

Environmental values and water quality objectives:

Under the Environmental Protection (Water and Wetland Biodiversity) Policy 2019

This fact sheet provides information on environmental values (EVs) and water quality objectives (WQOs) for waters under the Environmental Protection (Water and Wetland Biodiversity) Policy 2019 – the EPP (Water and Wetland Biodiversity).

The Department of Environment and Science (the department) is responsible for administering the EPP (Water and Wetland Biodiversity), which is subordinate legislation under the *Environmental Protection Act 1994* (EP Act) and provides a framework for:

- identifying EVs and management goals (quantitative measures or narrative statements that may be used to assess whether EVs are maintained) for Queensland waters
- stating water quality guidelines and WQOs to maintain, enhance or protect the EVs
- providing a framework for making consistent, equitable and informed decisions about waters that promotes efficient use of resources and best practice environmental management
- involving the community through consultation and education.

Compliance with national approaches

In accordance with the National Water Quality Management Strategy under the Council of Australian Governments Water Reform Agenda—state and territory governments have either enacted, or are enacting, legislative instruments or policies to protect EVs and set WQOs for waters.

Environmental values (EVs)

EVs for water are the qualities that make it suitable for supporting aquatic ecosystems and human water uses. These qualities need to be protected from the effects of habitat alteration, waste releases, contaminated run-off and changed flows to ensure healthy aquatic ecosystems and waterways that are safe for community use.

All tidal and non-tidal waters, including wetlands, lakes and groundwaters, have EVs. Aquatic ecosystem health is an EV for all Queensland waters.

The Australian and New Zealand Guidelines for Fresh and Estuarine Water Quality (ANZG, 2018) and the Queensland Water Quality Guidelines outline how aquatic ecosystems can be subdivided into different levels of protection, depending on condition—high ecological value systems; slightly disturbed systems; moderately disturbed systems; and highly disturbed systems.

Section 15 of the EPP (Water and Wetland Biodiversity) states how waters in these different levels of protection should be managed. These matters must be considered when decisions are being made about activities with the release of waste water or contaminants into receiving waters.

Water quality objectives (WQOs)

WQOs are long-term goals for water quality management. They are measures, levels or narrative statements of indicators of water quality that protect EVs. They define what the water quality should be to protect the EVs—after consideration of the socio-economic assessment of protecting the water quality.

WQOs can be expressed in various ways including concentrations, loads (e.g. tonnes/year) and biological measures. They can be defined for a range of physical indicators (e.g. turbidity, suspended sediment and temperature), chemical indicators (e.g. phosphorus, nitrogen, biochemical oxygen demand and toxicants), biological indicators (e.g. macroinvertebrates and fish), pathogens, and measures of waterway condition—for example, riparian vegetation (extent and condition).

Aquatic ecosystem WQOs are derived from: site-specific scientific studies; the Queensland Water Quality Guidelines; Water Quality Guidelines for the Great Barrier Reef Marine Park 2010; ANZG; and other documents published by a recognised entity. Human use WQOs (e.g. recreation and stock watering) are typically based on

national water quality guidelines, e.g. those published by the National Health and Medical Research Council (NHMRC). WQOs apply to receiving waters, i.e. rivers, estuaries, coastal waters, groundwaters, lakes and wetlands—they are not end-of-pipe or emission objectives.

Scheduling EVs and WQOs

Scheduling is the legislative process that incorporates EVs and WQOs for waters into schedule 1 of the EPP (Water and Wetland Biodiversity), following Queensland Government approval. Processes leading to scheduled EVs and WQOs involve consultation with local communities on waterway uses and values, and review of local water quality data (where sufficient data exists). Scheduled EVs, WQOs and supporting mapping are available from the department website for a range of Queensland waters. Additionally, [End of basin annual load water quality objectives](#) covering all Great Barrier Reef mainland basins have been established for dissolved inorganic nitrogen and total suspended solids under the EPP (Water and Wetland Biodiversity).

