

## Enforceable Water Quality Standards

**Suggested citation:** Smith, R. and M. Chapariha (2021). *Enforceable Water Quality Standards. Our Living Waters.*

### 1. Introduction

Many factors influence the quality of lakes, rivers, wetlands and other surface waters. Determining the quality of surface water therefore requires consideration of variables measuring a wide variety of characteristics. These include, among others, temperature, acidity, clarity and concentrations of various compounds. Some variables measure characteristics that are natural but can be influenced by human activities (for example, acidity and concentrations of heavy metals), while others measure characteristics that are entirely influenced by human activities (for example, concentrations of industrial pesticides).

The complexity of measuring surface water quality means that developing a single set of quality parameters applicable to all surface waterbodies is difficult but not impossible. Such a set of parameters has been developed by the Canadian Council of Ministers of the Environment as part of its overall set of *Canadian Environmental Quality Guidelines* (CEQG).<sup>1</sup> The CEQG contain two sets of surface water quality guidelines, one devoted to protection of surface water quality for agricultural uses and another, more stringent, devoted to protection of surface water quality for aquatic life, known as the *Canadian Water Quality Guidelines for the Protection of Aquatic Life*.<sup>2</sup> The latter are “intended to protect all forms of aquatic life and all aspects of aquatic life cycles, including the most sensitive life stage of the most sensitive species over the long term from anthropogenic stressors such as chemical inputs or changes to physical components.”

Though valuable for protecting aquatic life, the *Canadian Water Quality Guidelines for the Protection of Aquatic Life* are not legally enforceable. They are provided as voluntary guidelines that, if followed, should protect all aquatic life from the negative impacts of human activities on surface water quality. Being voluntary, it is questionable whether the guidelines do as much as they might to protect aquatic life. Adding further to this doubt is the fact that not all provinces/territories choose to apply the guidelines. Some have developed their own guidelines and others have no guidelines at all.

Water quality standards are relevant to Goal 6 (Clean Water and Sanitation) of the UN Sustainable Development Goals (SDGs). Target 6.3 of SDG 6 aims to “improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and

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<sup>1</sup> See <https://ccme.ca/en/current-activities/canadian-environmental-quality-guidelines>.

<sup>2</sup> See <https://ccme.ca/en/resources/water-aquatic-life>

materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally” by 2030. Target 6.5 further aims to “implement integrated water resources management at all levels, including through transboundary cooperation as appropriate” by 2030.<sup>3</sup>

This impact measure serves to assess the degree to which Canadian governments have surface water quality guidelines (or standards) in place and whether these standards are legally enforceable. It is important that standards be in place if surface water is to be protected from degradation but if such standards do not carry the weight of legal enforcement there is reason to question their effectiveness.

## 2. Methodology

This impact measure analyses whether the 14 national, provincial and territorial jurisdictions in Canada have enforceable surface water standards. To compile the measure, desk-based analysis of surface water quality standards was undertaken. To be considered, standards had to apply to ambient water quality. Standard relating to emissions of pollutants into surface waters (for example, sewage treatment plant effluent quality standards) were not considered. Where they existed, standards were considered enforceable if there was legislation and/or regulations in place that provided for penalties in instances where the standards were not upheld.

## 3. Findings

Of the 14 federal, provincial, and territorial governments in Canada, six were found to have surface water quality standards in place as of November 2021 (Canada, British Columbia, Alberta, Saskatchewan, Manitoba and Quebec) (Table 1). The remaining jurisdictions were found not to have water quality standards in place. Of the six jurisdictions with standards in place, none had a standard that was considered legally enforceable. Five of the six standards were explicitly said not to be enforceable by the government responsible (Canada, British Columbia, Alberta, Saskatchewan and Quebec). Manitoba’s standard, though backed up by regulation<sup>4</sup>, was not considered enforceable because only the part of the standard dealing with effluent water quality was backed up by penalties.<sup>5</sup> As noted, effluent quality standards were not considered for the purposes of the impact measure.

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<sup>3</sup> See [Water and Sanitation - United Nations Sustainable Development](#)

<sup>4</sup> See <https://www.gov.mb.ca/water/lakes-beaches-rivers/guidelines/index.html>

<sup>5</sup> Manitoba’s standard comprises “standards”, “objectives” and “guidelines”. Of these, only the “standards”, which relate to effluent quality standards, are backed up by penalties. The “objectives” and “guidelines”, which relate to ambient quality standards, are not backed up by penalties.

Table 1 – Surface water quality standards, Canada, Provinces and Territories, 2021

<b>Jurisdiction</b>	<b>Surface water quality standards</b>	<b>Enforceable?</b>
<b>Canada</b>	<a href="#">Canadian Environmental Quality Guidelines (CEQGs)</a>	No
<b>British Columbia</b>	<a href="#">British Columbia Approved Water Quality Guidelines: Aquatic Life, Wildlife &amp; Agriculture</a>	No
<b>Alberta</b>	<a href="#">Water quality guidelines</a>	No
<b>Saskatchewan</b>	<a href="#">Surface Water Quality Objectives</a>	No
<b>Manitoba</b>	<a href="#">Water Quality Standards, Objectives, and Guidelines</a>	Yes
<b>Ontario</b>	No specific surface water quality standards	n/a
<b>Quebec</b>	<a href="#">Critères de qualité de l'eau de surface</a>	No
<b>New Brunswick</b>	No specific surface water quality standards	n/a
<b>Nova Scotia</b>	No specific surface water quality standards	n/a
<b>Prince Edward</b>	No specific surface water quality standards	n/a
<b>Newfoundland and Labrador</b>	No specific surface water quality standards	n/a
<b>Yukon</b>	No specific surface water quality standards	n/a
<b>Northwest Territories</b>	No specific surface water quality standards	n/a
<b>Nunavut</b>	No specific surface water quality standards	n/a