

# Understanding the Ecological and Environmental Impact of the COVID-19 Pandemic

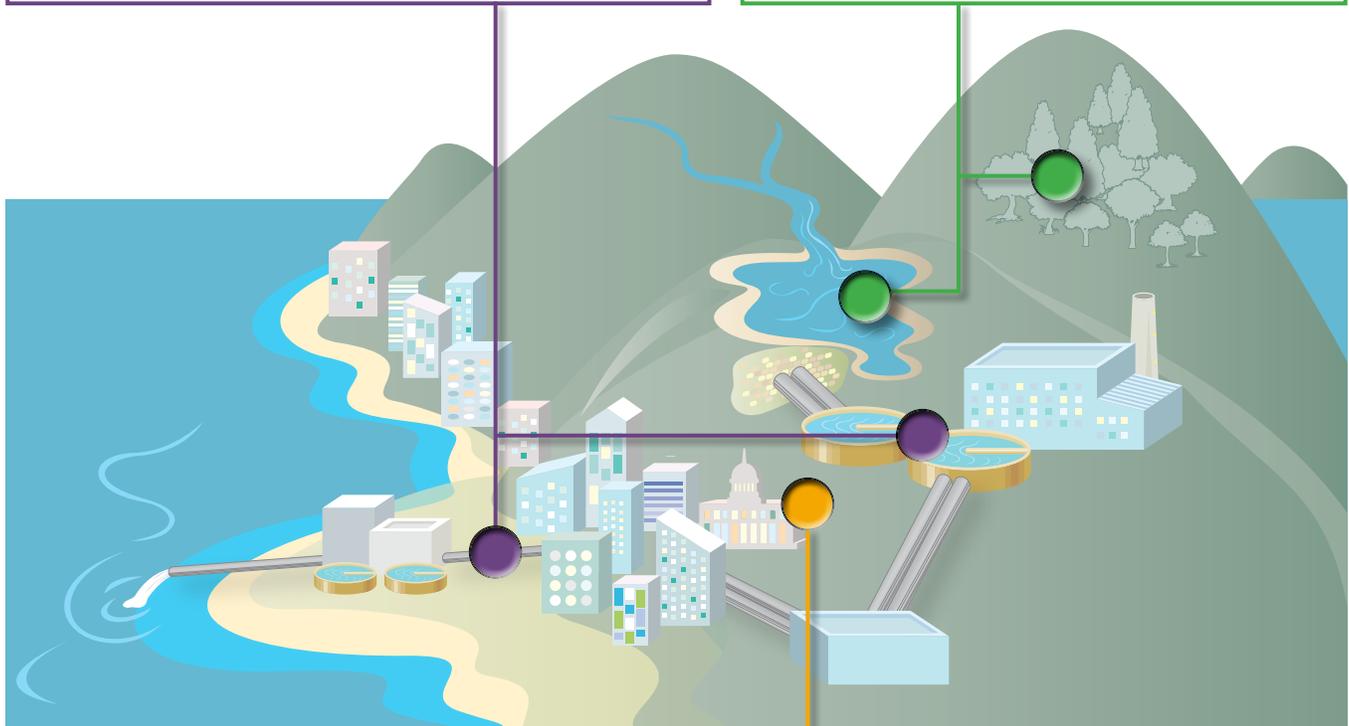
## Questions to Ask Now to Prepare for the Future

### Environmental Genetic Monitoring

- *Can environmental genetic monitoring methods be used to evaluate some of the negative impacts of COVID-19 on the environment (i.e., the efficacy of cleaning and disinfecting methods and transmission of the virus through water and wastewater systems)?*
- Researchers can detect genetic material (RNA) of SARS-CoV-2 in the environment, for example on high-touch surfaces and in sewers. Wastewater monitoring is already being used to help track trends in prevalence of the virus in some populations. However, it remains less clear how the application of genetic methods for detecting SARS-CoV-2 in other types of environmental samples may help researchers understand the spread of COVID-19, predict hotspots of infection, or inform action to reduce its spread.

### Environmental Effects of Biocides and Disinfectants

- *Will the use of biocides and disinfectants meant to eradicate SARS-CoV-2 negatively impact non-target organisms in terrestrial and aquatic environments, including microbial communities, and how does the choice of biocide, its persistence, its utilization, and environmental factors influence the effects of those applications?*
- Entire countries and individual cities are disinfecting streets and other public spaces with biocides to prevent the transmission of SARS-CoV-2. Disinfectants may break down into by-products or combine with other chemicals in the environment, which could cause concern.<sup>1</sup>



<sup>1</sup> [https://science.sciencemag.org/content/368/6487/146?utm\\_campaign=to\\_c\\_mag\\_2020-04-09&et rid=35379676&et\\_cid=3280482](https://science.sciencemag.org/content/368/6487/146?utm_campaign=to_c_mag_2020-04-09&et rid=35379676&et_cid=3280482)

<sup>2</sup> <https://www.epa.gov/sites/production/files/2020-03/documents/oecamemooncovid19implications.pdf>

<sup>3</sup> <https://dec.alaska.gov/eh/solid-waste/landfill-groundwater-and-surface-water-monitoring-during-covid-19/>

### Environmental Regulations and Monitoring

- *How do changes in environmental regulations and monitoring impact liability and enforcement? In turn, how may these changes impact short- and long-term ecological and environmental health?*
- The COVID-19 pandemic has directly impacted environmental regulations through changes to federal and state regulatory requirements. Changes have been made to regulatory enforcement<sup>2</sup> and have hindered various state agencies' abilities to maintain environmental monitoring programs<sup>3</sup> as a result of diverting available funds for other necessary activities or budget cuts.