EVs and WQOs established under the EPP (Water and Wetland Biodiversity):

- provide significant cost efficiencies to government, industry and other groups by establishing a single set of agreed WQOs for legislative and non-legislative planning and water quality management
- support current and planned future investments by government, industry and the community, in built and natural environments
- meet the increasing public expectation that government will protect the state's waterways from pollution and minimise economic, social (including public health) and environmental risks associated with declines in water quality.

The WQOs for a water that is not in schedule 1 are the set of water quality guidelines (e.g. the Queensland Water Quality Guidelines and the Australian and New Zealand Water Quality Guidelines for Fresh and Marine Water Quality 2018) for all indicators that will protect all EVs for the water. These default WQOs are generally defined at the regional level.

Linkages to planning and development assessment

Figure 1 and the accompanying text provide an overview of linkages between EVs/WQOs and a selection of planning/development assessment activities.

Legislative activities

Point source emissions—EP Act

Under the EP Act, certain activities with the potential to release contaminants into the environment are referred to as environmentally relevant activities (ERAs). ERAs fall into three main categories:

1. Agricultural ERAs: cattle grazing or cropping activities that may have potential environmental risks. Beef cattle grazing, sugarcane cultivation and banana cultivation in the Great Barrier Reef catchment are required to meet agricultural ERA standards (or minimum practice agricultural standards). Producers are deemed to have met these standards when accredited against a program that has been recognised by the department as providing an alternative pathway for meeting the regulatory requirements (such as an industry Best Management Practices (BMP) program).
2. Prescribed ERAs: industrial or intensive agricultural activities that have potential environmental risks. Examples include chemical manufacturing, sewage treatment, cement manufacturing, poultry farming, and new or expanded cropping or horticulture activities in the Great Barrier Reef catchment (refer to the Environmental Protection Regulation 2019, schedule 2).
3. Resource activities (including mining and coal seam gas extraction).

The EP Act and the Environmental Protection Regulation establish requirements for the proponent and the administering authority to consider and assess the impacts of prescribed ERAs and resource activities on EVs/WQOs under the EPP (Water and Wetland Biodiversity). Hence, scheduled EVs/WQOs and annual [End of basin annual load water quality objectives](#) for Reef basins must be considered by the administering authority when assessing impact to EVs/WQOs.

The following departmental guidelines (available from the department's [website](#)) provide further details on assessing impacts on receiving waters:

- Guideline: Application requirements for activities with impacts to water
- Technical guideline—Wastewater release to Queensland waters.

Information on ERAs is also available from the Queensland Government [Business Portal](#). Under the EP Act, the

administering authority may also amend an environmental authority for a range of reasons, including the approval of an amendment of an environmental protection policy.

Urban diffuse emissions—*Planning Act 2016*

The State Planning Policy (State interest—water quality) under the *Planning Act 2016* seeks to ensure that that ‘the EVs and quality of Queensland waters are protected and enhanced’. Key elements of the SPP (State interest—water quality) include:

- integrating the State interest into planning schemes
- requiring that development for urban purposes (e.g. residential, commercial and industrial) is located, designed, constructed and/or managed in ways that avoid/minimise water quality impacts
- adopting applicable stormwater management design objectives relevant to the climatic region or demonstrating current best practice environmental management
- supporting local governments in developing innovative and locally appropriate solutions for urban stormwater management
- addressing impacts on EVs/WQOs in water supply catchments.

Further details are provided in the SPP and the supporting [State Planning Policy Guideline](#): State interest—water quality.

