

APPLICATION OF WATER QUALITY OBJECTIVES IN IMPACTED WATERBODIES WITH WASTE DISCHARGE AUTHORIZATIONS IN PLACE

Purpose of this Fact Sheet.

This document describes the Ministry of Environment and Climate Change Strategy's (ENV) approach to applying approved B.C. Water Quality Objectives (WQO) in waterbodies where adverse changes to water quality have occurred. Specifically, this document explains how waste discharge authorizations under the Environmental Management Act (EMA) can be used along with WQOs to make desired improvements in water quality conditions to protect the values of the water.

Background

As our climate changes and human activities influence the health of our watersheds in B.C., the ministry uses a variety of tools to minimize or reverse cumulative effects on water quality. One of these tools is water quality objectives (WQOs).

WQOs are developed under EMA, which provides the Minister authority to prepare and publish "policies, strategies, objectives, guidelines and standards for the protection and management of the environment". In BC, WQO's are derived using approved policies and procedures that result in benchmarks representing low-risk conditions that achieve waterbody-specific goals and protect designated water values and uses. (Link to [Water Quality Objective Policy](#) and [Guidance for Derivation of WQOs](#)).

The foundational outcome of completing objectives under EMA is for the Province, Indigenous Nations, interested parties, and community members to:

- a) assess and understand current water quality conditions and trends,
- b) clarify values and uses of the waterbody / watershed, and
- c) clearly define the desired future state that will drive intended improvements in water quality conditions and protection or restoration of water values over time.

What are the different perspectives around the use of WQOs?

WQOs may be co-developed with Indigenous Nations, other governments or stakeholders. At times, partners may assume or expect that WQOs will be used to direct industry and other waste discharge authorization holders to take measures that immediately improve water quality to support achievement of the WQOs.

In some neighbouring jurisdictions, tools similar to WQOs are used to set upper limits on loading for the discharge of specific parameters. This may lead to an expectation that WQOs in BC will provide a similar immediate and legally binding regulatory limit.

Existing waste discharge authorization holders may view WQOs and potential actions arriving from them as impacting their rights to discharge, and/or requiring them to invest in new treatments to reduce the discharge concentrations of parameters that are affecting the water quality conditions. As such, WQOs can be seen to represent business uncertainty and add an additional burden to continued operational feasibility.

How are WQOs applied through waste discharge authorizations to improve water quality?

Improving water quality conditions in impacted water bodies is often technically challenging, costly, and takes time to see clear evidence of meaningful improvement. In addition, there is often a combination of point and non-point source discharges, some of which may be authorized under different legislation and by different levels of government. In some cases, it is people's behaviors and poor land use planning (farming practices, siting of septic systems, etc.) that are contributing to impact watersheds.

Typically, once a WQO is approved, the difficult path to treatment and restoration requires changes by authorized dischargers (including industry operations, local governments and other permit holders) through amendments of existing EMA authorizations or issuing

new authorizations. This is precisely the process for adaptive management and continuous improvements that are part of B.C.'s regulatory process. Implementing adaptive management and continuous improvement requires ongoing balancing of community and business certainty with the need to ensure long term protection of the health of our shared watersheds. Further, this also requires understanding and accommodating Indigenous water values.

Under the EMA, WQOs constitute official provincial policy and must be considered in statutory decisions made under the Act. While WQOs are not legally enforceable limits they are used to inform decisions and may provide the basis for setting legally enforceable standards such as waste discharge limits in authorizations and orders.

When making decisions under EMA, statutory decision makers (SDMs) consider environmental, social, health and economic interests, best achievable technology standards, Aboriginal and Treaty rights, and other ministry policies and procedures including WQOs. Administrative fairness, public notification, and consultation requirements must also be considered by SDMs. WQOs help provide an understanding of both current conditions and the desired future uses that may require improved water quality conditions. This knowledge can provide improved certainty to businesses, governments, and the public.

When WQOs are developed in a watershed with waste discharge authorizations in place, there can be an expectation that the WQOs must be implemented or applied immediately. This may not always be the case. If the WQOs are lower than current receiving environment targets, the ministry will work with authorization holders to develop continuous improvement plans to work towards these goals. There may be circumstances where treatment technologies do not exist, mitigations are not currently in place or the WQOs are not presently attainable. Permit decisions must be reasonable and achievable in order to be enforceable, so adopting a continuous improvement approach is needed to achieve water quality objectives and to ensure durable permit decisions. Implementing continuous improvement plans may take months or years as assessments and water

quality modelling is completed, and mitigation options are considered and then acted upon.

Drought conditions can impact water quality objectives in areas with waste discharge authorizations. During droughts, water scarcity intensifies, potentially leading to lower streamflows and higher concentrations of pollutants in water bodies. This can challenge the ability to maintain required water quality standards outlined in discharge permits. These standards should consider the environmental impact of reduced water availability during drought periods. Additionally, stakeholders may be encouraged to implement water conservation measures to mitigate stress on water resources and maintain acceptable water quality levels.

[How else are WQOs used to improve water quality in B.C. watersheds?](#)

B.C. is committed to working with industry, Indigenous nations and other partners on short term and long-term strategies to protect the environment and enable responsible economic development in our shared watersheds where appropriate.

Forestry, agriculture, and other land-based activities may impact watersheds through non-point source (NPS) pollution such as turbidity, nutrient or microbiological contamination. WQOs may be used as a planning tool for governments and stakeholders to define protection goals within a watershed, where there may be trade-offs made at a sub-watershed level to enable multiple water uses including those supporting industrial development. These processes can inform subsequent discussions about both point source and the NPS discharge impacts and can help identify other needed protective measures and associated timelines for step-wise approaches to achieving WQOs. For example, a turbidity WQO could be used to develop turbidity targets to inform forest stewardship plans, and local governments can incorporate WQOs into development or bylaw policies to help protect the environment.

[Contact Information.](#)

For additional information please contact one of the following authorization teams:

Note: This summary is solely for the convenience of the reader. The current legislation and regulations should be consulted for complete information.

Communities, IPM & AgriFood

at envcia@gov.bc.ca

Industrial Waste Authorizations

at Industrial.Waste.Authorizations@gov.bc.ca

Provincial Mining

at ENV.MiningAuthorizations@gov.bc.ca

Web Resources.

- [Waste discharge authorization homepage](#)
- [Water Quality Objective Policy](#)
- [Guidance for Derivation of WQOs](#)