constructed and operated under an Environmental Compliance Approval (ECA) issued by the Ministry of Environment, Conservation, and Parks (MECP). The MECP routinely inspects facilities to ensure they are operated in compliance with provincial standards that are set to protect human health and the environment.

The [WHO](#) has indicated that *“the safe management of drinking-water and sanitation services applies to the COVID-19 outbreak...extra measures are not needed”*.

The water sector is committed to understand more about emerging pathogens, such as the COVID-19 virus, and supports further research.

*This briefing was created based on the information available as of March 23, 2020.*



## Beneficial Use of Biosolids

Biosolids are applied on agricultural lands to enhance soil health, recycle nutrients, store carbon, reduce fertilizer and pesticide use, strengthen farm economies, restore vitality to degraded lands, and put these by-products that every community has to manage to productive use.

The MECP's [Design Guideline for Sewage Works](#) sets out minimum design requirements for wastewater treatment and includes specific requirements for biosolids treatment. For example, most WWTPs in Ontario use effective treatment processes for biosolids that have minimum treatment times ranging from 10 to 45 days. Other factors relevant to land application, such as sunlight, elevated pH levels, and biological activity serve to accelerate pathogen, which includes viruses, destruction.

***“Coronaviruses die off very rapidly in wastewater, with a 99.9% reduction in 2–3 days, which is comparable to the data on SARS-CoV survival.”***

Gundy, et al., 2009

In addition, agricultural land application of biosolids follows strict rules and regulations of the Provincial [Nutrient Management Act](#) to minimize environmental and human health risks by:

- Regulating metals and pathogens,
- Requiring soil testing prior to land application,
- Restricting application rates,
- Regulating waiting periods for animal grazing or food crop production, and
- Requiring separation from wells, residences, surface water, bedrock, and the water table etc.

Agricultural land application of biosolids is supported by over 40 years of experience in Ontario, Canada, and the USA, and numerous robust scientific studies conducted by federal and provincial regulators in North America, the US Academy of Sciences, the US Centres for Disease Control, and academic institutions worldwide.

## Additional References/Resources

- <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/prevention-risks.html#hygiene>
- <https://www.who.int/publications-detail/water-sanitation-hygiene-and-waste-management-for-covid-19>
- <https://www.wef.org/the-water-professionals-guide-to-the-2019-novel-coronavirus>
- <https://www.wef.org/how-coronavirus-compares-to-sars-and-mers>
- <https://www.wsaa.asn.au/publication/covid-19-fact-sheet>
- [https://www.cdc.gov/healthywater/global/sanitation/workers\\_handlingwaste.html](https://www.cdc.gov/healthywater/global/sanitation/workers_handlingwaste.html)
- Gundy, P. M., Gerba, C. P., and Pepper, I. L. (2009). Survival of coronaviruses in waste and wastewater. *Food Environm Virol*, 1, 10-14.

The [Water Environment Association of Ontario](#) is the pre-eminent water and wastewater technical association whose mandate is to protect Ontario's water environment and the health of its people. WEAO's membership consists of environmental engineers, scientists, operators, municipalities, and other specialists from consulting companies, industry, equipment suppliers, academic institutions, and government agencies. WEAO is an active member in the international Water Environment Federation and the Canadian Water and Wastewater Association.