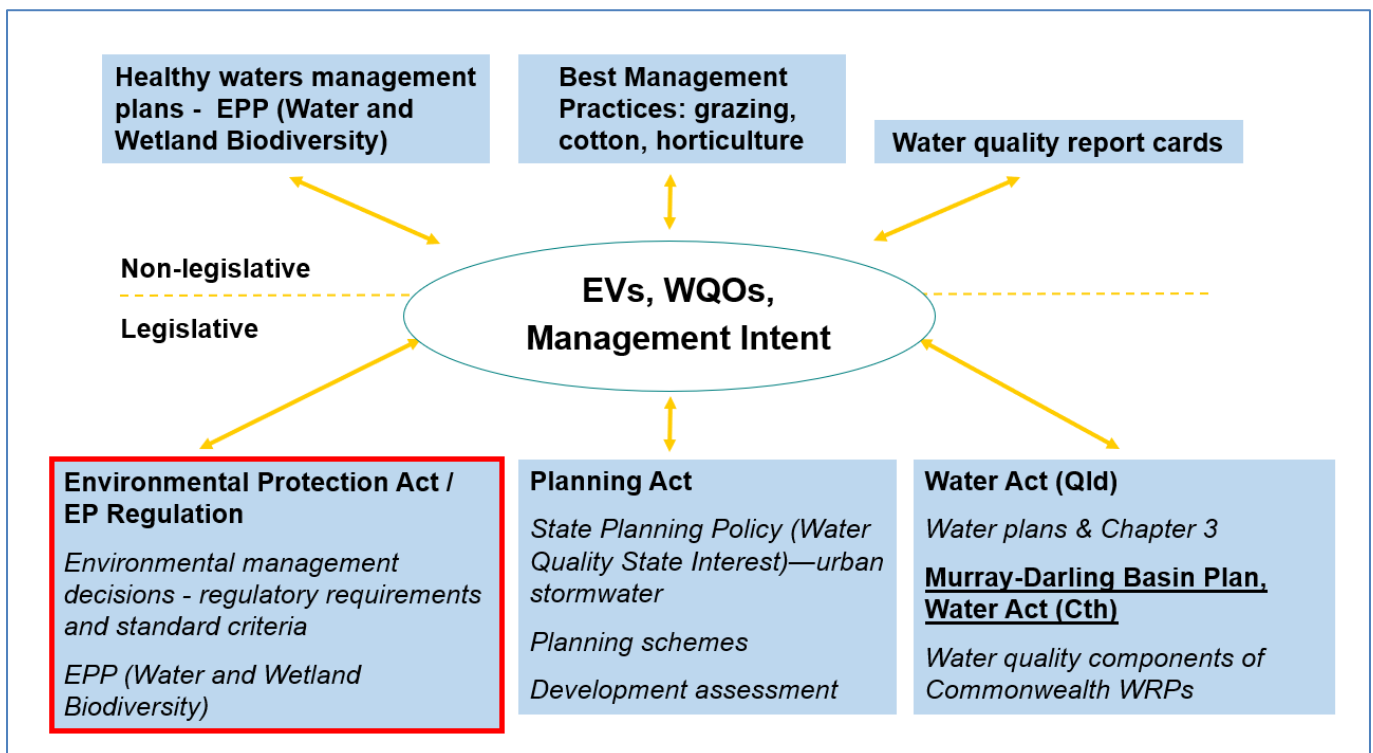


Figure 1 Links between EVs/WQOs and other legislative and non-legislative instruments in Queensland.

Non-legislative activities

Rural activities—rural diffuse emissions

Programs and support tools are provided by the Australian and Queensland governments and industry organisations to help producers identify opportunities for improved rural land management, such as BMP programs. Producers are also supported through extension and education programs.

These approaches provide important mechanisms to assist with the protection and enhancement of local EVs and WQOs under the EPP (Water and Wetland Biodiversity) including Reef water quality outcomes related to the [Reef 2050 Water Quality Improvement Plan 2017-2022](#). Examples of BMP programs include those for sugarcane, bananas and horticulture. BMP modules cover a wide range of farm management and production issues, with soil health, land management and use of fertilisers and chemicals.

Other non-legislative activities

EVs and WQOs under the EPP (Water and Wetland Biodiversity) support non-legislative planning activities for natural resource management including:

- regional natural resource management plans
- healthy waters management plans. These plans will assist in guiding and prioritising investment in natural resource management to protect EVs and WQOs
- water quality monitoring and aquatic ecosystem report card programs (e.g. by providing a benchmark against which water quality health can be compared)
- implementation of the [Reef 2050 Water Quality Improvement Plan 2017-2022](#).

Further information

EPP (Water and Wetland Biodiversity) EVs and WQOs are available on the department's [website](#). For more information, email evinfo@des.qld.gov.au.

Learn more about the [Reef protection regulations](#) which aim to address industrial and agricultural sources of water pollution to the Great Barrier Reef.